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RESEARCH ARTICLE

AN ECONOMIC ANALYSIS ON PRODUCTION OF MAIZE IN RANGAREDDY DISTRICT, TELANGANA

[1,*]Karishma M.D. and [2]Dr. Ram Chandra

[1]M.Sc Research scholar, Department of Agricultural Economics, SamHigginbottom University of Agriculture, Technology and Science, Prayagraj, Uttar Pradesh, India -211007

[2]Assistant Professor, Department of Agriccultural Economics, Sam Higginbottom University of Agriculture, Technology and Science, Prayagraj, Uttar Pradesh, India - 211007

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Corresponding author:
Karishma M.D.

ABSTRACT

Maize is the most important cereal and it is mostly used as grain, feed, fodder, starch and industrial products. In the present study, an attempt was made to know about the socio-economic characteristics of maize growers, to calculate the cost of cultivation and profitability of maize per hectare in different size of farm group for hybrid maize in the study area. The study area selected was Manchal, Yacharam and Shakerpalli blocks of Rangareddy (dist.). A multi-stage sampling method involving a combination of purposive and random sampling procedures were employed in drawing up the sample block, villages and farmers for collecting primary data. Ninety farmers (42 Small, 29 medium and 19 large) were selected at random by proportional probability sampling technique.

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INTRODUCTION

Maize also known as corn, is a cereal, is a cereal grain first domesticated about 10,000 years ago. Maize is known as queen of cereals because it has the highest genetic yield potential among the cereals. India is one of the top 10 maize producers in the world; it contributes around 2-3% of the total maize produced globally and is one of the top-5 maize exporters in the world. Major maize growing states in India are Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Bihar, Uttar Pradesh, Telangana, Gujarat and Tamilnadu. Maize (corn) is the second major cultivated crop in the state of Telangana in around 14 lakh acres producing annually 16 Lakh tonnes. It is used for human food and animal feed; it is also now widely used in corn starch industry, baby corn production etc. India produces 24.51 million tonnes of maize in 2020-21, it still falls short of meeting the local demand.

The total demand for maize in was estimated with 25.2 mt. even with this demand Government of Telangana advised the farmers to not grow the maize. Government of Telangana warns maize cultivation in the State in view of adverse conditions in the country for the crop and storage of corn. According to Telangana Government, the policy decisions taken by the Centre on Maize import, including a reduction in the import duty on maize from 50 to 35 percent, farmers could not expect to get the minimum support price (M.S.P). The New Farm Acts brought in by the Centre, which allowed anybody to sell the agriculture produce anywhere and the reduction of taxes on the import of the commodities has become a curse on the poor farmer. To make the matters worse for the local farmers, the central government had decided to import 5 Lakh Metric Tonnes. Agriculture Minister Niranjan Reddy said that in order to get Telangana farmers a reasonable price for the Corn, the state government has discussions with the poultry farmers.

Since states like Bihar, Chhattisgarh, Madhya Pradesh, Karnataka, Rajasthan, Maharashtra and U.P. are quoting a very cheap price for the poultry feed, Poultry farmers in the state are not ready to buy the Corn produced within the State.

MATERIALS AND METHOD

Study Area: Telangana state is geographically located in a semi-arid area and has a predominantly hot and dry climate. The annual rainfall is around 1200 mm, with average temperature of 39 C (102.2 F) Maize is cultivated in all the districts (except Hyderabad) in both the Kharif and Rabi seasons. Even with new laws and restriction from the government farmers still tend to grow maize. In 2020 Telangana has grown maize in 1.49 lakh ha. as far as Rangareddy district. The net sown area is 2.14 lakh ha. and the total cropped area is 2.36 lakh ha. The major food and commercial crops grown in the district are maize, jowar, Green/Black/Bengal/Red grams, oilseeds, cotton and sugarcane. The study is confined to Rangareddy district of Telangana. The selected villages represent fairly well the agro-climatic, socio-economic situation of the Rangareddy district.

Sampling Technique: A multi-stage method involving a combination of purposive and random sampling procedures was employed in drawing up the sample. The first stage was purposefully selecting the district. The purpose for selecting area was based on highest productivity of maize per hectare and climatically suitable area and it was help for economic researcher for reference in future research. The selected blocks were Manchal, Yacharam and Shakerpalli blocks of Rangareddy district. Thirdly, the sampling units (households) were sampled randomly from the selected EPAs where equal number of households was drawn from each EPA. For the purpose of selecting desired number of these villages were listed separately.

The households were classified into 3 size groups

- Households having less than below 2 hectares categorised into small farmers.
- Households having between 2-4 hectare categorised into medium farmers.
- Household having more than 4 hectares categorised into large farmers.

42 Small farmers, 29 Medium farmers and 19 large farmers were selected at randomly. Thus a total 90 respondents were selected at random for the purpose of this research study.

Analysis of data

Farm Business Analysis: The following cost concepts were used to find out the costs structure in the production of Maize. Variable costs concepts were used to find out the costs structure in the production of Maize. Variable costs (Seeds, Manure, Fertilizers, Human Labour etc.). Fixed costs (Rental value of land, Interest in fixed capital Depreciation).

Total costs = Total variable cost (TVC) + Total Fixed Cost (TFC)

For examining the cost of cultivation of Maize with its market price, the following concepts were worked out;

Cost A1 : Seed, Manure, Fertilizer, Human Labour, Hired Labour, Pesticides etc.
Cost A2 : Cost A1 + rent paid for leased in land
Cost B1 : Cost A1 + interest on fixed capital
Cost B2 : Cost B1 + rent pain on leased in land + rental value of owned land
Cost C1 : Cost B1 + imputed value of family labour
Cost C2 : Cost B2 + imputed value of family labour

Measure of Income

Gross Income: The value of main produce and by produce was calculated at prevailing price in the area and becomes gross income.

Farm Business Income: The difference between the gross income and Cost-A represents the farm business income of the producer (Gross returns – Cost A).

Family Labour Income: The profit on Cost – B that is difference between the gross income and Cost – B represents the income of the cultivator and accounts at his own family labour used in particular crop (Gross income – Cost B).

Net Profit: Net Profit is gross farm income less all costs associated with production and running the business. The profit on cost-C is the net profit from particular crop (Gross returns – Cost C).

Net Profit = Gross Farm Income – Cost

Input – Output Ratio: This ratio is used to judge the efficiency in the usage of material. The ratio indicate the relation between the units of material put in for production and the units of finish products.

Input – Output Ratio = Gross Income / Total Cost.

Analytical tools and technique: Suitable tabular as well as functional analysis as per need was applied to analyses the data and presentation of the results.

Marketing Analytical tools

Marketing cost: The total cost incurred on marketing by various intermediaries involved in the sale and purchase of the commodity till it reaches the ultimate consumer was computed as follow:

$M = C_f + C_{m1} + C_{m2} + C_{m3} + \ldots\ldots\ldots\ldots\ldots\ldots + C_{mn}$
Where, M = Total cost of marketing
C_f= Cost borne by the producer farmer from the produce leaves the farm till the sale of the produce, and C_{mn}= Cost incurred by the i^{th} middlemen in the process of buying and selling.

Marketable surplus

MS=P-C
Where, MS= Marketable surplus
P= Total Production
C= total requirements (family and farm)

Marketing Margin of Middlemen

(a) Absolute margin = $P_{Ri} – (P_{pi} + C_{mi})$

(b) Per cent margin = $\frac{PRi - (Ppi + Cmi)}{PRi} \times 100$

Producer's share in Consumer's Rupee

$P = \frac{(C - M)}{M} \times 100$

Where,P = Producer's share in Consumer's Rupee
C = Consumers' rupee
M = Marketing cost

Price Spread = Total Marketing Cost+ Total Marketing Margin

Marketing Efficiency

$$Marketing\ efficiency = \frac{Consumer\ price}{Total\ marketing\ cost + Maeketing\ margin}$$

Garret ranking

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

Where, Rij = Rank given for ith item by jth individual
Nj =No. of items ranked by jth individuals

RESULT AND DISCUSSION

Socio- Economic Characteristics of maize growers: The cultivation of Kharif Maize is extensively carried out in Manchal, Yacharam and Shakerpalli blocks of Rangareddy district. The growers have taken up the cultivation of Maize mainly to obtain more income. The growers have been randomly selected. It would be appropriate to present the background information and the structure of sample farms for better understanding of economics of maize crop.

Size and composition of the families: The average size of family at the overall level was 4.99 persons in the selected families consisting 48.29 percent adult males, 45.96 percent adult females and 5.81 percent children. The average size of family of small size category was 4.91 persons consisting of 49.08 percent adult males, 45.41 percent adult females and 5.49 percent children. The average size of the family of medium size category was 5.21 persons consisting of 47.79 percent adult males, 44.72 percent adult females and 7.48 percent children. The average number of persons was less in small size category. The average size of family of large size category was 48.35 persons consisting of 48.29 percent adult males, 45.69 percent adult females and 5.81 percent children. With the large percentage of male population indicate the increase in the production of the crop due to readily availability of the family labour. Even in the age composition the large percent of the family members are in the age gap of 15-49 years which are also affect the production as members of this age group strong and active and can contribute more in production.

Educational Status of the family Members: From the table 3. It was observed that at the overall level, 30.46 percent of the members of families were illiterate, about 19.03 were educated up to 4th standard (Primary Education), 16.43 percent were educated up to 7th standard (Secondary Education), 15.63 percent were completed SSC, about 12.22 percent were educated up to Intermediate and 6.61 percent competed Graduation in all the size groups. With the literacy rate at 69.53 percent the farmers. Most of the farmers being literate, well aware of all the farm laws and subsidies. With the awareness farmers are able to use the benefits and help from the government which eventually increase in production and productivity of the crop.

Cropping Pattern: The cropping pattern is also an important factor influencing the returns from the farm business.

Table 1. Size and Composition of families

Sr.No.	Particulars	Size Groups			Overall
		Small	Medium	Large	
1	Male	2.41	2.49	2.35	2.41
		(49.08)	(47.79)	(48.35)	(48.29)
2	Female	2.23	2.33	2.29	2.28
		(45.41)	(44.72)	(47.11)	(45.69)
3	Children's	0.27	0.39	0.22	0.29
		(5.49)	(7.48)	(4.52)	(5.81)
4	Total	4.91	5.21	4.86	4.99
		(100)	(100)	(100)	(100)

Table 2. Description of sample size of Households / Families in Different Size of farm groups

S.No	Particulars	Size of Farm Group			Average
		Small	Medium	Large	
1	Average Size of farm families	4.91	5.21	4.86	4.99
		(100)	(100)	(100)	(100)
2	a. Male	2.53	2.69	2.51	2.57
		(51.24)	(51.53)	(54.03)	(52.30)
	b. Female	2.39	2.52	2.35	2.42
		(48.75)	(48.46)	(45.96)	(47.69)
3	Age Composition				
	a. Below 14 years	1.31	1.49	1.35	1.37
		(25.33)	(26.09)	(27.66)	(26.35)
	b.15-49 years	2.17	2.14	2.13	2.14
		(43.76)	(44.73)	43.13)	(43.93)
	c. 50 and above	1.51	1.58	1.40	1.52
		(30.90)	(29.16)	(29.19)	(29.70)

Table 3. Educational status of the family Members

Sr.No	Education	Size Groups			Overall
		Small	Medium	Large	
1	Illiterate	1.57 (31.97)	1.52 (29.17)	1.48 (30.45)	1.52 (30.46)
2	Literate	3.34 (68.02)	3.69 (70.82)	3.38 (69.54)	3.47 (69.53)
A	Primary	1.05 (21.38)	1.13 (21.68)	0.68 (13.99)	0.95 (19.03)
B	Secondary	0.85 (17.31)	0.9 (17.27)	0.72 (14.81)	0.82 (16.43)
C	SSC	0.67 (13.64)	0.84 (16.12)	0.83 (17.07)	0.78 (15.63)
D	Intermediate	0.42 (8.55)	0.71 (13.62)	0.72 (14.81)	0.61 (12.22)
E	Graduate	0.35 (7.12)	0.22 (4.22)	0.43 (8.84)	0.33 (6.61)
	TOTAL	4.91 (100)	5.21 (100)	4.86 (100)	4.99 (100)

Table 4. Description of the cultivated holdings in different size of farm group

S.No	Particulars	Size of farm groups			
		Small	Medium	Large	
1	Size of farm groups	43	29	18	
	Cropping pattern of Maize Grower				
S.No	Particulars	Size groups			Average
		Small	Medium	Large	
1	Kharif				
	Maize	0.43	0.72	1.1	0.75
	Redgram	0.18	0.54	0.75	0.49
	cotton	0.5	0.85	1.52	0.95
	Jowar	0.28	0.65	1.12	0.68
	Other crops	0.5	1.2	1.48	1.06
	Sub Total	1.89	3.96	5.97	3.94
2	Rabi				
	Paddy	0.5	0.84	1.56	0.96
	Maize	0.25	0.56	0.95	0.58
	Jowar	0.32	0.92	1.45	0.89
	Other crops	0.78	1.4	1.78	1.32
	Sub Total	1.85	3.72	5.74	3.77
3	Summer/ Annual Season				
	Fruits and Vegetables	0.8	1.35	2.5	1.55
	Sugarcane	0.35	1.2	2.2	1.25
	Sub Total	1. 15	2.55	4.7	2.8
	Gross Cropped Area	4.89	10.23	16.41	10.51
	Crop Intensity	244.50%	255.75%	234.42%	

Table 5. Per hectare cost of cultivation of Kharif Maize (Value in Rs.)

S.No	Particulars of Farm Operation	Size of Farm Groups			Average
		Small	Medium	Large	
1	Hired Human Labour Charges	10,500	13,300	14,800	12866
2	Bullock Labour Charges	800			267
3	Machine Labour	9,400	11,500	13,700	11533
4	Cost of Seeds	6,400	5,900	5,500	5933
5	Cost of Manure	3,815	3,540	3,100	3485
6	Cost of Fertilizers	7,480	8,070	7,345	7631
7	Cost of Plant Protection	3,755	3,890	3,655	3766
8	Cost of Irrigation	1,850	1,650	1,545	1681
9	Miscellaneous Charges	1,650	2,200	2,500	2116
10	Land Revenue	120	120	120	120
11	Depreciation value on Assests	3,200	7,500	10,700	7133
12	Interest on Working capital	3,670	5,700	6,500	5290
13	Cost-A (Σ 1 to 12)	52640	63370	69465	61825
14	Rental Value of land	14,000	13,500	13,300	13,600
15	Interest on Fixed capital	4,700	4,750	3,600	4,350
16	Cost- B (Σ 13 to 15)	71340	81620	86365	79775
17	Family human labour	5,500			1833
18	Cost- C (Σ 16 to 17)	76840	81620	86365	81608

Table 6. Maize profitability per hectare in different size of farm groups

S.No	Particulars	Size of Farm groups			Average
		Small	Medium	Large	
1	Return from main produce	43,025	68,534	1,05,050	71,542
2	Return from by produce	1,745	3,480	5,360	3,528
3	Gross Return	44,750	72,014	1,10,410	75,070
4	Net Profit / Loss	-7,890	8,644	29,362	10,038
5	Input- Output Ratio	0.8	1.13	1.21	1.04

Table 7. Disposal Pattern of Maize Crop per Ha in Different size of Farm groups

S.No	Particulars	Size of Farms Groups			Average
		Small	Medium	Large	
1	Area under maize cultivation per Ha	0.43	0.72	1.1	0.75
2	Total production of maize in qunitals per farms level (in quintal)	23.22 (100)	38.94 (100)	54.2 (100)	38.78 (100)
3	Retained Maize (in quintal)				
i	Home Consumption	4.5 (19.37)	6.6 (16.94)	7.5 (13.83)	6.2 (15.98)
ii	Relatives and religious person	1 4.30)	1.5 (3.85)	5 9.22)	2.5 6.44)
4	Total retention for maize	5.5 23.67)	8.1 (20.74)	12.5 23.05)	8.7 (22.42)
5	Marketable Surplus	17.72 (76.33)	30.84 (79.26)	41.7 (76.95)	30.08 77.58)

Table 8. Marketing Cost, Marketing margin, Price spread and Marketing Efficiency

S.No	Particulars	Price/Qtl	Percentage
1	Producer sale price to Consumer	1845	
2	Cost incurred by the producer		
a	Packing cost	10	0.54
b	Packing material cost	40	0.21
c	Transportation cost	50	0.27
d	Loading and unloading Charges	40	0.21
e	Weighing charges	20	0.11
f	Miscellaneous charges	50	0.27
3	Total marketing cost (a - f)	210	11.38
4	Net price received by producer	1670	90.52
5	Consumer paid price	1845	
6	Price spread	175	
7	Producer share's in consumers rupee	96.85	
8	Marketing efficiency (%)	31.05	

Table 9. Marketing Cost, Marketing margin, Price spread and Marketing Efficiency

S.No	Particulars	Price/Qtl	Percentage
1	Producer sale price to commission agent	1780	
2	Cost incurred by the producer		
a	Packing cost	10	0.56
b	Packing material cost	40	0.22
c	Transportation cost	50	0.28
d	Loading and unloading Charges	40	0.22
e	Weighing charges	20	0.11
f	Miscellaneous charges	50	0.28
3	Total marketing cost (a - f)	210	11.79
4	Net price received by producer	1670	93.8
5	Sale price of producer to commission agent/ wholesalers	1780	
6	cost incurred by the Commission agent / wholesaler		
i	Packing cost	10	0.56
ii	Market fee	10	0.56
iii	Losses and Miscellaneous charges	25	0.14
iv	Weighing charges	20	0.11
7	Total marketing cost (i-iv)	65	3.65
8	Sale price of producer to commission agent/ wholesalers to retailers	2195	
9	Cost incurred by the retailers		
a	Loading and unloading Charges	10	0.56
b	Town charges	15	0.84
c	Weighing charges	20	0.11
d	Carriage up to shop	40	0.28
e	Miscellaneous charges	10	0.56
10	Total Marketing cost (a-f)	95	5.34
11	Sale price retailers to consumers	2640	
12	Retailers Margin	445	
13	Price Spread	760	
14	Consumers paid price	2640	
15	Producer share's in Consumer rupee	72.05%	
16	Marketing Efficiency (%)	4.78	

Table 10. Total Marketing cost and Marketing Margin in Different Channels

S.No	Particular	Channel I	Channel II
1	Total Marketing Cost	210	350
2	Total Marketing Margin	175	110
3	Price spread	210	760
4	Producer share in consumer rupee in percent	96.85	72.05
5	Marketing efficiency in percent	4.78	31.05

Table 11. Constraints in Marketing of Maize in Different Size of Farm Groups

S.No	Particulars	Size of Farm Groups			Total Percentage	Rank
1	Lack of availability of Market information at farm level	38 (88.37)	24 (82.75)	14 (73.68)	84%	2
2	Frequent price fluctuations	39 (90.69)	26 (89.65)	13 (68.42)	86%	1
3	Lack of storage facility	35 (81.39)	26 (89.65)	10 (52.63)	78%	6
4	High commission charges	31 (72.09)	21 (80.76)	9 (47.36)	68%	8
5	High transportation cost	38 (88.37)	25 (86.20)	11 (59.15)	82%	4
6	Lack of amenities and facilities in the market	36 (83.72)	26 (89.65)	13 (68.42)	83%	3
7	Lack of proper infrastructure in market	36 (83.72)	23 (79.31)	15 (78.94)	81%	5
8	Lack of support prices when there is a glut in the market	37 (86.04)	25 (86.20)	13 (68.42)	83%	3
9	Lack of information about Govt. schemes and subsidies	35 (81.39)	22 (75.86)	12 (63.15)	77%	7

The cropping pattern of the selected cultivators in different size groups is presented in table 4. It is revealed that, maize crop is the major crop of the selected farmers in Kharif season of all size groups of holding having 9.19 percent, 14.61 percent and 22.11 percent among small, medium and large size group of holding of land respectively and it was 16.66 percent in overall size group of holding. The area under Red gram 7.71 percent, 7.30 percent 8.56 percent and 7.81 percent of the gross cropped area respectively among small, medium, large and overall size group of holding of land. The area under cotton was 21.66 percent, 11.48 percent, 12.46 percent and 14.19 percent of the gross cropped area respectively among small, medium, large and overall size group of holding of land. The area under other crops was 10.38 percent, 7.12 percent, 7.47 percent and 8.23 percent of the gross cropped area respective to small, medium, large and overall size group of holding of land. In paddy was 13.35 percent, 16.70 percent, 11.68 percent and 13.58 percent of the gross cropped area respective to small, medium, large and overall size group of holding of land Jowar was 5.93 percent, 13.35 percent, 7.42 percent and 7.61 percent of the gross cropped area respectively to small, medium, large and overall size group of holding of land. Other crops was 14.25 percent, 16.07 percent, 11.52 percent and 13.58 percent of the gross cropped area respective to small, medium, large and overall size group of holding of land. The area under sugarcane was 17.80 percent, 16.70 percent, 18.89 and 17.69 percent of the gross cropped area respective to small, medium, large and overall size group of holding of. At the overall level the average gross cropped area was 4.89 ha. It was 10.23 ha. in small, medium and large size group of land holding.

Per Hectare cost of cultivation of Kharif Maize (Value in Rs): From the table 5 it can be seen that, at overall level, the per ha. Cost 'A', Cost 'B' and Cost 'C' was Rs. 52,640, Rs.63,370 and Rs.69,465 respectively. It cost 'A' the expectation on seed contributed 4.08 percent, fertilizers 4.55 percent, manures 0.67 percent plant protection charges 2.77 percent were major items of expenditure. At the overall level share of cost 'A', cost 'B' to total cost was 48.97 and 73.89 percent respectively. The share of cost 'A' ranged 47.16 percent in small, to 47.51 percent in medium and 52.35 in large size groups. The major input seed was 3.61 percent in small to 3.61 percent in medium and 5.04 percent in large size groups. Fertilizer was 4.43 percent in large to 4.42 percent in medium, 4.83 percent in small size group. Manure was 0.90 percent in small to 3.14 percent in medium,0.61 percent in large size group. Plant protection charges 3.14 percent small to 2.56 percent in medium and 1.68 percent in large size groups.

Measure of farm profitability in maize crop per hectare in different size of farm groups: The Return from the main procedure are Rs.43,025, Rs.68,534 and Rs.1,05,050 in small, medium and large groups, respectively. Return from the by-produce are Rs.1,735, Rs.3,480 and Rs.5,360 in small, medium and large size groups, respectively. Gross Return from small, medium and large size groups are Rs.44,750, Rs.72,014 and Rs.1,10,410. For the net profit the small farmers experience a loss of the Rs.7,890 and for the medium and large farmers gained a profit a Rs.8,644 and Rs.10,038 respectively. This makes the sample average for the input – output was 1.04 in the different size of farms.

Disposal pattern of Kharif Maize (Quintals): From the table disposal pattern of maize, it is revealed that the area under maize cultivation per hectare for small farms was 0.43 ha., 0.72 ha. for medium farms and 1.1 ha. for large farm groups. Total production of maize in quintals was highest in the large size farms with 54.2 Quintals as followed by medium farms with 38.94 quintals and 23.22 quintals for small farms.The quantity retained for the maize growers was mostly fir the home consumption small farmers retained by 19.37 percent followed by medium farmers with 16.94 percent and lowest is the large farmers with the 13.83 percent. With the Marketable Surplus of the small farmers is around 76.33 percent, medium farmers is around 79.26 percent for the large farmers it is 76.95. With overall 77.58 percent of marketable surplus for all the farm groups.

Marketing Practiecs of the Kharif Maize: The marketing system for assembling and distribution of Maize consist of growers, wholesalers, retailers, commission agents and consumers. In case of Kharif Maize, there are two major channels were found in selected study area. These channels were namely.

Channel I -> Producer -> Consumer
Channel II -> Producer -> Wholesaler -> Retailer -> Consumer.

Channel I -> Producer -> Consumer

The average marketing cost sold to their produce to the customers was observed at 3.15 percent, among these costs. Transportation cost Charges with 0.27 percent being the highest followed by packing material cost and loading and unloading charges with 0.21 and the lowest being the cost of packing with the 0.54 percent. The total price spread was Rs.110/Qtl, Marketing Efficiency was 31.05%

Channel II -> Producer -> Wholesaler -> Retailer -> Consumer: From the Table that average marketing cost when producer sold their product to the wholesaler in the market was Rs. 90/Qtl. The average marketing cost sold to their produce to the customers, was observes at 11.79 percent, among these costs Transportation cost charges with 0.28 percent being the highest followed by packing material cost and loading and unloading charges with 0.22% and the lowest being the cost of packing with the 0.56 percent. The total price spread was Rs.950/Qtl. Marketing efficiency was 4.78%.

Estimation of Total Marketing Cost and Marketing Margin in Different Channels: From the total Marketing Cost, Marketing Margin, Price spread, Producers share in consumer rupee in percent and marketing efficiency in percent is releveled. The total marketing cost is higher in the Channel II (Rs.350) compared to the Channel I (rs.210), the total marketing margin and price spread is also higher in the Channel II with Rs.175 and Rs.760 respectively than the Channel I with Rs.110 and Rs.210 respectively. The producer share in consumer rupee is highest in the Channel I with 96.85% and Channel II with 72.05%. The Marketing Efficiency is lowest in the Channel I is 4.78% and highest in the Channel II with 31.05%.

Constaints in Marketing of Kharif Maize: From the above Table 4.13, it was observed that, Frequent price flotation emerge as important problem followed by Lack of availability of Market information at farm level with 84 percent of the farmers expressed their concern over this, transport charges and lack amenities and facilities in the market was problem for 83 percent growers, lack of proper infrastructure in market maize in market 81 percent, Lack of support prices when there is a glut in the market lack of market intelligence about 83 percent of the sample growers, lack of information about Government Schemes and subsidies about 77 percent of the sample growers, lack of storage facility charges to an extent of 78 percent.

CONCLUSION

The study relieved that the average size of family is highest in the medium size household and the overall average families with 4.99 person consisting 48.29 percent adult males, 45.96 percent adult females and 5.81 percent children. In the surveyed families it is found that 30.46 percent people are illiterate and 69.53 percent people are literate. Literacy rate was highest in the medium household followed by large and small households. It has been found that next to fruits and vegetables were major crop in Kharif, Rabi and summer seasons, it was found that 16.06 percent of gross cropped area was under maize in Kharif season and 6.32 percent of grass cropped area was under maize crop in rabi season. In regard to other crops it was seen that percent share of paddy in both kharif and rabi was 19.14 and 13.33. In respect to perennial crops it was observed that sugarcane contributes 6.57 percent. The results also revealed that the percent share of other crops was 5.90.

It was observed that gross cropped area, net sown area, Double cropped area were 4.89, 31.53 and 8.4 respectively. Cropping intensity it was observed to be 244.89 percent. It is observed that the per ha. cost 'A', cost 'B' and cost 'C' was Rs.52,640, Rs.63,370 and Rs.69,465 respectively. It is revealed that the area under Maize cultivation per hectare for small farms was 0.43 ha. 0.72 ha. for the medium farms and 1.1 ha. for the large farm groups. Coming to the Maize profitability small farmers experienced loss of Rs 7890 and medium and large farmers have gained a profit of Rs 8,644 and Rs 29,362 respectively. Frequent price fluctuations has been the major constraints in the marketing of the maize.

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