EPRA International Journal of Agriculture and Rural Economic Research

Impact Factor(SJIF) : 4.434 Volume : 4 | October - September | 2016-17 ISSN : 2321 - 7847

ECONOMICS OF TEA CULTIVATION IN THE NILGIRIS DISTRICT

D. Kiruthiga[1] & Dr. K. Damodaran[2]

ABSTRACT

The present paper examines the economics of tea cultivation in the Nilgiris district. For this, the small, medium and large farmers are chosen for the study. The farm categories are small (less than 5 acres), medium farmers (5 to 10 acres) and large farmers (10 acres and above). From each category, 30 farmers are chosen and the total sample stood at 90. The cost of tea cultivation is high for harvest, manure and pesticide respectively. Among the farm groups, the cost is high for the large, medium and small farmers respectively while it is inverse in the case of yield of tea cultivation. This confirms the farm size efficiency in tea plantation, that is small farmers spend lesser amount and yield more as compared to medium and large farmers. Farmers report pest problems that affect the tea production and therefore the Agriculture University has to identify the pest and find pesticides to improve the tea production.

KEYWORDS: *Input, cultivation, labour, cost, yield*

INTRODUCTION

Tea is the dried leaf of a bush, which contains theine and when added to boiling water along with sugar and milk, it gives a very cheap and stimulating drink. Thus it is the most important beverage crop of India. Tea bush is supposed to be indigenous to China but it was reported by Major Robert Bruce in 1823 that indigenous tea bushes grew wild on the hill slopes of upper Assam. In the year 1840, tea seeds were imported from China and commercial tea plantations were set up in the Brahmaputra valley. To begin with, tea plantations were confined to Upper Assam only but later on, new areas such as lower Assam and Darjeeling were also opened up to tea plantations and by 1859, there were 30 tea plantations in Assam alone. Later on, tea

[1]*Research Scholar, Department of Economics, Government Arts College, Udhagamandalam, Tamil Nadu, India*

[2]*Assistant Professor, Department of Economics, Government Arts College, Udhagamandalam [Deputed from Annamalai University], Tamil Nadu, India*

plantations were also set up in Nilgiri Hills of South India, Tarai along the foothills of the Himalayas and in some places in Himachal Pradesh.

Conditions of Growth:-

Tea bush is a tropical and sub-tropical plant and thrives well in hot and humid climate. There is a very close relation between climate, the yield and the quality of tea. The ideal temperature for its growth is 20°-30°C and temperatures above 35°C and below 10°C are harmful for the bush. It requires 150-300 cm annual rainfall which should be well distributed throughout the year. While prolonged dry spell is harmful for tea, high humidity, heavy dew and morning fog favour rapid development of young leaves. Alternate waves of warm and cool winds are very helpful for tea leaves. Tea is a shade-loving plant and develops more vigorously when planted along with shady trees.

Tea bush grows well in well drained, deep, friable loams. However, virgin forest soils rich in humus and iron content are considered to be the best soils for tea plantations. Relatively large proportion of phosphorus and potash in the soil gives special flavour to tea as is the case in Darjeeling.

In order to increase the yield, proper dose of nitrogenous fertilizers such as ammonium sulphate should be given to soil. Although tea requires heavy rainfall for its growth, stagnant water is injurious to its roots. It is, therefore, grown on hill slopes where water drains away easily and water-logging does not take place. However, it grows equally well in the valley if the drainage is good. Most of the tea plantations in India are found at elevations varying from 600 to 1,800 metres above sea level. Tea is a labour intensive crop and requires abundant supply of cheap and skilled labour, especially at the time of plucking the tea leaves. This is a tedious process which requires skilled manipulation of fingers for plucking two leaves and a bud at a time.

For this purpose, women labourers are employed in large numbers. Currently, tea industry provides employment to one million workers. Through its forward and backward linkages another 10 million people derive their livelihood from tea. It is one of the largest employers of women among organised industries of India. Women constitute over 50 per cent of the total workforce.

Method of Cultivation:-

Tea gardens are set up on the cleared hill slopes where shade trees are planted in advance. Seeds are sown in the germination beds and the saplings transplanted to the garden. The garden is regularly hoed and weeded so that tea bush grows without any hindrance. Use of manures and fertilizers is a common practice in the gardens. Oil cakes and green manures are widely used. Pruning of the plant is an essential part of tea cultivation. It helps in maintaining the proper shape of tea bush to a height of about one metre with about the same diameter. The aim of pruning is to have new shoots bearing soft leaves in plenty and to facilitate the plucking of leaves by women labourers from the ground.

METHODOLOGY

In order to measure the economics of tea cultivation, Kallatty village of The Nilgiris District is selected. From the village, the farmers are chosen on basis of farm size. That is, small, medium and large farmers are chosen for the study. The farm categories are small (less than 5 acres), medium farmers (5 to 10 acres) and large farmers (10 acres and above). From each category, 30 farmers are chosen and the total sample stood at 90. The farm categories may highlight the cost of cultivation and farm size efficiency in tea cultivation in the study village.

PER ACRE AND PER YEAR INPUT USE FOR TEA PLANTATION

Per acre and per year use of input for tea plantation is given in the table 1. The input of tea cultivation includes manure, pesticide and harvest. Manure used are urea, cow dung and leaf manure of which 1058 kg of urea is used per acre in a year while cow dung is 5.2 tons and leaf manure is 2 tons on an average. Of this, use of manure is high for large famers as compared to medium and small farmers.

Pesticides used are Ekalus, Omatisba, 26 NK, M45 and Fenvail wherein Ekalus is used 5.9 litres per acre in a year. Next to this, 26 NK and M45 is used more (2.5 lt) while Omatisba and Fenvail is in less quantity. Regard to harvest, machines and labours are used where male and female are involved. For using machine for harvest, 255 male and 154 female are used wherein for harvesting manually more female (1072) and 434 male are used per acre in a year. Thus, tea grower's use choose the method of harvest on the basis of the availability of labours.

Table 1 Per Acre and Per Year Input Use for Tea Plantation

Details		Farm Size			
		Small Farm (Below 5 Acres)	Medium Farm (5 to 10 Acres)	Large Farm (Above 10 Acres)	Total
		(n=30)	(n=30)	(n=30)	(N=90)
MANURE					
Urea	in Kg.	1035	1064	1075	1058
Cow Dung	in Tons	4.98	5.1	5.6	5.2
Leaf Manure	in Tons	1.88	1.98	2.2	2.0
PESTICIDE					
Ekalus	in Lt.	5.6	5.9	6.2	5.9
Omatisba	in Lt.	1.2	1.4	1.7	1.4
26 NK	in Lt.	2.1	2.4	2.9	2.5
M45	in Lt.	2	2.6	2.9	2.5
Fenvail	in Lt.	1.2	1.5	1.9	1.5
HARVEST					
Machine	Male (Nos.)	245	257	262	255
	Female (Nos.)	148	153	162	154
Manual	Male (Nos.)	422	434	447	434
	Female (Nos.)	1045	1075	1097	1072

Source: Computed

PER ACRE AND PER YEAR COST OF TEA CULTIVATION

The cost of cultivation involves the expenses incurred for manure, pesticide and harvest. The table 2 examines the cost of cultivation per acre for a year is computed where on an average the cost registered stood at Rs. 5,36,653 and it is high for harvest, manure and pesticide respectively. Since the tea cultivation is a continuous process where the tea has to harvest every week and it involves more labours for the same. As a result, the cost registered is high for harvest of tea as compared to cost involved in manure and pesticides.

Table 2 Per Acre and Per Year Cost of Tea Cultivation (in Rs.)

Details	Farm Size			
	Small Farm (Below 5 Acres)	Medium Farm (5 to 10 Acres)	Large Farm (Above 10 Acres)	Total
	(n=30)	(n=30)	(n=30)	(N=90)
MANURE				
Urea	18630	19152	19350	19044
	(3.6)	(3.6)	(3.5)	(3.5)
Cow dung	74700	76500	84000	78400
	(14.4)	(14.3)	(15.1)	(14.6)
Leaf Manure	9400	9900	11000	10100
	(1.8)	(1.8)	(2.0)	(1.9)
PESTICIDE				
Ekalus	1288	1357	1426	1357
	(0.2)	(0.3)	(0.3)	(0.3)
Omatisba	3960	4620	5610	4730
	(0.8)	(0.9)	(1.0)	(0.9)
26 NK	3570	4080	4930	4193
	(0.7)	(0.8)	(0.9)	(0.8)
M45	720	936	1044	900
	(0.1)	(0.2)	(0.2)	(0.2)
Fenvail	270	337.5	427.5	345
	(0.1)	(0.1)	(0.1)	(0.1)
HARVEST				
Machine: Male	61250	64250	65500	63667
	(11.8)	(12.0)	(11.8)	(11.9)
Female	29600	30600	32400	30867
	(5.7)	(5.7)	(5.8)	(5.8)
Manual: Male	105500	108500	111750	108583
	(20.4)	(20.3)	(20.1)	(20.2)
Female	209000	215000	219400	214467
	(40.4)	(40.2)	(39.4)	(40.0)
Total	**517888**	**535233**	**556838**	**536653**
	(100)	**(100)**	**(100)**	**(100)**

Source: Computed

Note: Figures in parentheses denotes percentages to the column total

Among the farm groups, the cost of tea cultivation is high for large farmers (Rs. 5,56,838) as compared to medium (Rs. 5,35,233) and small (Rs. 5,17,888) farmers. Since the small farmers collect manure at lower cost and involve in harvest by in-person, the cost of tea cultivation per acre in a year has registered at lower level as compared to medium and large farmers. Thus, the cost of cultivation is high for harvest and the cost per acre in a year registered is high for large farmers.

The cost of tea cultivation has registered high for the harvest wherein labourers are involved in high numbers, which is worth to mention as more poor people get employment from the cultivation.

YIELD, COST AND REVENUE OF TEA CULTIVATION

The table 3 examines per acre yield, cost and revenue of tea cultivation for a year. On an average, the yield is 1,29,145 kgs per year, which is 1,30,800 kgs for small farmers, 1,29,770 kgs for medium farmers and 1,26,865 kgs for large farmers. From this, it is construed that the yield of tea is high for small farmers whereas medium and large farmers follows respectively. Same trend could be noticed in terms of Rupees, that is Rs. 15,49,740 on an average and the yield in terms of money is high for small farmers followed by medium and large farmers.

Table 3 Per Acre Yield, Cost and Revenue of Tea Cultivation

Details	Farm Size			
	Small Farm (Below 5 Acres)	Medium Farm (5 to 10 Acres)	Large Farm (Above 10 Acres)	Total
	(n=30)	(n=30)	(n=30)	(N=90)
Yield (in Kg.)	130800	129770	126865	129145
Yield (in Rs.)	1569600	1557240	1522380	1549740
Cost of Cultivation	517888	535233	556838	536653
Revenue	1051712	1022008	965543	1013087

Source: Computed

The actual revenue from the tea cultivation is computed by deducting from the cost of cultivation. From this, the cost of cultivation for the small farmers is low wherein the revenue is high. From this, it is concluded that the farm size efficiency works in tea cultivation. Since the small farmers are more efficient in use of inputs and they procure by their own in most cases while it is difficult for medium and large farmers. As a result, the yield is high for small farmers as towards the medium and large farmers.

CONCLUSION

The cost of tea cultivation is high for harvest, manure and pesticide respectively. Among the farm groups, the cost is high for the large, medium and small farmers respectively while it is inverse in the case of yield of tea cultivation. This confirms the farm size efficiency in tea plantation, that is small farmers spend lesser amount and yield more as compared to medium and large farmers. Farmers report pest problems that affect the tea production and therefore the Agriculture University has to identify the pest and find pesticides to improve the tea production.

REFERENCES

1. *Akhlas, Ahmad, Siyar and Khanum (2003) —Qualitative Assessment of Fresh Tea produced in Pakistan growing under different Agro Ecological Conditions and Fertilizer Treatments, The Pakistan Development Review*
2. *Anil, P. (2013, September). Channel Efficiency in Marketing of Tea in Idukki, Kerala. Southern Economist, 18-22.*
3. *Bhowmik, S. K. (1996). Tea plantation workers in West Bengal. New Delhi: Friedrich Ebert Stiftung.*
4. *Biyanwila, & Janaka. (2003, June). Union strategies in the Sri Lankan tea plantation : Rediscovering the movement dimension. Economic and Labour Relations Review, 14 (1).*
5. *Boriah, G. (2007). Focus on productivity. Bose, J. (2007). A study on the overall profile of the closed tea gardens in Idukki district. Working Paper. New Delhi: Centre for Education and Communication.*
6. *Bose, P. R. (2003). Planks of revival strategy. Campagnola, E. (2011). The production of tea in Usambara mountains : The historical dimension of the modern forms of peasant labour organisations. CAAS Conference Paper. Toronto.*

7. Chatterjee, P. (2001). A time for tea: women, labour and post/colonial politics on an Indian plantation.John Hope Franklin Centre Book.
8. Dutta (2011) ―Impact of Age and Management Factors on Tea Yield and Modeling the Influence of Leaf Area Index on Yield Variations , Science Asia 37 (2011): 83-87
9. Gholam Abbas Darvishi and M. Indira (2013). An analysis of changing pattern in area, production and productivity of coffee and tea in India. International Journal of Marketing, Financial Services & Management Research, Vol.2, No. 9, September, 46-60.
10. Nagoor (2009). "Performance of India's Tea Export: A comparative Study of Major Tea Exporting Countries of the World". Held in conjunction with the Fourth Annual International Conference of Public and Management 9- 12 August.