Research Paper

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Cost and Returns from the Cultivation of Gloriosa Superba

Economics

KEYWORDS : Gloriosa Superba, Cost of Cultivation and Net Income

Dr.B.Vanitha Associate Professor in Economics, Bharathiar University, Coimbatore 641046

P. Manimalathi Research Scholar in Economics, Bharathiar University, Coimbatore - 641046

ABSTRACT

The main aim of the paper is to estimate the cost of cultivation and net income generated from the cultivation of Gloriosa Superba in Aravakurichi block, Karur district. All 186 farmers from four villages in Aravakurichi block cultivating Gloriosa Superba were contacted for the purpose of data collection. The data is collected for the year 2011. The results showed that the total cost was higher for large farmer than small farmer while the net return over cost A1, A2, B & C was higher in the case of small farmer than the large farmer. Value of production of the large farms was more than the small farms but the net return over Cost C was Rs.-8.034 for small farmer and Rs.-16402 for large farmer. The lesser economic benefits both in the case of small and large farmers were due to higher cost of cultivation, greater variations in price and poor marketing facilities existing in the study area.

Tamilnadu is a strategic geographical location holding a major share in cultivation and export of more than 50 medicinal plants. Gloriosa Superba is cultivated in Erode, Salem, Tirupur, Dindugal and Karur districts of Tamilnadu in about 5,000 acres. Gloriosa Superba is a native of tropical Asia and Africa found growing naturally in many parts of Tropical Asia including India, Burma, Malaysia and Sri Lanka. In India, it is mainly found in Nasik, Maharastra, Karnataka, Kerala, Assam, Tamil Nadu, Goa and Patalkot valley of Central India. Gloriosa Superba is the national flower of Zimbabwe and Tamil Eelam and it is also the state flower of Tamilnadu, India. The plant is found to be a rich source of Colchicine which is used to treat number of ailments such as Gout, Piles and various skin problems. Several studies have identified that all parts of the plant, especially the tubers are extremely toxic due to the presence of a highly active alkaloid, Colchicine. Different ethnic communities were using Gloriosa Superba for various medicinal purposes in India.

Review of Literature

Ajjan et al., (2010) studied the economics of collection and constraints involved in the marketing of Kalmegh in Tamilnadu and found that restrictions for collection and varying levels of entry fee to enter into the forest, lack of adequate transportation facilities and non-availability of price information were the major problems experienced by the collectors of medicinal plants. Puran Mal et al., (2009) studied the importance of cultivation and profitability of safed musli in Haryana, India and found that the returns from one rupee of investment on variable cost was Rs.1.75 and total cost was Rs.1.36. Eshrat Sharmen Akand (2005) examined the income generation through cultivation of medicinal plants in Manikgonj district, Bangladesh and found that the cultivation and collection of medicinal plants created an opportunity to earn additional income and also increased the availability of medicinal plants. Thangaraju (1999) analysed the economics of Senna cultivation and marketing of the same in Tuticorin district and it was identified that unauthorized deductions, improper weighing, price fluctuations, exploitation by middleman were major marketing problems faced by the farmers in the cultivation of Senna.

Objectives of the Paper

The main objectives of the paper are,

1. to analyse the cost of cultivation of Gloriosa Superba in terms of different cost concepts like Cost A1, Cost A2, Cost B and Cost C.
2. to examine the economic returns generated through the cultivation of Gloriosa Superba in the study area.

Methodology

Aravakurichi block in Karur district is chosen purposively where the Gloriosa Superba is cultivated under more than 1000 acres of land. Primary data were collected through face to face interview using the pre tested schedule. 186 farmers from different villages in Aravakurichi block, Karur District were surveyed in order to collect the data. The data is collected for the year 2011. In Aravakurichi Block, there are two Firkas namely, Aravakurichi Firka and Pallapatti Firka. Velampadi and Nagampalli Villages in Aravakurichi Firka and Inunganur and Senthamangalam West villages from Pallapatti Firka were selected for the study where Gloriosa Superba was cultivated both as intercrop and individual crop. In the present study, the farmers having less than five acres of land were grouped as small farmers and the farmers having five and more acres of land were classified as large farmers.

The cost of cultivation was studied in terms of four types of costs such as Cost A1, Cost A2, Cost B and Cost C. The following are the cost concepts measured in the study.

Cost A1: It includes all actual expenses incurred by the farmers in the cultivation of the crop

Cost A2: Cost A1 + rent paid for leased-in land.

Cost B: Cost A2 + rental value of owned land & interest on owned fixed capital excluding land.

Cost C: Cost B + imputed value of family labour.

Table 1
Total Cost of Cultivation per Acre

Sl. No	Items of Cost	Small Farmers	Large Farmers	Difference between Small and Large Farmers
1.	$Cost_{A1}$	79152.7	102896.2	23743.5
2.	$Cost_{A2}$	86544.01	107894.9	21350.9
3.	$Cost_{B}$	109906.6	136263.9	26357.3
4.	$Cost_{C}$	125529.3	148282.2	22752.9

The total cost of cultivation per acre was calculated in terms of Cost A1, Cost A2, Cost B and Cost C (Table 1). As far as Cost A1 was concerned, on an average the small farmer had to incurred Rs.79,152 per acre, while the same was Rs.1,02,896 for the large farmer cultivating Gloriosa Superba, which means on an average large farmer had to spend Rs.23,744 more per acre than the small farmer. In the case of Cost A2, it was accounted as Rs.86544 and Rs.1,07,895 per acre for the small and large farmers respectively (a difference of Rs.21,351 more for large farmer). When interest on working capital and miscellaneous expenses were included to calculate Cost B, the large farmer cultivating Gloriosa Superba incurred Rs.26,358 more per acre. When the imputed value of family labour was included in the cost calculation the cost of cultivation of the large farmer was greater than that of small farmer (Rs.22,753 more for large

farmer). Hence, in all the cases the cost per acre was higher for large farmer than that of small farmer in the study area.

Table 2
Share of Different Cost Components in the Total Cost of Cultivation

Sl. No	Items of cost	Gloriosa Superba	
		Small Farmers	Large Farmers
1.	Hired Labour	25.38	33.23
2.	Family Labour	12.46	8.11
3.	Machine Labour	3.50	3.60
4.	Rhizomes/ Setts	22.12	20.15
5.	Fertilizer	2.21	2.40
6.	Manure	0.65	0.71
7.	Plant Protection Chemicals	2.93	2.99
8.	Crop Support	2.12	1.94
9.	Depreciation of Implements and Machinery	0.75	1.29
10.	Interest on Working Capital	2.77	2.63
11.	Miscellaneous Expenses	0.62	0.45
12.	Rent paid for Lease-in Land	5.89	3.37
13.	Rent value of own land	16.58	16.57
14.	Interest on Fixed Capital	2.03	2.57
18.	Total Cost $_c$	100.00	100.00

Table 2 shows the proportion of different cost items in the total cost of cultivation of Gloriosa Superba in the study area. It was noted that nearly 25 per cent of the total cost for the small farmer and 33 per cent for the large farmer was accounted as wages to labourers. The cost of planting material (rhizomes) accounted for about 20 per cent of total cost of cultivation for the large farmer and the 22 per cent for the small farmer. The cost of family labour involved in the cultivation of medicinal plant was higher in the case of small farmer (13%) than the large farmer (8%). The cost incurred on the account of use of machine power in the cultivation of Gloriosa Superba was 3.5 per cent for small farmer and 3.6 per cent for large farmer. Rental value of own land was more or less equal for both the farmers i.e., about 17 per cent while rent for leased in land was higher for small farmer (5.89) than the large farmer (3.37%). Hence, it can be concluded that wage cost, cost of rhizomes and rental value of land were the major items of total cost in the cultivation of Gloriosa Superba for both small and large farmers.

Economic returns from the cultivation of Glorisa Superba for both the small and large farmers is given in Table-3. On an average, the yield per acre was accounted as 111.9 kg for small farmer and 125.6 kg for large farmer. The price of seeds was Rs. 1050 for both small and large farmers. Net return over Cost C was worked out to be Rs.-8.034 for small farmer and Rs.-16402 for large farmer. Benefit cost ratio in the cultivation of Gloriosa Superba depicts that for every one rupee of investment, on an average the small farmer earned 0.94 paise and the large farmer earned 0.89 paise in the cultivation of Gloriosa Superba in the study area.

Farm business income refers to the gross income less cost A1 and it was Rs.38,342 for small farmers and Rs. 28,293 for large farmers. Similarly, farm investment income refers to gross income less Cost B and it was Rs. 7,588.40 for small farmers and -Rs. 4,383.90 for large farmers per hectare. Hence, in both the cases, the small farmer earned better returns when compared to large farmer from the cultivation of Gloriosa Superba.

Table 3
Economic Returns from the Cultivation of Gloriosa Superba

Sl. No	Particulars	Small	Large
1.	Yield/acre in Kgs	111.9	125.6
2.	Price/Kg	1050	
3.	Gross Returns (in Rs.)	117495	131880
4.	Net Returns (in Rs.)	-8,034.30	-16,402.20
5.	Benefit cost ratio	1:0.94	1:0.89
6.	Farm business income (Gross Returns – Cost A1)	38,342.30	28,293.80
7.	Farm investment income (Gross Returns – Cost B)	7,588.40	-4,383.90

Conclusion

Thus, it can be concluded that, per acre cost of cultivation of Gloriosa Superba is more for large farmer when compared to small farmer. Similarly, though gross returns earned by the large farmer is higher than that of the small farmer, the net returns over different types of cost are higher for small farmer than the large farmer. However, the small farmer reaps more benefits in the cultivation of Gloriosa Superba when compared to large farmer. The lesser economic benefits both in the case of small and large farmers were due to higher cost of cultivation, greater variations in price and poor marketing facilities existing in the study area. The price of seeds before five years ranged between Rs.2,000 and Rs.2,500 and it was reduced to Rs.1050 per kg during 2011. The reduction in price may be due to increased supply of the plant. Also, the produce does comply with the expected quality standards. This is the major reason for the loss in the cultivation of Gloriosa Superba. Besides, though many parts of the Gloriosa Superba have been used for medicinal purposes for a long time in different medicinal systems, in the study area only the seeds of the plant are harvested and marketed commercially. Hence, the Government should take initiative in order to widen the market of Gloriosa Superba. Besides, the profit of the farmers through the cultivation of Gloriosa Superba can also be increased only by standardizing the price of seeds and plant parts by the government of Tamilnadu through State Medicinal Plant Board.

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