Assessment of Level of Poverty of Handloom Households in Erode District of Tamil Nadu

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Original Research Article

ABSTRACT

The Indian handloom industry demonstrates the richness and diversity of Indian culture, but the incidence of poverty in Handloom households is prominent. The per capita income limit to fix the poverty line was considered as Rs. 12984 per person in the present study. Accordingly level of the poverty and incidence of the poverty were calculated by using chi square test, Head count ratio and Income gap ratio method. It is evident from the study that more than 50 per cent of the handloom households were falling into the state of poverty and socio economic factors such as composition of household, size of household, average wage rate and indebtedness of the household are found influencing the level of poverty. And garment activity is found to be supplementing the household income strongly.

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1. INTRODUCTION

The Indian handloom industry demonstrates the richness and diversity of Indian culture. The sector, which employs about 4.3 million people, is the second-largest employment provider for the rural population in India after agriculture. The Handloom weavers produce nearly one third of cotton products produced and sharing over 60 per cent to the total textile export and ranking next to the total agricultural export in this country [1]. The textile industry encompasses the organized mill sector and also the unorganized decentralized sector covering the handlooms, khadi and power looms play a crucial role in the Indian economy today. Taken together, it contributes eight per cent of GDP and represents 20 per cent of industrial production, 35 per cent of export earnings and employs around 38 million persons [2]. Erode is one of the most industrialised district in the state of Tamil Nadu. Industry and trade occupy a place of prominence in the economy of the district. As per 2001 census, there were 48833 handlooms units in this district and the total number of weavers engaged in this sector was 32,418. There are 220 Weavers Cooperative Societies functioning in this district with 1301 hand loom production units. This study is carried out to explore level of poverty in relation to socio economic characteristics among non-farm rural households in the study area.

2. LITERATURE REVIEW

2.1 Theoretical Review

According to the view of Alkire and Sumner poverty is unlikely to mean the end of many overlapping deprivations faced by poor people, including malnutrition, poor sanitation, and a lack of electricity or ramshackle schools [3].

OCED defined poverty line as the standard family income threshold (set by each state and revised occasionally) below which the family is officially classified as poor and entitled to welfare assistance [4].

2.2 Empirical Review

The World Bank presented the analysis of poverty trends in Pakistan from 1985 to 1990 and a detailed strategy for poverty reduction by using the head-count ratio and the poverty gap ratio. Results of report concluded that both the head-count ratio and the poverty gap ratio showed a reduction from 1984-85 to 1990-91 [5].

Madasamy in his study on "Poverty of Agricultural labourers - Its causes and Remedies: A study in Sankarankovil Block, Tirunelveli District", used Chi square test to analyse whether significant relationship exist between the level of poverty and the socio economic variables considered. The study concluded that socio economic variable was significantly influencing the poverty.

Mohsan Khudri and Farzana Chowdary in their study on "Evaluation of Socio-economic Status of Households and Identifying Key Determinants of Poverty in Bangladesh, used Chi-Square analysis and concluded that a set of demographic variables such as division, type of place of residence, own land usable for agriculture, highest education level and employment status were identified as key determinants of poverty [6].

Oluwasusi and Tijani used chi-square analysis in their study on Farmers adaption strategies to the effect of climate variation in Nigeria to study the relationship between the level of poverty in Non-Farm households revealed that there was a significant relationship between secondary occupation ($\chi2$ = 14.068), farm size ($\chi2$ = 99.597) and the level of production of yams [7].

Naveed and Anwar used chi-square analysis in their study on Socio economic condition and health status and analysis revealed that there exists significant association between the variables used. The study indicated that there was dependence among variables to each other [8].

Millennium development goals-India country report declared that Poverty Headcount Ratio (PHR) was the proportion of population whose per capita income/consumption expenditure was below an official threshold set by the National Government [9].

3. DATA AND METHODOLOGY

Taking into consideration the objectives, it was decided to limit the sample size to 60 households. Erode district formed the universe of the study. A two stage random sampling method was adopted to select the sample households from the two blocks and two revenue villages per block were selected at random, thus constituting four revenue villages. At second stage, 15 households per each village were selected at random, thus constituting a total sample size of 60 households. The garment activity, which is an

organised industrial activity prevalent among handloom households and the wage income from garment activity was significantly supplementing the income from the major non-farm activities in the study area, so it was decided to undertake the analysis for with and with-out garment activity situations.

3.1 Chi Square Test

To find out the relationship between the level of poverty in non-farm households and the socio economic conditions of the household with reference to selected variables, the following Chi square test was employed.

$$\chi^2 = \sum_{i=1}^{C} \sum_{j=1}^{r} \frac{(O_{ij} - E_{ij})^2}{E_{ij}} \quad \text{df=(r-1)(C-1)}$$

where,

Oi - Observed frequency
Ei - Expected frequency
C - Number of columns in the given cell
r - Number of rows in the given cell

The calculated chi square value (χ^2) was compared with the table value for the given degrees of freedom at five per cent level of significance. If the calculated value was more than the table value, the framed null hypothesis was rejected and the concluded that socio economic variable was significantly influencing the poverty. The variables considered were the composition of household, size of house hold, average wage rate and indebtedness of the household.

3.2 Head Count Ratio (H)

H = q / n

where,

H = Head Count Ratio
q = Number of people below the poverty line
n = Total number of people in the community

3.3 Income Gap Ratio (I)

$$I = \sum_{i=1}^{n} (Z - Y_i) / Z.n, \quad (Z - Y_i) > 0$$

where,

I = Income Gap Ratio
Y_i = The annual income of ith poor house hold

Z = Poverty line
n = Number of households having not higher than the poverty line

4. RESULTS AND DISCUSSION

As stated elsewhere in the study, the poverty line to demarcate the total number of non-farm households under poverty was taken as Rs. 64916 per household with five members at 2010 prices, as specified by Rangarajan Committee (2014) [10]. Accordingly the per capita income limit to fix the poverty line was considered as Rs. 12984 per person in the present study. The collected data on total income, per capita income, total consumption expenditure and per capita consumption expenditure of the non-farm households for the year 2013-2014 under the present study were deflated using the Consumer Price Index for Rural Labourers (CPIAL) and brought to the base year prices (2010) and used for further analysis.

4.1 Level of Poverty

Frequency classes representing different income levels for the handloom households with garment activity and without garment activity were worked out on the basis of per capita income. The distribution of households based on the per capita income groups is given in Table 1.

It was evident from Table 1 that 64.44 per cent of the households without garment activity were under poverty line, and the rest 35.56 per cent of the households were found lying above poverty line based on the per capita income limit of Rs. 12984. As regards the households with garment activity, the percentage of households lying below poverty line was very less with 13.33 per cent, while the households lying above poverty line was high with 86.67 per cent.

When all the 60 households taken together, the percentage of households falling below poverty line was about 51.67 per cent and households lying above poverty line was 48.33 per cent. The analysis revealed that garment activity contributed to the per capita income in households with garment activity significantly in handloom households, which was clearly indicated by a lesser percentage of households lying below poverty line in the household with garment activity, when compared to the households without garment activity, where the percentage of population lying below poverty line was more.

4.2 Level of Poverty and its Relationship with Socio Economic Factors in Sample Households

The total members in the households falling below poverty line and above poverty line were classified into adult males, females and children and the relationship between the level of poverty and the composition of family is analysed and the results are presented in Table 2.

Of the total population of 243 persons in all the handloom households, 148 persons (60.91per cent) were below poverty line and the rest 95 (39.09 per cent) were above poverty line. Adult males accounted for 48.56 per cent to the total population, followed by adult females and children with 36.63 per cent and 14.81 per cent, respectively. The adult males constituted 53.68 per cent in the households above poverty line, while it was 45.27 per cent in the households below poverty line.

The percentage adult female in the BPL households was 37.84, while it was 34.74 per cent in APL households. The percentage of children was also less in APL households when compared to BPL households. The analysis revealed that the percentage of adult man power was slightly higher in APL households while percentage of adult female and children were slightly more in BPL households. The above family patterns may add to the earning power in above poverty line households and additional children and adult females may increase the dependents burden in households below poverty line.

From Table 2 it could be observed that when the size of households increased from below four persons to above four persons, the percentage of handloom households living under poverty line increased from 41.38 per cent to 58.62 per cent. But the percentage of households with the size below four persons is lesser than the percentage of the households with the size above four.

The results clearly indicated that with increase in the size of the family, the percentage of households added to poverty level increased in the case of BPL households. In contrast, when there was a reduction in family size, percentage of households added to above poverty level increased in the case of APL households.

It could be inferred that the size of family was an important factor which decide the percentage of households under poverty and above poverty and its intensity among the BPL and APL households, respectively.

Out of the 60 handloom households, the households realizing wage rate between Rs 60 to 70 were 51.67 per cent, followed by households with wage rate above Rs 70 (36.67 per cent), and households with wage rates less Rs. 60 (11.67 per cent).

The break up analysis based on the level of poverty indicated that the percentage of households having wage rate between Rs.60 to70 was high in BPL category, while the percentage of households with wage rate above Rs 70 was high in APL households.

Out of the 60 handloom households, the households with debts below Rs 15000 constituted 46.67 per cent, followed by households with debts between Rs 15000-30000, Rs 30001-45000 and above Rs 45000. The break up analysis by the level of poverty indicated that the percentage of households with a debt below Rs 15000 and households with debts between Rs 15000-30000 were more in BPL category than in APL category. But the percentages of households falling in the indebtedness classes of Rs 30001-45000 and above Rs. 45000 were found more in APL households than in BPL households.

Table 1. Distribution of households based on per capita income groups

Type of household	No of households		Total households
	BPL	**APL**	
Household without garment activity	29	16	45
	(64.44)	(35.56)	(100.00)
Household with garment activity	02	13	15
	(13.33)	(83.33)	(100.00)
Total	**31**	**29**	**60**
	(51.67)	**(48.33)**	**(100.00)**

Note: Figures in parentheses indicate percentage to total households

4.3 Chi Square Test between the Level of Poverty and Socio Economic Factors in Households

The calculated Chi square value was greater than the critical value in case of every socio economic factor and found significant at five per cent level, concluded that there exist a significant relationship between the socio economic factors and the level of poverty in the households. Alternatively it may be inferred that there was a significant variation in the socio economic factor that could influence the level of poverty in handloom households.

Table 2. Level of poverty and its relationship with socio economic factors in sample households

Composition of family	No of persons		Total
	BPL	APL	
Adult males	67	51	118
	(45.27)	(53.68)	(48.56)
Adult females	56	33	89
	(37.84)	(34.74)	(36.63)
Children	25	11	36
	(16.89)	(11.58)	(14.81)
Total population	**148**	**95**	**243**
	(100.00)	**(100.00)**	**(100.00)**
Percentage of persons in BPL/ APL households to total	(60.91)	(39.09)	(100.00)
Size of the household	**No of households**		**Total**
	BPL	APL	
Below 4	12	24	36
	(41.38)	(77.42)	(60.00)
Above 4	17	07	24
	(58.62)	(22.58)	(40.00)
Total	**29**	**31**	**60**
	(100.00)	**(100.00)**	**(100.00)**
Percentage persons in BPL/ APL households to total	(48.33)	(51.67)	(100.00)
Average wage rate/ day realized (Rs)	**No of households**		**Total**
	BPL	APL	
Below 60	06	01	07
	(20.69)	(3.23)	(11.67)
61-65	21	10	31
	(72.41)	(32.26)	(51.67)
Above 65	02	20	22
	(6.90)	(64.52)	(36.67)
Total	**29**	**31**	**60**
	(100.00)	**(100.00)**	**(100.00)**
Percentage persons in BPL/ APL households to total	(48.33)	(51.67)	(100.00)
Indebtedness (Rs)	**No of households**		**Total**
	BPL	APL	
Below 15000	16	12	28
	(53.33)	(40.00)	(46.67)
15000-30000	12	11	23
	(40.00)	(36.67)	(38.33)
30001-45000	01	04	05
	(3.33)	(13.33)	(8.33)
Above 45000	01	03	04
	(3.33)	(10.00)	(6.67)
Total	**30**	**30**	**60**
	(100.00)	**(100.00)**	**(100.00)**
Percentage persons in BPL/ APL households to total	(50.00)	(50.00)	(100.00)

Note: Figures in parentheses indicate percentage to total

Table 3. Chi square test between the level of poverty and socio economic factors in households

Socio Economic Factor	Calculated value	Critical value
Composition of household	31.99**	5.99
Size of household	8.11**	3.84
Average wage rate	117.50**	5.99
Indebtedness of household	93.98**	7.82

*Note: ** denotes the significance*

Table 4. Incidence of poverty in handloom households

Poverty measure	With garment activity	Without garment activity	All households
Head count Ratio (H)	0.31	0.75	0.63
Income Gap Ratio (I)	0.09	0.29	0.11

4.4 Incidence of Poverty

Head Count Ratio represents the proportion of households lying below poverty line to the total number of households. The Head Count Ratio for all the 60 handloom households taken together was 0.63, indicating that proportion of the total households living under poverty line was 0.63 to the total households. Regarding the 15 households with garment activity, the Head Count Ratio worked out to 0.31, while it was 0.75 for the rest 45 handloom households without garment activity. The analysis revealed that the proportion of households lying below the poverty line was lesser in households with garment activity than in the households without garment activity.

Income Gap Ratio indicates the average income gap of the households lying below poverty line that has to be bridged to make them to cross the poverty line. If Income Gap Ratio is more, the intensity of poverty among the households lying below poverty line will be more. The Income Gap Ratio for the handloom households with and without garment activity were 0.09 and 0.29, respectively, and indicating that intensity of poverty was more among handloom households without garment activity than in the households with garment activity.

5. SUMMARY AND CONCLUSION

The percentage of households lying below poverty line was very less with 13.33 per cent, while the households lying above poverty line was high with 86.67 per cent in handloom households with garment activity based on poverty level of income. Similarly the percentage of households lying below poverty line was less with 16.67 per cent, while the households above poverty line were found high with 83.33 per cent

in construction households with garment activity. Thus garment activity contributed to the reduction in poverty significantly higher in handloom households with garment activity than in construction households with garment activity

The relationship between the level of poverty and the composition of family revealed that the percentage of adult males was slightly more in APL households while percentage of adult female and children were slightly more in BPL households both in handloom and construction households. This composition of family may add to the earning power in APL households, while the additional children and adult females in BPL households may increase the dependents burden in households.

The relationship between the level of poverty and the size of the family revealed that with increase in the size of the family, the percentage of households added to poverty increased in the case of APL households. In contrast, a reduction in family size increased the percentage of households added to above poverty level in the case of BPL households. The size of family was an important factor deciding the level of poverty and its intensity among the BPL and APL categories both in handloom and construction households.

The relationship between the level of poverty and the average wage rate earned revealed that the percentage of households having less wage rate was found more in BPL category, while the percentage of households with high wage rate was found more in APL households both in construction and handloom households. The analysis also indicated the relatively better position of handloom households in the average wage rate earned than the construction households.

The relationship between level of poverty and indebtedness indicated that the percentage distribution of households with high indebtedness of above Rs 30000 was higher in APL households than in BPL households both in handloom and construction households.

The Head Count Ratio revealed that the proportion of total population lying below the poverty line was lesser in households with garment activity than in the households without garment activity both in handloom and construction households.

The Income Gap Ratio for the households without garment activity and with garment activity across different nonfarm households indicated that intensity of poverty was more in handloom and construction households without garment activity than in the households with garment activity.

Participating in garment activities among the households should be encouraged to ensure stable income stream to the households who face off- demand situation in the regular primary activity. Apart, efforts to add more private and public investment on the garment sector would provide alternative source of income to households in the study area.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:
The peer review history for this paper can be accessed here:
http://sciencedomain.org/review-history/20890