VALUE CHAIN ANALYSIS OF CASTOR IN MAHBUBNAGAR DISTRICT OF ANDHRA PRADESH

SHAKUNTALA DEVI I, K SUHASINI

Abstract: The present study was carried out in Mahabubnagar district Andhra Pradesh with broad objective of value chain mapping and value chain analysis of castor by evaluating marketing margins and price spread marketing efficiency and economics of value addition in different marketing channels and problems associated with it. The study concluded that if proper marketing arrangements are carried to facilitate the contracts with farmers, the share of farmer in the value addition would necessarily enhance. Since the oil extraction units are of small scale in nature in this backward district of the state, 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.

Keywords: castor, price spread, value addition, value chain,.

Introduction: India, the largest producer of castor seed and castor oil contributes to 55-60 per cent to the world production. The other major producers of castor seed in the world are Brazil, Thailand and Angola. Indian castor production is always in excess which is fulfills other countries demand and is the biggest exporter of castor oil holding about 70 per cent share of the international trade in this commodity followed by China & Brazil (ncdex.com). In India the major castor producing states are Andhra Pradesh, Gujarat and Rajasthan. (Nielsen India estimates). In Andhra Pradesh the major castor producing areas are Ananthpur, Kurnool, Mahbubnagar, Nalgonda and Rangareddy. Among which Mahbubnagar district has the highest area, production and productivity showing an increasing trend despite the drought conditions farmers in Mahaboobnagar district are growing the crops under bore wells and lift irrigation. (Archana *et al.* 2013). The rationale in analyzing this value chain study is to develop conceptual value chain model for Castor in the study area from farmer to the ultimate consumer through various processes of value addition. Different marketing channels and value chain activities will be identified which provides useful and meaningful insights of producers and other intermediaries in marketing. This study also examines the value chain logistics to sustain and improve the existing value chain in order to help the farmer to obtain better remuneration in the selected area.

Methodology: Mahbubnagar district Andhra Pradesh was purposively selected as castor is the major crop grown in the area and the area under this crop is also increasing. This district is drought prone area and is the ever persistent problem for the district which pushes it to the backward. This district is the major castor producer of the state. Utkoor mandal falling under the purview of Gunta cheruvu tank which irrigates the crops of the surrounding villages like Avasalanipalli, Bijwar, Peddajatram, Magdampur villages of this mandal were selected at random. A sample of 60 castor farmers, 10 traders/commsion agents from the market yard and the processing units of castor present in and around Mahbubnagar district were selected and data was collected using schedules, through survey method. Producer's share in consumer's rupee, Marketing margin of a Middleman, Total cost of marketing and Marketing efficiency using Acharya s approach were calculated

Results and Discussion

The value chain mapping and analysis: The value chain map is a diagrammatic representation of different value chain actors operating in the castor crop and flow of the produce in the chain which is represented in Fig.1. Mapping agricultural value chains is the important concept and used in many scientific studies. The key stages of pre harvest are represented in left side of the value chain and post harvest developments are placed on the right side of the map. The movement of the produce in the map is represented by using arrow marks. A typical value chain, includes primary activities and supporting activities including value addition basically started with industrial application (Porter, 1985). The primary activities comprise of inbound logistics, operations, outbound logistics, marketing and sales service and support activities such as infrastructure, human resource development and technology development.

Accordingly mapping of the value chain is viewed in three different levels.

Primary level/Supporting Activities: This deals the preliminary producer (farmer) making preparatory arrangements with local labour support, procuring castor seed, fertilizers, pesticides from private seed and fertilizer dealers Weeding and other operations are carried out by hired human labour while credit is being arranged by the traders.

Secondary level: Secondary level players are

representing stakeholders like market intermediaries such as commission agents and traders making the logistic arrangements of marketing like pooling, holding the produce, drying, sorting, storing while waiting for getting the orders from the processors, and making arrangements for transportation to reach level of further value addition. The cleaned and dried castor is bagged, weighed and transported to the different oil processors in Hyderabad, Jadcherla, Devarakadira, Gujarat, Mumbai and Maharashtra

Tertiary level: At the tertiary level, castor oil producing units, solvent extractor units, asian paint industries and exporters find a place in the value chain at this stage. The castor oil processing units assume functions like buying substantial good quantities of castor not only from Mahabubnagar but also from other places like Kurnool and Adoni. In Value chain analysis of castor, the marketing costs and margins incurred by the cultivator, trader and processor were worked out for the main product (castor oil) and by-product i.e., Castor cake. Nadvi (2008) used Value Chain Analysis to study market and corporate governance from firm to its shareholders, workers and to society.

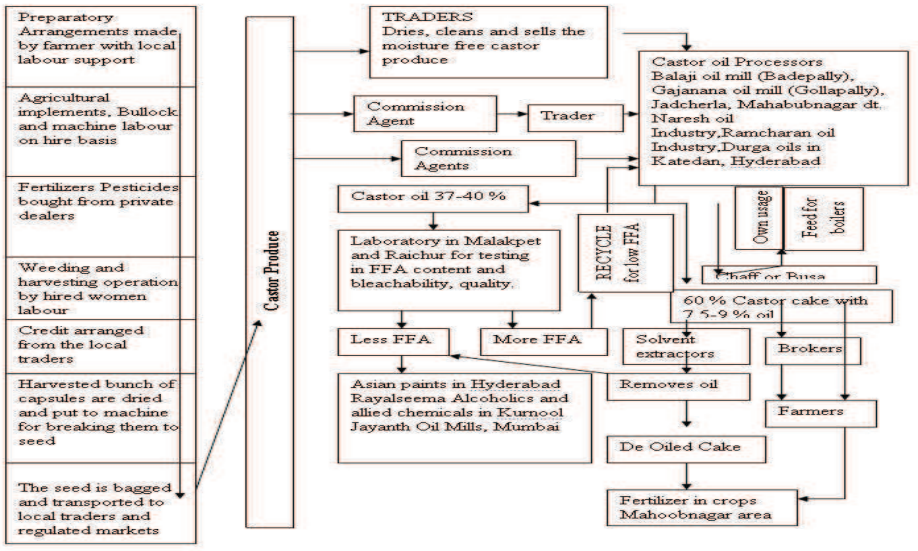

Figure 1: Conceptual diagram of value chain of castor

Price Spread and Share of Producer in Consumer's rupee: The results pertaining to price spread marketing margins and producer's share in consumer's rupee are presented in Table 1.

In the existing channel i.e., Producer to Oil Processor and to end consumer, the producer's share in the consumer's rupee worked out Rs. 45.74. The margins received by the traders and processor are found to be about Rs. 145.7 and Rs.1470.83 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 Rs7400 where as for the byproduct the same was Rs. 778.57.

Indices of marketing efficiency in the selected castor channel: The marketing efficiency was computed using Acharya's method and the results are presented in the Table 2. It is observed the table that the index of marketing efficiency was 1.12. Their inefficiency was due to higher marketing costs and margins involved in the marketing of Castor in the study region.

Economics of Value Addition from castor to castor oil: The castor seed of one quintal when crushed, gives about 42 lt. of castor oil and 57 kg of castor cake approximately. The value of castor oil and castor cake extracted was found to be Rs.7178.

Table 1: Price spread, margins and Producer's share in consumer's rupee					
S. No		**Particulars**	**Castor oil processor (Rs/Qt)**	**Percent to final price received**	**By product Costs Castor cake**
1		**Net price received by producer**	3367	45.50	-
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	45.74	-
4		**Marketing costs incurred by trader**			-
	A	Fixed costs	2.3	0.03	-
	B	variable costs inclusive of transport costs	117	1.58	-
		Sub total	119.3	1.61	-
5		**Traders margin**	145.7	1.97	-
6		**Trader sale price/ processor purchase price**	3650	49.32	-
7		**Marketing costs incurred – processor**			-
	A	Cost of extraction	89.17	1.21	-
	B	Fixed costs +Variable costs + storage + transport	1190	16.08	-
		Sub-total	1279.17	17.29	-
8		**Processors margin**	1470.83	19.88	-
9		**Total marketing costs**	1416.47	19.14	-
10		**Total marketing margins**	1616.53	21.85	-
		Sale Price of Processor	6400.00	86.49	-
		Margin by Other industrial users such as painting industry etc	1000.0	13.51	-
11		**Consumers purchase price**	7400	100.00	778.57
12		**Producers share in consumer's rupee**	45.74	-	-

Table 2: Indices of marketing efficiency in the selected castor channels		
S. No	**Particulars**	**Oil processor Rs./ Qt**
1	**Price received by the farmer (FP)**	3385
2	**Marketing costs +margins (MC+MM)**	3033
3	**Index of Marketing efficiency (MME)**	1.12

Further, the cost of seed and cost of value addition/qt. of castor seed was Rs.4803 and therefore the sum of value addition/qt. amounted to Rs.2375 as presented in Table 3. The cost on value addition can be reduced by increasing the capacity of the existing firms.

Conclusion: There is a need to promote castor oil extracting mills in Mahbubnagar because at present Jadcherla is the only place with oil extraction facility. The high cost of processing can be mitigated by encouraging buyback arrangements and train youth

to handle large quantities of castor seed and process for castor oil.

Table 3: Value Addition for quintal of castor seed by processing for castor oil

Quantity of castor seed used (Qt)	Value of castor seed (Rs) D	Castor oil produced (Lt)	Value of castor oil produced (Rs) A	Castor cake produced (kg)	Value of castor cake produced (Rs) B	Total Value of castor oil and cake Rs A+B	Cost of value addition Rs/Qt C	Value addition per quintal (Rs) (A+B)-(C+D)
1	3367	42	6400	57	778	7178	1436	2375

Identification and encouragement of rural farmers/ entrepreneurs and training them in the value added technologies. Making contract farming arrangements with the industries can increase the farmer's due share in value addition process

References:

1. S. S. Acharya, and N. L. Agarwal, Agricultural Marketing in India, 4th edition, Oxford & IBH publishing Co. Pvt. Ltd., New Delhi, 2004.
2. P. Archana, M. Jagan Mohan Reddy, I. Sreenivasa Rao and G.D.S. Kumar, International Journal of Scientific Research. 2(3), 2013. ISSN No 2277 – 8179
3. K. Nadvi, Global standards, global governance and the organization of global value chains. Journal of Economic Geography, pp. 323-343, 2008.
4. E. Porter, Michael, "Competitive Advantage".The Free Press. New York. pp. 11-15, 1985.

***

Ph.D Scholar, (shak.agecon@gmail.com),
Professor,(hasinik2003@yahoo.co.in)
Dept. of Agricultural Economics
College of Agriculture, ANGRAU. Hyderabad