

CHAPTER-5

SUMMARY AND CONCLUSION

The concept of quality of life broadly encompasses how an individual measures the 'goodness' of multiple aspects of their life. These evaluations include one's emotional reactions to life occurrences, disposition, sense of life fulfilment and satisfaction with work and personal relationships. Quality of life is defined as the product of the inter-play among the social, health, economic and environmental conditions which affect human and social development.

Quality of life has objective components - i.e., components external to an individual and measurable by 'others' - and subjective components -i.e., personal assessment of one's own life or of particular aspects of life using measures of satisfaction, happiness or other self-assessment scales

Quality of life indicator systems have established themselves as useful and insightful ways of determining the status and position of select populations. They provide another facet to assess the progress of the economy, education, health and other commonly used categorizations of people within a specified geographical area.

The quality of life of scheduled tribes is unique since they are the socially excluded population. Indian tribes constituted roughly 8.6 percent of the nation's total population and nearly 1042.8 lakhs people were scheduled tribes as per 2011 Census. In spite of various welfare programmes formulated by Government of India the scheduled tribes are characterised by low education status, poor health status and economic status.

In India researchers like Pramod Kumar (2001), Palanisamy (2002) and Beck and Mishra (2010) have analysed the quality of life of single tribal group. But there had been lack of research effort concentrating on the analysis of inter tribe variation in quality of life. Hence the research study on "**Inter-tribe variation in quality of life in the Nilgiris District of Tamil Nadu**" is expected to fill up the research gap and was formulated with the following **objectives**.

- To analyse the socio economic characteristics of the selected tribal households
- To find out the extent of variation in different components of quality of life of different tribal groups
- To estimate the quality of life index for different tribal groups - Todas, Kurumbas, Kotas, Irulas, Paniyans and Kattunayakans
- To identify factors causing inter tribe variation in quality of life
- To examine the link between quality of life and poverty of tribals
- To identify the problems faced by different tribal groups and
- To recommend measures to improve the quality of life of tribal groups

The study was related to the Nilgiris District. According to 2011 Census, Nilgiris district occupied first rank in the proportion of scheduled tribe population of Tamil Nadu (4.5 percent) and there were 32813 tribes in Nilgiris District. The main tribal groups in the District are the Todas, Kotas, Kurumbas, Irulas, Paniyans and Kattunayakans.

The study adopted multistage stratified random sampling method and proportionate random sampling method. The study was related to Udhagamandalam, Coonoor, Kotagiri, Gudalur and Pandalur taluks of Nilgiri District. The taluk Kundha was omitted for the study since it has the lowest tribal population and also due to inadequate transport facilities. By following proportionate random sampling (15 percent of the total number of households), the number of households in each tribal group were selected. As a whole the study covered the sample of 909 tribal households.

The details relating to general information, family background, family income and expenditure, savings, borrowings, assets, educational status, food intake, health status, housing condition, problems faced and measures required were collected by administering an interview schedule to the head of the selected tribal households.

The study tried to estimate quality of life index based on the following parameters - educational status, occupational status, monthly per capita income, annual food expenditure as percent of annual income, annual clothing expenditure per person, assets possessed, vehicles possessed, food intake, prevalence of disease, source of water, sanitation facilities, fuel availability, type of house, number of rooms per person and living area per person.

Each parameter was scored out of ten and hence the total score comes to 150. The minimum desired level of score for the above parameters for a fair living condition was defined on a scale of 0 to 150. All the parameters have been given an equal weightage and

the total score of quality of life index was 150. The classification on the basis of the total score used for analysis is as follows: Below 30-Poor quality of life index; 30-60-Average quality of life index; 60-90 - Fair quality of life index and Above 90 -Good quality of life index

The study used chi-square analysis, likert rating scale, one way analysis of variance, factor analysis, Garrett ranking, rank correlation analysis and Kruskal Wallis test. It also constructed composite educational index and calculated Sopers disparity index, Gini coefficient ratio and multidimensional poverty index.

5.1 Findings of the study:

A. Socio-economic characteristics of the head of the selected tribal households

- Majority of the head of Todas households (38.29 percent), Kurumbas households (29.28 percent) and Paniyans households (27.84 percent) belonged to the age group of 41-50 years. However majority of the head of Kotas households (32.55 percent), Irulas households (28.33 percent) and Kattunayakans households (36.08 percent) were in the age group of 31- 40 years.
- With regard to educational level of the head of the households, 36.17 percent of Todas, 63.95 percent of Kotas, 49.28 percent of Kurumbas, 50.83 percent of Irulas, 73.05 percent of Paniyans and 73.77 percent of Kattunayakans were illiterate. In all tribal groups except Todas, none of the head of the households have completed higher secondary and college education.

- The occupational composition of the head of the households revealed that the primary occupation of head of the Todas households was business since 51.06 percent were involved in business. Comparatively 97.67 percent of head of Kotas households, 48.57 percent of Kurumbas, 71.66 percent of Irulas, 49.70 percent of Paniyans and 32.78 percent of Kattunayakans were employed as agricultural labourers.
- The average monthly income of head of the Todas households (Rs.7521) was high as compared to Kotas (Rs.1779.), Kurumbas (Rs.3886), Irulas (Rs.1200), Paniyans (Rs.800) and Kattunayakans (Rs.1300).
- There was dominance of joint family system since 53.19 percent of Todas, 52.12 percent of Kotas, 69.74 percent of Kurumbas, 79.17 percent of Irulas, 73.77 percent of Paniyans and 73.77 percent of Kattunayakans were belonging to joint family.
- There was dominance of large family size in all tribal groups since more than 40 percent of the households were representing large family.
- There was dominance of Hindu religion as indicated by the fact that 74.46 percent of Todas, 88.37 percent of Kotas, 85.71 percent of Kurumbas, 87.50 percent of Irulas, 95.80 percent of Paniyans and 81.97 percent of Kattunayakans were Hindus.

B. Details of family members

- The proportion of family members in the age group of 0-14 years was found to be the highest among Kattunayakans (45.36 percent) and lowest among Paniyans (30.80 percent). However, the estimated work force ratio was found to be the highest among Kurumbas (63.36 percent) and lowest among Kotas (56.19 percent).
- The calculated sex ratio for Todas (1569) was higher than that of Kotas (1218), Kurumbas (1370), Irulas (1432), Paniyans (741) and Kattunayakans (1204).
- The proportion of married family members was found to be the highest among Kattunayakans (65.41 percent) and lowest among Kotas (49.62 percent)

C. Analysis of educational status as a component of quality of life

- The overall literacy rate was found to be the highest for Todas (78.77 percent) and lowest for Irulas (30.54 percent). The male literacy rate was found to be the highest among Todas (78.39 percent) and lowest for Irulas (34.04 percent). The female literacy rate was found to be the highest among Todas (79.46 percent) and lowest among Irulas (26.29 percent).
- Majority of parents of Todas and Kurumbas had favourable attitude for education of boys and girls. However the parents of Paniyans and Kattunayakans had unfavourable attitude towards education of boys and girls.
- The application of chi square analysis to find out the association between attitude towards education and the selected variables revealed that for Todas, monthly family income and size of the family were found to have significant association with the attitude towards education, while for Kotas, age of the head of the household and monthly family income were found to be the significant factors. For Kurumbas, the significant association was found only with age of the head of the family. For Irulas, the significant association was found only with size of the family. For Paniynas and Kattunayakans there was insignificant association of all the selected factors and attitude towards education.
- For Todas, the primary school enrolment rate (97.85 percent) was higher than that of secondary enrolment rate (91.98 percent), higher secondary enrolment rate (92.06 percent) and college enrolment rate (89.05 percent). Similarly for Kotas, primary school enrolment rate (88.31 percent) was higher than that of secondary enrolment rate (85.03 percent), higher secondary enrolment rate (82.64 percent) and college enrolment rate (79.67 percent). For Kurumbas, primary school enrolment rate (89.81 percent) was higher than that of secondary enrolment rate (86.86 percent), higher secondary enrolment rate (85.59 percent) and college enrolment rate (62.10 percent). For Irulas, the college enrolment rate was only 24.19 percent while the primary school enrolment rate was 85.79 percent. Paniyans and Kattunayakans were not enrolled in college.
- For all the tribal groups dropout rate was the lowest at the primary level and it was found to be more at the higher secondary level.

- Majority of boys and girls of selected tribal groups had studied in Government institution and educated in Tamil medium. In all the tribal groups, the percentage of children getting free text books and stationary items was higher. However the percentage of students getting scholarship was found to be more among Todas as compared to other tribal groups.
- The gender disparity index in primary education was found to be the highest among Kotas (137.93 percent) and lowest among Todas (76.47 percent). Gender disparity in college education was found to be the highest among Todas (134.48 percent) and lowest among Irulas (66.66 percent).
- Per head educational expenditure was higher for Todas (Rs.8800) and lower for Kattunayakans (Rs.3350). In all the tribal groups expenditure on books and note books was predominant and it ranged from 30 percent to 38 percent.
- On an average, Todas have the highest composite educational index (0.79) and Paniyans have lowest composite educational index (0.36). For all tribal groups except Todas, composite education index of girls was lower than that of boys.

D. Analysis of economic status as a component of quality of life

- Majority of Todas males (44.44 percent) and females (76.92 percent) were involved in business. Majority of the male members of Kotas (51.61 percent) were employed in fishing while all the female members were employed as agricultural labourers. Among Kurumbas, of total males employed, majority of them (43.01 percent) were employed as agricultural labourers while all female members were employed as agricultural labourers. Majority of Irulas males (61.47 percent) and females (83.89 percent) were employed as agricultural labourers. Majority of Paniyans males (71.72 percent) and females (91.90 percent) were employed as agricultural labourers. Among Kattunayakans, majority of males (72.60 percent) were employed as agricultural labourers while all female members were employed as agricultural labourers.
- The major subsidiary occupation for Todas was poultry keeping while for Kurumbas it was bee keeping and for Irulas it was sheep rearing. However Kotas, Paniyans and Kattunayakans did not have any subsidiary occupation.

- The average monthly income of Todas (Rs.15600) was higher than that of Kotas (Rs.15000), Kurumbas (Rs.9365), Irulas (Rs.1800), Paniyans (Rs.1300) and Kattunayakans (Rs.1500).
- With regard to ownership of property, Todas and Kurumbas had their own land and on an average Todas possessed 11.42 cents of land while Kurumbas had 8.67 cents of land. The average value of the house owned by Todas (Rs.4,03,597) was higher as compared to that of Kotas (Rs.3,43,411), Kurumbas (Rs.2,87,421), Irulas (Rs.1,55,500), Paniyans (Rs.1,12,370) and Kattunayakans (Rs.1,25,700). The average quantity of jewels owned by Todas (24.34 grams) was exceeding that of Kotas (23.67 grams), Kurumbas (27.91 grams), Irulas (5.30 grams), Paniyans (5.65 grams) and Kattunayakans (6.90 grams).
- All the households of the selected tribal groups were having television and mobile phones. However, only 25.53 percent of Todas households, 6.43 percent of Kurumbas households, 16.67 percent of Irulas households, 44.91 percent of Paniyans households and 8.19 percent of Kattunayakans households had radio.
- On an average, Todas spend 40.34 percent on food, 7.38 percent on clothing, 21.03 percent on education, 13.17 percent on family function and 11.55 percent on religious function. Kotas spend 31.81 percent on food, 9.04 percent on clothing, 20.94 percent on education, 17.00 percent on family function and 17.90 percent on religious function. Kurumbas spend 37.77 percent on food, 14.15 percent on clothing, 29.14 percent on education, 10.82 percent on family function and 2.03 percent on religious function. Irulas spend 32.67 percent on food, 18.98 percent on clothing, 11.08 percent on education, 17.79 percent on family function and 6 percent on religious function. Paniyans spend 45.01 percent on food, 13.43 percent on clothing, 9.56 percent on education, 15.67 percent on family function and 6.3 percent on religious function. Kattunayanas spend 45.01 percent on food, 9.23 percent on clothing, 12.58 percent on education, 13.26 percent on family function and 5.60 percent on religious function.
- The average amount of savings for Todas (Rs.3343) was found to be higher as compared to Kotas (Rs.3064) and Kurumbas (Rs.2270). Paniyans and Kattunayakans were not having savings.
- The average amount of debt obtained was found to be the highest among Paniyans (Rs.7679) and lowest among Todas (Rs.1755). The selected tribal households were getting debt from money lenders, banks and friends

E. Analysis of nutrition status as a component of quality of life

➤ Among different tribal groups, 48.94 percent of Todas, 39.53 percent of Kotas, 28.57 percent of Kurumbas and 14.75 percent of Kattunayakans had good food intake consisting of rice, pulses, green leaf vegetables, milk, fruits, egg and meat. Comparatively majority of Irulas (72.91 percent) and Paniyans (87.87 percent) had poor food intake.

F. Analysis of health status as a component of quality of life

➤ The incidence of cancer was found among Irulas males and females and Paniyans males and Kattunayakans females. Similarly, the fungal infection was found among Paniyans males and females. The prevalence of malaria was found to be higher among Kurumbas.

➤ Majority of Todas (60.78 percent) and Kattunayakans (56.04 percent) have taken the treatment from local faith healer while 73.59 percent of Paniyans have the treatment at home. In contrast, majority of Kurumbas (70.09 percent) and Irulas (58.02 percent) have taken the treatment from qualified medical person.

➤ The average distance to primary health centre was found to be more for Paniyans (1.49 km) and low for Kattunayakans (0.68 km).

➤ The percentage of children who have been given all types of immunisation – BCG, DPT 3 doses and Polio 3 doses was found to be the highest among Todas (28.03 percent).

➤ In all the tribal groups infant mortality rate for girls was higher than that of boys.

➤ Majority of Todas, Kotas and Kurumbas households had own well as a source of drinking water. However Irulas, Paniyans and Kattunayakans households had only public tap

➤ The percentage of households using boiled water was higher among Irulas households (62.50 percent) and lower among Kattunayakans (19.67 percent)

➤ All the selected Todas households had own toilet facilities while only 84.88 percent of Kotas, 60.71 percent of Kurumbas, 25 percent of Irulas, 4.19 percent of Paniyans and 58.06 percent of Kattunayakans households had own toilet facilities.

➤ All the selected Todas households, 20.93 percent of Kotas households and 56.43 percent of Kurumbas households have used gas and electricity as fuel.

G. Analysis of living condition as a component of quality of life

- Majority of Todas households (51.06 percent) and Kurumbas households (55.00 percent) were living in pucca house. In contrast the majority of Irulas households (83.33 percent), Paniyans households (90.90 percent) and Kattunayakans households (57.38 percent) were living in Kacha house.
- Majority of Todas households (42.55 percent) and Kurumbas households (45.00 percent) have four rooms. However majority of Irulas households (62.50 percent) Paniyans households (83.33 percent) and Kattunayakans households (57.37 percent) have only one room in their house.
- Majority of Todas households (36.17 percent) and Kotas households (36.04 percent) have 400-500 square feet as living area. For the majority of Irulas households (62.50 percent), Paniyan households (75.75 percent) and Kattunayakan households (57.37 percent), the living area was below 100 square feet.

H. Assessment of quality of life index of the selected tribal groups

Descriptive statistics of parameters used in estimating the quality of life index

- For Todas, the mean score of educational status (2.36), occupational status(6.38), monthly percapita income (7.97), annual food expenditure as a percent of annual income (9.27), annual clothing expenditure per person (7.78), assets possessed (7.72), vehicles possessed (6.63), food intake (7.76), type of house (6.38), number of rooms per person (6.78), source of drinking water (3.10), sanitation facilities (8.57) and fuel availability (7.52) was found to be the highest.
- For Kattunayakans, the mean score of educational status (1.26), and annual food expenditure as a percent of annual income (4.02) was found to be the lowest. But the mean score of prevalence of disease was found to be the highest (6.43).
- For Paniyans, the mean score of per capita income (1.11), annual clothing expenditure per person (1.56), assets possessed (1.08), food intake (1.56), type of house (1.15), living area (2.59), sanitation facilities (1.88) and fuel availability (1.54) was found to be the lowest.

- For Irulas the mean score of occupational status (2.64), vehicles possessed (1.06), number of rooms per person (2.49) and source of drinking water (1.75) was found to be the lowest
- The estimated gini co-efficient ratio indicated that there have been more inequality among Todas in the parameter of occupational status, assets possessed, food intake, source of water, sanitation facilities, fuel availability, type of house, number of rooms per person and living area.
- The estimated Sopher's disparity index revealed that the quality of life of Todas had more disparity with the quality of life of Paniyans. When the quality of life of Kotas was compared with other tribal groups there was more disparity with regard to Paniyans as indicated by the Sopher's disparity index of 0.34. A comparison of quality of life of Irulas, Paniyans and Kattunayakans revealed that their quality of life had more disparity with the quality of life of Todas as indicated by the estimated Sopher's disparity index.
- Of the selected Todas households, 59.50 percent had good quality of life index. Comparatively 29.07 percent of Kotas households and 46.43 percent of Kurumbas households had fair quality of life index. Majority of Irulas households (58.33 percent), Paniyans households (75.07 percent) and Kattunayakans households (59.02 percent) had only poor quality of life index.
- On an average, the quality of life index for Todas was higher 104.61 as compared to that of Kotas - 67.90, Kurumbas - 62.05, Irulas - 28.35, Paniyans - 25.65 and Kattunayakans - 26.57.
- The application of ANOVA revealed that there was significant difference in quality of life index of different tribal groups- Todas, Kotas, Kurumbas, Irulas, Paniyans and Kattunayakans since the calculated F value- 19.50 was higher than table F value (3.02).

I. Identification of factors determining the quality of life of tribals

- The application of factor analysis revealed that the quality of life of Todas was significantly affected by educational status, occupational status, monthly per capita income, annual food expenditure as a percent of annual income, annual clothing expenditure per person, assets possessed and vehicles possessed. These seven parameters as a whole accounted for 75.48 percentage of total variance in quality of life.
- The quality of life of Kotas was significantly affected by educational status, occupational status, monthly per capita income, annual food expenditure as a percent of annual income, annual clothing expenditure per person and assets possessed and they accounted for 67.33 percentage of total variance in quality of life.
- The quality of life of Kurumbas was significantly affected by educational status, occupational status, monthly per capita income, annual food expenditure as a percent of annual income, annual clothing expenditure per person, assets possessed and vehicles possessed since they accounted for 64.21 percentage of total variance in quality of life.
- The quality of life of Irulas was significantly affected by educational status, occupational status, monthly per capita income, annual food expenditure as a percent of annual income, annual clothing expenditure per person and assets possessed. These six parameters as a whole accounted for 60.83 percentage of total variance in quality of life.
- The quality of life of Paniyans was significantly affected by educational status, occupational status, monthly per capita income, annual food expenditure as a percent of annual income, annual clothing expenditure per person since they accounted for 72.98 percentage of total variance in quality of life.
- The quality of life of Kattunayakans was significantly affected by educational status, occupational status, monthly per capita income, annual food expenditure as a percent of annual income and annual clothing expenditure per person. They accounted for 53.67 percentage of total variance in quality of life.

J. Analysis of the link between quality of life and poverty of tribals

- Among Todas households, 38.29 percent were deprived in the indicator of completion of five years of schooling. However in all the indicators of living standard all the Todas households were non-deprived.
- Among Kotas households, 33.72 percent were deprived in the indicator of completion of five years of schooling.
- Among Kurumbas households, 49.28 percent were deprived in the indicator of completion of five years of schooling. However only 12.14 percent of the households had child death.
- Among Irulas households, 59.58 percent were deprived in the indicator of completion of five years of schooling, 4.98 percent had child death and 97.91 percent of the households were malnourished. However more than 90 percent of the households had no access to clean drinking water, adequate sanitation and electricity.
- Among Paniyans households, 84.38 percent were deprived in the indicator of enrolment in school and more than 90 percent were deprived in health status. However in all the indicators of living standard more than 80 percent of the households were deprived
- Among Kattunayakans households, 62.90 percent were deprived in the indicator of completion of five years of schooling and more than 90 percent were deprived in health status. However in all the indicators of living standard more than 80 percent of the households were deprived.
- The average deprivation score of Todas was the lowest (0.103) while that of Paniyans was the highest (0.851)
- The estimated multidimensional poverty index of Todas (0.0247) was lower than that of Kotas (0.039), Kurumbas (0.046), Irulas (0.714), Paniyans (0.828) and Kattunayakans (0.469).
- For all the tribal groups there was negative rank correlation between the quality of life index and multidimensional poverty index

K. Problems faced by the selected tribal groups

➤ The major problem faced by Todas and Kurumbas was inadequate medical facilities while Kotas considered inadequate marketing facilities as the major problem. However inadequate educational facilities was the essential problem faced by Irulas, Paniyans and Kattunayakans.

L. Desired measures to improve the quality of life of tribals

➤ To improve the quality of life, the selected tribal groups required the provision of more health facilities, educational facilities and better housing facilities.

5.2 Conclusion:

- Educational status, economic status, health status, nutrition status and living conditions are the important components of quality of life.
- There exist variation in different components of quality of life among different tribal groups.
- Todas have high quality of life index and Paniyans have low quality of life index
- There is disparity in quality of life of different tribal groups
- The incidence and intensity of poverty is high among Irulas, Paniyans and Kattunayakans as compared to Todas, Kotas, and Kurumbas
- The basic problems faced by different tribal groups were inadequate educational facilities, inadequate medical facilities, inadequate transport facilities, unemployment and insufficient finance and
- The desired measures to improve the quality of life were provision of more education and health facilities and better housing facilities.

5.3 Recommendations

5.3.1 For the Government

- There is need for increasing the access to education for all tribal groups by establishing schools in the nearby areas of tribal munds.
- Proper transport facilities to be provided facilitating the movement of tribal groups from the place of residence to nearby school.
- To bring the tribal children to the mainstream, the school curriculum should be designed according to their culture, dialect and local environment. Teaching and training should be modified in relation to tribal culture.
- There is need for the provision of textbooks in the mother tongue for children at the beginning of the primary education, when they do not understand the regional language.
- More women teachers can be appointed to take care of tribal girls.
- Government has to educate the farmers about modern techniques of cultivation and has to provide farm implements, hybrid seeds and pesticides at subsidised price.
- The direct assistance and encouragement should be given to establish cottage, tiny and small-scale sectors through the supply of raw materials, technical guidance and financial and marketing back up. It will help to increase their income level and come out from the clutch of poverty.
- Minimum wages must be paid to unorganised sector workers also.
- Training programmes must be conducted to develop employment skills
- There is need for provision of facilities for marketing the product
- Income generation programmes targetting women have to be encouraged
- Proper infrastructure facilities should be provided, so that they could be linked with the national mainstream, which will go a long way to develop their socio economic conditions.
- Government should provide safe drinking water through tap or borewell to all the tribal villages.

- Since tribal diets are generally deficient in calcium vitamin A, Vitamin C, Riboflavin and animal protein, steps need to be taken to provide iron, calcium and vitamin tablets through the primary health centres and anganwadi centres
- Nutrition and health education should be imparted in the tribal local dialect using preferably audio-visual materials.
- A special programme should be evolved exclusively for the tribals to cover the immunization.
- The primary health centres in tribal remote villages need to be strengthened and
- Awareness needs to be created among the tribes regarding the adverse effects of excessive intake of alcohol and the use of tobacco / drugs by the health workers.

5.3.2 For Non Governmental organisations

- NGOs can organise mobile schools for nomadic population groups whereby the teacher is attached to the group and moves with the group.
- They can provide opportunities to the tribal youth especially dropouts to learn crafts of their choice
- Vocational training and entrepreneurial skills can be provided to youth to create employment and prevent migration
- NGOs can link tribal people to banks and other financial institutions to get self employment loans and assistance
- NGOs can also provide coaching–cum–guidance for occupational information.
- They can facilitate the creation of basic infrastructure in tribal households and
- Educate the community about the resources available to them through innovative means and mass media.

5.3.3 For Tribal people

- Tribal people need to be more concerned with the future wellbeing of children. They must realize the fact that by providing education at present the children can get better life in future.
- They should avoid employing children for cultivation work and
- Tribal people must come out of cultural taboos and have exposure to the outside world.

5.4. Scope for future research

- A comparative study of quality of life of scheduled tribes of Nilgiris District with that of other Districts of Tamilnadu can be undertaken;
- A study on regional disparity in quality of life of scheduled tribes can be designed and
- A study on impact of Government intervention programme on the quality of life of tribals can also be formulated.

