AGRICULTURAL EXTENSION SERVICES FOR SUSTAINABLE TRIBAL DEVELOPMENT

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Abstract

Agriculture extension has been defined as a service system which assists farmer through educational procedures, improving farming methods an techniques, increasing production efficiency and income, bettering their levels of living and improving the social and education standards of rural life. This paper provides information on the various activities of extension services involved in the promotion of tea plantation for tribal small holders. This paper also deals with the problem facing technology Transfer and the recent approaches in group community approach for technology transfer and its implication among the tribal population.

Keywords: Technology, Farmer, Irrigation, Economic, Education, Community, Health.

Introduction

The Nilgiris is a mountains district situated at the junction of Eastern and Western Ghats, covering an area of 2540 sq.km. The elevation of the district ranges from 1000 mtr. To 2564 mtr. It consists of four taluks viz., Coonoor, Kothagiri, Gudalur and Udhagamandalam. The Udhagamandalam taluk is a hilly tract with a number of mountains and valleys and it has also within its boundaries the highest peak in South, Doddabetta at an altitude of 2564 mtr. Coonoor and Kothagiri hilly taluks are at an average height of 1818 mtr. Above MSL. Gudalur taluk has got two district tracts, 'O'valley on the east and Wynaad on the west bordering Kerala State. The former is a hilly tract while the Wynaad area is a table land situated on an average elevation of 1000 mtr. Above MSL. These geographical and physical features have a bearing on the distribution of various primitive tribes of the districts.

The Tribals

The tribes, in Nilgiris are the groups who have been neglected for quite sometime and even now, living only in a primitive manner. There are six major tribes in the districts namely Todas, Kotas, Kurumbas, Irulas, Mulukurumbas and Paniyas. There are about 200 tribal settlements consisting of 6000 families. Most of the families are much below the poverty line and they are struggling for basic needs such as food, shelter, education and medical facilities. Apart from Government agencies there are a few non-government agencies working in the district for the overall development of these tribes. But, due to remote habitation of the tribes, the living conditions of the tribes remain unchanged.

According to Nilgiris district Collectorate notes (1989), the Scheduled Tribe-wise total population in the Nilgiri district is as follows: Todas-1600, Kotas-1894. Kurumbas-4874, Irulas-5900, Paniyas-5700 and

Kattunayakans-1400. Todas, Kotas, Kurumbas and Irulas along with the Badaga community are considered as 'Indigenous groups'. The Badaga community, is an agricultural community, migrated to the Nilgiris long back, are found through out the district.

Various activities of extension services for tribal small holders: Lab to Land programme

United Planters Association of South India (UPASI) In collaboration with Indian Council for Agricultural Research (ICAR), Transfer of Technology Projects has been operating Lab to Land programme for the upliftment of weaker sections of the society, especially Scheduled Tribe since 1984. The main objective of the programme is to improve the overall socio-economic conditions of the adopted tribal farm families. This is achieved not only by increasing the productivity of their farm land but also by creation of additional employment through diversification of agricultural enterprises. This project is also meant to create an awareness among the tribes for proper utilization of benefit available under the different developmental programmes.

Since 1984, 600 tribal families from 25 hamlets were adopted for development. Under this programme, 100 ha of fallow land in the tribal areas have been planted with perennial crops like tea, coffee, spices and mulberry. Income generating activities like apiculture, livestock farming, tailoring, fruit and vegetable preservation techniques were also implemented for the benefit of landless agricultural labourers. Thus the Lab-to-Land programme helps in bringing about an integrated tribal development through multi-disciplinary approach.

Integrated Tribal Development through income generating programmes

Since 1984, the UPASI-Krishi Vigyan Kendra (KVK) and Nilgiris Adivasis Welfare Association (NAMA) have jointly initiated various types of developmental programmes in the interior tribal hamlets of the district to upliftment the socio-economic status of the tribals. To begin with, the programmes were started in the field of agricultural development among the tribals. Gradually, based on the experience gained, an integrated approach for development was commissioned. In this income and creation of facilities for education, community, health care, sanitation-culture, agriculture development etc., were planned. Thus, the upliftment of the physical quality of the life and development of the tribals were planned with an environment consideration on the basis of eco-system.

Some of the important aspects of this integrated tribal development programme are as follows:

- Studying the agro-climatic conditions and identifying the local resources and its utilisation for increasing productivity of different crops
- Transforming the low cost or no cost technology among the tribal families including women in various agriculture and allied activities.
- Participation of people in the process of diagnosis of problems, design of development programmes and implementation of project activities.
- Development of better linkage with government and non-government organizations.
- Promotion of local leadership and encouraging it to initiate development work.

The Board – UPASI development activities: Training programme for tribals

The main objective is to educate and motivate the small tea growers towards improved tea production practices. Priority is given to the tribals with an objectives of development of knowledge, skill and the attitudes (KSA) towards the activities associated with the business of tea farming. Regular, on and off campus, as well as special training programme on plucking of tea leaves to the women pluckers were conducted.

Demonstrations

The main objective of conducting demonstrations is to arouse interesting scientific cultural practices as "seeing is believing". The plots are laid out in the farmers holding with an area of one acre. In these plots are laid out in the farmers holding with an area of one acre. In these plots all the vital cultural operations are carried out under the direct supervisions of technical personnel along with supply of free onstration plots, over a period of one pruning cycle of four to five years. These plots have the dual advantages of serving as method and result demonstrations and have really served as an eye opener in making the growers to mix the scientific practices with their traditional approach.

Crop Diversification Scheme

Even though tea in Nilgiris are made for each other, vegetables occupy the record position in the cropping pattern of the district. As a result of indiscriminate land use and frequent tilling of the soil in the undulating terrains, for the cultivation of vegetable crops, ecology of the district was greatly affected due to enormous soil erosion, land slides etc. The repeated failure of the potato due to erratic monsoon, pest and disease problems, spiralling cost of labour and inputs, leading to uneconomic return have forced the farmers in the marginal rainfall areas to keep their land follow. At this juncture the novel idea of Crop diversification Scheme was introduced. The main objective of the scheme is to preserve the environment of the district. The proper method of planting tea with adequate soil and water conservation measure has been demonstrated to the farmers in the non-traditional areas by supplying the required tea and shade plants, free check in original of charge. The studies on the impact of Crop Diversification Scheme in the Nilgiris have revealed that this scheme has brought about an economic revolution by providing regular assured income to the growers besides generation of permanent employment. This has also helped to a greater extend in minimizing soil erosion and improving the environment by changing the brownary to greenery. Consequent on crop diversification, the living standard of the tribal farmers has improved besides improvement in the knowledge and skill pertaining to tea.

Tribal Irrigation Project

The tribal villages in the Nilgiris are not only economically backward but also lack in the basic infrastructure required for drinking water, irrigation facilities, proper road, transport, medical an educational facilities etc. The project was planned to provide water for irrigation and drinking purposes in three tribal villages of the district, namely, Pudukadu, Manalihada and Semmanarai. This project was implemented at two stages:

1. Construction of check dams across the perennial source of water flowing near the target villages: and
2. Laying out a network of pipes and sprinklers along the check dams for carrying water to the target villages.

Technology Assessment

With the creation of the Indian Council for Agricultural Research, public agricultural Technology diffusion has been within its domains. The extension education system, by various means including on farm validation (Technology Assessment and Refinement) and demonstration (On-farm research), process is to create extension messages for farmer utilization until now, it was becoming obvious that even technology tailored for small-scale plantation crops was not trickling down to complex, diverse risk prone (CDR), and resource limited farmers, tribals who had less physical resources and little or no access to infrastructure such as market, irrigation etc. An alternative approach was proposed by UPASI-KVK called "Technology Assessment and Refinement Project on Tea". A shift from "Researcher managed and farmer implemented" to "Farmer managed and Farmer implemented" programme with heavy emphasis on participation by these limited resources or CDR farmers, was kindled.

The farmers managed and farmer implemented (FM & FI) approach was effective based on a bottom-up rather than Top-down Researcher managed and Farmer implemented (RM & FI) approach. Heavy emphasis will be given on participation by the small scale, limited resources farmers in assessing and evaluating the potential new technologies such as shear harvesting, banji leaf formation etc. on CDS farmers' field. Coordinated participatory on-farm tea based Technology development and diffusion paradigm would effectively fill the "missing link-age" between research and extension and make the programmes of both institutions more efficient in small scale growing sector.

Problems facing Technology Transfer

In many countries there are few resources devoted to the technology development and transfer process. The important problem for example is that research do not fully understand that agricultural production in small sector also falls within a complex of farming system. In many cases, agriculture research have limited knowledge about important problems confronting farmers. In addition, there is little information about the physical, economic and socio-cultural factors, which could create the environments with which farmers work. Also new technology, as adopted and managed by farmers often does not perform well as expected and additional adaptation may be necessary. Many of these problems can be alleviated by developing and strengthening technology transfer in their interaction with researchers and farmers.

Group Community approach for Technology Transfer

Over the fast decade, new approaches have been evolved for technology development and transfer. Although specific approaches vary among locations, the general approach involves the following steps:

1. Diagnosis of farmers circumstances and action in target area.
2. Planning and designing of technological adoption
3. On-farm testing and verification

4. Multi-locational field trials and dissemination

Apart from the above, one of the recent approaches in group community approach for technology transfer. Some of the approaches experienced among the tribes by the KVK are given below:

- ❖ Co-operative farming system
- ❖ Farm Science Club
- ❖ Self-help group

Co-operated farming system

One of the major efforts made by the KVK in collaboration with NGO's was encouraging the tribals to take up farming on a co-operative basis. In order to get assured regular income for their family, cultivation of tea in their vacant land were introduced. Tea being a perennial crop, it requires large amount of work involved in preparation of land viz., Uprooting, levelling and adoption of soil and water conservation measures. High yielding tea clones of variety UPASI-9 (B/6/61) and silver oak seedlings (shade trees) were arranged free of cost under Tea Board scheme. Practical training was imported to the farmers and follow up advisory visits were undertaken. These tribal farmers have now become a symbol of scientific cultivators of Tea with fairly good mastery on input management, production and plant protection. This has created an awareness on agricultural many tribal leaders have come forward to disseminate the technologies to their fellow farmers. A series of technology transfer programmes have been organized in the tribal farmers field in collaboration with other farmers who were convinced on the new technologies. Starting with collective farming and evolution of groups to work on the transfer of technology in the small farming system is a unique experience.

Farm Science Club

These clubs were established at the grassroots level, mainly to transfer the appropriate technologies to the farming community. In the process, the volunteers in the club were given special training on the various technologies and motivated them to implement in their own failed. Gradually, on seeing the success in these fields, the other tribal farmers are ready to adapt the technologies. At this stage the volunteers were encouraged further to act as change agents in the community for technology transfer.

Self-help group

The process of Self-Help Group (SHG) which could be started initially to act as a credit management groups in the village level. Identification and formation of SHG's involves collection of information regarding the seasonality, the availability of natural resources, skills, market perception and the technologies etc. Participatory Rural Appraisal methods have been useful in this process. During this phase, women SHG's have been found necessary to me with men and to explain what is going on especially the benefits that will accrue to the family through SHGs. A gradual understanding of the various.

Conclusion

The tribal famer use of old organic practice. Low rate of fertilizer consumption is an opportunity for promoting organic agriculture. The current level of awareness on organic agriculture is reported by 21 percent. A Crucial determinant of productivity is the level of technology available, reflected in irrigation levels and sources, quality of seeds, use of nutrients level of mechanization implements and tools used in agricultural production. Post production harvesting and marketing etc. The overall picture of utilisation of technology in tribal agriculture.

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