ASSESSMENT OF MGNREGA IN ENHANCING QUALITY OF LIFE OF TRIBALS IN KARAMADAI BLOCK IN COIMBATORE DISTRICT

*M.Shanthi and
K.T.Geetha*

ABSTRACT

The study of tribal households has occupied a pre-eminent position in social sciences. The economic status of the tribal population is determined by a complex set of socio-economic, cultural, religious and ecological factors. There have been various attempts at the empirical levels to explain the nature and behaviour of the tribal population and to measure the nature of changes in their life style behaviour. While studies abound in explaining the socio-economic conditions of the tribal population and the impact of governmental measures in improving their economic status, very few studies have been done at the micro level in the State of Tamil Nadu. The present study, a modest attempt to explain the quality of life of tribal population in Coimbatore district, is an effort to collect research and evidence on their present conditions at the micro level. The analysis of quality of life index revealed that the tribal households, especially those living below the poverty line, had poor socio-economic index and suggest the need to ameliorate their living standards by enhancing their income.

Introduction

In India, National and State planners have been putting efforts to have a balanced growth of the Indian economy right since Independence so that every household and each individual of our Indian society gets the benefits of the economic growth which our country gains. That is the reason for much of emphasis being placed on the inclusiveness of the economic growth. Poverty alleviation schemes and programmes have been in place for a long time now. However, the effectiveness of the programmes in targeting the poor and alleviating poverty has been very different in different States. There is a need for greater inclusiveness in the

* Research Scholar and Professor of Economics, Respectively, Department of Economics, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore - 641 043.
Email: m.shanthi2009@gmail.com

determination of growth processes to combat the increasing global poverty levels. Inclusive growth implies an equitable distribution of resources and its accruing benefits for every section of the society (Rekha Mehta, 2010).

There is a close relationship between growth and poverty and inclusive growth is the key to effective poverty eradication. Indeed, economic growth is believed to be the most successful tool for poverty eradication in any region. However, the relationship between poverty, growth and inequality has become a highly debatable issue in view of the economic reforms that have been initiated since the 1990s. A large number of studies have analysed whether economic growth spurred by the reforms have led to a decrease in the incidence of poverty. A related issue that has also been debated is whether growth has led to higher inequality rather than a higher rate of poverty reduction. While inclusive growth with social justice has been one of the stated objectives during successive Five Year Plans, empirical evidence regarding the effect of growth on poverty and inequality has been far from conclusive. Concerns have been raised in this respect in the Approach Paper of the Eleventh Five Year Plan (GoI 2006), which seeks to achieve a 'new vision of growth' that would be 'much more broad-based and inclusive,' so as to bring about a faster reduction in poverty and help 'bridge the divides that are currently the focus of so much attention'. To achieve these objectives, the Approach Paper stresses on the need to generate rapid growth and adopt policies that are broad-based and particularly geared to helping marginalised groups such as tribal communities, children and adolescent girls (Kavita Iyengar et al., 2011).

In India, planned development at the national level started in true sense only after Independence. During the British rule, when the Indian economy as a whole was near stagnant the tribal areas were generally kept secluded and out of the normal process of administration and economic action. There was little infrastructure in the tribal areas excepting in a few pockets. The character of the tribal policy of the British government was isolation of tribal people from the rest of the population. Some welfare programmes and legislations were enacted and implemented by the British during the pre-Independent period to mitigate the sufferings of the tribals and prevent their exploitation by the outsiders. However, there was no deliberate attempt to strengthen the economic base of these downtrodden backward communities in the country. It was only after the country became independent that the leaders began to talk in terms of planned economic and social development.

Scheduled Tribes (STs) are indigenous, have their own distinctive culture, geographically isolated and are low in socio-economic conditions. For centuries, the tribal groups have remained outside the realm of the general development process due to their habitation in forests and hilly tracts. After Independence, Government of India has scheduled the tribal groups in the Constitution and provided special provisions for their welfare and development. There are about 654 ST communities across the States in India and 75 of the STs are most backward and are termed as Primitive Tribal Groups. Most of the tribal areas are hilly, inaccessible undulating plateau lands in the forest areas of the country resulting in the bypassing of general developmental programmes. Due to this, infrastructure and development facilities in tribal areas for education, roads, healthcare, communication, drinking water, sanitation etc., lagged behind compared to other areas which has resulted in further widening the gaps of development between the tribals and the general population for a long time.

After the initiation of the planned development, many programmes were implemented for the socio-economic upliftment of the tribals both by the State and the Central Government. Despite these initiatives, the tribal populations are lagging behind the rest of the population. The scenario is clearly attributed to indebtedness, land alienation, poverty, unemployment, health problems, weak education and displacement of the tribal people. The MGNREGA is the latest in a series of poverty alleviation programmes undertaken by the government, which would have a beneficial impact on health, education and other determinants of social welfare by breaking the cycle of poverty in tribal areas.

Earlier Studies

Beck P. and Mishra B.K. (2010) in their study on Socio-Economic Profile and Quality of Life of Selected Oraon Tribals Living in and around Sambalpur Town, Odisha carried out during 2008-09 examined the quality of life led by this group of tribal population. The study revealed that most of the natives live in kaccha houses with khupar roof and moreover, many of these houses were made up of two rooms without kitchen. The hygienic conditions of the houses were poor and no toilet facility was available in the houses. There was no water supply from the government, they collect drinking water from the bore well of one household paying for it. They go to the nearby river for bathing and washing clothes. All the native Oraons use wood collected and/or purchased as their fuel except the few who use kerosene stoves and electric heaters as cooking fuel. All of them have a supply of electricity to their houses. None of the families own vehicles, only one family has an auto rickshaw which carries goods and 45 per cent have a bicycle. The daily menu of native Oraons consists of rice with pulses and/or curry. Non-vegetarian items were consumed once in a week or month and the consumptions of fruits like apple, bananas were almost negligible due to which they suffer from many deficiency diseases. There was no reporting on any member suffering from any severe disease like blood pressure, diabetics, heart disease etc.

Sarkar Prattoy et al., (2011) examined the socio-economic impact of MGNREGA on the rural poor who mainly comprised small and marginal farmers and agricultural labourers. The study revealed that significant changes have taken place in the socio-economic variables like annual per capita income, monthly per capita food expenditure, annual per child expenditure on education, per capita savings, condition of the dwelling houses, access to health care facility and possession of other assets or luxury items for those households which were regularly working in the scheme. According to the value of the socio-economic index prepared, it revealed that in the initial year of implementation (2007-08) of MGNREGA in the study area, 44 per cent beneficiary households were in poor socio-economic conditions which have gradually improved in the succeeding years and decreased to 33 per cent in 2008-09 and further to 18 per cent in 2009-10.

Bhagat Deepak and Borah Sagarika (2011) analysed the impact of MGNREGA on agricultural employment pattern in West Garo Hills with special emphasis on supply demand gap of agricultural labour. The West Garo Hills district has shown the highest number of households who were issued job cards, who had demanded employment and who were provided employment during the study period in Meghalaya. The study revealed a negative rate of growth of hired labour and total labour engaged in agriculture since the start of MGNREGA and a positive CAGR regarding supply-demand gap of hired agricultural labour (5.4 per cent

for male and 2.93 per cent for female agricultural labourers). Thus, the farmers were facing severe problems in terms of the availability of agricultural labour and this may show a negative impact on agricultural production and food security in future.

Haque (2011) in his study on Socio-economic Impact of Implementation of Mahatma Gandhi National Rural Employment Guarantee Act in India analysed the impact of the implementation of MGNREGA and also identified the critical gaps and challenges. The study revealed that the number of rural households which were provided employment under MGNREGA progressively increased over time from 21.02 million in 2006–07 to 33.91 million in 2007–08, 45.12 million in 2008–09 and 52.59 million in 2009. In 2010–11 (up to 2 December), the number of households covered by MGNREGA stood at 37.06 million. In 2009–10, when agricultural output and employment suffered heavily due to severe drought in various parts of the country, it was MGNREGA which provided relief to a vast number of rural labour households in the country.

Harish B.G et al., (2011) evaluated the impact of MGNREGA on income generation and labour supply in agriculture in one of the districts in central dry zone of Karnataka. The study revealed that the number of days worked in a year with the implementation of MGNREGA programme had significantly increased to 201 days, reflecting at 16 per cent increase. Regression analysis had revealed that gender, education and family size of the workers are the significant factors influencing the worker's employment under the programme. The increase in income was to the tune of 9.04 per cent due to additional employment generated from MGNREGA. In the total income, the contribution of agriculture was the highest (63 per cent), followed by non-agricultural income (29 per

cent) and MGNREGA income (8 per cent). Implementation of MGNREGA works has led to labour scarcity to the tune of 53 and 30 per cent for agriculture operations like weeding and sowing, respectively. There has been a decline in area for labour-intensive crops like tomato and ragi to the extent of 30 per cent due to MGNREGA implementation.

Samik Shome et al., (2012) analysed the effectiveness of implementation of The National Rural Employment Guarantee Act 2005 in India and its impact on quality of life in the Anekal Taluk of Bangalore district in the Indian State of Karnataka. An index for quality of life was constructed using the variables income, housing conditions, education level and health condition, village-level infrastructure development, including drought-proofing, land development, rural connectivity, irrigation, drainage/sewerage and renovation of traditional water bodies. The study found that there was a widespread variation in the effectiveness of implementation of NREGA among different Panchayats in Anekal Taluk. The result suggests that the NREGA has a significant impact in both village-level infrastructural development and also in household quality of life. However, there is also an urgent need for immediate rectifications of some of the flaws observed during the survey to make NREGA more effective and responsive to the needs of the underprivileged citizens.

Soumya Mohanty and Nihar Ranjan Mishra (2012) attempted to critically examine the implementation process of MGNREGA and its impact on tribal livelihoods i.e. to what extent MGNREGS has given justice in sustaining the livelihoods of poor tribal communities in a tribal dominated panchayat of Sundargarh district, Odisha. The study revealed that there was little impact of MGNREGA on tribal livelihoods. The faulty implementation strategy has ruined the spirit of this

programme. Religion and street biasness and favouritism in case of distribution of job card, dominance of dominant families, defective leadership and improper coordination among the stakeholders stood as major hurdles in this programme.

Research Gap

The study of tribal households occupied a pre-eminent position in social sciences. The interest envisaged by social scientists in explaining the origin and behaviour of the tribal population is centuries old. The economic status of the tribal population is determined by a complex set of socio-economic, cultural, religious and ecological factors. There have been various attempts at empirical levels to explain the nature and behaviour of tribal population and to measure the nature of changes in their life style behaviour. While studies abound in explaining the socio-economic conditions of tribal population and the impact of governmental measures in improving their economic status, very few studies have been done at the micro level in the State of Tamil Nadu. The present study, a modest attempt to explain the employment status and quality of life of tribal population in Coimbatore district, is an effort to collect research and evidence on their present conditions at the micro level.

Objectives of the Study

- To examine the socio-economic profile and living conditions of the tribal households.

- To assess the impact of MGNREGA in improving the quality of life of the tribal households.

Hypotheses Formulated

- There is significant positive relationship between quality of life index and per capita income.

- Annual income, annual expenditure on clothing, type of housing and occupation were the major indicators of tribal living standards.

Methodology

Multi-stage sampling technique was adopted in the selection of the sample households. In the first stage, Tholampalayam Panchayat was selected since nearly 40 per cent of the population belongs to scheduled tribe and MGNREGA was in operation. The universe consisted of all tribal households residing in the Tholampalayam village in Karamadai block in Coimbatore district. In the second stage, out of 24 villages in Tholampalayam panchayat, 11 villages were selected. In the third stage, from these 11 villages, 150 households were selected by adopting the purposive sampling technique as not all the households were willing to cooperate with the investigator and due to time constraints. Hence the investigator approached only those households who were the beneficiaries of MGNREGA scheme and who were willing to cooperate and supply the needed information. To the selected tribal households, a pre-tested interview schedule was administered to collect the needed information. The field investigation and data collection for the study was carried out during the period February – March 2012.

For concise presentation of the information collected, the respondents were classified on the basis of per capita income into two groups, namely, (i) BPL households whose monthly per capita income was less than ₹ 639; and (ii) APL households whose monthly per capita income was more than ₹ 639. The cut-off limit was determined on the basis of the Tendulkar Committee Report which defined below poverty line family as those earning less than ₹ 639 per month in rural areas of Tamil Nadu (2009-10).

Quality of Life Index (QLI)

To study the levels of living and inequalities among the tribal households quality of life index was constructed. In the construction of the QLI, the study converts the raw data on eleven major component variables into a scale of 0 to 6, so that data on these variables can be easily compared and subjected to statistical analysis. The respondents are presented with certain indicators and are measured in terms of their relative position of the composite index. The total number of indicators is 11. The minimum one can score on a particular indicator is zero and the maximum is 6. The scores were transformed into index by using the following formula:

$$\text{Index} = \frac{\text{Actual Values - Minimum Value}}{\text{Maximum Value - Minimum Value}} * 100$$

Once the indicator indices are formed, the comprehensive Composite Index is then calculated as a simple average of the indicator indices.

Composite Index

$$= \frac{\text{Ó Individual Indicator indices}}{N} * 100$$

Where, composite index is the summation of all the individual indices and N is the total number of individual indicator indices.

Table 1: Guideline Table for Computing the Tribal Quality of Life Index

S.No.	Indicators	Scores						
		0	1	2	3	4	5	6
1	Caste levels	Tribals						
2	Education of the head of the household (years)	Illiterate	Primary level	Middle (6 to 8)	Secondary (8 to 10)	Hr.sec (10 to 12)	Degree (13 to 15)	Post graduate
3	Occupational category	Un-employed	Farm work	Non-farm work	_	_	_	_
4	Annual household income	8000	12000	16000	20000	24000	28000	32000
5	Annual per capita income	1600	2400	3200	4000	4800	5600	6400
6	Calorie intake per day per person	Below 1500	1800	2100	2400	2700	3000	3000 and above
7	Annual food expenditure*as percentage of income (per cent)	85 and above	75	70	65	60	45	45 and below

(Contd...)

Table 1: *(Contd...)*

S.No.	Indicators	Scores						
		0	1	2	3	4	5	6
8	Value of clothing*per person (₹)	300	600	900	1200	1500	1800	2700
9	Annual expenditure on clothing*per person (₹)	60	120	180	240	300	360	640
10	Type of housing Roof (R), Wall (W), Floor (F)	Leaf (R), Leaf (W), Mud (F)	Leaf (R), Mud (W), Mud (F)	Tiles (R), Brick Mud (F)	Tiles (R), Brick (W), Cement (F)	Concrete (R), Brick Cement (F)	Tiles pucca	Terrace
11	Living area per person (Sq.meters)	0	2	4	6	8	10	12 and above
12	Rooms per person	0	0.25	0.5	_	1	11/4	1 ½ above

EMPIRICAL FINDINGS

Socio-Economic Profile

Out of 150 households surveyed, 27 per cent of the households belonged to BPL category and the remaining 73 per cent belonged to APL category. Among the BPL households, 78 per cent were illiterate and 22 per cent were literate. Among the APL households, 84 per cent were illiterate and 16 per cent were literate. About 95 per cent of the BPL households were engaged in farm activity while this percentage was 73 among the APL households. About 5 per cent of the BPL households and 24 per cent of the APL households were engaged in non-farm activity. While 3 per cent of the APL households were unemployed, the proportion of unemployed people among the BPL households was nil. Majority (88 per cent) of the BPL households belonged to the income bracket of less than ₹ 1500, while 80 per cent of the APL households were earning more than ₹ 2500 per month.

Living Conditions

The quality of a house is assessed in terms of ownership of the house, size of the house plot, the type of house, the nature of its roof, floor and walls, the availability of electricity and latrine, fuel used for cooking and the availability of safe drinking water.

Table 2 presents details on the living arrangements of the selected sample respondents. The analysis of type of residential houses reveals that only a negligible proportion of the BPL (3 per cent) and APL (4 per cent) lived in kutcha houses. More than half of the households (54 per cent) lived in pucca houses. Thus, the governmental assistance may have enabled these households to live in better type of houses. About 55 per cent of the BPL families and 75 per cent of the APL families were living under concrete roof and 43 per cent of the BPL families and 24 per cent of the APL families had tiles as roofing materials. Overall, nearly 97 per cent of the tribal households

had poor living space in their houses. More than 90 per cent of the BPL and APL families have electricity and the remaining 5 per cent of the BPL families and 2 per cent of the APL families go without electricity.

Table 2: Details On Housing Conditions (In percentage)

S.No.	Particulars	BPL households	APL households	All
1	Ownership of the house:			
	Own	95.0	97.3	96.7
	Rented	5.0	2.7	3.3
2	Size of the house plots (in sq.mt):			
	18.67 to 20.23	95.0	97.3	96.7
	20.23 and above	5.0	2.7	3.3
3	Type of house:			
	Kachcha	2.5	3.6	3.3
	Semi-pucca	65.0	34.5	42.7
	Pucca	32.5	61.9	54.0
4	Type of roof:			
	Leaf	2.5	1.8	2.0
	Tile	42.5	23.6	28.7
	Concrete	55.0	74.6	69.3
5	Type of wall:			
	Leaf	2.5	0.0	0.6
	Mud	17.5	13.6	14.7
	Brick	80.0	86.4	84.7
6	Type of floor:			
	Mud	7.5	4.5	5.3
	Cement	92.5	94.6	94.0
	Tiles	0.0	0.9	0.7
7	Number of rooms:			
	1 to 2 rooms	97.5	96.4	96.7
	3 to 4 rooms	2.5	3.6	3.3
8	Availability of electricity:			
	Electrified	95.0	98.2	97.3
	Not electrified	5.0	1.8	2.7

Source: Field Survey, 2012.

About 100 per cent of BPL households and APL households use firewood for cooking, which emits smoke and pollutes the environment, leading to diseases such as asthma, lung cancer, bronchitis and other respiratory problems. The increased use of firewood may be attributed to the proximity of tribal households to forest resources. The major source of drinking water was public tap (100 per cent) for the residents. All the respondents have unanimously stated that they have no access to toilet facilities. Thus, the living conditions of the respondents were quite unhygienic.

Household Expenditure Pattern

Household expenditure refers to the consumption expenditure incurred by the households on food and non-food items. The consumption expenditure on different food items are generally used as a yardstick for measuring standard of living in developing nations. Table 3 shows the expenditure pattern (in terms of rupees and percentage) of the selected tribal households.

Table 3: Expenditure Pattern In The Sample Households

(In ₹ /Month)

S.No.	Expenditure	BPL households	APL households	All
1	Total food expenditure	607.77 (80.00)	831.00 (64.92)	762.17 (68.12)
2	Total non-food expenditure	151.98 (20.00)	449.04 (35.08)	356.73 (31.88)
	Grand Total (1+2)	759.75 (100.00)	1280.04 (100.00)	1118.90 (100.00)

Source: Field Survey, 2012.

The expenditure pattern of the people has changed significantly in tribal areas. There is a shift in expenditure from food to non-food items. The share of food expenditure was much higher than non-food expenditure for the tribal households, with the ratio of food to non-food expenditure being 80:20 for BPL households and 65:35 for APL households. Low and irregular income make these households lead a hand to mouth existence, which in turn makes them spend a larger part of their income on basic needs (food) than on non-food items. Income-wise analysis reveals that BPL households spend a higher proportion of their income on food (80 per cent) when compared to APL households (65 per cent).

Employment Details

Occupation-wise, the rural workers are mostly engaged in agriculture and allied activities though secondary and tertiary occupations are slowly emerging as sources of livelihood, depending on nearness to urban centre especially for males. The distribution of head of the family according to their occupation is presented in Table 4.

The proportion of workers engaged in the primary activities was 69 per cent for all households. The proportion of BPL households engaged in primary activity (85 per cent) was more than APL households (64 per cent). About 31 per cent of the APL

households were engaged in secondary activity, while this proportion was 15 per cent for BPL families. Lack of regular employment also forced 6 per cent of APL households to engage in more than one occupation.

Table 4: Employment Pattern Of The Head Of The Sample Households

(In percentage)

S.No.	Particulars	BPL households	APL households	All
A.	Type of employment:			
1	(i) Primary activity	85	63.6	69.3
	(ii) Secondary activity	15	30.9	26.7
	(iii) Both primary and secondary activity	0	5.5	4
2	Days of employment/year before joining MGNREGA			
	(i) 50 to 100 days	85	73.6	76.7
	(ii) 100 to 150 days	15	26.4	23.3
3	Days of employment /year after joined MGNREGA			
	(i) 150 to 200 days	85	73.6	76.7
	(ii) 200 to 250 days	15	26.4	23.3

Source: Field Survey, 2012.

The days of employment significantly increased after joining MGNREGA compared to before joining MGNREGA. The data reveal that more than 70 per cent of all the households were employed 150 to 200 days per year after joining the employment scheme.

Levels of Living of Tribal Households

In development economics, poverty is usually discussed in terms of consumption expenditure, minimum calorie intake norms and income. However, there is a general perception that one dimensional measurement of poverty is an inadequate basis for identification of the poor. It has been suggested that a more reasonable way of identifying the poor is to use a number of indicators rather than income. Hence in the present study the Quality of Life Index (QLI) of the tribal households were constructed by using 11 indicators as shown in Table 1.

To make the poverty yardstick a more realistic one, these indicators are measured in terms of their relative position in the composite index. The distribution of the households on the basis of the composite index is shown in Table 5.

Table 5: Distribution of The Households on the Basis of Composite Index

Composite index	BPL HHS	APL HHS	All
Less than 20	19 (35.8)	-	19 (12.7)
20 – 30	31 (58.5)	-	31 (20.7)
30 -40	3 (5.7)	89 (91.8)	92 (61.3)
40 and above	-	8 (8.2)	8 (5.3)
	53	97	150

Source: Estimation based on Field Survey.

The majority (59 per cent) of the BPL households were in the index range of 20 – 30, followed by 36 per cent in the range of less than 20 and 6 per cent in the range of 30 – 40. In contrast, nearly 92 per cent of the APL had a composite index of 30 – 40, 8 per cent between 40 and above and none below 30. Thus, the concentration of the BPL households was in the lower range of the composite index while the APL households were concentrated in the upper range of the composite index. Thus, there were significant inequalities in the distribution of resources in the selected tribal households and quality of life of the BPL households were significantly lower when compared to APL households.

Regression Analysis

An attempt was made to determine whether there is any statistical relationship between quality of life index and per capita income. The income – index relationship was estimated by using the following functional relationship:

$$Yi = b0 + b1Xi + Ui$$

Where, Yi is the per capita income of the ith household;

Xi is tribal quality of life index of the ith household;

b_0 is intercept;

b^1 is parameters estimate; and

U_i is disturbance term.

The graphic model was expressed in an econometric model as well. Graphical (Scatter diagram) test showed the existence of the log-linear model (Fig. 1).
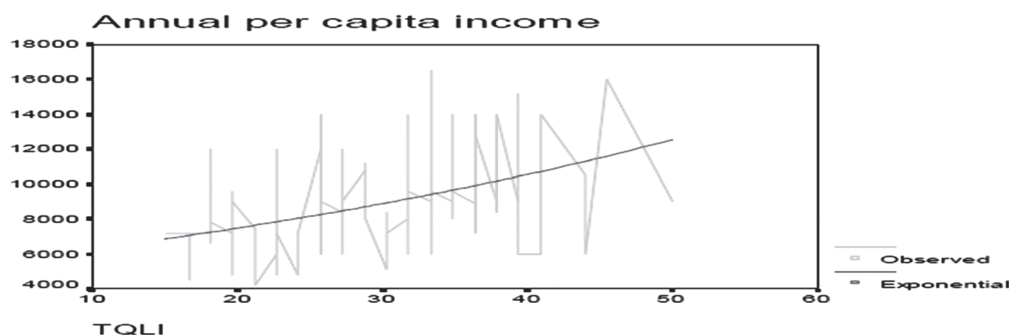
Figure 1: Scatter Diagram – Per Capita Income in the Values of TQLI

Table 6 shows the regression results of household income on tribal quality of life index.

Table 6: Regression Results Of Household Income On TQLI

Variable	Coefficient	Standard error	t value	R^2
Intercept	5308.35	465.35	11.41*	0.46*
TQLI	0.0172	0.0027	6.327*	

Source: Estimation based on Field Survey.

*Significant at 1 per cent level.

The explanatory power of the model was 0.46, signifying nearly 46 per cent of the variations in per capita income was explained by QLI. The coefficient of TQLI was positive and significant at 1 per cent level indicating that the QLI was positively responsive to per capita income (i.e.) when the QLI increased by 1 unit, per capita income increased by 0.017 units. Hence it can be concluded that the QLI was significantly associated with per capita income and any improvement in QLI will change the number of poor households as given by the measure of per capita income.

Discriminant Analysis

Discriminant analysis was used to understand the discriminating power of each variable used in the construction of quality of life index. The analysis would provide the relative importance of different variables in the order of merit based on their discriminating power among the sample households being compared. The classification of the households was done on the basis of composite quality of life index; the first group consisted of all households whose index point was much below the threshold level (average 31.46) and labeled as households with low QLI (HH LQLI) and the second group consisted of all those whose composite index was above the average and labeled as households with high QLI (HH HQLI). The factors chosen for the analysis were education (EDU), occupation (OCC), annual income (AI), annual per capita income (API), calorie intake (CAL), annual food expenditure (AFE), number of rooms per person (RPP), annual expenditure on clothing per person (AECP), type of housing (TH), and living area per person (LA). Caste was not taken as a causative factor as it assumes zero value as there is only one caste in the whole sample.

Table 7: Group Statistics And Tests Of Equality

Variables Group	EDU	OCC	AI	API	CAL	AFE	RPP	AECP	TH	LA
				Group Means						
Below TQLI	0.320	1.018	19442.26	7883.77	566.20	7664.49	1.94	952.83	4.67	5.86
Above TQLI	0.319	1.237	39562.89	10291.90	688.71	9955.54	2.00	4041.23	5.67	6.87
ALL	0.320	1.160	32453.60	9441.02	645.42	9146.04	1.98	2950.00	5.32	6.52
				Group Standard Deviations						
Below TQLI	0.700	0.137	11311.14	2157.62	218.22	2942.15	0.41	1800.81	1.55	2.10
Above TQLI	0.823	0.515	10434.73	2215.80	318.36	3090.86	0.35	1603.49	0.95	2.94
All	0.780	0.434	14419.64	2474.25	292.19	3222.35	0.37	2232.12	1.28	2.71
Wilk's Lambda 0.96		1.000	0.942	0.552	0.782	0.960	0.884	0.995	0.560	0.86
F-Ratio	0.000	9.108	120.04	41.23	6.237	19.47	0.78	116.45	23.38	4.86
Sig.	0.993	0.003	0.000	0.000	0.014	0.000	0.379	0.000	0.000	0.029

Source: Estimation based on Field Survey.

Table 7 summarises the group descriptive statistics and test of equality for the variables. In profiling the two groups, except education and number of rooms per person, all the remaining variables had the largest differences in group means. The Wilks' lambda and univariate ANOVA used to assess the significance between means of the independent variables for the two groups indicate that annual income, type of housing, living area per person, annual expenditure on clothing per person, annual food expenditure, calorie intake and occupation were the variables which showed significant univariate differences between the groups.

To identify which of these variables, plus any others best discriminate between the groups, the discriminant function was estimated by using step-wise procedure. This procedure begins with all the variables excluded from the model and then selects the variables that show statistically significant differences across the group and provides the largest Mahalanobis distance (D^2) between the groups.

The findings are summarised in Table 8. The estimation procedure stops with five variables viz., annual income, type of housing, living area per person, annual expenditure on clothing and occupation.

Table 8: Wilks' Lambda And Mahalanobis D² Statistics

Step	Variables	Tolerance	To Remove	Wilk's Lambda	Min.D Squared	Between Groups
1	Annual income	1.000	120.049	-	-	-
2	Annual income	0.962	126.177	0.864	0.682	1 and 2
	Type of housing	0.962	27.661	0.552	3.503	1 and 2
3	Annual income	0.792	180.100	0.793	1.125	1 and 2
	Type of housing	0.805	52.565	0.483	4.621	1 and 2
	Living area per person	0.744	45.007	0.465	4.974	1 and 2
4	Annual income	0.612	24.797	0.338	8.452	1 and 2
	Type of housing	0.768	61.498	0.411	6.183	1 and 2
	Living area per person	0.658	65.884	0.420	5.964	1 and 2
	Annual expenditure on clothing per person	0.564	33.363	0.355	7.839	1 and 2
5	Annual income	0.602	18.692	0.308	9.719	1 and 2
	Type of housing	0.764	60.789	0.387	6.834	1 and 2
	Living area per person	0.616	75.051	0.414	6.108	1 and 2
	Annual expenditure on clothing per person	0.539	38.756	0.346	8.178	1 and 2
	Occupation	0.909	8.718	0.289	10.636	1 and 2

Source: Estimation based on Field Survey.

Table 9: Summary Statistics for Two-Group Discriminant Analysis

Function	Eigen value	Per cent of variance Function	Cumulative	Canonical Correlation	Wilks' Lambda	Chi-square	Sig.
1	2.673	100	100	0.853	0.272	189.287	0

Independent variables	Discriminant Function Unstandardised
Occupation	0.694039675
Annual income	4.76206E-05
Annual expt. on clothing per person	0.000438775
Type of housing	0.608908559
Living area per person	0.32646953
(Constant)	-9.012907389

Source: Estimation based on Field Survey.

Table 9 provides the overall step-wise discriminant analysis after all the significant variables are included in the estimation of the discriminant function. The canonical correlation associated with the function was 0.85 implying significant association between the dependent variables and independent variables in the model. The Wilks' lambda and chi-square value indicates that the function was significant at 1 per cent level. The variables occupation, annual income, annual expenditure on clothing per person, type of housing and living area per person had positive sign indicating that these variables had higher discriminating power between the groups.

To assess the contribution of the individual variables the potency index was calculated based on the discriminant loadings and are presented in Table 10. An easy rule of thumb followed in identifying significant variables discriminating the groups was to select variables, whose factor loadings are above +/- 0.30. Based on the above rule only two variables, namely annual income and annual expenditure on clothing per person had factor loadings exceeding +/- 0.30 threshold. The potency index arrived at by multiplying the square of discriminant loading by the eigen value of the function.

Table 10: Discriminant Loading and Potency Index for the Selected Variables

S.No.	Variables	Discriminant Loadings	Eigen value	Potency index in percentage
1	Annual income	0.55089	0.85300	25.887
2	Annual expt. on clothing per person	0.54258	0.85300	25.112
3	Annual per capita income @	0.36579	0.85300	11.413
4	Type of housing	0.24313	0.85300	5.042
5	Annual food expt @	0.20663	0.85300	3.642
6	Occupation	0.15174	0.85300	1.964
7	Living area per person	0.11088	0.85300	1.049
8	Calorie intake @	0.07580	0.85300	0.490
9	Education @	-0.06595	0.85300	0.371
10	No. of rooms @	-0.00054	0.85300	0.000

Source: Estimation based on Field Survey, @ - Not included in the discriminant function.

The relative importance of different predictors indicated that the percentage contribution of individual predictor to the total distance measured was highest in respect of annual income (26 per cent), followed by annual clothing per person (25 per cent), annual per capita income (11 per cent) and type of housing (5 per cent). Together these variables accounted for 67 per cent of the variation in the living standards of the households.

Hence for improving the living standards of the tribal population, the governmental programmes should aim at enhancing the income of these households which in turn will pave way for better living conditions. The validity of the discriminant function was evaluated at group centroids (group means) and the results are shown in Table 11.

Table 11: Classification Of Sample Cases

Actual group		Predicted Group Membership		
		Below TQLI	Above TQLI	Total
Original Count	Below TQLI	51.00	2.00	53.00
	Above TQLI	3.00	94.00	97.00
Per cent	Below TQLI	96.23	3.77	100.00
	Above TQLI	3.09	96.91	100.00

Source: Estimation based on Field Survey.

In the above Table, the classification accuracy percentage of the discriminant function was 96. Thus, it can be inferred that 96 per cent of the selected original group cases (estimation sample) were correctly classified.

Conclusion

To sum up, under the MGNREGA the sample beneficiaries have marginally gained in terms of better employment opportunities and increased days of employment, which had improved their per capita income and helps to lead a better standard of life . The quality of life index prepared revealed that the tribal households, especially those below the poverty line had poor socio-economic index and the need to ameliorate the living standards by enhancing their income levels. There is huge potential for using the MGNREGA programme as an approach to reduce the vulnerability in the livelihood of tribal household both in the short term and long term. In this context, the following recommendations are made:

● For effective implementation of the programme, a comprehensive plan of action needs to be formulated by taking into consideration the tribal specific issues such as high rate of illiteracy, lack of employment and income generating activities, land alienation, indebtedness, distress migration, displacement etc. The tribals should be given priority in the process of implementation of their developmental programme.

● Investment should be focused more on activities providing benefits at the community level so that the poor derive maximum benefits.

● Job cards should be issued to the households on the basis of their economic status.

● Above all, the success of any programme of this nature depends on an increase in political consciousness along with awareness among the poorest section of the society.

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