SUMMARY & CONCLUSIONS
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Agrosocial afforestation and wastelands development has gained its importance in the last quinquennial years which may enhance the sustained land management system by increasing the overall productivity of land. Besides soil improvement, ensured supply of much needed food, fuel, fodder, timber, other forest produces and biomass are met by afforestation. Most of the agriculturists are small farmers who toil the land day by day and layout in their effort to make both ends meet. To improve their standard of living, many attempts have been made through afforestation programmes also. However people participation in these programmes has not been encouraging.

Bearing the above in mind, it was felt necessary to conduct a comprehensive study on analysing the agrosocial afforestation and wastelands development programmes. So the present study has been designed with the following specific objectives:

- To understand the nature and operations of agrosocial afforestation and wastelands development programmes that are being implemented in the district;
- To assess the pattern and extent of involvement of the target groups in the programmes;

- To assess the impact of these programmes in social and ecological security of the district;

- To enlist the field constraints in the operations of the programmes in involving the target groups and

- To suggest appropriate and sustainable models for effective implementation of the programmes.

The study was carried out in thirteen blocks (except Kodaikanal) in Dindigul Anna District of Tamil Nadu state where the afforestation programmes were in operation which benefitted the individual farmer beneficiaries i.e., plantation in private patta lands with incentive followup. They are: Agroforestry in drylands Programmes by Agriculture Department (APAD), Homestead Plantations by Rural Development Department (HPRDD) and Wastelands development Programme by Gandhigram Rural Institute (WPGRI). A total of 343 respondents (111, 157 and 75 from APAD, HPRDD and WPGRI respectively) were selected for detailed investigation. A structured schedule was pretested and used. Data were collected through personal interview by the researcher. The data
thus collected were analysed and inference drawn were discussed for arriving conclusion.

Twenty three independant variables viz. age, educational status, occupational status, social status, nature, household, nature of houses and farm buildings, farm size, farm power possession, material possession, annual income, social participation, socio economic status, contact with extension agency, dependence on tree fodder, dependence on fuelwood, dependence on other forest produces, awareness about the programmes, knowledge on afforestation practicer, ease of seedling acquisition, extent of seedling planting, seedling survival index, efforts on plantation maintenance and nature of incentives were selected based on judge's opinion. One dependant variable namely perceived effectiveness consisting of twenty five components of afforestation strategies was included in the study.

Besides, the prevailing scales and measures were utilised.

The salient features, findings and conclusions drawn from the study are presented.

5.1. Characteristics of the respondents

The influence of the differential characteristics of the three groups of respondents, the effects of
afforestation programmes in relation to social and ecological security and the participation in afforestation programmes have been analysed and presented.

- The respondents of all the three programmes differed significantly from each other in respect of all their independent variables except their dependence on tree fodder.

- The WPGLI respondents had excelled the other two programmes in regard to their community status, material possession, annual income, contact with extension agency, dependence on tree fodder, knowledge on afforestation practices and ease of seedling acquisition.

- In regard to the variables such as educational status, occupational status, nature of family, nature of houses, farm size, farm power, social participation, socio-economic status, dependence on other forest produces, extent of seedling planting and its survival index, the APAD beneficiaries had excelled the rest.

- The APMM beneficiaries were found to have excelled the other two groups in respect of their dependence on fuelwood, awareness about the afforestation Programmes, efforts on plantation maintenance and nature of incentives.
5.2. Perceived Effectiveness of the Afforestation Programmes

- Though the respondents of all the three programmes had perceived their respective programmes effectively at medium level, they could be ranked based on their mean values in the following order: WPSRI, APAD and NPRDO. They have also differed significantly from each other with regard to their perceived effectiveness.

- All the three programmes differed significantly from each other as perceived by their beneficiaries in respect to all the components of their perceived effectiveness. However, WPSRI and APAD did not differ significantly from each other with regard to their registration procedure and survival of seedlings. Also APAD and NPRDO had not shown any significant difference between them with regard to area coverage, desirability of seedlings, seedling growth stage, usefulness of tree species, profitability over keeping the lands as waste, profitability over doing agriculture and increase in knowledge level.

- The WPSRI excelled the other two groups in frequency and usefulness of extension contact, registration procedures, area coverage, planting density, desirability
of seedlings, seedling growth stage, sufficiency of seedlings, suitability of tree species, supervision during planting, time, procedure and sufficiency of assistance release, times and use of expert advice, technical follow-up, usefulness of tree species, profitability over keeping the land as waste, profitability over doing agriculture, increasing in knowledge level, extending area in future and usefulness to ecology.

- The APRAD had excelled the other two programmes in respect to the following components of its perceived effectiveness such as regularity of extension contact and survival of seedlings.

- The MFRDD had received least score in all the components of its perceived effectiveness as compared to the other two programmes except in appropriateness of land selection.

5.3. Influence of the characteristics of the respondents towards Perceived Effectiveness

- The characteristics namely educational status, farm size, annual income, social participation, knowledge on afforestation practices, ease of seedling acquisition and seedling survival index had expressed positive and
significant relationship with perceived effectiveness of all the three groups of respondents. However, the variables namely efforts on plantation maintenance had shown positive and significant association with perceived effectiveness irrespect of WPGRI and APAD respondents but shown a negative and significant association in respect of HPRDD.

- In addition to the above, age had shown negative and significant contribution and social participation and contact with extension agency had shown a positive and significant contribution towards the perceived effectiveness of WPGRI respondents. Similarly in the case of APAD beneficiaries, social participation and contact with extension agency had contributed positively and significantly towards perceived effectiveness. In HPRDD, the extent of seedling planting also had contributed positively and significantly towards the perceived effectiveness of its respondents.

5.4. Reasons for the participation and their continuance in the afforestation programmes

- The reasons quoted by the respondents of WPGRI and APAD for their participation and their continuance in the present afforestation programmes were labour shortage in agriculture, depletion of water resources, sustained
income generation in future, easy management of tree plantation, frequent failure of agricultural crops and the tree cultivation as long term insurance

- However, the only reason quoted by the HPPOD beneficiaries for their participation and their continuance due to compulsion by the government department officials which was indicated by a few in the rest of the programmes

- The reasons which could hinder the willingness of participation by the respondents of all the three afforestation programmes were non-availability of land for further expansion, difficulty in protecting the tree plantations, high initial investment, long gestation period of tree crops, inadequate supply of seedlings and other inputs, non-assurance and diluted payment of government incentives.

5.5. Constraints experienced by the beneficiaries in the afforestation programmes

- The constraints included by the respondents of all the three programmes were lack of water resources, inadequate knowledge on tree husbandry and soil and water conservation measures, related supply of seedlings, cattle browsing, difficulty in establishing the trees during initial period, damage due to the effect of tree crops,
belated, non remunerative and absence of continued incentives, joint family system, non cooperation of the fellow farmers, non supply of fruit seedlings and seedlings for gap filling.

5.6. Suggestions offered by the respondents to improve the effectiveness of the programmes

Suggestions offered by the respondents are: conducting training programme on tree husbandry and soil and water conservation practices, timely supply of quality and choice tree seedlings, strengthening of extension agency contact at all levels, supply of fruit seedlings as an additional incentive, promoting awareness on marketing of tree and tree produces, proper and timely payment of incentives, inclusion of incentives for fencing and financial assistance sought for sinking or deepening of individual or community wells/hand pumps.

5.7 Success case studies

- The perusal of six case studies of different groups also concures with the findings of this study.

Implications of the study

- The tools and indices developed and used in this study would help the policy makers, administrators
implementing agencies and extension workers concerned to implement afforestation programmes effectively in future.

- The suggestions and feedback given by the beneficiaries are valuable documentations for the state implementing agencies to suitably modify / adjust the future afforestation programmes for best results in Diindigul Anna District and Tamil Nadu at large.

- Since most of the beneficiaries had been practicing agriculturists, the implementing agencies might try to include various need based components of agroforestry in the future afforestation programmes.

Area for future research

- A similar systematic indepth study may also be undertaken to acquire the opinions / suggestions / recommendations of the officials and extension workers of the implementing agency.

- A comparative analysis and effectiveness of individuals and collectively benefitted, voluntary and government based afforestation programmes may be taken up.

- Exhaustive case studies may be conducted to bring to light the existing afforestation system in vogue among the farming community.
An impact study may be conducted to assess the influences of afforestation programmes in improving the standard of living of the beneficiaries.

A techno-economic study on Benefit cost Ratio of different tree species is lacking.