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Economics of Marketing of Maize in Etah District (U.P)

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ABSTRACT
Maize has become a staple food in many parts of the world, with total production surpassing that of wheat or rice. Maize ranks as the major grain crop worldwide. Maize, which is the only food cereal crop that can be grown in different seasons requires moderate climate for growth. It grows well in loamy soils but surplus or poor rains adversely affect yields as well as quality. The socio economic structure of cultivated area on the farms of different size groups is an important aspects that highest number of the marginal sample farms, commanding only 31.13 per cent of total cultivated area as against this situation, the farmers of the largest size group (2&above) accounted for only 21.66 per cent of the total number of the holdings but commanded as much as 39.85 per cent of the total cultivated area. In channel I the farmers' share in consumers' rupee was 90.14 per cent and price spread was 9.86 per cent. In channel II the farmer' share in consumers' rupee was Rs 88.47 per cent and price spread was Rs. 11.53 per cent while in channel III the farmers' share in consumers' rupee was 59.17, per cent and price spread among intermediaries was 40.83 per cent. The marketing efficiency in channel I and channel II was 9.15 and 7.67 per cent while it was lower in channel III ranged as 0.20 per cent to 1.44 per cent.
Key words: *Marketed Surplus, price spread, marketing efficiency.*

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INTRODUCTION

Maize occupies prominent position not only in productivity but also as human food, animal feed and as a source of large number of industrial products. Maize occupies a pride place among all over the world. It is commonly called as "queen of coarse cereals". In India maize used 36% of food production, 2% of seeds, 12% livestock's, 40% poultry feed and 10% starch industries etc. maize meals is also used as a replacement for wheat flour to make corn bread and other backed products and it's the main ingredient for tortillas and many other dishes of Mexican food, corn syrup is used as a sweetener instead of sugar in 1000s products including soda, candy cookies and bread, to get an insight into the cost in the production of maize and returns from the same. Maize is high profitable crop comparatively cost. Therefore, many of the farmers are cultivating maize crop. The possible for enhanced use of maize for specially purposes based on existing uses and new products to meet the needs a future generation provides the researchers with unique challenges. Maize considered as queen of the cereal is one of the most important cereal crop in the world, next only to rice and wheat. Cultivation and farmers of this area are cultivating maize crop on large scale. The present investigation was attempted to study the resource use structure, resource use productivities, cost of cultivation, and marketing of maize and constraints in production and marketing of maize. [5]

The maize occupy a pride place among the world. It is commonly called as "queen of coarse cereals". In India maize used 36% for food production, 2% for seeds, 12% for livestock's, 40% for poultry feed and 10% for starch industries etc. maize meals is also used as a replacement for wheat flour to make corn bread and other backed products and it's the main ingredient for tortillas and many other dishes of Mexican food, corn syrup is used as a sweetener instead of sugar in 1000s products including soda, candy cookies and bread. In this study relationship between market performance of maize and the study of the market concentration and the role of mediators was greater relevance to the policy makers to assess the market predominance and remove the bottleneck if any in the system of marketing of maize. Maize is high profitable crop comparatively cost. Therefore, many of the farmers are cultivating maize crop [6].

MATERIAL AND METHODS

Etah district was selected purposively due to highest area and production of maize crop in the district for study purpose. The present investigation is based on an intensive study of sample farmers of maize in District Etah with a view to bring sharp focus on economic of marketing of maize crop. For the study, two Block namely Marehra and Sakit of Etah district was selected purposively taking into consideration the concentration of area under maize in Both Blocks. As the soil and agro climatic conditions prevailing in Marehra and Sakit Blocks are more favorable for growing maize. The list of maize growing villages of the selected Blocks was prepared on the basis of information obtained from the District agricultural office and KVKs. For selection of the sample cultivators, a list of maize growers was prepared from the revenue records of each of the villages. All maize growers from the universe of 6 selected villages (3 villages from each block) was prepared then a total of 120 farmers (20 each maize growers) from each villages selected randomly. The maize growers were categorized in three size groups of farmers viz; 0-1 ha (Marginal) 1-2 ha (Small) and 2 ha and above (large) farmers on the basis of the farmers falling under each villages and different size group of category as per proportion. The primary data on aspects like details of farm family, infrastructure, land utilization, cropping pattern, resource use structure, farm production, cost and returns as well as grading and problems in production of maize were obtained by survey method from the sample cultivators for the year 2016-17 with the help of well designed scheduled prepared for the purpose.

Etah mandi/market was selected for the study of market and market functionaries. At least 20 % of the market functionaries studied for marketing cost, margin and different intermediaries involved in marketing and processing of maize in the district/ study area.

Marketable and Marketed Surplus:

The marketable surplus of the selected maize was worked out by subtracting the requirement for family consumption seed. Labour as labourer and other consumptions from the total production of the crop on the farms.

MS=P-C, Where, M.S. = Marketed surplus, P = Total production and C = Total consumptions

The pattern of disposal of the surplus of the maize in respect to place, time and agency selected by the different sized farmers were also analyzed.

Price Spread:

The producer's share, marketing costs and margins of middleman in marketing of maize were workout by using the formulation as given by Acharya and Agarwal's [1].

Producers share in consumer's rupee

$$P_s = \frac{P_f}{P_c} \times 100$$

Where, P_s= Producer's share in consumer's rupee, Pf = Price of the produce received by the farmers, and P_c = Price of the produce paid by the consumer

Marketing efficiency:

Marketing efficiency is essentially the degree of market performance. The key methods of estimating marketing efficiency were as under

Acharya's methods :

$$Marketing\ efficiency\ (MME) = \frac{\text{Net Price received by farmers}}{Total\ marketing\ charges + total\ margins\ of\ intermediaries}$$

Or

$$MME = [RP/ (MC+MM)] \quad RP=FP=MC=MM$$

Where, MME = Modified measure of marketing efficiency, RP = Prices paid by the consumers MC =Total marketing costs, MM= Net marketing margins, and FP= Prices received by the farmers.

The higher the ratio more was the marketing efficiency and vice-versa.

RESULTS AND DISCUSSION

The marketable surplus of maize crop and their percentage to the total production on the farms of lower size group as compared to the farms of large size group was due to proportionately more consumption of these crops with almost same size of family and proportionately low production of these crops with almost same size of family and proportionately low production of these crops on small farms as compared to large farms. It was also observed that the quantum of marketable surplus and its percentage to total production in maize crop increased with the size of holdings showing positive correlation.

Table-1 Marketable surplus of maize crop:

S no.	Particular	Size group (ha)			
		0-1	1-2	2 and above	Average
1	Total quantity product (qt)	33.58 (100)	34.64 (100)	35.18 (100)	34.46 (100)
(i)	Quantity retained for seed (qt)	0.50 (1.48)	0.65 (1.87)	0.75 (2.13)	0.63 (1.82)
(ii)	Quantity consumed by family (qt)	0.95 (2.82)	1.25 (3.60)	1.55 (4.40)	1.25 (3.62)
(iii)	Others (qt)	0.55 (1.63)	0.60 (1.73)	0.65 (1.84)	0.61 (1.77)
2	Total quantity utilized (1-2)	3.03 (9.02)	3.35 (9.67)	2.95 (8.38)	3.11 (9.02)
	Marketable surplus	30.02 (89.39)	31.29 (90.32)	32.23 (91.61)	31.18 (90.48)

The price spread analysis for marketing channel I is furnished in Table -2

Table-2 Price spread of Maize in marketing channel I

S. No.	Particulars	Amount (in Rs)	Per cent
(I)	**Producer**		
A	Net price received	1400	92.85
B	Packing	20	1.28
C	Loading/unloading	10	0.64
D	Transport cost	12	0.77
E	Marketing cost	42	2.70
F	Gross price received	1442	90.14
II	**Retailer**		
A	Purchase price	1442	92.85
B	Transport cost	5	0.32
C	Loading/unloading	6	0.38
D	Marketing cost	11	0.70
E	Marketing margin	100	6.43
F	Sale price	1553	100
III	**Price paid by the consumers**	1553	100
	Price spread	153	9.85
	Producers share in consumers rupee		90.14

Table-2 reveals that farmer has received net price of Rs. 1400 per quintal which constituted 90.14 per cent to consumer price in channel I. The marketing cost incurred by producer was Rs 42 per quintal which constituted 2.70 per cent consumers' price. The marketing cost of Retailer was Rs 11 per quintal constituted 0.70 per cent to consumers' price. His marketing margin was Rs 100 which constituted 6.43 per cent to consumers' price.

Thus the farmers' share in consumers' rupee was 90.14 per cent and price spread was 9.86 per cent.

The price spread analysis for marketing channel II is furnished in Table -3

Table -3 Price spread of Maize in Marketing channel II.

S. No.	Particulars	Amount (in Rs)	Percent
(1)	**Producer**		
a.	Gross price received	1420	88.47
b.	Packing	20	1.24
c.	Loading/ unloading	10	0.62
d.	Transport cost	30	1.86
	Marketing cost	60	3.73
	Net price received	1480	92.21
(2)	**Wholesaler**		
a.	Commission charges	20	1.24

	Sub total	20	1.24
(3)	**Retailer**		
A	Purchase price	1500	93.45
B	Transportation	10	0.62
C	Weighing	10	0.62
D	Palledari	5	0.31
	Marketing cost	25	1.55
	Retailer's margin	80	4.98
	Sale price	1605	100
	Price paid by the consumer	1605	100
	Price spread	165	11.53
IV	Producers shares in consumers rupee		88.47

It could be seen from table from Table -3 farmers has received net price of Rs 1480.00 per quintal which constituted 92.21 per cent to consumer's price. The marketing cost incurred by producer was Rs. 60 per quintal which constituted 3.73 per cent to consumers' price. The cost incurred by retailer was Rs 25 per quintal constituted 1.55 per cent to consumers' price and marketing margin was Rs 80 which constituted 4.98 per cent to consumers' price.
Thus the farmer' share in consumers' rupee was 88.47 per cent and price spread was 11.53 per cent in channel II.

The price spread analysis for marketing channel III is furnished in Table -4

Table -4 Price spread of maize in marketing channel III

S. N.	**Particular**	**A**		**B**		**C**	
		Amount (in Rs)	**Per cent**	**Amount (in Rs)**	**Per cent**	**Amount (in Rs)**	**Per cent**
1	Producer						
A	Net price received	1420	59.17	1420	8.00	1420	16.95
B	Packing	20	0.83	20	0.11	20	0.23
C	Loading/unloading	10	0.41	10	0.05	10	11.76
D	Transportation cost	30	1.25	30	0.16	30	0.35
	Marketing cost	60	2.5	60	0.33	60	0.70
	Gross price received	1480	61.66	1480	8.22	1480	17.41
2	Wholesaler						
	Commission charges	20	0.83	20	0.11	20	0.23
3	Miiler/processor	A Processor I		B Processor II		C Processor III	
A	Purchase price of processor	1500	62.50	1500	8.33	1500	17.64
B	Mandi fee	20	0.83	20	0.11	20	0.23
C	Palledari	10	0.41	10	0.05	10	0.11
D	Weighing	10	0.41	10	0.05	10	0.11
E	Transportation	10	0.41	10	0.05	160	1.88
	Subtotal of marketing cost	50	2.08	50	0.27	200	2.35
	Processors price at the point	1550	64.58	1550	8.61	1700	20.00
	Processing cost	409	17.04	630	3.5	2037	23.96
	Margin of processing	441	18.37	9820	54.55	3763	44.27
	Sale price	2400	100	12000	66.66	7500	88.23
4	Retailer						
A	Purchase price	-	-	12000	66.66	7500	88.23
B	Margin	-	-	6000	33.33	1000	11.76
C	Sale price/qtl	-	-	18000	100	8500	100
5	Price paid by consumer/qtl	2400	100	18000	100	8500	100
	Price spread	960	40.83	16560	92.00	7060	83.05
	Producers' share in consumers' rupee		59.17		8.00		16.95

Note: A* Corn flour processor, B* Popcorn processor C* Cornflakes processor

It could be seen from table -4 and this table is divided in three parts (A,B,C) that farmers has received net price of Rs 1420 per quintal which constituted 59.17, 7.88, and 16.70 per cent to consumers price. The marketing cost incurred by producer was Rs 60 per quintal which constituted 2.5, 0.33 and 0.70 per cent to consumers' price.
The cost incurred by processor was Rs. 50, Rs 50 and Rs 200 per quintal which constituted 2.08, 0.27, and 2.35 per cent to consumers' price. The purchase cost incurred by retailer was Rs 12000, and Rs 7500 per

quintal which constituted 66.66, 88.23 per cent to consumers' price and his marketing margin was Rs.6000 and Rs. 1000 which constituted 33.33 and 11.76 per cent to consumers' price.
Thus the farmers' share in consumers' rupee was 59.17, 7.88, and 16.70 per cent and price spread was 40.83, 92.00 and 83.05 per cent, in respective marketing channel of maize products.

Marketing efficiency:

Efficiency of marketing for an agricultural producer in general is assessed by the size of share which producers/farmers obtains in the price paid by the consumers. These results were further sustained by working out market efficiency. The marketing efficiency for maize, corn flour popcorn and corn flakes has been worked out by considering, charges modified formula and the results are presented in Table -5.

Table -5 Marketing efficiency of maize crop

S. N.	Particular	Channel I	Channel II	Channel III		
				A	B	C
1	Consumers price (Rs/qtl)	1553	1605	2400	18000	8500
2	Producers net price (Rs/qtl)	1400	1420	1420	1420	1420
3	Marketing cost (Rs/qtl)	53	85	539	6760	3317
4	Marketing margins (Rs/qtl)	100	100	441	9820	3763
5	Marketing efficiency	9.15	7.67	1.44	0.08	0.20

Table -5 indicates that the total marketing cost and marketing margins of maize, Corn flour, popcorn and corn flakes. Considering this with producers' net price per quintal, the modified marketing efficiency was higher than unity 9.15, 7.67, 1.44, 0.08 and 0.20 for maize, channel I, II corn flour, popcorn and corn flakes respectively.
It was also found higher than unity. On the whole, the index of marketing efficiency was greater than unity for maize and maize products indicates the existence of comparatively efficient marketing system except popcorn & cornflakes marketing.

CONCLUSION

In channel I the farmers' share in consumers' rupee was 90.14 per cent and price spread was 9.85 per cent. In channel II the farmer' share in consumers' rupee was Rs 88.47 and price spread was Rs. 11.53 per cent and in channel III the farmers' share in consumers' rupee was 59.17, 8.00, and 16.95 per cent and price spread was 40.83, 90.00 and 83.05 per cent respectively.
The total marketing cost and marketing margins of maize, Corn flour, popcorn and corn flakes, Considering this with producers' net price per quintal, the modified marketing efficiency was higher than unity 9.15, 7.67, 1.44, 0.08 and 0.20 for maize in channel I, II & corn flour, while for popcorn and corn flakes it was not efficient.
On the whole, the index of marketing efficiency was greater than unity for maize and corn flakes indicates the existence of comparatively efficient marketing system.

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