**Assessment of Marketing Cost, Marketing Margin and Value Chain of Oil seed in**

**Salem District of Tamil Nadu**

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**Abstract**

The study was undertaken on value chain analysis of castor in Salem district of Tamil Nadu. The study mainly focuses on the trend’s issues from producer to consumer throwing light on the price margins of different actors involved in the total castor value chain. Thalivasal and Macheri block was selected in Salem district. Three villages from Thalivasal block namely Kamakapalayam, Sitheri and Thiyaganur; Three villages from Macheri block namely Vellar, Pukkampatti and Olaipatti was selected purposively. From each village 15 castor growers. This will constitute 90 castor growers and 30 traders; 30 consumers were selected randomly.

It was found that the total costs incurred on castor cultivation was around Rs. 34,910/- per hectare. The net income was Rs. 65,090/- per hectare. Farmers were able to secure a net benefit cost ratio of 1.86. However, four channels are prevailing in the study area, the predominant one is Producer to Trader to Oil Mill. The margins received by the traders and processor are found to be about Rs. 1,46/- and Rs. 1,471/- per quintal respectively. The value of castor oil and castor cake extracted was found to be Rs. 7,179/- from one quintal of castor seed. Further, the cost of seed/raw material and cost of value addition/qt. of raw castor seed was calculated to Rs. 4,803/- and therefore the sum of value addition/qt. amounted to Rs. 2,376/- Regulated market at Salem not used for the marketing of castor seed in the study area, revitalize existing market yards because it is far away from the production point. There is a need to promote castor oil extracting mills and encourage new market networks like contract farming arrangements have to be improved in the study area.

**Keywords:** castor, value chain, costs and returns, marketing efficiency, b-c ratio

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**Introduction**

India produces 8.5 lakh tonnes of castor seed annually, and accounts to more than 60 per cent of the entire global production. On account of the unlimited industrial applications, castor oil enjoys demand world-wide. The current consumption of Castor Oil and its derivatives in the domestic market is estimated at about 300,000 tonnes. India is also the biggest exporter of castor oil and its derivatives at 87 per cent share of the international trade in this commodity. The oil content of the castor an average of 47 per cent. In the area of recurring drought and irrigation water deficit, castor augurs well for drought prone areas and areas of limited irrigation possibilities. Salem district is a one of major producer of Castor in the state. Almost all the castor beans are goes to oil extraction domestic and international market by huge factories and small-scale industries association like small scale industries alone is involved in oil extraction in Salem and Erode. Price fluctuation and middle mans are major drawback for farmers. Having studied the importance of castor in the district, it would be worthwhile to analyze the value chain of such an important crop of the district. It is in this context; this study on Value Chain Analysis of Castor in Salem district with the following objectives.

1. To assess the cost and return of castor cultivation in Salem district;
2. To study the castor value chain; and
3. To suggest suitable measures to improve the efficiency of castor value chain

**Sampling and Methodology**

Multi-stage random sampling pertains to the selection of the blocks followed by villages. Thalivasal and Macheri block was selected in Salem district. Three villages from Thalivasal block namely Kamakapalayam, Sitheri and Thiyaganur; Three villages from Macheri block namely Vellar, Pukkampatti and Olaipatti was selected purposively. From each village 15 castor growers. This will constitute 90 castor growers and 30 traders; 30 consumers were selected randomly.

**Analytical Tools and Techniques**

Both conventional and functional analyses were employed to analyze the data and to arrive at the valid conclusions.

**Cost Concepts**

The cost concepts were used to estimate the cost of cultivation and to derive the farm efficiency measures. The cost concepts viz., cost A1, A2, cost B and cost C are used in the present study and are derived as below:

**Cost A1:** This cost includes value of hired human labour, owned and hired bullock labour, owned and hired machinery services, seeds, FYM, fertilizers, plant protection chemicals, depreciation on farm machinery, land revenue and interest on working capital.

**Cost A2:** Cost A1+ rent paid for leased in land. In the recent study all farmers are owner

cultivators. Hence cost A1 and cost A2 are one and the same.

**Cost B:**Cost A1/A2 + rental value of owned land + interest on fixed capital

**Cost C:** Cost B + imputed value of family labour. It gives the total cost of cultivation

**Farm Income Measures:**These are the returns over different cost concepts. Different income measures are derived using the cost concepts. These measures include gross income, net income and benefit - cost ratio. The following formulae were used.

Net income = Gross income – Cost C

Benefit - Cost ratio = Net income / Cost C

**Producer’s Share in Consumer’s Rupee:** It is the price received by the producer as a percentage in the consumer’s price. If Pc is a consumer’s price and PF is the producer’s price then the producer’s share in consumer’s rupee [Ps] is expressed as follows.

PF

Ps = -------- X 100

Pc

**Marketing Margin**

This is the difference between the total payments [cost + purchase price] and receipts [sale price] of the middleman [jth agency].

a. Absolute margin of the ith middleman [Ami]

[Ami] = PRi – [PPi + Cmi]

b. Percentage margin of the ith middleman [P mi]

PRi – [PPi + Cmi]

[Pmi] = ------------------------ X 100

PRi

Where, PRi = Total value of receipts per unit table [sale price]

PPi = Purchase value of goods per unit [purchase price]

Cmi = Cost incurred on marketing per unit

The margin thus calculated include the profit of the middleman and the returns which accrue to him for storage, the interest on capital and overhead, and establishment expenditure.

**Total Cost of Marketing**

The total cost incurred on marketing either in cash or in kind by the producer-seller and by the various intermediaries involved in the sale and purchase of commodity till it reaches the ultimate consumer was computed as follows:

C = CF + Cmi + Cm2 + Cm3 + ………...+ Cmn

C = Total cost of marketing of the commodity,

CF = Cost paid by the producer from time the produce leaves the farm till he sells it

Cmi = Cost incurred by the ith middleman in the process of buying and selling the product

**Marketing Efficiency [Acharya Approach]**

According to Acharya, an ideal measure of marketing efficiency, particularly for comparing the efficiency of alternate markets/channels is

MME = FP ÷ [MC + MM]

Where,

MME = Modified measure of marketing efficiency

FP = Price received by the farmer

MC = Marketing costs

MM = Marketing margins

**Price Spread**

It was calculated by taking the difference between the price paid by the consumer and the price received by the producer for an equivalent quantity of farm produce.

**Results and Discussion**

**Costs and Returns of Castor Cultivation**

The profitability of any enterprise can be determined by costs and returns. In the present study the costs are discussed under two heads *viz*., variable costs and fixed costs. A perusal of Table 1, revealed that the total costs incurred on castor cultivation was around Rs. 34,910/- per hectare of which operational costs accounted to Rs. 28,322/- [81%] and fixed costs were Rs. 6,588/- [19%]. The major expenditure share of variable costs includes human and bullock labour occupying more than 80 per cent of the total.

 **Table 1. Cost of Cultivation of Castor**

|  |  |  |  |
| --- | --- | --- | --- |
| **S. No** | **Particulars** | **Costs** | **Percentage** |
| Operational costs | 28322 | 81 |
| 1 | Human labour | 11900 | 34 |
| 2 | Bullock labour | 2700 | 8 |
| 3 | Machine labour | 1250 | 4 |
| 4 | Seed | 1500 | 4 |
| 5 | Farm yard manure | 3000 | 9 |
| 6 | Fertilizers | 2908 | 8 |
| 7 | Pesticides | 3500 | 10 |
| 8 | Interest on working capital | 1564 | 4 |
|  | Fixed costs | 6588 | 19 |
| 1 | Rental value of owned land | 5000 | 14 |
| 2 | Depreciation | 1100 | 3 |
| 3 | Interest on fixed capital | 488 | 2 |
|  | Total cost [Rs] | 34910 | 100 |

Accordingly various income measures viz., gross income, net income and benefit cost ratio were worked out and presented in Table 2.

**Table 2. Farm Income measures of Castor Producers**

|  |  |  |
| --- | --- | --- |
| **S. No** | **Particulars** | **Costs [Rs/ha]** |
| 1 | Gross income | 100000 |
| 2 | Total Cost of cultivation | 34910 |
| 3 | Net income | 65090 |
| 4 | Benefit cost ratio | 1.86 |

Higher the net income, more success is the farm business. The net income among the selected farmers was Rs. 65,090/- per hectare. Farmers were able to secure a net benefit cost ratio of 1.86 i.e., receiving Rs.1.86 additionally for every rupee invested in castor cultivation.

**Castor Value Chain**

In the study area Castor farmers do not receive remunerative price for their produce in spite of the developments in agricultural marketing system in India.

**Marketing Channels**

Before proceeding to analyze the value chain, it would be essential to have an idea on the existing marketing channels in the selected village. It is observed during the survey that cent per cent of the farmers were sell their produce to the trader at Salem which is situated nearly 38 kms away from the study area. Although the majority of the farmers depend on only one channel i.e., farm produce is sold to private organizations, yet the existing marketing channels in the study area are:

|  |  |
| --- | --- |
| Channel 1 | Producer → Trader → Oil Mill |
| Channel 2 | Producer → Commission Agent → Trader → Oil Mill |
| Channel 3 | Producer → Commission Agent → Oil Mill |
| Channel 4 | Producer → Regulated market yard → Oil Mill |

Though four channels are existing in the village, the predominant one is Producer to Trader to Oil Mill. Although the remaining channels are existing but they are almost eligible redundant. Hence for the present study mostly preferred one was considered.

**Price Spread and Producer Share in Consumer’s Rupee**

It inferred from the Table 3, the existing channel i.e., Producer to Oil Processor and to end consumer, the producer’s share in the consumer’s rupee worked out 46 per cent. The margins received by the traders and processor are found to be about Rs. 1,46/- and Rs. 1,471/- per quintal respectively. In this context, if proper marketing arrangements are carried to facilitate the contracts with farmers, the share of farmer in the value addition would necessarily enhance. The sale price of one quintal of main product i.e., Consumer’s purchase price was worked out to be Rs. 7,400/- where as for the byproduct the same was Rs. 7,79/-.

**Economics of Value Addition**

It was noted from the Table 4 that the major value addition for castor in the study area was being the extraction of castor oil after processing for which the by-product obtained was castor cake. If the castor seed of one quintal is crushed, we obtain about 42 lt. of castor oil and 57 kgs. of castor cake approximately. The value of castor oil and castor cake extracted was found to be Rs. 7,179/- from one quintal of castor seed. Further, the cost of seed/raw material and cost of value addition/qt. of raw castor seed was calculated to Rs. 4,803/- and therefore the sum of value addition/qt. amounted to Rs. 2,376/- Since the oil extraction units are of small scale in nature in this district, the cost on value addition realized was quite high and this can be reduced by increasing the capacity of the existing firms thereby reducing the long run average costs, so that large scale economies can be realized.

**Advantages of Private Market Channel**

The advantages of private market channel were also studied and the findings are presented in the Table 5. It could be inferred from the table, that cent per cent of the beneficiaries reported that traders were provide credit facility whenever necessary. About 97 per cent of the beneficiaries stated that nearness to the village, hence transportation costs are less followed by confidence on the traders and less quantity of produce because of small size land holdings [64 per cent, 57 per cent] respectively.

**Reasons for not selling in Government Organization**

The reasons for not selling the produce in the market yard were also ascertained from the castor growers and presented in the Table 6. Cent per cent of the farmers were opined that regulated market yard is far away nearly 30 kms leading to high transportation costs followed by lack of accommodation facilities to stay if the produce is not sold and incurred higher commission charges [93 per cent, 77 per cent] respectively.

 **Table 3. Price Spread, Margins and Producer’s Share in Consumer’s rupee of Castor Oil**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S. No** |  | **Particulars** | **Oil processor****[Rs/Qt]****Main****Product** | **Percent to****final price****received** |
| 1 |  | Net price received by producer/cultivator | 3367 | 46 |
| 2 |  | Expenses incurred by the producer |  |  |
|  | A | Loading & unloading charges  | 7 | 0.09 |
|  | B | Transportation cost | 5 | 0.07 |
|  | C | Bagging costs | 6 | 0.08 |
|  |  | Sub total | 18 | 0.24 |
| 3 |  | Producers’ sale price/Trader purchase price | 3385 | 46 |
| 4 |  | Marketing costs incurred by trader |  |  |
|  | A | Fixed costs  | 2 | 0.03 |
|  | B | variable costs inclusive of transport costs | 117 | 1.58 |
|  |  | Sub total | 119 | 1.61 |
| 5 |  | Trader’s margin | 146 | 1.97 |
| 6 |  | Trader sale price/processor purchase price | 3650 | 49 |
| 7 |  | Marketing costs incurred - processor |  |  |
|  | A | Cost of extraction | 89 | 1.20 |
|  | B | Fixed costs +Variable costs + storage + transport | 1190 | 16 |
|  |  | Sub-total | 1279 | 17 |
| 8 |  | Processor’s margin | 1471 | 20 |
| 9 |  | Total marketing costs | 1416 | 19 |
| 10 |  | Total marketing margins | 1617 | 22 |
|  |  | Sale Price of Processor | 6400 | 86 |
|  |  | Margin by Other industrial users such as painting industry etc. | 1000 | 14 |
| 11 |  | End user’s/Consumers purchase price | 7400 | 100 |
| 12 |  | Producers share in consumer's rupee | 46 | **-** |

 **Table 4. Value Addition of Castor Seed by processing for Castor Oil**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  **Quantit****y of****castor****seed****used****[Qt]** | **Value****of****casto****r seed****[Rs]****D** | **Castor****oil****produce****d****[Lt]** | **Value of****castor oil****produce****d [Rs]****A** | **Castor****cake****produce****d****[kg]** | **Value of****castor****cake****produce****d****[Rs]****B** | **Total****Value****of****casto****r oil****and****cake****[Rs]****A+B** | **Cost of****value****additio****n Rs/Qt****C** | **Value****additio****n per****quintal****[Rs]****[A+B]-****[C+D]** |
| 1 | 3367 | 42 | 6400 | 57 | 779 | 7179 | 1436 | 2376 |

 **Table 5. Advantages of Private Market Channel**

|  |  |  |  |
| --- | --- | --- | --- |
|  **S. No** | **Particulars** | **Response** | **Percentage** |
| 1 | Traders were providing credit facility whenever necessary | 70 | 100 |
| 2 | Nearness to the village, hence transportation costs are less | 68 | 97 |
| 3 | Confidence on the traders | 45 | 64 |
| 4 | Less quantity of produce because of small size land holdings | 40 | 57 |

 **Table 6. Reasons for not selling in Govt. Organization**

|  |  |  |  |
| --- | --- | --- | --- |
| **S. No** | **Particulars** | **Response** | **Percentage** |
| 1 | Regulated market yard is far away nearly 30 kms leading to high transportation costs | 70 | 100 |
| 2 | Lack of accommodation facilities to stay if the produce is not sold  | 65 | 93 |
| 3 | High Commission charges.  | 54 | 77 |

**Conclusions**

The net income among the selected farmers was Rs. 65,090/- per hectare. Farmers were able to secure a net benefit cost ratio of 1.86 i.e., receiving Rs.1.86 additionally for every rupee invested in castor cultivation. Though four channels are existing in the village, the predominant one is Producer to Trader to Oil Mill.

The producer’s share in consumer’s rupee was Rs. 46/- which is considered to be low and major share was being obtained by the middlemen, wherever farmer has less marketable surplus. For the manufacturing of crude castor oil after meeting the expenses of raw material and other costs value addition worked out to Rs. 2,376/- per quintal. Regulated market at Salem not used for the marketing of castor seed in the study area, revitalize existing market yards because it is far away from the production point.

There is a need to promote castor oil extracting mills in Thalaivasal and Macheri because at present Salem is the only place with oil extraction facility. The high cost of processing per unit of produce i.e., Rs. 4,803/- per quintal was due to non-realization of large-scale economies. This can be mitigated by encouraging buyback arrangements and train youth to handle large quantities of castor seed and process for castor oil. Creating awareness in the farmers about the value addition so that they bargain for a better share in the consumer’s rupee. Identification and encouragement of rural entrepreneurs by training them in other value adding technologies, as castor has multiple uses and different end users, like paint manufacturing, soap industry uses and other products are needed. This will increase the farmer’s due share in value addition process as domestic demand picks up and initiative from the industry becomes possible to have contract farming arrangements. Government’s initiative is needed to create castor oil industrial park in Salem by encouraging the private partnership so as to setup other related industries to castor.

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