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KNOWLEDGE OF FARMERS TOWARDS IMPROVED MAIZE PRODUCTION PRACTICE IN KHAGARIA DISTRICT OF BIHAR

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ABSTRACT

The study was conducted in Khagaria District of Bihar to measure the knowledge of farmers towards improved Maize production practice in Khagaria district of Bihar. A total number of 120 respondents were selected purposively from six villages under Parbatta block because the productivity, production and area were found maximum. The data were collected by personnel interview method by using pre structured interview schedule and later appropriate statistical analysis was done to draw logical conclusion. The study revealed that majority (53.33 %) of the respondents belonged to the middle aged group and majority of the respondents belong to medium level size of land holding i.e 1 to 2 hac. It was found that respondents belong to 35.84 per cent of education i.e illiterate. The finding also revealed that 50.83 per cent of the respondents had medium level of knowledge towards improved Maize production practice measure followed by 26.67 % and 22.50 % of the respondents with low and high level of knowledge respectively.

KEYWORDS: *Knowledge, Maize Production Practice*

INTRODUCTION

The importance of agriculture in the socio-economic fabric of India can be realized from the fact that the livelihood of majority of the country population depends on agriculture. The agriculture sector contributing 19 % of the total Gross Domestic Product (GDP) with more than 58 % population dependence.

Maize (*Zea mays* L.) is the most widely distributed crops of the world. It is cultivated in the tropics, sub-tropics and temperate regions; from sea level to 4000 m above, under irrigated to Semi-arid conditions. Tremendous choice is available as regards to varieties maturing in 85 days to more than 200 days with variability in grain colour, size & texture. It is the most versatile emerging crop. Globally, maize is known as 'Queen of cereals' and ‖a ―miracle crop‖ because it has immense genetic yield potential among the cereals. Maize can be grown successfully in variety of soils ranging from loamy sand to clay loam. It can be produced in large volumes from small area, it is easy to grow and harvest. Maize is an important cereal in many developed and developing countries of the world. **(Cornindia.com)**

Maize or Indian corn (called corn in some countries) is *Zea mays*, a member of the grass family Poaceae. It is a cereal grain which was first grown by people in ancient Central America. Approximately, 1 billion tonnes are harvested every year. However, little of this maize is eaten directly by humans. Most is used to make corn ethanol, animal feed and

other maize products, such as corn starch and corn syrup. In 2020, maize production for India was 28,500 thousand tonnes. Maize production of India increased from 5,101 thousand tonnes in 1971 to 28,500 thousand tonnes in 2020 growing at an average annual rate of 04.55 % **(Knoema.com).**

The maize is cultivated throughout the year in all states of the country for various purposes including grain, fodder, green cobs, sweet corn, baby corn, popcorn in sub-urban areas. The predominant maize growing states that contributes more than 80 % of the total maize production are Andhra Pradesh (20.9 %), Karnataka (16.5 %), Rajasthan (9.9 %), Maharashtra (9.1 %), Bihar (8.9 %), Uttar Pradesh (6.1 %), Madhya Pradesh (5.7 %), Himachal Pradesh (4.4 %). Apart from these states maize is also grown in Jammu and Kashmir and North-Eastern states. Hence, the maize has emerged as important crop in the non-traditional regions i.e. peninsular India as the state like Andhra Pradesh which ranks 5th in area (0.79 m ha) has recorded the highest production (4.14 m t) and productivity (5.26 t/ha) in the country although the productivity in some of the districts of Andhra Pradesh is more or equal to the USA**. (Farmer.gov.in)**.

RESEARCH METHODOLOGY

Descriptive research design was adopted for the study as it describes the characteristics orphenomena that are being studied. The present study was conducted in Khagaria district of Bihar. Out of 7 blocks in Khagaria district, Parbatta block is selected purposively based on maximum area covered under Maize production. From the selected block, six villages were selected purposively based on the maximum area covered under Maize production

OBJECTIVES OF THE STUDY

- To assess the socio-economic profile of the respondents.

- To find out the knowledge of the respondents toward improved maize production practices.

RESULTS AND DISCUSSIONS

Table 1 show, It shows that 53.33 per cent of the respondents belong to the middle age group. Find out that 35.84 per cent of the respondents has illiterate. In terms of annual income 45.83 per cent of the respondents have medium level of income in which 55.83 per cent had land holding of 1 to 2 hac. Find out that 65.00 per cent of the respondents has working only agriculture and 43.33 per cent of the respondents has small family. It is also evident that 45.00 per cent of the respondent's medium level of extension agent contact. It is evident that 49.17 per cent of the respondents has low level of social participation and 60.83 per cent of the respondents medium level of mass media exposure. It is seen that term of source of information 65.00 per cent of the respondents had belong to medium level. Finally 43.33 per cent of the respondents had medium level of risk bearing capacity. Similar finding is also reported by **Jai (2020)**

Table 1: Socio-Economic Profile of the Respondents

S. No	Independent Variables	Category	Frequency	Percentage
1.	Age	Young (Upto 35 years)	30	25.00
		Middle(36-55 years)	64	53.33
		Old (above 55 years)	26	21.67
2.	Education	Illiterate	43	35.84
		Literate	18	15.00
		Primary Education	16	13.33
		Junior high Education	14	11.67
		High Education	12	10.00
		Intermediate	10	8.33
		Graduate & above	7	5.83
3	Occupation	Agriculture	78	65.00
		Agriculture + Labour	27	22.50
		Agriculture + Business	11	9.17
		Agriculture + Service	04	3.33
4	Land holding	Up to 1 hac	33	27.50
		1 to 2 hac	67	55.83
		More than 2 hac	20	16.67
5	Family size	Small	52	43.33
		Medium	43	35.83
		Large	25	20.84
6	Annual income	Low (< 50,000 Rs)	37	30.83
		Medium (50,001- 1,00,000 Rs)	55	45.83
		High (> 1,00,000 Rs)	28	23.34
7	Extension agent contact	Low (5-7)	45	37.50
		Medium (8-9)	54	45.00
		High (10-11)	21	17.50
8	Social participation	Low (10-14)	59	49.17
		Medium (15-18)	46	38.33
		High (19-22)	15	12.50
9	Mass media exposure	Low (5-8)	27	22.50
		Medium (9-11)	73	60.83
		High (12-14)	20	16.67
10	Source of information	Low (11-17)	27	22.50
		Medium (18-23)	78	65.00
		High (24-29)	15	12.50
11	Risk bearing capacity	Low (8-11)	35	29.17
		Medium (12-14)	52	43.33
		High (15-17)	33	27.50

Table 2, Shows that a majority of the respondents 50.83 per cent has medium level of knowledge about improved maize production practices. 44.17 per cent of the respondents were partially corrected about field preparation. 35.83 per cent of the respondents were fully corrected about improved variety. 53.33per cent of the respondents were partially corrected about seed and its treatment. 51.67 per cent of the respondents were partially corrected about sowing time. 49.17 per cent of the respondents were partially corrected about spacing. 50.00 per cent of the respondents were partially corrected about fertilizers. 54.17 per cent of the respondents were partially corrected about irrigation. 61.67 per cent of the respondents were partially corrected about weeding and hoeing operation. 55.00 per cent of the respondents were partially corrected about weed control. 43.33 per cent of the respondents were partially corrected about diseases. 41.67 per cent of the respondents were partially corrected about soil. 59.17 per cent of the respondents were partially corrected about chemical weed control. 60.83 per cent of the respondents were partially corrected about soil PH. 48.33 per cent of the respondents were partially corrected about harvesting. Finally 45.00 per cent of the respondents were fully corrected about yield. Similar finding is also reported by **Geenger (2006)**

Table 2: Knowledge of the Respondents towards Improved Maize Production Practices

S. No.	Statement	Fully Correct		Partially Correct		Not Correct	
		f	*%*	*f*	*%*	*f*	*%*
1.	Field preparation: • Traditional method- 2-3 times ploughing • Use of zero tillage machine • Surface seeding method • Seed driller	36	30.00	53	44.17	31	25.83
2.	Improved variety: • DHM 117 • NK7720	43	35.83	40	33.33	37	30.83
3.	Seed and its treatment: Carbendazim or thiram, captan @4g/kg seed	14	11.67	64	53.33	42	35.00
4.	Sowing time: • October - November • February -March	39	32.50	62	51.67	19	15.83
5.	Spacing • 40x15 • 60x20	25	20.83	59	49.17	36	30.00
6.	Fertilizers:(per hectare) • NPK : 120:60:40 • FYM – 10 tonnes	50	41.67	60	50.00	10	8.33
7.	Irrigation: • 5times • 6 times	32	26.67	65	54.17	23	19.17
8.	Weeding and hoeing operations: • 3 times • 4 times	21	17.50	74	61.67	25	20.83
9.	Weed control: • Take two hand weeding on 25 or 45 days after sowing • Top dressing	28	23.33	66	55.00	26	21.66
10.	Diseases: • Downy mildew • Leaf spot • Fall Army worm	37	30.83	52	43.33	31	25.83
11.	Harvesting	36	30.00	58	48.33	26	21.67
12.	Yield: • 25-30q/hac • 40-45q/hac	54	45.00	35	29.17	31	25.83
13.	Soil: • Loamy • Sandy Loamy • Clay	38	31.67	50	41.67	32	26.67
14.	Chemical weed control: • Pre-emergence • post emergence	29	24.17	71	59.17	20	16.67
15.	Soil PH • 6.0 • 6.5	48	40.00	73	60.83	6	5.00

Table 3, Reveals that 50.83 per cent of the respondents had medium level of knowledge about improved maize production practices. Considerable percentage of respondents was found having high 22.50 per cent and low level of knowledge 26.67 per cent respectively. The similar finding was also reported by **Karangami (2017).**

Table 3: Distribution of Respondents According to their Overall Knowledge Level

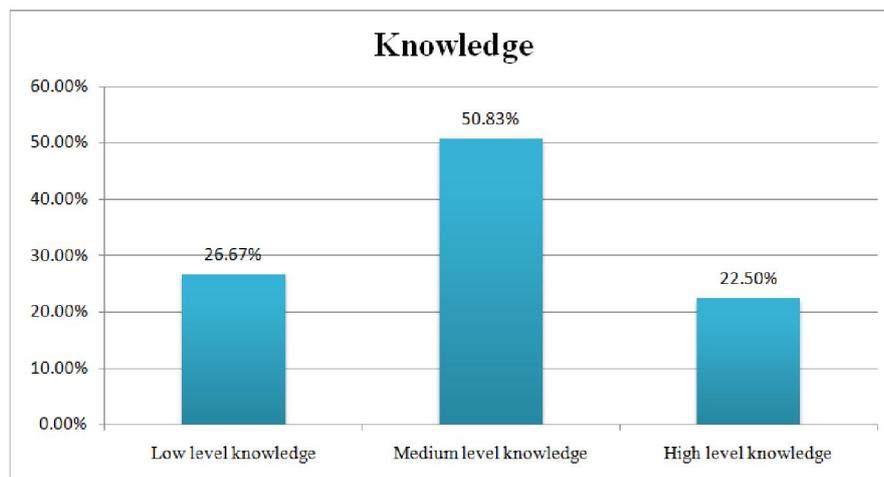| S. No.	Category	Number	Percentage
1.	Low level knowledge (19-27)	32	26.67
2.	Medium level knowledge (28-35)	61	50.83
3.	High level knowledge (36-43)	27	22.50
	Total	**120**	**100.00**

Figure 1: Distribution of Respondents Based On Their Overall Knowledge of Improved Maize Production Practices

Table 4 shows concluded that the independent variables i.e. age, education, land holding, annual income, extension contact, social participation, mass media exposure source of information and risk bearing capacity were positively and significantly correlated with knowledge of maize growers towards improved maize production practices at 0.01 % of probability. Whereas the independent variable family size was positively and non-significantly correlated with the knowledge of Maize grower towards improved Maize production practices at 0.05 % of probability. Therefore, the null hypothesis was accepted for these variable, where as variable occupation availed was negatively and significantly correlated with the knowledge of Maize growers towards improved Maize production practices at 0.01 % of probability respectively. Therefore, the null hypothesis was rejected for this variable. The similar finding were also reported by **Bondarwad (2009)**

Table 4: Association between Selected Independent Variables with Knowledge

Sl. No	Variables	Correlation Coefficient ®
1	Age	0.999*
2	Education	0.873*
3	Occupation	-0.205*
4	Family size	0.034NS
5	Land holding	0.841*
6	Annual income	0.980*
7	Extension contact	0.799*
8	Social participation	0.360*
9	Mass media exposure	0.999*
10	Source of information	0.998*
11	Risk bearing capacity	0.999*

*= Significant

CONCLUSIONS

It is concluded that the age of the majority of the respondents was middle and their educational level is also medium. Majority of the respondents possessed middle level of risk bearing capacity. The respondents were mostly utilizing medium level as their source to get the information on improved maize production. Majority of the occupation of the respondents is agriculture. Most of the annual income of the respondents was medium level and most of the extension agent contact of the respondents is medium level.The overall knowledge of the respondents was found under medium level.The independent variable age, education, land holding, annual income, extension contact, social participation, mass media exposure source of information and risk bearing capacity were positively and significantly correlated with knowledge of respondents towards improved maize production practices at 0.01 % of probability. It is suggested that the government should provide awareness and should conduct demonstrations regarding the above related problems.

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