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Study on marketing and constraint of soybean in Wardha District, Maharashtra

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Abstract
The purpose of the study was to identify marketing channels, price spreads, marketing margins, and marketing efficiency of soybeans in Wardha district, Maharashtra, India. The primary data were collected only for soybeans by the survey method. The study focused on 80 soybean farmers. It was conducted in Wardha district, Maharashtra, which has the highest area under cultivation and production. The selection of channel actors was made using a two-stage stratified random sampling technique. Three major marketing channels identified in the study were

(1) Producer, Wholesaler, Processor, Retailer, and Consumer
(2) Producer, village trader, wholesaler, retailer, and consumer
(3) Producer, village trader, wholesaler, and processor

The farmers had to incur high expenses for packing material and transportation, whereas for other intermediaries in all the channels, weight loss and spoilage, followed by transportation, were the major marketing costs. The price spread was low in channel II as the produce was sold to the retailer directly by the farmer. The channel I used had the highest marketing efficiency. Comparing channels I, II, and III, it was revealed that the relatively lower marketing efficiency of channel II was due to one additional intermediary (a commission agent). The paper provides information for selecting the right marketing channel for soybean marketing. The paper also provides empirical information that serves as a source for adopting market options for increased benefits to various chain actors. Major constraint during marketing of soybean was fluctuation in market prices, lack of storage facility, high commission charges etc.

Keywords: Marketing cost, marketing efficiency, price spread, constraint

Introduction
Soybean is known as the "golden bean" of the 21st century. Soybean is grown in India for dual purposes as an oilseed as well as a legume crop. It is an important natural source of protein with a number of essential amino acids for good health. Agricultural marketing plays a crucial role not only in stimulating production and computation but also in accelerating economic development. The agricultural marketing system plays an important role in economic development in countries where resources are primarily agricultural. In India, the marketing of soybeans is in its early stages. The development of marketing is as important as that of increasing production. Farmers always desire to get a fair price for their farm products. There are three entities involved in the marketing system. They are the producers, the middlemen, and the consumers. The producer, after making a lot of investments and putting in hard labour, would look forward to getting the largest possible returns for this produce. Therefore, aim at balancing the second conflict of interest in such a way that each entity gets a fair deal. The objectives of the present study were to estimate the marketing cost and price spread under various marketing channels and to analyse marketing efficiency and the farmer's share in the consumer's rupee in various marketing channels.

Research Methodology
Sampling design
Multi stage sampling design was adopted for the selection of district as the first stage unit, block as the second stage unit, villages as the third stage units and farm holding as the final and ultimate stage units.

Selection of the districts
The state comprises 35 districts, among these districts, Wardha district was selected purposively for the study of soybean for present study.

Selection of blocks
There are 8 blocks in Wardha District. Out of them Hinganghat block was selected purposively for this study.

Selection of Villages
A complete list of all village was obtained from the related Gram Panchyat, of which 5% villages were selected randomly. In order to select the villages from these districts Wardha was selected randomly having soybean for the study. Taluka development officer was contacted and lists of soybean growing villages were prepared. From the prepared Information about the selected Districts, Talukas, Villages and respondents. The village Ajansara, Bopapur, Chincholi, Daroda, Pipari, Sawangi, Umari, Pohana, Nandgaon, and Wela.

Selection of Respondents/ Farmers
A separate list of farmers growing soybean of selected villages were obtained from Gram Pradhan. There after these farmers were categorized into different size farm groups. Out of that, 10% of respondents were selected randomly on the basis of soybean cultivation for the study. Based on size of holding farmers were classified into three groups i.e.

Sr. No.	Category	Size - Class
1	Marginal	Below 1.00 hectare
2	Small	1.00-2.00 hectare
3	Semi medium	2.00-4.00 hectare
4	Small Medium	4.00-10.00 hectare
5	Large	10.00 hectare & above

(https://www.pib.gov.in)
From this list 80 respondents were selected randomly through proportionate allocation to the population.

Analytical Tools
Marketing Cost

$$C = Cf + Cm1 + Cm2 + Cm3 + Cmn$$

Where,
C= Total cost of marketing of commodity
Cf = Cost borne by the producer (farmer) in marketing of soybean
Cmn= Cost incurred by the nth middlemen in the process of marketing.

Marketing Efficiency
Marketing Efficiency = (V/ I) – 1
V=Total marketing cost
I=Consumer's price

Price-Spread

$$Ps = \frac{Pf}{Pc} 100$$

Where;
Ps=Producer's share in consumer's rupee
Pf = Price of the produce received by the farmer
Pc=Price of the produce paid by the consumer

Garret's ranking technique

formula: $\text{Percentage} = \frac{100 (Rij - 0.5)}{Nj}$

Where, Rjj is the rank given to 'i'th item by the 'j'$_{th}$ individua,
Nj is the number of items ranked by the 'j'$_{th}$ individu

Results and Discussion Marketing channel
The difference between the price paid by the ultimate consumer and the price received by the farmer for an equivalent quantity of produce is known as price spread. It includes cost of performing various marketing function and margins of different agencies associated in the marketing process of the commodity. The extent of price spread helpspolicymakersindevisingsuitablepoliciesforincreasingmarketing efficiency either by way of reducing the marketing costs or eliminating unwanted middlemen from the marketing process of by both. The marketing costs, margins and price spread in marketing of soybean through major channel have been presented based on the data collected from farmers and market functionaries. The channels identified in the study area were:
Channel I: Producer – Wholesaler – Processor – Retailer – Consumer
Channel II: Producer–Village Trader–Wholesaler–Retailer–Consumer
Channel III: Producer–Village Trader-Wholesaler–Processor

Marketing cost, Marketing margin and Price spread in Wardha district
The channels of marketing of Agricultural produce from producer to consumer vary from commodity to commodity and area to area. The average price spread was worked out on per quintal basis. Marketing cost, marketing margin and price spread were calculated for two channels separately and are presented in Table 1 and 2.

Table 1: Marketing cost and margins in channel-I in Wardha district

Sr. No.	Particulars	Rs. Per quintal	Percent of consumer's purchase price
1.	Producer net price	3166.00	91.70
2.	Cost incurred by producer		
I	Packing cost	11	0.32
II	Transport cost	55	1.59
III	Market charges	10	0.29
IV	Labour charges	8	0.23
V	Miscellaneous costs	2.75	0.08
	Total cost	86.75	
3.	Producer's selling price to wholesaler	3252.75	
4.	Cost incurred by wholesaler		
I	Labour cost	2	0.06

II	Weighing charges	1.5	0.04
III	Market charges	10	0.29
IV	Miscellaneous costs	3	0.09
V	Commission cost	35	1.01
	Total cost	51.50	
5.	Wholesaler's net margin	148.50	4.30
6.	Wholesaler's selling price to consumer	3452.75	100.00

The table 1 revealed that highest marketing cost incurred wasRs.86.75 by producers followed by Rs.51.50 for wholesaler thus the total marketing cost of soybean was Rs 138.25 in Wardha. The percent share of total marketing cost was 2.51 and 1.49 percent for producer and wholesaler respectively. The profit earned by wholesaler was Rs.148.50 from marketing of one quintal soybean. In Wardha market, producer average received Rs.3166 per quintal price for soybean. The producers share in consumer's rupee of first channel in Wardha district was 91.70percent, while marketing cost per quintal was 4.00 per cent.

Channel II: Producer–Village Trader–Wholesaler–Retailer–Consumer

Marketing cost and net margin of wholesaler are presented in table 2. The average cost incurred by the producer was Rs. 91per quintal. Among that transportation cost was the highest cost which shared 1.58 per cent per quintal. The cost incurred by village trader on per quintal of soybean wasRs.101.50 in which storage charges were maximum (1.32%) followed by commission charges, market charges, miscellaneous costs, labour costs and weighing charges. The village trader net margin was Rs.104.41per quintal of soybean. The cost incurred by wholesaler on per quintal of soybean was Rs.16.50 in which, market charges was the (0.26%), followed by miscellaneous costs, labour costs and weighing charges. The wholesaler net margin was Rs.113.50 per quintal of soybean.

The cost incurred by retailer on per quintal of soybean was Rs.66 in which, transport cost was 1.32 per cent followed by market charges, miscellaneous costs and labour costs. There retailer net margin was Rs. 154 per quintal of soybean. The producers share in consumer's rupee of second channel in Wardha district was 82.98 per cent while marketing cost per quintal was7.24per cent.

Table 2: Marketing cost and margins in Channel–II in Wardha district

Sr. No.	Particulars	Rs. Per quintal	Percent of consumer's purchase price
1.	Producer net price	3153.09	82.98
2.	**Cost incurred by producer**		
I	Packing cost	8	0.21
II	Transport cost	60	1.58
III	Market charges	10	0.26
IV	Labour charges	10	0.26
V	Miscellaneous costs	3	0.08
	Total cost	91	
3.	Producer's selling price to village trader	3244.09	
4.	**Cost incurred through village trader**		
I	Labour cost	2	0.05
II	Weighing cost	1.5	0.04
III	Market charges	10	0.26
IV	Storage charges	50	1.32
V	Commission charge	35	0.92
VI	Miscellaneous costs	3	0.08
	Total cost	101.5	
5.	Village trader net margin	104.41	2.75
6.	Village trader selling price to wholesaler	3450	
7.	**Cost incurred by wholesaler**		
I	Labour cost	2	0.05
II	Weighing charges	1.5	0.04
III	Market charges	10	0.26
IV	Miscellaneous costs	3	0.08
	Total cost	16.5	
8.	Wholesaler's net margin	113.5	2.99
9.	Wholesaler's selling price to retailer	3580	
	Cost incurred by retailer		
I	Labour cost	2	0.05
II	Market charges	10	0.26
III	Transport cost	50	1.32
IV	Miscellaneous costs	4	0.11
10.	Total costs	66	
11.	Retailer's net margins	154	4.05
12.	Consumer's paid price to retailers	3800	100

Table 3: Marketing cost and margins in channel-III in Wardha district

Sr.No.	Particulars	Rs. Per quintal	Percent of consumer's purchase price
1	Net price received by producer	3569.46	87.06
2	Marketing cost incurred by producer	23.04	0.56
3	Price paid by village trader	3592.50	87.62
4	Expenses incurred by village trader	71.65	1.74
5	Margin of village trader	55.85	1.36
6	Price paid by wholesaler	3720	90.73
7	Expenses incurred by wholesaler	44.36	1.08
8	Margin of wholesaler	335.64	8.18
9	Price paid by processer	4100	100
10	Total marketing cost	139.05	3.39
11	Total Marketing margin	391.49	9.54
12	Price spread	530.54	12.94

Table 4: Price spread in marketing of soybean in different marketing channels in Wardha market

Sr. No.	Particulars	Channel – I		Channel –II		Channel–III	
		Rs/ Qt.	Per cent share in consumer's rupee	Rs/ Qt.	Per cent share in consumer's rupee	Rs/Qt.	Per cent share in consumer's rupee
1.	Producer's net price	3166.00	91.70	3153.09	81.41	3569.46	87.06
2.	Cost incurred by						
A	Producer	86.75	2.51	91.00	2.39	23.04	0.56
B	Village trader	-	-	101.50	2.67	3592.50	87.62
C	Wholesaler	51.50	1.49	16.50	0.43	3720	90.73
D	Retailer	-	-	66.00	1.74		
	Total cost	138.25	4.00	275.00	7.24	139.05	3.39
3.	Margin earned by						
A	Village trader	-	-	104.41	4.31	55.85	1.36
B	Wholesaler	148.50	4.30	113.50	2.99	335.64	8.18
C	Retailer	-	-	154.00	4.05		
	Total margin	148.50	4.30	371.91	11.35	391.49	9.54
4.	Consumer's price	3452.75*	100	3800	100	3569.46	100

*Value is processor buying price

The table 4 indicates that the total marketing cost was highest in channel II (₹ 275) and in channel I it was ₹138.25 which was 7.24 and 4 per cent of consumer rupees. The highest marketing cost was born by village trader (2.67%) in channel II, whereas 2.51 percent by producer in channel-I. The producer share in consumer rupee was 91.70 and 81.41 percent in channel I and II respectively. The share of net margin earned by other intermediaries as wholesaler 4.30 and 2.99 percent in channels I and II respectively. Village trader 4.31and retailer 4.05 in channel II. In channels I there are less intermediaries involved because the wholesaler are sale the directly to the processor.

Thus channel first considered as efficient channel compared to first channel.

Marketing Efficiency

The Consumer's Price was calculated for the above mentioned Two Marketing Channel sand was found out to be 66.04 for Channel1 and 36.43 for Channel2 and for channel III is 28.48.

Marketing Efficiency	Channel1	Channel2	Channel3
	66.04	36.43	28.48

Table 5: Constraints in marketing of the soybean crop in the study area

Sr. No.	Problem/Constraints	Garrett score %	Rank
1	High cost of Transportation	54.17	IV
2	Fluctuation in market prices	96.53	I
3	Absence of regulated markets	45.83	VI
4	Distant market	51.39	V
5	Lack of grading and packaging	45.14	VII
6	Lack of storage facilities in producing area	28.47	IX
7	Timely payment for sale	39.58	VIII
8	High commission charges	90.28	II
9	Payment are not made quickly	77.08	III

The Table 5 reveals that on an overall basis, major constraints in soybean marketing were fluctuations in market prices (96.53%), high commission charges (90.28%), payment are not made quickly (77.08%), high cost of transportation (54.17%), distant market (51.39%), absence of regulated markets (45.83%), lack of grading and packaging (45.14%), timely payment for sale (39.58%), and lack of storage facilities in producing area (28.47%).

Summary

The Three different channels of marketing of soybean were identified in the study area.

Channel I: Producer–Wholesaler–Processor–Retailer–Consumer

Channel II: Producer–Village Trader–Wholesaler–Retailer–Consumer

Channel III: Producer–Village Trader-Wholesaler–Processor

There were three channels found in each market. The channel I was more efficient than the II because producer share in consumer rupee was more (91.70%) in channel I, than channel II (81.41%) in Wardha market for channel III is (28%). The present investigation was intended to depict the picture of the soybean-growing enterprise in Wardha district. The enterprise has assumed a prideful place in the economy of the tract as it is an important oilseed crop.

Conclusion

(1) The marketing practices followed by the farmers were the assembly of produce, processing, grading, packaging, transportation, storage, selling, etc. The cultivators did not carry out the practices like grading and processing effectively; processing was carried out only for home purposes, and the grades were given on the basis of variety and foreign materials like soils and dried leaves in the produce.

(2) Per quintal cost of marketing, the total marketing cost, items such as commission, transport, packaging material, and other costs were observed to be the most important items of the cost. These costs can be minimized through certain measures, like efficient transport facilities and cheap packaging material. It also further indicated minimizing the commission to be paid by the producers.

(3) It is seen that with an increase in farm size, the quantity of marketable as well as marketed surplus increased. It is concluded that the cash requirements of farmers were comparatively higher. It can also be found that soybeans are not consumed directly, so the marketed surplus is higher. It can be used for negligible indirect consumption.

(4) Prices and high commission charges are problems at the marketing level. High cost of pesticide and high cost of seed material constraints at the economic level of soybean cultivation and technical level constraints are a lack of knowledge about identifying diseases and pests and a lack of technical knowledge about soybean cultivation.

(5) The major constraints faced by the soybean growers in marketing of soybean were fluctuation in market prices, lack of storage facilities faced by farmers and high commission charges problems at marketing level.

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