SHORT COMMUNICATION

EXISTING PRODUCTION PATTERNS AMONG THE MAIZE GROWERS

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Abstracts: This investigation was carried out in three district of Bastar plateau of Chhattisgarh State to assess the level of existing production pattern among the respondents. 270 farmers were considering as respondents for this study. Respondents were interviewed through personal interview. Collected data were analyzed with the help of suitable statistical methods. The analysis of the results showed that major crop prevailed in *Kharif* season among different respondents was rice followed by maize, while predominant crop in *Rabi* season was maize covering 64.44 percent area.

Keywords: Production pattern, Area, Productivity, Economic assessment

INTRODUCTION

Maize (*Zea mays* L.) is one of the most important cereal crops in the world and has the highest production among all the cereals. It is a miracle crop, it has very high yield potential, there is no cereal on the earth which has so immense potentiality and that is why it is called 'queen of cereal'. Besides, maize has many types like normal yellow, white grain, sweet corn, baby corn, pop corn, waxy corn, high amylase corn, high oil corn, quality protein maize, etc. Maize is the most important crop in the world after wheat and rice (Verheys,Undated). It is an important staple food in many countries and is also used as animal feed and many industrial applications. Maize is 3rd major crop in India after rice and wheat (Cox, R., 1956 & Reddy *et. al.* 2013). Maize is important cereal crop which provides food, feed, fodder and serves as a source of basic raw material for a number of industrial products viz, starch, protein, oil, food sweeteners, alcoholic beverages, cosmetics, bio-fuel etc, it is cultivated over 8.12 million hectare area with an annual production of 19.77 million tones and an average productivity of 2,435 kg ha-1 (Langade *et. al.* 2013). Maize is the third most important food grain in India after wheat and rice. In India, about 28% of maize produced is used for food purpose, 11% as livestock feed, 48% as poultry feed, 12% in wet milling industry (for example starch and oil production) and 1% as seed (AICRP on Maize, 2007). Maize crop in the state has an area of 123430 ha with the production 254134 MT (C.G. Agriculture Statistic Report 2014).The area and production of Maize crop in Kanker district was 11511 ha and 25705 MT respectively, area of maize crop in Kondagaon district is 13586 ha with production of 31831 MT while the coverage of maize in Bastar district is 9560 ha with the production of 22398 (C.G. Ag. statistic Report 2014). The existing production pattern indicate the used to pattern which is now present in operation is made according to the exact dimension of particular style with allowance. The present study was undertaken with specific objectives to assess the existing production pattern of maize of the maize growers of Bastar plateau of Chhattisgarh.

MATERIALS AND METHODS

The present study was carried out in Bastar plateau of Chhattisgarh State. Three districts in the zone *i.e.* Kanker, Kondagaon and Bastar were undertaken for the study. Two blocks from each of the selected district Block Antagarh and Koylibeda in Kanker District, Keshkal and Baderajpur in Kondagaon, Bastar and Bakawand in Bastar District. Each selected block 3 villages *viz.* Irrabodi, Amagaon, Godri, in Antagarh Block, Chotekapsi, Kodosalhebhat, Manegaon, in Koylibeda Block, Cherbeda, Toraibeda, Amoda in Keshkal Block, Baderajpur, Toraipara, Khargaon(Manduki) in Baderajpur Block, Ikchapur, Bagmohlai, Dubeumargaon in Bastar Block, Belputi, Khotlapal and Mangnar in Bakawand Block were selected and from each selected village, 15 farmers were selected randomly. In this way total two hundred seventy respondents were selected to response as per the interview schedule designed for the study. Collected data were analyzed by the help of various statistical tools *i.e.* frequency, percentage, mean, standard deviation, correlation and regression, *etc.* In this study, the existing production pattern indicate the used to pattern which is now present in operation is made according to the exact dimension of particular style with allowance.

RESULTS AND DISCUSSION

The result and discussion of the present study have been summarized on the basis of response of

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respondents regarding to area, productivity and economics of the major *Kharif* and *Rabi* crops prevailing among the respondents are represented in the Table No.1. Major crop prevailed in *Kharif* season among different respondents was rice followed by maize, while predominant crop in *Rabi* season was maize covering 64.44 percent area while, it covered 87.77 percent area covered in *Kharif* season. The major variety of *Kharif* rice taken up by the respondents was hybrid, MTU-1010, MTU-1001 and IR-64. Irrigated area under *Kharif* maize was 48 ha. while 129ha. area was unirrigated. The total irrigated area under *Rabi* maize among different respondents was 187.2 ha. Average productivity of *Kharif* maize under irrigated condition and was 47qha^{-1} whereas, it is lower in unirrigated condition and found 38 qha^{-1} comparatively higher productivity of *Rabi* maize was found as 58 qha^{-1} . Average productivity of rice hybrid under irrigated condition was 46qha^{-1} whereas, it is 44 qha^{-1} under unirrigated condition. Average productivity of rice variety viz MTU-1010, MTU-1001and IR-64 under irrigated condition was 46, 32, 25 and 29 qha^{-1} respectively, whereas under unirrigated condition it gave productivity of 44, 31, 24 and 27 qha^{-1}.

Average cost of cultivation of rice varieties viz. Hybrid, MTU-1010, MTU-1001 and IR-64 was Rs.33000, Rs.27000, Rs.26000 and Rs.27000 per hectare under irrigated condition which was almost same or slightly lower under unirrigated condition. Gross return among the rice variety was maximum in rice hybrids followed by MTU-1010,IR-64 and MTU-1001. Net return (Rs.ha^{-1}) also followed the same trends. Among the different rice variety maximum benefit: cost ratio was obtained with rice hybrid (1.81) followed by MTU-1010(1.54), IR-64(1.39) and MTU-1001(1.25).The highest net return of Rs. 51,170 ha^{-1} in *Rabi* maize whereas, the net return in *Kharif* maize under irrigated condition was Rs.36155ha^{-1} and under unirrigated condition it was Rs.28870ha^{-1} . The maximum benefit cost ratio of 2.82 was obtained in *Rabi* maize compared to 2.19 in *Kharif* season under irrigated condition. Under unirrigated condition the B:C rato in *Kharif* maize was 1.57.

Table 1. Area, Productivity and economics assessment of major crops among the respondents during *Kharif* and *Rabi* season

Season / Crop	No	percent	Area (ha)		AC (Rs.000/ha.)		AP (Q./ha)		GR (Rs./ha.)		Net return (Rs./ha.)		B:CRatio	
			I	UI	I	UI	I	UI	I	UI	I	UI	I	UI
Kharif														
Rice (vr.)														
Hybrid	191	70.74	100	38	33	32	46	44	59800	57200	26800	25200	1.81	1.78
MTU-1010	207	76.67	51	85	27	27	32	31	41600	40300	14600	13300	1.54	1.49
MTU- 1001	34	12.59	4.4	24	26	26	25	24	32500	31200	6500	5200	1.25	1.20
HMT	13	4.81	2.8	7.6	29	28	31	27	40300	35100	11300	9100	1.38	1.25
IR-64	20	7.40	2.8	14.8	27	26	29	27	37700	35100	10700	9100	1.39	1.35
Safri	36	13.33	3.6	24	26	25	25	24	32500	31200	6500	6200	1.25	1.24
Gurmutiya	12	4.44	2	6.4	25	25	21	21	27300	27300	2300	2300	1.09	1.09
Maize	237	87.77	48	129	28	23	47	38	64155	51870	36155	28870	2.19	1.57
Rabi Maize	164	64.44	187.2	-	28	-	58	-	79170		51170	-	2.82	-

*Data are based on multiple responses

Note: Data are based on multiple responses, I- irrigated, UI-un irrigated, AC-average cost, AP- average production,

GR- gross return, NR-net return, B: C- benefit: cost, vr- variety

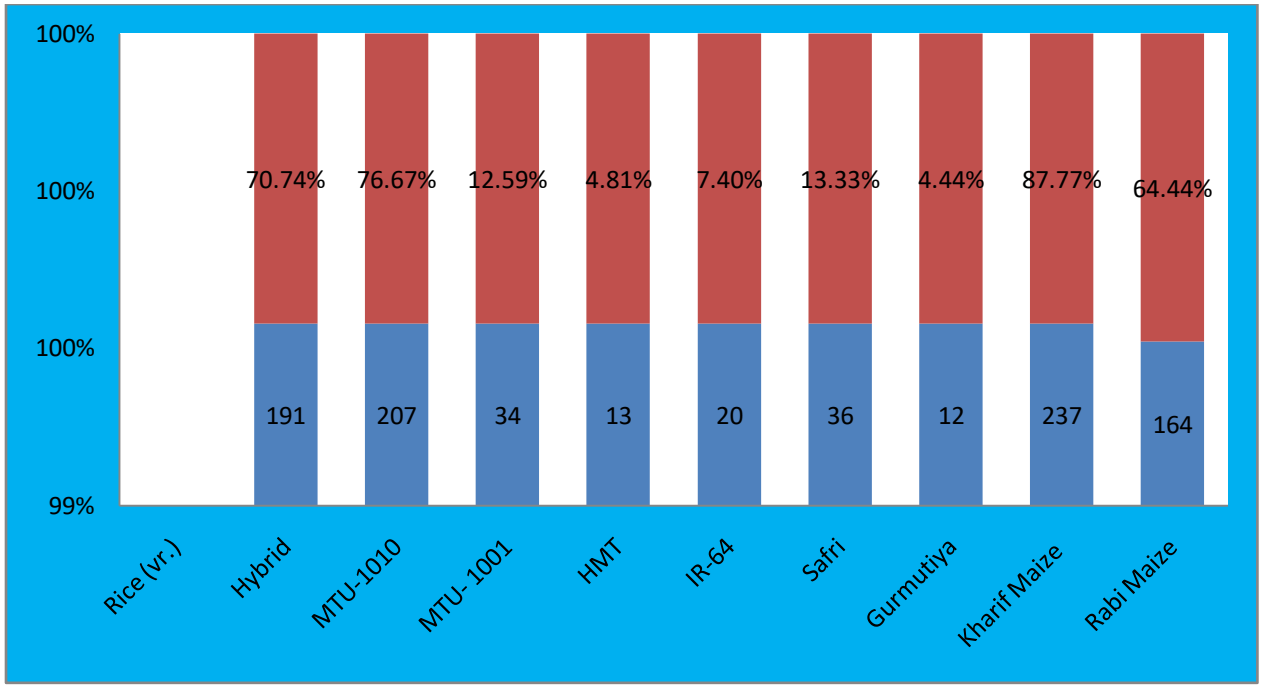

Fig. 1. Distribution of the respondents on the basis of their Major crops

CONCLUSION

From the above research findings it can be concluded that Major crop prevailed in *Kharif* season among different respondents was rice followed by maize, while predominant crop in *Rabi* season was maize covering 64.44 percent area.

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