

Value chain management in hybrid cotton of the Vidarbha

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Cotton is main Cash crop for Vidarbha. Value addition in the Cotton can lift up farmers economic status. For the purpose present research work is taken on Value chain management in Hybrid Cotton. The data is collected from 450 cotton growers residing in Vidarbha. It is found that the cost of cultivation of hybrid cotton was Rs 1314 per quintal. The total real cost added was Rs 2085.34 and total real benefit derived by the whole chain was Rs. 4294.46 (205.94 percent). The cotton grower, ginning mill, textile and oil extraction mill have received the profit margin of 41.55, 43.35, 112.33 and 17.34 percent respectively over the chain. The share of marginal profit in value chain was highest of the textile mill i.e. 112.33 percent. As compared to the efforts and time invested by the cotton grower, his marginal profit was very less. If the cotton grower perform all the said operations collectively, the will get the large benefit.

Keyword: Cotton, Vidarbha, value chain management

INTRODUCTION

Cotton (*Gossypium* spp.) is an important cash crop of global importance with a significant role in Indian Agriculture, Industrial development, employment generation and improving the national economy. Cotton is popularly known as white gold or king of fibre. It plays a prominent role in Indian economy. In India, it is grown annually on 8.74 million ha with 15.6 million bales of production. Cotton is occupying around 20 percent of the total cultivated area with a share of 12 percent of global production. The cotton seed is an important product of Indian cotton industry. Cotton crop is an important segment of the agricultural profile in India contributing about 80 percent material required for textile industry. The oil content in the cotton seed ranges from 15 to 20 percent depending on the varieties. An American cotton variety contains more percentage of oil. Cotton seed cake after extraction of oil is good organic manure and contains about 6 percent potash, cotton seed, cotton lint and pulp obtained during oil extraction

and cotton meal are good concentrated feed for cattle. Thus cotton plays an important role in farmer's financial position as well as national economy.

Even though India ranks first in area in the world, it occupies third position in production. Though productivity has increased, in the recent years, it is still very low in comparison to world's average productivity. The average productivity of cotton crop in India is 465 kg lint ha⁻¹, In Maharashtra it is grown in an area of 3.08 million ha with a production of 3.12 million bales (0.53 million tonnes) and productivity of the Maharashtra is only 271 kg lint ha⁻¹. In Vidarbha, it occupies the 21.46 percent area in total gross cropped area and its productivity is 172.50 kg lint per hectare which is very low.

Value Chain Management has been an important in agricultural sector. As cotton is commercial crop, it already has a system of value addition and a long chain to manage this value addition, but the farmers are not fully exploiting their potential for value addition process in cotton, a long chain of the middle functionaries is seen in existing value addition process. For getting the benefits of value addition to the large numbers of cultivators, it is

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vital to improve the value chain management for cotton. Before efficiently managing the chain, it is necessary to study the existing value addition process for cotton. Looking to the importance of the study, the existing value chain management in Hybrid Cotton is studied in this paper.

2. Methodology

The data pertaining to the year 2006-07 was collected from 450 farmers from the Vidarbha region. Cotton production is generally observed in eastern and middle of Vidarbha. The direct chain of the cotton without intermediaries, from farm to textile mill is studied in this paper. The value added at ginning and cloth production is collected from the ginning and textile mill. The value addition at each point of the chain is estimated which includes cost of raw material, margin earned and cost of processing at each point of the chain. For estimating the cost of cultivation, the expenses of the cultivator on Hired human labour, Hired and owned bullock labour, Machine labour, Seed, Manure, Irrigation Charges, Procurement cost of inputs, Plant Protection, Repairs, Depreciation, Land Revenue and other cases and Interest on working capital are considered.

3. Results and Discussion

3.1 Value Chain

The direct chain of the hybrid cotton movement from farm to textile mill in the region is studied for the present study. It is given in diagram no. 1. The retailer and other middle functionaries which don't add value in physical state of the Cotton, are not considered. This gives the value of real cost of the final cloth. We are estimating it with an intension that if the farmers cooperatively perform all these function, how they will be benefited. The cost of cultivation of the cotton growers is estimated and the cotton purchased by the ginning mill where it is

processed as pressed gins and provided to textile mill where its yarn and converted in to cloth. So this type of chain is intentionally taken here to estimate the direct benefit to vital functionaries and without any middle functionaries such as traders, wholesalers etc.



Fig 1: The Value Chain Management for the cotton studied

3.2 Cost of cultivation of Hybrid Cotton

The cost of cultivation for hybrid cotton in Vidarbha is given in table no. 1. The pocket expenses of the cotton grower are taken as per scale of finance considered for making loan case. It is observed that the most of the expenses of cotton cultivation has been made on the human and bullock power i.e. 27.61(male and female expenses) and 22.13 percent respectively. It is followed by the expenses on seed i.e. 15.82 percent. Overall the total cost of cultivation for the hybrid cotton was Rs.10210.02 per hectare. The yield was 7.77 quintals per hectare. The cost per quintal was Rs 1314.02. The low yield is observed because of the more than 75 percent area of the Vidarbha is under dryland condition and the the average is of 450 cultivators which in includes the failure cultivators too.

Table 1: Per Hectare Cost of cultivation of Hybrid Cotton in Vidarbha Per hectare

Sr. No	Particulars		Unit	Input /ha	Cost per unit(Rs)	Total Cost(Rs)	Percentage share
1.	2		3	4	5	6	7
2.	Human Labour	Male	Days	9.66	50.05	483.34	4.73
3.		Female	Days	76.20	30.65	2335.61	22.88
4.	Bullock Labour		(Pair Days)	16.31	138.51	2259.29	22.13
5.	Machine charges		Hours	16.15	12.55	202.73	1.99
6.	Seed		KGS.	3.74	431.86	1615.16	15.82
7.	Manure		QTLS.	17.99	41.52	746.87	7.32

8.	Fertilizer	N	KGS.	34.51	13.57	468.35	4.59
9.		P	KGS.	18.08	18.17	328.48	3.22
10.		K	KGS.	5.55	7.47	41.47	0.41
11.	Irrigation charges					0.00	0.00
12.	Insecticide					301.04	2.95
13.	Incidental charges					153.37	1.50
14.	Land Revenue cess & Taxes					23.41	0.23
15.	Depriciation in implements						0.00
16.	& farm building					206.61	2.02
17.	Intrest on working Capital					948.54	9.29
18.	Repairing Charges					95.75	0.94
19.	Total Cost					10210.02	100.00
20.	Yield per hectare		QTLS.	7.77	1860.00	14452.20	
21.	Per quintal cost of cultivation					1314.03	

3.3 Value Chain Management in Hybrid Cotton

The value chain management of hybrid cotton in Vidarbha is given in table no. 2. In this point, the per quintal expense, marginal profit and prices of cotton for the cotton growers, ginning mills and textile mills are estimated. Cotton growers have added cost of Rs 1314 per quintal. With the

marginal profit of Rs 546 per quintal, the cotton sold @ Rs 1860 per quintal to ginning mill.

Ginning mill purchased cotton at rate Rs 1860 per quintal. The processing cost at the rate of Rs 170 per quintal. After processing the, ginning mill owner received Rs. 2260 for the lint of 35kg from one quintal. It includes the profit of Rs 230 per quintal of raw cotton.

Table 2: Value Chain Management of Hybrid Cotton in Vidarbha per Quintal of Cotton

Sr. No	Stage	Input Cost		Output Value (Main Product)	Net Returns (Value added for lint)	Net Returns (Value added for Cotton seed)
		Raw material cost	Processing cost			
Lint						
1.	Cotton Grower	Cost per quintal Rs.1314.00.		Cotton at rate Rs 1860.00	Rs. 546.00 (41.55 percent over cost)	
2.	Ginning Mill	Cotton Rs. 1860	Processing cost Rs.170.00 per quintal	lint of 35 kg at Rs 2260.00	Rs 230 (11.33 percent over cost)	Cotton Seeds 65 kg Rs 650 (32.02 percent over cost) and total Rs 880per qtl (43.35percent over all value addition)
3.	Cloth Production	Lint Rs 2260	Processing cost Rs. 601.34 / 35 kg lint	Cloth of Rs.Rs 6379.80(230 mt)	Rs 3518.46 (112.33 percent over cost)	
4.	Cost and Return over the Chain for lint		2085.34	6379.8	4294.46	
5.	Percental over the chain for lint		100	305.94	205.94	
Cotton Seed						
6.	Oil from Cotton Seed	Cotton Seeds 65 kg Rs 650	Rs 78 for oil and Cake for 65 kg	Oil (8.32 kg) Rs 332.80 Oil Cake (53.12 kg) Rs.520	Rs 124.80 (17.34 percent over cost)	
7.	Cost and Return over the Chain for total		2163.34	7232.6	4419.26	
8.	Percental over the chain for total		100	334.32	234.32	

THE PHARMA INNOVATION

For converting lint in to the cloth Textile mill owner spent Rs 601.34 the 35 kg lint as processing charges. After selling the cloth made from this 35 kg lint at Rs 6379.80, Textile mill received the marginal profit of Rs 3518.46 over the 35 kg of lint. On other side, the cost of oil extraction was Rs 78 for 65 kg cottonseed and the net valued added by this activity was Rs 124.80 for 65 kg cottonseeds. When the process of oil and cake extracted from cotton seed included, it has given the total cost, gross returns and net value added was Rs 2163.34, Rs.7232.60 and Rs.4419.26 respectively.

If the cotton growers perform this function collectively for lint, they will be benefited during whole chain with Rs. 4294.46 (205.94 percent). The total real cost added will be Rs 2085.34. When the process of oil and cake extracted from cotton seed included, it has given the total cost, gross returns and net value added was Rs 2163.34, Rs.7232.60 and Rs.4419.26 respectively the cotton grower, ginning mill, textile and oil extraction mill have received the profit margin of 41.55, 43.35, 112.33 and 17.34 percent respectively over the chain.

4. Conclusion

The cost of cultivation of hybrid cotton was Rs 1314 per quintal. The total real cost added was Rs 2085.34 and total real benefit derived by the whole chain was Rs. 4294.46 (205.94 percent). When the process of oil and cake extracted from cotton seed included, it has given the total cost, gross returns and net value added was Rs 2163.34, Rs.7232.60 and Rs.4419.26 respectively The cotton grower, ginning mill, textile and oil extraction mill have received the profit margin of 41.55, 43.35, 112.33 and 17.34 percent respectively over the chain. The share of marginal profit in value chain was highest of the textile mill i.e 112.33 percent. As compared to the efforts and time invested by the cotton grower, his marginal profit was very less. If the cotton grower perform all the said operations collectively, the will get the large benefit.

5. References

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