CAPACITY BUILDING ON THE DEVELOPMENT OF TREERICH BIOBOOSTER TECHNOLOGY TO IRULAR TRIBES IN FOREST FRINGE VILLAGES OF COIMBATORE, TAMILNADU: AN APPROACH TOWARDS LIVELIHOOD IMPROVEMENT

*Natchiappan Senthilkumar, Ramasamy Sumathi, Ramachandran Lakshmidevi, Govindaraj Divya, Lourdhuswamy Marianayagam durairaj Lenora, Rajendran Sathishkumar, Devaraj Suresh Babu, Mani Sangeetha and Venugopal Nandhini
Division of Chemistry and Bioprospecting
Institute of Forest Genetics and Tree Breeding (IFGTB), Coimbatore, Tamilnadu

Abstract

Human Development Index (HDI) is an indicator of decent living status of human beings. Irular tribes in Tamilnadu who inhabit in forest fringe villages fully depend on forest for their livelihood support. In addition, they do farm practises depend on monsoon. Oflate, failure of monsoon compel them to adopt non-farming works like constructions, laying road, coolies in the field of landlords. Therefore Institute of Forest Genetics and Tree Breeding (IFGTB) transferred the "Tree Rich Biobooster" (TRB) technology to Irular tribes in Coimbatore district, Women Self Help Groups (WSHGs) in particular, as an alternate source of income for their livelihood. The TRB technology is an organic potting mixture developed out of coconut fibre waste duly decomposed with beneficial microorganisms and enriches with nutrient. This potting mixture can be used as an instant potting mixture and an alternate to conventional potting mixture for rising nursery. IFGTB has imparted training/ capacity building on the TRB and established market channel to sell their product to entrepreneurs who promote kitchen/terrace /home gardens; NGOs who are involving in urban greening, and other stakeholders such as state forest nurseries/forest development corporations and plantation companies. Based on this study it is arrived that HDI of Irular tribes inhabiting in forest fringe villages namely Senkuttai, Palamalai and Keel pillur in Coimbatore district of Tamilnadu has been increased from 0.680 to 0.841. Therefore transfer of technologies and capacity building will definitely be an assured income generation for the rural poor.

Key words: Tree rich biobooster technology, Irular Tribes, Coimbatore, Human Development Index.

1. INTRODUCTION

The term tribes is defined as "A group of people in a primitive or barbarous stage of development, acknowledging the authority of a chief and usually regarding them as having common ancestor" by The Oxford dictionary. India has the largest concentration of tribal population, next to Africa world (Radha, 1989) being 10th forested country in the world. Tribes mainly depend on forests, they are repository of the bio-diversity, gene pool resources, sequester carbon, provide lot of other environmental services and play a very vital role in sustaining the life of people. Tamil nadu itself has 9 out of 16 principal forest types of the country and about 36 forest sub types, hosting a rich biodiversity, as compared to all other southern states (Senthilkumar, 2015).

India is the home for about 350 main tribal communities and they inhabit almost all the states and union territories. There are 36 sub-groups of Tribes in the state of Tamilnadu. The main tribes among them are Malayali, Toda, Kurumbas, Paniyan, Irular, Kattunayakan, Kanikkar, Palliyan, Kadar, etc. Of which Toda, Kota, Kurumbas, Kattunayakan, Paniyan and Irular have been designated as 'Particularly Vulnerable Tribal Groups (PVTG)' (ADTWD 2015-16). Scheduled Tribes of Tamil Nadu, Kerala and Karnataka can be broadly classified into five economic categories based on their predominant livelihood activity, viz., (i) settled cultivators – commonly called as traditional Malayalis, (ii) shifting cultivators - Sholaga, (iii) pastoral people - Todas, (iv) Artisans - Koyas and Koragas and (v) food gathering, hunting, fishing and food collection - Irula, Kurumba, Mudugar, Malasar, Urali, Paliyans (SRFRAT, 2017).

Irulars are second largest tribal group of Tamil Nadu next to Badagas. They are mainly situated in the lower slopes of Western ghats. Their main economic source was snake and rat catching. Their current source of income depends on daily waging works such as laying road, constructions, coolies in the fields of the landlords during the sowing and harvesting seasons or in the rice mills and they depend on forest for grazing their cattle. Bindu (2005) in her study stated that the female sex ration of the Irular community is 1000:966. Irular woman of Chengalpet, Tamilnadu, were seem to be poorly educated and are married at earlier age (less than 20 years). They have the habit of saving earned through working as agricultural coolie and from self help groups (SHG) (santhosh *et al*., 2010). SHGs are potent enough to bring turnaround in the lives of the economically backward classes.

This study is an attempt of Institute of Forest Genetic and Tree Breeding (IFGTB) to support the SHGs of Irular women of Coimbatore through transfer of a proto disc typed bio product "Treerich Biobooster"(TRB) made of Coconut fibre waste as an alternate source to conventional potting mixture (Murugesan *et al*., 2014). This product aims the utilization of locally available waste materials such as

Coconut fibre, remains from garden, vegetable and flower market waste. Serving to maintain the hygiene of the city as a part of "Swatchh Bharat Mission" of Indian government and also benefits the livelihood of the self-employed woman community of the Irular tribe surrounding Coimbatore. The tribes have been trained on developing this product through training programme conducted to them at IFGTB campus and demonstrating the product development on site in their respective fringe villages. This product not only raises the economy levels of the Irular tribes, it also reduces their dependency on forest. This article reveals their current economic status after marketing the product which is measured by Human Development Index (HDI).

2. Human Development Index (HDI)

As an alternative to conventional measures of economic development such as income per capita and the rate of economic growth Human Development Index (HDI) was introduced. It is a composite index focusing on three basic dimensions of human development. Economic development has been appropriately conceptualized as a process, which improves the quality of life of people. Economic planning has been used as an instrument in India for bringing about uniform regional development through a progressive reduction in regional disparities in the pace of development (Arivelarasan, 2015). Comprehensive studies reported by Marothia (2002) indicate that community participation is essential for the transformation process from a state of ecological poverty to a state of sustainable economic growth. Hence HDI may help to understand the decent living structures of economically poor people. Therefore, the present study aimed to understand the HDI of irular tribes in forest fringe villages of Coimbatore through capacity building on the development of "Tree Rich Biobooster", an ecofriendly organic growth promoter.

2.1 Irular community under study

Irular tribes are the ancient tribal group living in the lower slopes (Anaikatti) of Western ghats, Coimbatore. The elevation of this hamlets lies between above 500 – below 900 AMSL. Infra structures like road connectivity of forest fringe villages was 21.74% semipaccka and 78.26% kaccha. Based on observation, the electricity connection was 95% in forest fringe villages. So far WSHGs in three different Irular tribal hamlets viz., Keelpillur, Palamalai and Senkuttai were trained practically and more than 20 Irular tribal hamlets viz., Kuliyur, Pattisalai, Gopanari, Kandiyur, Colony pudur, Irular pathi, Senkuttai, Alankandi, Panapallli, Kunjurpathi etc. in Periyanaickan Palayam block, Coimbatore were given demonstration of the product on site. These hamlets were selected randomly for the capacity building training on the development of "Treerich Biobooster".

2.2 Data collected

The details of Irular tribes were collected in a prescribed format which contains Personal details such as Name, Date of Birth, Name of the village, sex, occupational status, Aadhaar card number, Bank account details.

2.3 Economic Status

The economic status has been measured by HDI like Life expectancy index (LEI); the ability to acquire knowledge(EI), measured by mean years of schooling and expected years of schooling; and the ability to achieve a decent standard of living, measured by Gross National Income per capita(GNI).

$$\text{LEI and EI} = \frac{\text{Actual Value-Minimum Value}}{\text{Maximum Value - Minimum Value}}$$

$$\text{GNI per Capita (ppp)} = \frac{\text{In(Actual Value) – In(Minimum Value)}}{\text{In (Maximum Value) – In (Minimum Value)}}$$

Forest fringe villages such as, Senkuttai, Palamalai and Keel pillur were accounted for the study. Based on HDI, they are very poor in their GNI index and education level. Normally they earn Rs.150 to 200/day from farm practices and other works. After implementing training on product development they earn Rs.300/day. Through Tree Rich Biobooster sale they gained a profit of Rs.2.50/piece and Rs.1000/500 pieces/Day in addition of their wages.

Table. 1 Minimum and Maximum values of HDI calculated

Dimension	Indicator	Maximum	Minimum
Health	Life Expectancy Index (Year)	85	20
Education	Expected years of schooling	14.75	0

	Mean years of schooling	18.33	0
Standard of living	Gross National income per capita (ppp $) (Before)	2151.87	100
	Gross National income per capita (ppp $)(After)	16139.04	100

*Actual values are taken from http://hdr.undp.org/en/composite/HDI reported by 2017

52 households of Anaikatty were randomly selected for the training and studied HDI analysis. The past and the current HDI comparison with the actual value of India which released by UNDP (United Nations Development Programme) 2017 sourced by http://hdr.undp.org/en/ composite/HDI web page. Before the implementation of the training on product development HDI was 0.680 after the training it has increased to 0.841 respectively. This proves that transfer of this technology to the tribal people has increased their source of income significantly.

3. Conclusion

Economic development has been appropriately conceptualized as a process, which improves the quality of life of people. Marketing channels were established to sell the product to Forest nurseries, Private nursery, vendor who promote kitchen, terrace and home gardens, NGOs who involves in urban greening, so as to generate their regular income. The product "TRB" is an efficient and effective approach to support the livelihood the tribals and will reduce their dependency on forest promoting forest conservation.

4. References

1. Arivelarasan. T, 2015. Thesis entitled "An empirical study of measuring rural poverty in backward districts of Tamilnadu" submitted on Tamilnadu Agriculture University, Coimbatore.
2. Bindu S, Subramaniyam T, 2005: Social structure, child rearing practices and behavior pattern among the tribes of Kerala: A Cross Cultural Study of Four Tribes of Attappady and Wayanad District. Ph.D Thesis Submitted to Pondicherry.
3. Murugesan S, N. Senthilkumar, N. Krishna Kumar, R. Lakshmi Devi, K. Ramesh, P. Manivachakam, C. Rajeshkannan and D. Suresh Babu Growth promoting product – "Tree Rich Biobooster" (An alternate media for potting mixture) Workshop on Tree Cultivation Technologies 2014 p:39
4. Ratha, S.N. 1989, Tribal Development Programme - An Appraisal, Background Reading material, Seminar on Training programme on Tribal Development and its Administration, conducted by Anna Institute of Management, Madras 28, on 20.02.1989, p.177
5. Santhosh, Sasirega. 2010. A study on social life of Irula women in Chengalpet, Tamilnadu. M. Phil Thesis, Department of Sociology, Christ University.

6. Senthilkumar N, 2015, Socio-economic status of forest fringe villages in Tiruvannamalai District, Tamilnadu, Journal of Agricultural Economics, Extension and Rural Development, 3(10): 317-325
7. Status Report on the Implementation of Forest Rights Act in Tamilnadu (SRIFRAT), 2017.
8. Tribal Sub Plan 2015-16**,** Adi Dravidar And Tribal Welfare Department (ADTWD), Secretariat, Government of Tamilnadu, Chennai – 600 009. Pp.2.