CHAPTER – XI

MAJOR CONCLUSIONS: PRIMARY DATA ANALYSIS

The major conclusions are drawn from the surveyed household of different agro-climatic zone villages in Tamil Nadu. The survey covered 1890-sample population in total, representing 270 households in each village

1. ***Religion:*** There were three religious groups in the total sample of the different agro climatic zone villages. It comprised of Hindu (80%), Christian (17%) and Muslims (3%). It is observed that the distinguished culture among different religious groups prevail in the State, may help safeguard the environmental resources.

2. *Community:* The policies of the Government aimed at helping the socially and economically deprived sections of the population of SCs, STs, MBCs etc. Of the total sample, the majority of the households belonged Backward Community (43%). The MBCs and SCs constituted i.e. 28 per cent and 26 per cent respectively. The STs households were studied in four zones and their percentage was 2.33.

3. *Size of Household:* Size of household is one of the important parameters, which determines the socio-economic development of the people. The households were categorized into three groups viz. small, medium and large. Of these three groups, 65 per cent of the households belonged to the medium size of 4 - 6. At the next level, small families occupied 28 per cent and the rest of them belonged to large families (7%). It was evident that the majority of them were living in the form of nuclear families.

4. ***Sex of the Surveyed Household:*** Sex, age and educational status of the Head of the households would play a vital role in enhancing their family income and status in the society. The households surveyed could reveal that the male-headed households dominate and represent 90 per cent. The female-headed households were relatively high in High Rainfall Zone village of Kanyakumari (18%) and High Altitude zone village of the Nilgiris (12%). Both the zones were situated on the borders of the neighbouring States; hence their culture is somewhat different from others.

5. ***Age of the Surveyed Head:*** The age of the head of the household would decide their economic activities. In total, the active middle-aged group belonged 69 per cent. The rest 24 per cent and 7 per cent belonged to young and old age group respectively. A similar trend could be seen in all the zone villages.

6. ***Educational Status of the Surveyed Head:*** Of the total surveyed households, 40 per cent belonged to the category of illiterate. College educated percentage was very low (2%). These Rural people had some education in the Government schools at Panchayat, Block level, but they could not move to collegiate education.

7. ***Male Female Ratio:*** The male/female proportion was 51 per cent and 49 per cent respectively. For every 1000 male, 950 female were prevailed in the sample. Female population was just low compared to the male population in all the zones, except in the case of High Rainfall Zone.

8. ***Age-group of the surveyed population:*** The population were grouped into four age groups viz. children (<15), young (15-35), middle aged (36-60) and Aged (>60). Of these four groups, majority of them were in the economically active groups of young (40%) and middle (29%).

9. ***Earner dependant ratio:*** Earner dependant ratio gave a picture that how many of them belong to the economically active category. On an average, earner dependant ratio was 1.01, depicting the fact that for every one earner, there is one dependant in each family.

10. S*ize of Household:* The average size of the household was 4.32. It showed that the families live in rural areas too followed the family planning practices and used the available birth control devices. Household size varied in between 3.59 and 4.82. Due to the emergence of the nuclear family systems, the figure came down sizeably over the period, compared to the number in the census data.

11. *Literacy:* Educational status was classified as illiterate, primary, secondary and collegiate. Of these, 32 per cent of the population was illiterates. The figure was conforming to the census 2001, and much low as compared to the rural illiterates of the State (33%). Of the seven zones, illiterates were high in four zones viz. Cauvery Delta (35%), North East (39%), North West (46%) and the Western (40%). The illiterates were low in the High Altitude zone and High Rainfall Zone (15%). Among the literate categories, the proportion was very high in the case of secondary educated population (44%). At the next level, the primary educated population, constituted 20 per cent of the total.

12. *School Dropouts:* The Government of Tamil Nadu introduced the Noon Meal Programme, to arrest the dropouts. On an average, the percentage of dropouts was 7 per cent. In some regions dropouts were high, viz. Southern (11%), Cauvery Delta (10%) and North Western (10%). It could be confirmed that the school dropouts were reduced over the period.

13. *Occupation:* The major occupations of the seven agro-climatic zone villages enabled forming eight categories. Of the total households surveyed, 62 per cent of the head of the households' main occupation was agricultural labourers. Agriculture is the main activity in the rural area of the State. Putting together, the agricultural labourers and cultivators proportion was 69 per cent. A little

diversification took place in the occupation of the rural households. The diversification is very poor in terms of percentages. The nature of occupation permitted the households to enjoy the benefits of the Government Programmes and thereby development.

14. *Household Assets:* Assets were categorized into seven groups, broadly brought under the financial and non-financial types. Average value of the total asset stood at Rs. 1,45,481. Among the zones, it varied in between Rs. 89,840 and Rs. 2,41,858. It could be said that inequality prevails among the households as well as in the zone villages. Of the total assets, the composition of the living house was 41%. In all the zones the people gave the preference to construct living houses. Then they moved over to land (38%) and consumer durables (81%) respectively. The average financial assets composition stood at only 3 per cent. It showed that the people were not habituated to save in the banks or invest in the capital markets.

15. *Household Income: T*here were eight major sources of income of the rural households surveyed in different agro-climatic zonal villages. On an average, the household income stood at Rs. 40,065. Of this, wage constituted as the major component i.e. 49 per cent and the income was Rs. 19,819. At the next level, agriculture income was Rs. 7,926, which was more than 2 times below the level of wage income. On the other hand, rent and interest turned out to be a meagre source of income. The lowest household income Rs. 29,886 was attributed to the High Rainfall Zone village. On the other hand, the highest income Rs. 50,303 was recorded in the North Eastern Zone. The relative shares of the various sources of household income varied significantly among the zone villages. It could be concluded that the wage and agriculture income constituted around 70 per cent. In all the zones, the poorer income group people benefited from the wage.

16. *Consumption Expenditure:* On an average, the total household expenditure stood at Rs. 19,555. Of this, 67 per cent of their expenditure was on food. In the other

expenses category, they spent 9 per cent. Under this component, there are various social expenses like marriage, ear boring, funeral, puberty, etc. Hence this proportion of expenditure of expenditure recorded next to the food. At the next level they spent 9 per cent of their income as clothing. Among the zones, the expenditure on food emerged as a major expenditure of the households. Per household food expenditure varied significantly among the zones, i.e. it lies in between Rs. 8,801 of High Rainfall Zone and Rs. 17,818 of North Eastern Zone. It is inferred that there is a positive relationship in between the income and expenditure. The rural households of different agro-climatic zones spent more on food than on other items of consumption. Since their income is limited, they could not enhance their income on other items.

17. *Distribution of Assets:* On an average, the percapita asset value was recorded at Rs. 39,995. The per capita asset distribution grouped into five, on the basis of existing distribution in the sample population. Of these five groups, the highest proportion (31%) constitutes in the lowest asset group of less than Rs. 10,000. There are 22 per cent of the households belonged to the highest asset group of above Rs. 40,000. It reveals that the spectrum of asset distribution is wider. There is significant variation of the per capita assets among the zone villages. The lowest per capita value Rs.22,283 was attributed to High Altitude Zone and the highest value Rs. 73,147 was attributed to the North Eastern Zone village.

18. *Distribution of Income:* On an average, the per capita income of the seven agro-climatic zones stood at Rs. 9,635. The household income of the different zones was grouped into seven classes to trace the distribution of income. A very meagre per cent (0.85) of the surveyed household belonged to the income class of less than Rs. 2,500. At the next level, 28 per cent of the households came under the income class of Rs. 2,500 - 5,000. Thirty one per cent of the households hailed in the income class of Rs.5000 – 7,500. It is observed that there is no uniform relationship in all the income classes. It could be saved that the spectrum of income distribution is wider among the zonal villages.

19. *Distribution of Expenditure:* The expenditure distribution too follows the same pattern of income distribution. On an average, the percapita expenditure stood at Rs.5101. Fourteen per cent of the households belonged to the lowest expenditure class of less than Rs 2500. In the next expenditure class (Rs.2501-5000) onwards, there is an inverse relationship between the number of households and the expenditure. Among the zones, it varied in between Rs.3451 and Rs.7578. A skewed pattern of expenditure is observed among the zone villages.

20. *Indebtedness:* Of the total sample, 62 per cent of the households had no outstanding loans. It could be concluded that the majority of the surveyed households did not avail the loans. Of these not avail loan categories, some of them had repaid the loan, and hence the proportion was very high in the list. Among the availed loan categories of institutions and non-institutions, the role of institutions is very high. It showed that the people borrowed loan for their productive activities hence they could repay the loan.

21. *Magnitude of average household debt:* The average outstanding loan stood at Rs.51,744 of the total 847 recorded cases. In between the two major sources of credit, the institutional sector contributed 59.00 per cent of the credit to the beneficiaries. In the context of SGSY, the numbers are very high, but the loan amount is very low. It is assessed that the SHG would give minimum amount of loan to the members to meet their urgent domestic expenses. On an average, the quantum of loan received from the SHG is Rs 4419.

22. *Swarnjayanti Gram Swarozgar Yojana:* Of the seven zone villages, 39 per cent of the sample population, i.e.742 persons joined the SHG to get benefit from the programme. Within two and a half years, the Government and NGOs took various steps and mobilised the groups. The proportion of membership varied among the zones. According to the members of the SHG surveyed, three zone village people revealed that they get some additional employment. The zones are Western (8 per

cent), North Western (16 per cent) and high rainfall zone (9 per cent). It is inferred that the membership is very high in the southern zone (67 per cent) and High Rainfall zone (72 per cent), whereas the members of the high rainfall zone alone received additional income. On an average, 55 per cent of the group members revealed that they availed loan from the SHG.

23. *Common Property Resources and Externalities:* Through the Centrally sponsored and State sponsored programmes, a number of common property resources have been created in the rural areas. Besides, the existing CPRs too have been renovated and made to use. The project identified the following CPRs exist in the study villages and assessed their positive and negative externalities: 1) Water Harvesting Structures, 2) Common Trees, 3) Holy Places, 4) Roads, 5) Culverts/Small Bridges, 6) Public School, 7) Community Hall, 8) Public Toilet, 9) Television, 10) Post Office, 11) Police Station, 12) Public Distribution System Infrastructure, 13) Cremation Shed and approach road to Burial ground, 14) Group Houses, 15) Bus Stop, 16) Primary Health Centre, 17) Street Light, 18) Veterinary hospital and 19) Library.

24. *Water Harvesting Structures:*   The Central and State Government through Rural Development Programmes created Water Harvesting Structures. This would facilitate to restore the ground water through percolation, both in the rural and urban areas. Besides, some existing structures were renovated and strengthened. In aggregation, the negative externalities are very less compared to the positive externalities. However, the externalities varied among agro-climatic zone villages.

25. *Common Trees:* Of late, the numbers of Common Trees are being reduced due to illicit tree cutting, no rights, no management, etc. Growing and managing these trees would help the environment and also give yield to the society. In general, the performances of positive externalities are good. The proportion of positive externalities ranged in between 12 per cent and 55 per cent. In the context of

negative externalities, very poor performance was recorded. It could be said that the negative externalities did not arise among the zonal villages.

26. *Holy Places:* It is customary that most of the people to visit religious places for making worship like Temples, Mosques and Churches according to their faith. Of the surveyed households, more than four fifth of the respondents reported that they are visiting religious places regularly. In the study region, positive externalities alone registered in respect of holy places.

27. *Roads:* In realizing the importance of rural roads, the Government of India took various steps to link all the villages by way of providing roads like concrete, black topped, metal and red gravel. Besides, the State Government introduced some unique programmes viz. Anna Marumalarchi Thittam (AMT) and Namakku Naame Thittam (NNT), to make the villages as self-sufficient one. The positive externalities of roads were very high and the responses ranged in between 4 per cent and 83 per cent. Roads were very much useful to their daily affairs and also to perform agricultural activities viz. treating as thrashing floor, drying food grains, drying agricultural by-products, etc. They could also use the roads during rainy days and avoid diseases, if any. In general, the response of negative externalities is very poor among queries and the zonal villages. It showed that the investment made in creation of rural roads, benefited much in all walks of people living in rural areas.

28. *Culverts / Small Bridges:* Culverts and small bridges were created in the rural areas for the use of irrigation, transport and others. Among the positive externalities, the items 'comfortable for children go to school' (44%) and 'using Bridges daily for transport' (51%) recorded relatively at high level. The occurrence of negative externalities is very small in number.

29. *Public School:* In realizing the importance of imparting education to the rural people, the Government strengthened the rural infrastructure over the period.

Questions were administered to quantify the economic, social and environmental externalities. Putting together of positive and negative externalities, the people had enjoyed maximum amount of positive externalities due to the functioning of public schools in the village.

30. *Community Hall:* The State Government created the infrastructure 'Community Hall' in the villages, to perform the family functions like marriage, ear boring, puberty, etc. Apart from the use of family functions, these halls could be used at the time of natural calamities, storing of food grains, entertainment, panchayat meetings, etc. The average cost of construction of the Community Hall in different agro-climatic zonal villages, stood around at Rs. 5 lakhs. However, the expected positive externalities were not created among the rural population.

31. *Public Toilet:* Sanitation is a major rural environmental problem in the country. Unfortunately majority of the people in the rural areas are not conscious of this problem. Open defecation in common places such as 'dry ponds', 'Waste lands' are used for this.

32. *Television:* Communication plays an important role in Rural Development. Still rural people could not access all types of modern communication facilities exist in the world. The State Government constituted a building and provided a color Television to each hamlet of the Panchayat Villages, depends upon the population. It could be concluded that the provision of Television in the rural areas made a significant positive externalities and the people benefited the same. It is also observed that the collective action is required to manage these common resources and utilise the same throughout the year without any interruption.

33. *Post Office:* In rural Communication, Post and Telegraphic services play a vital role in their social and economic activities. Since their social and economic activities within the close proximity, most of them had not used the postal and telegraphic services.

34. *Police Station:* The State Government is expanding the Police services to the rural areas, to make the law and order in effective. Of the identified three positive externalities, the recorded responses varied in between 2 per cent and 54 per cent. Particularly, the response is very high in controlling of illicit arrack production and sale.

35. *Public Distribution and its Infrastructure:* Through, Public distribution system, the State Government delivering the essential goods at subsidised prices to the BPL categories. Besides, the State Government created infrastructure facilities, to help the poor and make them to access the goods. Of the four positive externalities listed, the responses were recorded more than 66 per cent. The beneficiaries had minimized their food expenditure, since the prices are very low compared to open market prices.

36. *Cremation Shed and Approach road to Burial Ground:* Performance of last rites is necessary and important to any individual whatsoever the religion he/she professes. The innovative provisions of cremation and approach roads to cremation ground are really beneficial to the people.

37. *Income Poverty:* Annual household income of Rs. 20700 has been used as the cut off line to assess the level of poverty. Of the households 1890 surveyed, 29 per cent of the households were living below poverty line. It is interesting to note that majority of the below poverty households belong the category of marginally poor. It reveals that a minimum dose of Rs. 2431 is required for a household to come up from BPL. There is no clear relationship in between the level of poverty and the zonal characteristics and other opportunities of the village households. It shows that some of the households could not access the benefits due to lack of properties, level of community, lack of participation in political activities, etc. The HCR varied among the zonal villages and it ranged in between 18 per cent and 38 per cent. In the first three CDZ, NEZ and WZ, the proportion of

households is below the level of 27 per cent. These zones enjoyed the privileges maximum and reduced the level of poverty considerably.

38. *Income Gap Ratio:* Income Gap Ratio gives an idea that how much income is required to lift the people from BPL. On an average, 17 per cent of additional income is required from their current income position. The IGR varied among the zone villages, and it ranged in between 5 per cent and 26 per cent. There is no relationship in between the HCR and IGR. The dimension and focus of these ratios are differed with one another. In general, the IGR is lower among the zone villages and it is possible to lift them within short span of time. A collective responsibility is required both from the officials and the beneficiaries to achieve the goal of poverty alleviation.

39. *Sen's Index:* The Sen's index computed at the village level reflects the low level of poverty. It varied in between 0.07 and 0.16. On comparison to the overall average (0.1178), only in two zones NEZ (0.1675) and SZ (0.1579) villages recorded more than that. It reveals that the level of poverty is very poor in the State of Tamil Nadu and there is a little variation among the zonal villages due to the topography of the region and their participation in the Governmental programmes. Further, it brings to focus that a minimum effort is required to make the State as completely poverty free.

40. *Community and Poverty***:** Of the total sample, the majority belonged to the BC group (43%). Most of the rest comprised the MBC (28%) and others (26%). A meagre proportion belonged to the category of SCs and STs (3%). On comparison only two communal groups' register high HCR levels viz. SCs (40%) and others (33%). The SCs and STs are generally treated as socially and economically disadvantaged groups in the country. The level of poverty is very high in the case of SCs. These communities have less land and other resources and most of them participated only in the wage employment programmes apart form their routine work. The sample size of STs is very less in number and they represented only in

NWZ village. Hence it does not truly reflect the situation of poverty among the STs in Tamil Nadu. The Gini Ratio is worked out to assess the income distribution among the communal groups. Of these five communal groups, the Gini ratio is found to be high in others category (0.359) and the lower ratio (0.196) are attributed to the STs. For both the groups' sample size is very small and in total they shared around only three per cent. In the rest of the majority of the groups, there is no much variation in Gini Ratios. It reveals that there is less inequality among the communal groups and the values too registered only in the beginning level that is very close to the value zero.

41. *Natural Resources Index:* A composite index has been evolved to get an aggregate picture, quantifying subjective as well as objective indicators. The index comprises of seven indicators viz. land use, slope, soil, water level, water quality, rainfall and river and drainage. A uniform scale is introduced to understand the environmental problems and the endowment of resources. If the index value is close to zero, it means that the resources are at higher level. On the other hand, if the value is one, it has been treated, as the region has no such resources. Indicators meticulously examined and identified the direction of the indicators. Wherever the direction changes against the conceptualisation of the scale values, it has been subtracted from one, to make uniformity. Since the indicators varied in terms of their relative importance, assigning equal weights would not be justified. Having had the discussion on various methodological issues on assigning weights to the indicators, the present exploratory study has taken into account the analysis of 'average correlation'. The derived weights ranged in between 10.237 and 17.575. It reveals that the relative importance of the indicators selected. On an average, the Natural Resource Index (NRI) stood at 35. The data reveals that the endowment of natural resources significantly differed among the agro climatic zones in Tamil Nadu. Overall, the sectoral performance too varied significantly and the index value ranged in between 14 and 56. The endowment of natural resources is good in the CDZ and HAZ blocks.

42. ***Household Environment Index:*** In assessing household environment, there are six broad indicators identified. These sectoral indicators reflect in different perspectives and highlight the emerging environmental problems in the country. After constructing six sectoral indices, a composite index has been constructed. The weights for the sectoral indicators were derived on the basis of correlation analysis. The computed weights ranged in between 15 and 17.59. It shows that the indicators are closely interrelated with one another and again validates the conceptual significance in assessing the household environment. The composite index values have been reckoned to address the level of pollution and it has been construed zero as low level of pollution and 100 as high level of pollution. Overall, the computed composite index HEI stood at 41.46. It reveals that the level of pollution crossed around 40 per cent in the rural households. The topography of the agro–climatic zones is differed significantly. However, it does not reflect much in the HEI among the study villages. These index values varied in between 39 and 43. Only 4 percent differences in the index values were exist in the household environment. It depicts the Tamil culture and tradition exists in the rural areas of the state. Among the sectoral indicators, a significant difference is observed. The percentage of Tree Index value is reached 96 and conform that 47 per cent of the households do not possess any trees in the homestead land. Further the Housing Quality Index value too was high (62%). The performance of these two indicators is low as compared to other sectoral indicators. It is interesting to observe that less than 20 per cent score values registered in the indices of Water Quality, Kitchenware and Health. At the next level, Air Quality Index value stood at 47 per cent. It shows that the people in the rural areas facing the problems of indoor air pollution. In the light of the analysis, it could be concluded that the sample population may be deemed poor in respect of tree possession, housing quality and air quality. In general, the rural household environment is moving towards high pollution and their day-to-day practices have to direct towards sustainable development.

43. ***HEI and Community:*** Traditionally some of the communities are being treated as socially backward and untouchables. Their occupational status is relatively poor. The characteristics of environmental good are entirely different from other goods. Hence, it is expected that the consumption of these goods do not vary much. However in the context of household environment, it has been realised that their employment and income level alone help them to enhance the household environment. Further, the tradition and cultural traits also play in improving the household environment. In highlighting this issue, community-wise analysis has been done.

44. ***Poverty and Household Environment:*** In all the identified indicators, the score values did not vary much. It confirms the characteristics of environmental goods viz. non-rivalness, non-excludability free rider problem, etc. A symbiotic relationship can be seen in between the poverty and environment. Household environment is determined by various factors of social, economic and cultural. Of these, economic factors play a major role in accessing the resources. However, accessing the CPRs and environmental resources are equal to all categories of population. In certain cases exclusive principle applies to keep away from the benefits of the resource. In probing the relationship, Spearman's correlation was worked out in all categories of variables. In the case of poverty variable, household-wise income gap ratio was used to assess the relationships. In general, the worked out correlation coefficients among the zones in between the IGR and HE are significant except in the villages of HAZ and HRZ. The correlation coefficient of HAZ village is positive and it is significant. In the rest of the cases, negative relationships are observed in between the variables. The negative relationships reveal that the income level of the household increases, the household environment is moving towards no pollution that means to reach zero level in the score values.