CHAPTER VII

SUMMARY AND CONCLUSION
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The study entitled "A study on present farming system and possible scope for inclusion of Social Forestry to increase the socio-economic status of farm families in Orissa" was selected for the reason of its recent importance in national and international level to save the environment and human race. The present existence of forest in India is only about 22 per cent as against 33 per cent as standard. The position of Orissa in this respect is not much encouraging. This needs a concerted effort on the part of all concern to preserve and promote environment in Orissa. The study was conceived out of this consideration, aimed at finding out the scope for inclusion of social forestry in present farming system to increase the socio-economic status of farm families in general and the specific objectives like (i) to study and analyse the existing farming system in social forestry implemented areas of the state with identification of constraints for a change in farming system (ii) to study the sources and factors of motivation leading to acceptance of social forestry for a sustainable ecosystem (iii) to measure the awareness of farmers about the outcome of social forestry for a sustainable ecosystem (iv) to examine the extent of successfulness/failure
of social forestry programme by the farmers along with the factors associated with implementation of social forestry programme (v) to determine the role of extension agencies in promoting social forestry as one of the component in farming system (vi) to develop a strategy based on the out come of the study to promote social forestry programme in general and in the area of study in particular.

The study is an ex-post-facto approach in design and based on survey approach considering information from secondary sources. The study consisted of two categories of respondents, farmers and forest officials. The farmers were selected at random covering twenty seven villages of Puri, Sambalpur and Mayurbhanj districts and the official respondents of the same area formed the second group of sample. The farmers were interviewed personally with the help of a structured schedule where the official respondents recorded their responses on the questionnaire handed over to them. The collected data were analysed using appropriate statistical tests. The major findings of the investigation are summarised below.

1. A judge rating method was conducted with twenty five experts to find out the variables of socio-economic status. As much as twenty variables were identified having bearing in status giving, out of which material possession, house type, caste, farm power, leadership, mass media exposure were found to be remained below the average score. However, occupation
did not figure prominently as all the respondents were farmer having the same major occupation.

2. The sample consisted of age group of all categories representing appreciable proportion from all the groups.

3. About 38.67 per cent were illiterate, 20.67 per cent upto primary level, 27.33 per cent middle school standard, whereas respondents in higher education level were negligible.

4. Most of the families consisted of 6-10 members followed by upto 5 members per family.

5. Nuclear family system is more prevalent than the joint family system.

6. Majority of the sample have low family education status and a minimum with high status.

7. The sample of the area under study did not possess comfortable size of labourers to meet their requirement. Most of them utilise family labour fully or partially, whereas as much as 32.67 per cent did not have this opportunity.

8. The level of participation of respondents in formal organisations was found to be low.

9. The change agent contact of the sample was found to be moderate followed by high level. The frequency of contact with change agents were found to be fortnightly or monthly.
10. The participation of sample farmers in extension programmes was found to be at lower level.

11. The land utilisation pattern reveals that marginal small and semi medium farmers were much higher in percentage than that of medium and large farmers. Further, it is revealed that large, marginal, medium and small farmers have diverted more of their land to social forestry in order.

12. The level of income of the sample farmers were found to be at low or very low level.

13. Monocrop with paddy is prevalent in the area under study followed by paddy after paddy, paddy oil seed/pulses, paddy-wheat paddy in order.

14. Farmers consider a number of reasons for the present farming system. Climatic condition, suitability of land, suggestion of extension personnel, age old practice, & satisfaction of family members are the major reasons.

15. The farmers taking up paddy-oilseed/pulses consider suggestion of extension personnel, satisfaction of family members, climatic condition and suitability of land are the major reasons for their cropping pattern. The farmers growing paddy-wheat-paddy cite suggestion of extension personnel, climatic condition and suitability of land as the major reasons behind their decision. Farmers growing paddy after paddy in irrigated area cite suitability
of land, climatic condition, family requirements, suggestion of extension personnel, age old practice as the major reasons. The farmers taking up mono crop i.e. paddy viewed suitability of land, climatic situation, age old practice, advice of extension personnel and satisfaction of family members are in order of merit for the reason of continuance of their present farming system.

16. Farmers adopt modern technologies in their enterprise considering a number of factors. The study attempted to find out the variables in relation to use of modern technologies. It recorded as much as twenty important and valid variables. Maintaining of optimum plant population, application of recommended dose of chemical fertiliser, correct age of seedling, improved water management practices, timely sowing and planting, use of plant protection chemicals and seed treatment are the new elements in modern agricultural practice to which adopters attach much importance. On the other hand, the least important considered factors were reported to be prophylactic use of plant protection chemicals, weeding by suitable implements, harvesting of crop by labour saving implements, scientific way of storage of seeds and use of modern implements for better tilth. In simple word, the farmers are yet to be alert about use of implements in farming practice.

17. Constraints in change of cropping pattern are many and diversified. A farm operation in a social system like ours,
face with many problems which may conveniently categorised as technological, institutional administrative, situational and socio-economic in nature and complexity. Of the technological constraints, use of full package of practices, fertiliser management, plant protection measures, seed and seed treatment appeared to be complex in nature and relatively high cost involved.

Institutional constraints mostly refers to availability of service and supplies to meet the situation. The most important constraints appearing under this category are lack of irrigation facilities, insufficient credit position, non availability of seed material and implements. These constraints do not allow farmers to take full advantage of modern technologies.

The administrative constraints are mostly of advisory and training in nature. The farmers in the area under study reported lack of adequate visit by field extension personnel, absence of co-operation among line departments, lack of demonstrations and training programmes as the major obstacles to improve their farming and its output.

The situational constraints denote frequent occurrence of natural calamities and absence of suitable land type do not permit farmers in their progressiveness in the matter of farming.

Socio-economic constraints are reported to be as much as eight is numbers. Lack of encouragement from extension personnel, poor economic condition, difficulty in disposal of
produce, unwilling to take risk in farming and non remunerative market price are the most important ones.

18. Means to overcome the constraints are many and different from place to place depending on situation. The sample farmers under study cited as much as twelve means to overcome constraints in farming. These include frequent and continuous contact of extension personnel, co-ordination among input supply agencies, low rate of interest for credit, timely supply of irrigation water, timely training on crop production technology, reasonable cost of input and crop insurance to overcome the present farming crisis.

19. The process of adoption starts with awareness of programme. It is an established fact that higher the awareness more the extent of acceptance of ideas. The gap in awareness of farmers about social forestry have been studied over ten dimensions. Maximum gap in knowledge of sample is observed about social forestry as a programme for poverty alleviation, agroforestry is a sustainable land management system and it provides better scope for employment and its year of starting in Orissa. On the other hand the farmers are more aware of afforestation as a check to soil erosion, it helps to increase the quality of life by supporting villagers with forest produce and proper use of uncultivated and fallow lands.

20. The land diversification to social forestry of individual respondents is found to be positively associated with category
of farmers based on the classification of holding. However, diversifiers are more keen to adopt social forestry over non-diversifier.

21. The sources and factors of motivation are important dimensions for measuring the impact of the programme. Social forestry is not exceptional to this observation. The factors that motivate farmers to accept social forestry mostly depend on stimulating sources. The study found out these factors in the area under investigation.

22. The large category farmers have diverted comparatively more of their area to social forestry followed by marginal, medium and small farmers.

23. Among the formal sources of motivation, friends and relatives top the list followed by family members. Village forest workers and social forestry supervisors motivated most for acceptance of social forestry followed by non-government organisations and Agriculture extension officers of equal rank.

24. Of the mass media, meeting proved to be the best followed by television and newspapers in influencing farmers for acceptance of social forestry.

25. The parameters of motivation were listed to be as high as thirteen in numbers. The relative contribution of each factor appeared to be highest for the consideration of social forestry
meeting family basic requirement followed by supplementing family income, reclamation of degraded soil and best utilisation of uncultivated waste land and ensured investment. The other parameters like newness of the programme, communication link with others, social prestige did not appear to be much worth mention.

26. Awareness of the programme is as important as its planning. The study measured the awareness of sample farmers about different dimensions of social forestry. The finding conclude that relatively the sample was more aware of the effect of social forestry on reclamation of degraded soil, dominating species of plantation, reduction of biotic pressure on natural forests, influence of forest canopy on precipitation, nutrient status of soil due to plantation and its cooler effect. On the other hand the farmers are yet to be made aware about increased moisture retention capacity of soil owing to plantation, spacing of common species in plantation programme, multifarious benefits of social forestry and difference of temperature owing to plantation. On the whole, the awareness of sample about social forestry and its dimensions are upto 63.38 per cent.

27. The level of awareness is found to be high with 8.67 per cent, moderate with 77.33 per cent and low with 14 per cent.

28. Social forestry programme at present is of front line programme so far as priority of the state Government is concerned. Its successfulness is urgently needed not only for expansion
of the programme but also to save environment. The successfulness of the programme is linked with a number of determinants. The study has carefully examined all these aspects and inferred valid conclusions. The level of satisfaction of the respondents on its successfulness is full upto 64 per cent and 20.67 per cent partial. However 15.33 per cent did not derive satisfaction out of the programme.

29. The implementation of programme has been studied in three group i.e. more than five years, three to five years and less than three years. Of the farmers practising social forestry more than five years, 13.89 per cent increased the area, 72.22 per cent kept the area constant, while 13.89 per cent decreased. Maximum respondents were within adopter categories 3 to 5 years. Of them 83.18 per cent kept the area constant and 11.21 per cent increased the area. However all the farmers reduced the area under social forestry in the adopter category of less than 3 years.

30. For successfulness of social forestry as many as twelve variables played their respective roles. Farmer himself, efforts of government officials, land situation, time devotion, possession of labour force and government incentives were the major contributors for its successfulness.

31. Socio-economic variables are observed to be important considerations for making social forestry successful. For purpose of comparison, respondents were classified into three groups
i.e. $G_1$ (those who increased the area), $G_2$ (who kept the area constant) and $G_3$ (who reduced the area under social forestry). The differential comparison of socio-economic status of these respondents reveals significant difference with respect to education and labour engagement between $G_1$ & $G_2$. The variables like education, family education, family labour status and extent of labour engagement were significantly different between $G_1$ & $G_3$.

32. In correlating the socio economic variables and successfulness of social forestry it was revealed that age, education, labour status, extent of labour engagement, social participation, change agent contact and family income were significantly associated with successfulness of the programme of those who increased the area. The social participation was found to be associated with achievement of farmers who decreased the area under social forestry.

33. Role of extension agency in implementing social forestry programme needs no emphasis. The perception of farmers as well as village forest workers in case of awareness of the project was found to be unanimous in the case of making people inclined towards social forestry and motivating them for the project. However, they did not commonly agreed upon the role of village forest worker in respect of acting as change agent, converting social forestry into people's movement, spreading environmental awareness and organisation of mass campaigns.
34. So far as programme implementation is concerned no difference was observed in the opinion of farmers and village forest workers with regard to role of VFW in the matter of selection of species, selection of village, constitution of village forest committee, preparation of village resource inventories selection of land and preparation of joint management plan. However they differed on other aspects of programme implementation so far as role of VFW was concerned.

35. Role of VFW on extension activities was studied on six aspects. However the farmers as well as VFWs commonly agreed on active participation in VFW meeting, whereas they differed significantly in the matter of regular organizing VFC meeting, ensuring employment for landless, making regular plan for visit, assisting social forestry supervisor and organizing training camps.

36. Agriculture Department is directly or indirectly linked with social forestry programme. The role of this department is perceived to be in the matter of making inclined towards farm forestry, motivating people, acting as change agents, making it as peoples' movement and spreading environmental awareness so far as awareness of the programme is concerned.

37. The farmers feel, Department of Agriculture can play active role in implementation of social forestry programme. The role of this department is needed in case of selection of
species, selection of land, selection of village, planting of seedling and cultural operation to make the programme more successful.

38. In the matter of extension activities, making social forestry programme more people oriented, the farmers seek the intervention of agriculture department in the matter of participation in VFC meeting, ensuring employment to landless and making a regular plan for visit.

39. The knowledge of the VFW about social forestry is relatively more important for its success. The findings reveal that they do possess fair knowledge about initiation of project, it is a programme for the people, importance of people's participation in it, village forest committee, role of village forest worker, peoples' participation, role of Agriculture, Extension Officers and good nursery, where as they lack in knowledge and understanding on other important dimensions which include land use operation, participation of landless and small farmers, role of NGOs and their participation, community and private plantation, multiple and over-lapping land use and integration of social forestry in the farming system.

40. The knowledge of village forest workers on economic and environmental benefit was to be found inadequate in the matter of production of raw materials for village level cottage industries, increase in crop yield and protection of soil.
41. On the whole the knowledge level of the sample about social forestry project was found to be medium (68 per cent) followed by high and low level.

42. The attitude a VFW towards social forestry programme was found to be positive in general and not encouraging in the matter of package of practices, as means to solve fuel wood problem, generation of employment, community plantation, equitable benefit, profitability of plantation in high land.

43. Attitude as such of the majority were favourable followed by most favourable and least favourable.

44. The knowledge and attitude, experience and attitude, experience with knowledge were found to be significantly correlated with each other in case of respondents included under study.

7.1 CONCLUSION

The summary of the findings leads to arrive at the following valid conclusions.

The sample under study represented the population of the area correctly who undertook the social forestry programme. The socio-economic variables like age, education, family size and type, family education status, labour force and extent of family labour engagement were found normal which had influenced in acceptance of social forestry programme. The low level of participation in formal organisations and extension programmes
with somewhat moderate in change agent contact do not enable the farmers to take full advantage of social forestry programme. In other words there is an urgent need to manipulate these variables not only to make people forestry oriented but also to make them progressive in farming enterprise. Change agent contact appeared to be least with hierarchy of upper degree which leads reexamination of situation to make social forestry more popular. Land use pattern indicates, farmers are willing to put their land under social forestry but it requires detail investigation with pros & cons to provide additional income to support their family income. Cropping pattern is mostly paddy oriented and that to mono cropped in the area under study. Paddy is not being a very remunerative crop in the state, introduction of social forestry can be considered with more opportunity and scope. Although farmers have their consideration for continuation of age old practice, still there are attractive: elements in present farming technologies which need to be geared up to fit to the farming system. The diversifier of the cropping system face a number of constraints covering technological, institutional, administrative, situational and socio-economic in nature. The study suggests a number of means as reported by farmers to take care of constraints in order to make farming more profitable. The farmers are quite aware of social forestry and its multiple benefits, but lack in deep understanding, & the linkage of their future and environment with social forestry.
There are number of sources which motivate the farmers for social forestry but their intensity is not much appreciable. It needs gearing of formal and mass media sources to provide adequate information. Besides sources of information, there are thirteen variables which contribute towards motivation. Communication linkage, development of community leadership, gainful use of family labourers are to be given emphasis to make the programme attractive and acceptable.

The farmers are moderate in their level of awareness about social forestry. In other words the social forestry department have to work in other fashion than the present to create awareness and interest in the minds of farmers for its spread and adoption.

Successfulness of social forestry programme depends upon a number of factors. These factors have been identified in the study which need to be taken care of to achieve assured success. The study identifies farmers himself as the main actor in translating programme into action. The human aspect of the programme appear to be more important than physical aspects which can be achieved through correct identification of socio economic factors linked with success or failure of the programme.

Besides the role of social forestry department and Non-Govt. organisations, the roles of agriculture department are very well identified and recognised through this study in the matter of creating awareness, implementing programme and designing extension activities to promote social forestry in the state of Orissa.