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ESTIMATION OF RURAL POVERTY LEVELS BY RQLI (RURAL QUALITY OF LIFE INDEX) AN ALTERNATIVE APPROACH FOR MEASURING POVERTY

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ABSTRACT

An attempt was made to measure the rural poverty using the Rural Quality of Life Index (RQLI) in determining the rural poverty levels. The present study was undertaken in Thondamuthur block, Coimbatore district. The objectives of the study are to construct the RQLI for the ORP village and to relate the poverty index with the poverty line incomes at the household level in ORP village. For the construction of RQLI, the study converts the survey data on the 15 identified indicators into a scale of 1 to 7 ; so that the data can be easily compared and subjected to statistical analysis and each indicator received equal weight in the composite index and the resulting RQLI provided numerical ranking order for the 120 surveyed households. It is revealed by the poverty index method that there were about 74 per cent of the households who lived below the poverty line. In contrast, the percentage of households below the poverty line was 38 per cent while using the conventional method. Then the annual income alone is considered for measuring rural poverty, it ignores the other components of poverty which determine poverty level of the households. The index method is mainly intended to identify the rural poor and to evaluate the real impact of development programmes especially at a time when the government's thrust is the eradication of poverty. In this context, it is important to use some yardstick like RQLI for assessing growth and plan performance. Hence it is certain that the RQLI presents the possibility of constructing valid and reliable micro as well as macro models of rural development, which will shed more light on the developmental processes of the country.

KEY WORDS : Rural Quality of Life Index, Poverty Index, Poverty Structure.

SETTING

There has been an increasing controversy among social scientists regarding the concepts and measurements of rural poverty. There is no unified indicator which could correctly measure poverty, standard of living or quality of life etc. (Dhanasekaran, 1994). No inbuilt mechanism is also available in the case of cost of living index to provide for changes in the poverty line (Parashar, 1983). Study of the effects of policy changes is often obstructed by discrepancies in measuring poverty and comparing levels of poverty before and after the policy changes (Martin Revallion and Monika Huppi, 1991). Schultz (1968) is of the opinion that poverty can not be defined simply in terms of certain low level of income because there are families which have relatively little income but own substantial amount of wealth. In the absence of such a well defined indicator, per capita income or expenditure or calorie intake etc. have come to be accepted as a proxy (Rao, 1984). Eventhough several attempts have been made, there are no generally accepted methodologies to measure rural poverty. Hence there is a pressing practical need to construct and use some supplemental yardstick, which measures the rural poverty and the extent of fulfilment of the required norms.

In view of the above context, an attempt was made to measure the rural poverty, using the Rural Quality of Life Index which is considered to be a more scientific method, because various qualitative and quantitative variables are considered in determining the rural poverty levels.

OBJECTIVES

a. to contruct the RQLI for the ORP (Operational Research Project) village, and

b. to relate the poverty index with the poverty line incomes at the household level in ORP village.

Table 1. Guideline table for computing the RQLI

Indicator	Scores						
	1	2	3	4	5	6	7
Caste levels	Tribals	Scheduled Caste	Lower Caste Touchables	Middle Caste	Upper-middle Caste	-	Forward caste
Education of the household head (years)	Illiterate (0)	Primary level (1-5)	Middle level (6-8)	Secondary (8-10)	Higher Secondary	Degree (13-15)	Post-graduate (16 and above)
Occupational category	Unemp-loyed more than 265 days	Agricultural or non-agricultural labourer	Self-employed in agriculture or non-agri-culture (eg) (rural artisans marginal farmers (below 1.00 hectare)	Self-employed small farmers (1 to 2 hectares)	Self-employed small medium farmers (2 to 4 hectares)	Self-employed medium farmers (4 to 10)	Self-employed big farmers (10.00 hectares and above or employed in organized sectors public / private
Female earners in the household	Widow family head and/ or a destitute	Seasonally employed in agricul ture (or) non-agriculture	Seasonally employed in both agriculture and non-agri-culture	Regularly emp-loyed in agri-culture (or) non-agriculture	Regularly emp-loyed in both agri-culture and non-agriculture	Self-employed	Employed in organized sectors public /private
Annual * household income (Rs.)	500	2500	4500	6500	8500	10500	12,500 and above
Annual per * capita income (Rs.)	100	500	900	1300	1700	2100	2500 and above
Calories intake per day per person	1500	1800	2100	2400	2700	3000	3300 and above
Annual food* expenditure as percentage of income	75 and above	70	65	60	55	50	45 and below
Annual household expenditure (Rs.)*	below 2000	2000	4000	6000	8000	10000	10000 and above
Value of clothing per person (Rs.)	75	150	225	300	375	450	525 and above
Quantity of cloth per person (in metres)	below 5	5	15	25	35	45	55 and above
Annual expenditure* on clothing per person (Rs.)	0	20	40	80	160	320	640 and above
Type of housing R-Roof W-Wall F-Floor	Leaf-(R) Leaf-(W) Mud-(P)	Leaf-(R) Mud-(W) Mud-(F)	Tiles-(R) Brick-(W) Mud-(F)	Tiles-(R) Brick-(W) Cement-(F)	Tiles-(R) Brick-(W) Cement-(F) with compound wall	Tiles pucca pucca	Terrace
Living area per person (Sq. metre)	0	2	4	6	8	10	12 and above
Rooms per person	0	0.25	0.5	0.75	1	1.25	1.50 and above

* Standardized the acres in the ratio of 1:3 (Wet and Dry) Base : at 1990-91 prices.

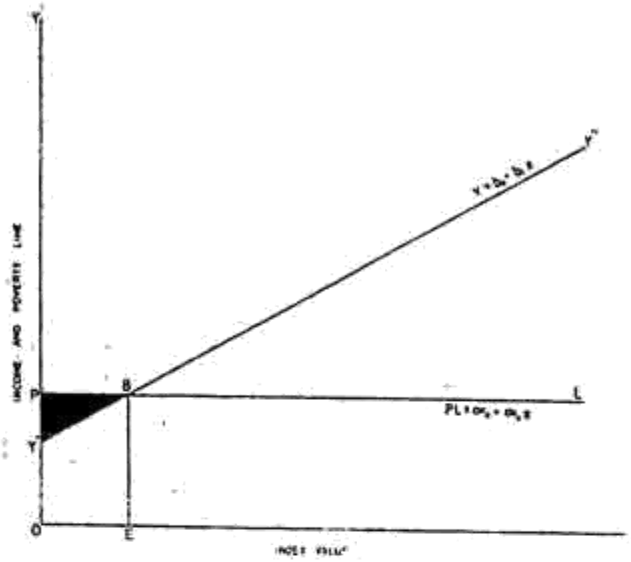

Fig. 1 Poverty Line and Break Even Index Value

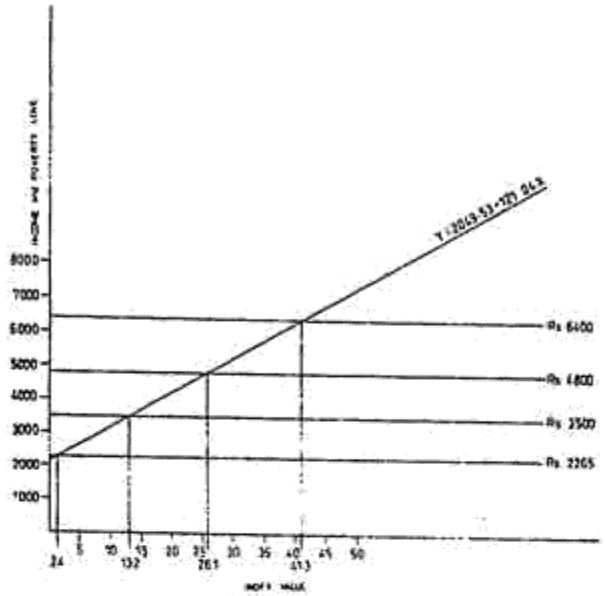

Fig. 2 Break Even Index Values and Four Rings of Poverty

MATERIALS AND METHODS

The present study was undertaken in Thondamuthur block, Coimbatore district with a view to mainly evolving indicators of poverty (index) at the household level. The block was purposively selected as the selection of the area was found to be very appropriate to represent all the variables considered for the present study. A single stage random sampling procedure was adopted for the selection of 120 households. A personal interview schedule was designed for, the sample households of the village to obtain all the necessary information. The data were compiled and analysed using the Rural Quality of Life Index (Dhanasekaran 1994) to assess the poverty levels in the study area.

Table 2. Break even index values and classification of poverty.

Poverty line (Rs.)	Break even index value at poverty line	Score range in the poverty index	Classification of poverty
2265	2.4	Below 2	Distitudes*
3500	13.2	3-13	Very Very poor*
4800	26.1	14-26	Very poor*
6400	41.3	27-41	Poor*
		>41	Non poor

* Target groups

The present work is mainly based on the intensive field level data collected from the ORP village. For the present study, poverty is assumed to be defined in multi-dimensional concept rather than a single indicator of economic resources. To express the poverty levels and quality of life. RQLI was used. In the current exercise, a set of both qualitative and quantitative indicators has been considered as poverty indicators.

Following indicators have been identified and included under five components for constructing the RQLI.

I. Social status	(1) Caste
	(2) Education
II. Income status	(3) Occupation
	(4) Female earners
	(5) Household income
	(6) Per capita income
III. Nutritional status	(7) Calories intake
	(8) Annual food expenditure as percentage of annual income
	(9) Annual household expenditure

Table 3. Levels of poverty according to poverty Index

Index based poverty line classification	Score range	Number of House holds	Percentage to the total households
Destitudes	<2	-	-
Very Very poor	3-13	03	02.50
Very poor	14-26	32	26.67
Poor	27-41	54	45.00
Below poverty	< 41	89	74.17
Non poor	> 41	31	25.83
Total		120	100.00

IV. Clothing
(10) Value of clothing per person
(11) Quantity of clothing per person
(12) Annual expenditure on clothing per person and

V. Housing
(13) Type of housing
(14) Living area per individual and
(15) Rooms per person

For the construction of RQLI, the study converts the survey data on the 15 indicators into a scale of 1 to 7 ; so that the data can be easily compared and subjected to statistical analysis. Each indicator received equal weight in the composite index and the resulting RQLI provided numerical ranking order for the 120 households. The survey respondents were presented with certain indicators and were measured in terms of their relative position on the composite index. The guidelines for constructing RQLI is furnished in Table 1.

Classification of poverty levels and break-even analysis :

The poverty index and poverty line income for the household data were related using break-even analysis. The break-even concept is shown in Figs. 1 & 2, where net income is measured along the vertical axis and the poverty index of the households on the horizontal axis. The line PL parallel to the X axis is the minimum necessary income to meet the minimum physical requirements or poverty line income of the household. The line Y^1Y^{11} represents the linear relationship between the index value and the respective net income of the household. Any household lying below index value of E is so poor that it may prefer to barrow or find some other means to eke out their daily bread rather than spending current disposable income on consumption. In the figure point B is the family's subsistence level of income.

If X is the index value and Y is the net income. then the income index relationship is expressed as

$$Y = b_o + b_1 X$$

The line PL indicates the poverty line, which is assumed to be constant at all values of index.

At X index value, the subsistence level of income will be $PL = \alpha_o + \alpha_1 X$

where

α_o - Poverty like income which is constant at all values of index

α_1 - Zero at all values of index

For the break-even point

$$Y = PL$$

$$b_o + b_1 X = \alpha_o + \alpha_1 X$$

$$b_1 X = \alpha_o - b_o \quad (\therefore \alpha_1 = 0)$$

$$X = \left[\frac{\alpha_o - b_o}{b_1} \right]$$

Any household's index value which is less than OE is a poor family and it may try to achieve the subsistence level of income by borrowing funds or selling entitlements (or) dissavings etc.

[Area of debt or selling of entitlements or dissavings for subsistance level of income]

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[Area below income line equivalent to OYBE]

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[Area below poverty line equivalent to OEBP]

The study considered the scale of poverty line on the basis of annual income to determine the household's poverty levels. The following four rings of poverty have been identified based on the 38th round of the National Sample Survey (see Singh, 1989) ; the destitudes with the annual family income less than Rs. 2265 ; the very very poor category with annual family income between

Table 4.Income based poverty and poverty structure

Index based poverty line classification	Score range	Number of House holds	Percentage to the total households
Destitudes	< 2265	2	01.67
Very Very poor	2266-3500	12	10.00
Very poor	3501-4800	14	11.66
Poor	4801-6400	18	15.00
Below poverty	< 6400	46	38.33
Non poor	> 6400	74	61.67

Rs. 2266 - Rs. 3500 ; the very poor with Rs. 3501 - Rs. 4800 and the richest among the poor with Rs. 4801 - Rs. 6400. These income are at 1984-85 prices. Since the four rings of poverty are in 1984-85 prices and for a family consisting of five members the current income and expenditures were deflated to the 1984-85 level for obtaining different break-even index values. To arrive at these figures, the Consumer Price Index (CPI) was used as the rural price deflator.

For the present study the above four poverty lines were adopted for determining the magnitude of the poverty according to the poverty index. The break-even index value, which just comes the poverty line income of Rs. 2265 per household was 2.4 points and for Rs. 3500 was 13.2. The break-even index values which attain poverty line incomes of Rs. 4800 and Rs. 6400 per household were 26.1 and 41.3 respectively. Table 2 shows the break-even index values to attain the poverty line incomes.

The table clearly indicates that the respondents who scored 41 and below were classified as poor and who scored more than 41 were treated as non-poor. The present model is essentially unweighted subdivisions and the present weighting used is only illustrative.

Poverty Index - RQLI

The poverty level of household was estimated through scores obtained by the households on the poverty index. It is observed from the Table 3 that none of the households belonged to the category of destitudes. The distribution of households with respect to various levels of poverty shows that 2.50 per cent were classfied as very very poor, 26.67 per cent as poor and 45 per cent as poor and 25.83 of them as non-poor. It shows that about 74 per cent of the households lived below the poverty line. This might be due to the prevailing social and economic backwardness in the ORP area.

Income based poverty

The study also explores the scale of poverty line drawn on the basis of annual income. The analysis of income based poverty line brings out the structure and extent of poverty in the study area. The income based poverty line is given Table 4.

It is understood from the table 4 that there is a wide difference in the distribution of households between annual family income based and poverty index based classification. Here it is revealed that only 38 per cent of the households lived below the poverty line.

Comparison of poverty index and income based poverty line (conventional method)

A comparative analysis of the two methods revealed that there was no relationship between the poverty index and income based poverty line. The x^2 test (see notes) was used to test the hypothesis whether there is any significant difference between the conventional method based on poverty line and index based poverty line in measuring the poverty levels (Table 5).

The calculated value of x^2 was much higher (31.54) than the table value at 5% level of significance. Hence the null hypothesis was rejected and it was concluded that there was a significant difference between the methods in classifying the households as the two methods resulted with dissimilar outcome.

It is revealed by the poverty index method that there were about 74 per cent of the households lived below the poverty line. In contrast, the percentage of households below the poverty line was only 38 per cent, while using the conventional method. When the annual income alone is

Table 5. Classification and method

Method	Classification		
	Poor	Non poor	Total
Conventional (Income based)	46 (a)	74 (b)	120 (a+b)
Index based	89 (c)	31 (d)	120 (c+d)
Total	134 (a+c)	105 (b+d)	240 (N)

considered for measuring rural poverty, it ignores the other components of poverty which determine the poverty level of the households. This study clearly confirms the superiority of the index based measure of estimating rural poverty.

Conclusion

Given the varied agro-ecological zones, socio-economic and cultural status, resource endowments and diversified food habits across the country, it is quite evident that no single indicator can measure poverty efficiently. The index method discussed above is mainly intended to identify the rural poor and to evaluate the real impact of development programmes especially at a time when the government's thrust is the eradication of poverty. In this context, it is important to use some yardstick like RQLI for assessing growth and plan performance. Hence it is certain that the RQLI presents the possibility of constructing valid and reliable micro as well as macro models of rural development, which will shed more light on the developmental processes of the country. RQLI can also be extended for data collected from secondary sources like NSS data to construct index at macro level in future.

Note :

For χ^2, the following formula was used

$$\chi^2 = \frac{(ad - bc)^2}{(a + c)(b + d)(c + d)(a + b)}$$

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PREFERENCE OF AGRICULTURAL OFFICERS TOWARDS CONTENT, METHODS, DURATION AND PLACE OF TRAINING PROGRAMME

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ABSTRACT

Selecting appropriate content, methods and providing suitable place, duration for trainees will lead to greater output among trainees. The Agricultural Officers preferred training contents on latest technologies and practical field problems, combination of methods - field trips + skill demonstration + discussion, 5 days training, TNAU and STAMIN as place of training by majority of the respondents.

KEY WORDS : Preference, Content, Methods, Duration, Place of training.

In the context of extension training an important condition, is that the supposedly high pay off and beneficial returns from such an undertaking can be secured only if it is designed and carried out effectively and efficiently. The curriculum is the "heart" of the training programme and training methods are the "arteries" and "veins" of the training system through which training messages reach the trainees and trainers receive concurrent feed back on the training programme from the trainees. The choice of appropriate training method is required to be guided by the level and background of trainees as well as by the training curriculum and the time available for