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A Study on Marketing Pattern of Onion in Nashik District of Maharashtra, India

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ABSTRACT

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The present investigation was carried out to study the various marketing aspects of onion such as pattern of disposal, market practices and intermediaries involved in channels of marketing, and per unit cost of marketing for different size groups in Nashik district of Maharashtra. For the study of market, Lasalgaon APMC was selected. A sample of 131 farmers was interviewed of which 93 were small, 26 were medium and 12 were large. The marketed surplus was highest for large farmers (76.65 per cent) followed by medium size farms (74.68 per cent) and small size farm groups (67.39 per cent). The producer's share in consumer's rupee and marketing efficiency were high in Channel-I (selling in the domestic market) i.e. 65.93 per cent and 1.94 respectively compare to channel II (51.05 per cent and 1.04). The reason of higher producer's share and marketing efficiency were due to that the onion growers sold their produce in the market through fair dealing and with low marketing cost in this channel.

Introduction

Onion (*Allium cepa*) has an extensive culinary, dietary, therapeutic, trading, income and employment generation value. Onion is commodity of mass consumption and is grown almost all over the country mainly by small and marginal farmers as this is labour intensive crop. India ranks second after China having 1305.64 thousand ha. area and

22427.43 thousand metric tones production (Source: NHRDF, 2016-17). The three main seasons of *kharif* (monsoon), late *kharif* and *rabi* (winter) contribute 15%, 20% and 65%, respectively to the total onion production (Source: NHB, 2016-17).

Maharashtra ranks first state in onion production with share of 30.03 per cent therefore it is called as 'onion basket of India'

(Source: www.apeda.com). In Maharashtra, area, production and productivity of onion in year 2016-17 was 481.05 thousand ha, 6734.74 thousand metric tones and 14 ton/ha. Respectively (Source: NHRDF). The district of Nashik in Maharashtra accounts for the largest share in the production of onions in India. Nashik onion is not only consumed in the farthest corners of India, it is also exported to many countries. Onion is a major item of agricultural exports, earning valuable foreign exchange to the country. Onion poses more problems as compared to other agricultural commodities due to seasonality and high demand. It adversely affects the economy of the farmers that there is need to call from Government and policy makers to pay attention on effective planning. Presently development of marketing infrastructure and price support of onion are main concern of government to solve the problems of onion growers. However, more intensified efforts are needed to identify the specific problems related to onion marketing.

The present investigation was undertaken with the objectives to estimate the marketable surplus and marketed surplus in the study area in various size groups of farmers and to calculate the price spread and marketing efficiency of onion in Nashik district of Maharashtra.

Materials and Methods

The study was conducted in Nashik district of Maharashtra State during the year 2016-17. Nashik district was selected purposively as having remarkable onion production in Maharashtra. Out of 15 blocks of Nashik district, Niphad and Yeola blocks were selected for the study because leading onion producing blocks and higher access to markets. In selected blocks, seven villages were selected from Niphad based on highest area under onion crop; similarly six villages

from Yeola were selected. From each village, ten per cent farmers were selected randomly. Hence, the study covered 13 villages from 2 blocks of Nashik district to form a sample of 131 respondents. A pre-tested structured interview schedule was used to collect the data from the respondents by personal interview method. In total 131 farmers were interviewed in the study of which 93 were marginal, 26 were small and 12 were large. For the study of market, Lasalgaon APMC was selected which is Asia's biggest onion market. The data pertaining to onion prices were obtained from onion retail stores in Niphad and Yeola blocks. 2 per cent functionaries were selected for collection of data regarding marketing and price spread of onion in different channels of marketing. Altogether total in numbers market functionaries were viz. 19, 5 wholesalers, 5 exporters and 9 retailers were chosen for the study.

Two marketing channels were observed in the study area as follows:

Channel-I = Producer → Commission agent/Wholesaler → Retailer → Consumer

Channel-II = Producer → Commission agent/Wholesaler → Exporter → International Buyer

Analytical tools

Marketable surplus

In this study the term marketable surplus was used to denote the quantity which was a real of the surplus under varying conditions after the consumption and other requirements of the farmer were met? It was computed by the formula:

$$\text{Marketable surplus (MS)} = P - C$$

Where P= Gross production, C= Total requirement

Marketed surplus

In this study the term marketed surplus was used to denote the actual quantum of sales by the production irrespective of requirements.

Relation between marketed surplus and marketable surplus: Marketed surplus may be less than, equal to or greater than marketable surplus. Mostly in case of small and medium farmers marketed surplus is higher than marketable surplus.

Marketing channel

The chain of intermediaries through which the various farm commodities pass between producers and consumers is called a marketing channel. Major marketing channels in the transportation of onion from farmer to the ultimate consumer were identified. The volumes of transaction through each channel were estimated to calculate the effectiveness of each channel.

Producer's share in consumer's rupee

It is price received by the farmer to the retail price expressed as percentage. If pr is the retail price and Pf is the price received by the farmer then the producer's share in consumer's rupee Ps may be expressed as follows.

$$Ps = (Pf/Pr) \times 100$$

Price spread

Price spread is the difference between the price paid by the consumer and the price received by the producer. It mainly consists of marketing cost and marketing margin. The price spread analysis was carried out as follows:

Producer's share in consumer's rupee = $\frac{\text{Producer's price}}{\text{consumer's price}} \times 100$

Marketing margin of the middlemen

This is the difference between the total payments (cost + purchase price) and receipts (sale price) of the middleman, the ith agency.

Percentage margin of the ith middlemen (pmi) = $\frac{pri - (ppi + cmi)}{pri} \times 100$

Where Pri= Total value receipts per unit (sale price), ppi= Purchase value of goods per unit, cmi= Cost incurred in marketing per unit

Total cost of marketing

The total cost incurred on the marketing either in cash or in kind by the producer seller and other various intermediaries involved in the sale and the purchase of the commodity till the commodity reach the consumers may be computed as follows:

$C = Cf + Cm1 + Cm2 + \dots + Cmn$
where C= Total cost of the marketing of the commodity, Cf = Total cost paid by the producer from the time of the produce leaves the farm till he sells it, Cmi= Cost incurred by the ith middle man in the process of buying and selling the product

Marketing efficiency

Marketing efficiency is the ratio of the market output to market input. An increase in this ratio represents improved efficiency and decrease denotes reduced efficiency. It is effectiveness or competence with which a market structure performs its designed function. Marketing efficiency is represented as follows:

ME = $\frac{V}{I} - 1$ (Shepherd's formula) where ME= Index of marketing efficiency, V= Value of goods sold, I= Total marketing cost

Results and Discussion

Disposal pattern of onion in sample farms and marketing channels (Table 1)

Total production of onion in quintals was highest in large size farms (206.97 qts) as compared medium (127.48 qtls) and was lowest in small size farms (43.43qtls). The quantity retained for onion growers was mostly for home consumption, some of the quantity was used as kind payment to labours as wages, some of the quantity used as gift for religious purpose and finally they retain some quantity for next year. The highest per cent of the produce was retained by small size farms (32.60 per cent) followed by medium size farms (25.31 per cent) and large size farms (23.34 per cent) respectively. This also indicated that highest percentage marketable surplus was found by large size farms 76.65 per cent followed by 74.68 per cent in medium size farms and 67.39 per cent in small size of farm groups. This makes the sample average for marketable surplus of 72.91 per cent of the total production. The same result was generated by Baba *et al.*, (2010), Gaurav (2011) and Sashimatsung (2015). It could be seen from the table that actual marketed surplus was highest in large size farms (158.64 qtls) followed by medium and small size of farm groups (95.20 and 29.27/qtls) respectively. The table revealed that disposal pattern of actual marketable surplus of Onion in two different marketing channels i.e. channel I and channel II was most prevalent adopted by the growers in the study area, as the highest percentage of the produce was transacted through channel I i.e. 82.89 per cent of growers and 22.48 per cent through channel II.

Price spread of onion (one quintal) in different channels (Table 2 & 3)

In channel-I (Producer → Commission agent/Wholesaler → Retailer → Consumer)

average marketing cost when producers sold their produce to commission agents/wholesalers in the market was Rs. 75.26/qtl. Sale price of the producer to commission agents/wholesalers was Rs. 646.91/qtl in different farm size groups. This is conformity with the result of Jagtap (2014). Average marketing cost incurred by wholesaler/ commission agent was Rs. 173.16 and margin of wholesaler/ commission agent was Rs. 107.24. However, an expense incurred by the retailer was Rs 161.14, margin of retailer was Rs 102.83 and the consumer's purchasing price was Rs 981.21.

In this channel, marketing cost of the producer, commission agents/wholesalers and retailers was 7.67 per cent, 17.65 per cent and 16.26 per cent of consumers paid price respectively. The commission agent/wholesalers margin was estimated to be 10.93 per cent and the retailer's margin was 10.48 per cent of the consumer paid price. Producer share in consumer price was highest on large size farms (67.06 per cent) as compared to medium and small size of farm groups (65.60 per cent and 65.11 per cent) on respectively. Price spread was highest in small size farms which constituted to Rs. 340.51/qtl of consumer paid price (Table 2). The result showed low producer's share in consumer price. This is due to onion growers did not have any control over the market due to the absence of coordination and integration among themselves. All the expenses in the marketing process are incurred by the producers practically the retailers or buyer charges paid to mandi are also charged from the producer (Barakade *et al.*, 2011).

The channel-II (Producer → Commission agent/Wholesaler → Exporter → International Buyer) was found prevalent in study area due to export variety of onion. Average marketing cost incurred by producers was Rs.124.10/qtl and sale price was Rs.773.33/qtl in different farms size group. Average marketing cost

incurred by wholesaler/ commission agent was Rs. 202.67 and margin of wholesaler/ commission agent was Rs. 82.73. However, an expense incurred by the exporter was Rs 538.48, margin of exporters was Rs 106.35 and the consumer's purchasing price was Rs 1514.48. In this channel, marketing cost of the producer, commission agents/wholesalers and exporter was 8.19 per cent, 13.37 per cent and 35.56 per cent of buyers paid price respectively. The commission agent/wholesalers margin was estimated to be 5.46 per cent and the exporter's margin was 7.03 per cent of the buyer paid price. Producer share in buyer price was highest on large size farms (52.33 per cent) as compared to

medium and small size of farm groups (50.90 per cent and 49.93 per cent) on respectively. Price spread was highest in small size farms which constituted to Rs.747.42/qtl of consumer paid price (Table 3).

Indices of marketing efficiency in different channel (Table 4)

Marketing efficiency is an effective agent of change and an important means for raising the income level of the farmers. As data indicated that the marketing efficiency of onion was found to be the higher i.e. 1.94 per cent in case of channel I compare to channel II (1.04 per cent).

Table.1 Utilization of produce in sample farms of three sizes and in different channels

Sl. No	Particulars	Size of farm groups			Sample Average
		Small	Medium	Large	
1	Total production of onion in quintals Per farm level	43.43 (100)	127.48 (100)	206.97 (100)	125.96 (100)
2	Retained onion (in quintals)				
I	Home consumption	3.77 (8.69)	6.50 (5.1)	8.20 (3.96)	6.16 (5.92)
ii	Kind payment as wages	5.66 (13.04)	10.85 (8.51)	16.04 (7.75)	10.85 (9.77)
iii	Relatives and religious person	3.77 (8.69)	10.85 (8.51)	20.84 (10.07)	11.82 (9.09)
Iv	Retain for next years	0.94 (2.17)	4.07 (3.19)	3.21 (1.55)	2.74 (2.30)
4	Total retention for onion	14.16 (32.60)	32.27 (25.31)	48.30 (23.34)	31.58 (27.08)
5	Marketable surplus	29.27 (67.39)	95.20 (74.68)	158.64 (76.65)	94.37 (72.91)
7	Quantity purchased from other farm	6	12	20	11
8	Marketed surplus	35.27 (100.00)	107.20 (100.00)	178.64 (100.00)	105.37 (100.00)
9	Disposal of actual marketed surplus of onion in different marketing channels				
I	Producer → Commission agent/Wholesaler → Retailer → Consumer	28.98 (82.17)	83.56 (77.95)	140.04 (78.39)	82.89 (78.67)
II	Producer → Commission agent/Wholesaler → Exporter	6.29 (17.83)	23.64 (22.05)	38.60 (21.61)	22.48 (21.33)

Table.2 Price spread of onion in different size of farm groups for channel I

Sl. No	Particulars	Size of farm groups			Sample Average
		Small	Medium	Large	
1	Producer sale price to Commission agent	635.53	643.78	661.43	646.91
2	Cost incurred by the producer				
I	Packing cost	5.22 (0.54)	5.92 (0.60)	6.48 (0.66)	5.88 (0.60)
ii	Packing material cost	7.04 (0.72)	6.45 (0.66)	7.12 (0.72)	6.87 (0.70)
iii	Transportation cost	10.5 (1.07)	10.57 (1.08)	8.28 (0.84)	9.78 (0.99)
Iv	Market cost	7.35 (0.75)	7.08 (0.72)	7.65 (0.77)	7.36 (0.75)
V	Labour cost	13.02 (1.33)	11.84 (1.21)	8.60 (0.87)	11.15 (1.14)
vi	Loading and unloading charges	6.51 (0.67)	7.82 (0.79)	8.60 (0.87)	7.64 (0.78)
vii	Weighing charges	6.20 (0.63)	6.76 (0.69)	7.33 (0.74)	6.76 (0.69)
viii	Miscellaneous charges	18.38 (1.88)	19.02 (1.94)	21.99 (2.23)	19.80 (2.01)
3	Total cost (i-viii)	74.26 (7.61)	75.46 (7.69)	76.05 (7.71)	75.26 (7.67)
4	Net price received by producer	561.27 (57.50)	568.32 (57.91)	585.38 (59.35)	571.66 (58.26)
5	Sale price of producer to Commission agent/ Wholesaler	635.53 (65.11)	643.78 (65.60)	661.43 (67.06)	646.91 (65.93)
6	Cost incurred by the Commission agent/ Wholesaler				
I	Loading and unloading charges	9.45 (0.97)	9.72 (0.99)	10.62 (1.07)	9.93 (1.01)
ii	Grading	11.24 (1.15)	11.52 (1.17)	11.79 (1.19)	11.52 (1.17)
iii	Packing	9.14 (0.94)	9.41 (0.96)	9.77 (0.99)	9.44 (0.96)
Iv	Market fee	12.39 (1.27)	12.68 (1.29)	13.06 (1.32)	12.71 (1.29)
V	Commission of Commission agent/ Wholesaler	9.45 (0.97)	9.72 (0.99)	10.09 (1.02)	9.75 (0.99)
vi	Losses & miscellaneous charges	13.34 (1.37)	13.00 (1.32)	11.37 (1.15)	12.57 (1.28)
vii	Commission agent/ Wholesaler Margin	110.00 (11.27)	111.08 (11.32)	100.64 (10.20)	107.24 (10.93)
7	Total cost (i-vii)	175.01 (17.93)	177.13 (18.05)	167.34 (16.97)	173.16 (17.65)

8	Sale price of /Commission agent wholesalers to Retailers	810.54 (83.04)	820.91 (83.65)	828.77 (84.03)	820.07 (83.57)
9	Cost incurred by the retailers				
I	Weighing charges	10.92 (1.12)	10.57 (1.08)	11.26 (1.14)	10.92 (1.11)
ii	Loading and unloading charges	9.45 (0.97)	10.36 (1.05)	10.62 (1.08)	10.14 (1.03)
iii	Town charges	6.51 (0.67)	7.93 (0.81)	7.97 (0.81)	7.47 (0.76)
Iv	Carriage up to shop	15.12 (1.55)	18.07 (1.84)	18.06 (1.83)	17.08 (1.74)
V	Miscellaneous charges	19.11 (1.96)	9.93 (1.01)	9.03 (0.91)	12.69 (1.29)
vi	Retailers margin	104.37 (10.69)	103.57 (10.55)	100.56 (10.19)	102.83 (10.48)
10	Total cost (i-vi)	165.50 (16.96)	160.43 (16.34)	157.49 (15.96)	161.14 (16.42)
11	Sale price of retailers to consumers	976.04 (100)	981.34 (100)	986.26 (100)	981.21 (100)
12	Price spread	340.51 (34.87)	337.56 (34.40)	324.83 (32.94)	334.30 (34.07)
13	Producer's share in consumer's rupee (%)	65.11	65.60	67.06	65.93

Table.3 Price spread of onion in different size of farm groups for channel II

Sl. No	Particulars	Size of farm groups			Sample Average
		Small	Medium	Large	
1	Producer sale price to commission agent	745.32	773.56	801.12	773.33
2	Cost incurred by the producer				
I	Packing cost	10.98 (0.73)	12.32 (0.81)	13.60 (0.88)	12.30 (0.81)
ii	Packing material cost	15.99 (1.07)	13.63 (0.89)	14.76 (0.96)	14.79 (0.97)
iii	Transportation cost	17.12 (1.14)	16.09 (1.06)	17.25 (1.13)	16.82 (1.11)
Iv	Market cost	15.34 (1.02)	14.78 (0.97)	16.09 (1.05)	15.40 (1.01)
V	Labour cost	18.41 (1.23)	16.75 (1.10)	17.91 (1.17)	17.69 (1.17)
vi	Loading and unloading charges	13.56 (0.91)	17.41 (1.14)	17.91 (1.17)	16.29 (1.07)
vii	Weighing charges	12.92 (0.86)	14.29 (0.94)	15.43 (1.00)	14.21 (0.93)
viii	Miscellaneous charges	17.76 (1.19)	17.24 (1.13)	14.76 (0.96)	16.59 (1.09)

3	Total cost (i-viii)	122.08 (8.18)	122.51 (8.06)	127.72 (8.34)	124.10 (8.19)
4	Net price received by producer	623.24 (41.75)	651.05 (42.84)	673.40 (43.98)	649.23 (42.86)
5	Sale price of producer to Commission agent/ Wholesaler	745.32 (49.93)	773.56 (50.90)	801.12 (52.33)	773.33 (51.05)
6	Cost incurred by the Commission agent/ Wholesaler				
I	Loading and unloading charges	22.76 (1.52)	18.39 (1.21)	16.59 (1.08)	19.25 (1.27)
ii	Grading	19.70 (1.31)	17.90 (1.18)	18.41 (1.20)	18.67 (1.23)
iii	Packing	29.71 (1.99)	26.44 (1.74)	25.21 (1.64)	27.12 (1.79)
Iv	Market fee	19.05 (1.27)	19.71 (1.29)	20.40 (1.33)	19.72 (1.30)
V	Commission of Commission agent/ Wholesaler	14.53 (0.97)	15.11 (0.99)	15.76 (1.02)	15.13 (0.99)
vi	Losses & miscellaneous charges	20.51 (1.37)	20.20 (1.33)	19.41 (1.27)	20.04 (1.32)
vii	Commission agent/ Wholesaler margin	80.88 (5.42)	86.12 (5.66)	81.2 (5.30)	82.73 (5.46)
7	Total cost (i-vii)	207.16 (13.88)	203.87 (13.41)	196.98 (12.87)	202.67 (13.37)
8	Sale price of /Commission agent wholesalers to exporter	952.48 (63.81)	977.43 (64.32)	998.10 (65.19)	976.00 (64.44)
9	Cost incurred by the exporters				
I	Transportation charges	138.88 (9.30)	122.51 (8.06)	127.72 (8.34)	129.70 (8.57)
ii	Freight charges to port of shipment	101.73 (6.81)	105.10 (6.92)	107.82 (7.04)	104.88 (6.92)
iii	Clearing and forwarding charges	50.38 (3.37)	54.36 (3.57)	56.40 (3.68)	53.71 (3.54)
Iv	Dock charges / wharf age/ terminal handling charges etc.	100.12 (6.71)	103.62 (6.81)	105.49 (6.89)	103.08 (6.80)
v	Commission	10.98 (0.73)	11.33 (0.74)	11.78 (0.77)	11.36 (0.75)
vi	Miscellaneous charges	28.42 (1.90)	29.40 (1.93)	30.35 (1.98)	29.39 (1.94)
vii	Exporters margin	109.75 (7.35)	115.96 (7.63)	93.34 (6.07)	106.35 (7.03)
10	Total cost (i-vii)	540.26 (36.19)	542.28 (35.68)	532.90 (34.81)	538.48 (35.56)
11	Sale price of exporters to buyers	1492.74	1519.71	1531.00	1514.48

		(100)	(100)	(100)	(100)
12	Price spread	747.42 (50.07)	746.15 (49.09)	729.88 (47.67)	741.15 (48.94)
13	Producer's share in buyer's rupee (%)	49.93	50.90	52.33	51.05

Table.4 Indices of marketing efficiency in different channels

Si. No.	Particular	Channel	
		I*	II**
1	Marketing Cost		
	Producer	75.26	124.10
	Commission agent/ Wholesaler	173.16	202.67
	Retailer	161.14	-
	Exporters	-	538.48
	Total Marketing Cost	409.56	865.25
2	Marketing Margin		
	Producer	-	-
	Commission agent/ Wholesaler	107.24	82.73
	Retailers	102.83	-
	Exporters	-	106.35
3	Total Marketing Margin	210.07	189.08
4	Total cost + Total Margin	619.63	1054.33
5	Producer's sale price	646.91	773.33
6	Consumer's /Buyer's rupee	981.21	1514.48
7	Price spread	334.30	741.15
8	Producer's share in buyer's rupee (%)	65.93	51.05
9	Marketing Efficiency	1.94	1.04

* Channel-I = Producer → Commission agent/Wholesaler → Retailer → Consumer

** Channel-II = Producer → Commission agent/Wholesaler → Exporter → International Buyer

Thus, the marketing efficiency of onion was found to be better in case of sale in the domestic market through retailer. From the result it is to be noted that the wholesaler's sale price of onion for retailer in domestic market or channel I (Rs. 981.21) and exporter in export market or Channel II (Rs.1514.48) differed significantly and turned out to be higher in export market due to better quality of produce diverted to exporter as against retailer. The same result was generated by Shah (2015).

In conclusion, onion is an important business to many producers and this is an important

crop which helps to increase the economic condition of the farmers. Due to urbanization and globalization, there is rise in demand for onion in both domestic and international market. The study indicated that the marketing efficiency of onion was found to be the higher i.e. 1.94 per cent in case of channel I compare to channel II (1.04 per cent). Thus, the marketing efficiency of onion was found to be better in case of sale in the domestic market through retailer. The result showed low producer's share in consumer price. Market intermediaries are accruing higher margin so the major share of consumers'

rupee is pocketed by the middlemen. Apart from this, due to lack of marketing system farmers are unable to get remunerative price. Sometimes farmers needed cash after threshold the crop and supposed to be forced sale of their produce and get uneconomic minimum market price. Therefore, for profitable transactions a fair and suitable marketing system of onion is needed in the district. Marketing through co-operative and farmer producer organization should be encouraged to increase the producer's share in consumer rupee. Beside this, effort should be also made to boost the export trade of onion by improving quality and quantity terms.

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