Constraints encountered by wheat producers in adoption of wheat production technology in Faizabad district of Uttar Pradesh, India

ABSTRACT

Wheat is a major staple food crop; it is one of the major sources of protein in the least developed countries and middle-income countries and in terms of caloric and dietary intake. The present study was conducted to identify the constraints in the adoption of wheat production technology in the Masaudha and Sohawal community developments blocks of Faizabad district. Data were collected with the help of personal interview methods and a pre-trial interview schedule. One hundred and twenty respondents were selected from twelve villages that were selected at random. Findings showed that 52.5% of the wheat-growers were of middle age (36–50 years) and 53.33% were literate, while 22.5% of the respondents had received education up to the primary level. Agriculture was the main occupation of most of the respondents and the income level of the respondents was also low, while farmers met the respondents occasionally to increase their income and to learn new skills. So the results showed that the constraints were responsible for the low adoption of wheat production techniques, however, some of them were the most significant such as lack of seed technology, lack of knowledge about seed treatment, lack of knowledge about soil analysis technology, plant protection and Lack of knowledge about irrigation technology Lack of knowledge about advanced types of equipment, etc. This trend means that more educational effort needs to be made by the extension agency by way of improving knowledge, adopting new wheat farming techniques, and accelerating the pace of production.

Key words- *Producer, constraints, wheat, technology, adoption, production*

INTRODUCTION:-

Farmers favored mutant forms ('sports') of wheat, therefore cultivation and frequent harvesting and sowing of the grains of wild grasses resulted in the development of domestic strains. Domestic wheat grains are larger, and a hardened rachis keeps the seeds (inside the spikelets) attached to the ear during harvesting. In wild strains, a more sensitive rachis allows the ear to easily break and spread the spikelets. Farmers may not have chosen these traits

intentionally, but rather because they made seed gathering easier; yet, 'accidental' selection was an important part of crop domestication. The plant's natural seed dispersal is lost as a result of the traits that increase wheat as a food source. It is one of the most significant crops in the world and bears the title of "World's Most Important Crop.

Wheat varieties, agronomic techniques to be followed by farmers, and some of the frequent concerns related to crop protection issues that could limit wheat output and productivity at the regional or farm level are all factors that could limit wheat production and productivity. Wheat growers are also recommended to stay up with the latest wheat technologies and use them to improve wheat productivity and lower production costs, hence increasing profit on a long-term basis. In addition to varietal improvement, suitable crop management measures such as fertilization, irrigation, weed management, crop geometry, and crop residue management in wheat-based crop sequences in various wheat growing zones have all played a role in maximizing new varieties' yield potential. To reduce the cost of wheat production without sacrificing quality

The farmers facing several impediments in wheat production focusing in important issues viz. seed technology, seed treatment, soil analysis technology, plant protection technology, irrigation technology, improved implements and socioeconomic constraints. The findings of the study will help to understand the real situation in production, which in turn help in enhancing the wheat production in the selected district. Therefore, the present study was conducted to constraints encountered by wheat producer in wheat production in Faizabad districts of Uttar Pradesh.

RESEARCH METHODOLOGY:-

Uttar Pradesh state has 75 districts and out of these Faizabad district was selected, which is one of the agriculturally important districts of the state. In the district, major crops are Paddy, wheat, and sorghum. Out of these eleven communities development blocks, Masaudha and Sohawal C.D blocks were selected purposively for the study because the maximum area of the block was covered by wheat growers. There are 94 villages in Masaudha block and 86 villages in Sohawal block out of these 5 villages were selected from each block randomly. And randomly selected 12 respondents from each village of both blocks thus a total of 120 respondents were selected for the study. A pre-structured, Pre-tested, and Pre-interview schedule was used for the data collection. Collected data were analyzed and interpreted in light of the objectives by using appropriate statistical tools to draw a logical conclusion. Frequency, percentage, and rank analysis were done

for analyzing the data collected. Rank was assigned to each subcategory based on the frequency.

RESULTS AND DISCUSSION:-

Table- 1. Distribution of the respondents according to their socio-economic profile. (N=120)

S.No	Category	Respondents	
		Frequency	**Percentage**
1.	**Age**		
	Young (18-35)	35	29.16
	Middle (36-50)	63	52.05
	Above 50	22	18.33
2.	**Education**		
	Illiterate	64	53.33
	Primary School	27	22.05
	Junior High School	13	10.83
	Higher Secondary’	09	7.05
	Graduate and above	07	5.83
3.	**Occupation**		
	Main (Agriculture)	66	55.00
	Subsidiary		
	Ag.+ Caste Occupation	29	24.16
	Ag.+ Business	16	13.33
	Ag.+ Service	9	7.05
4.	**Land Holding**		
	Below 1 ha.	38	31.66
	Below 1-2 ha.	54	45.00
	Large above 2 ha.	28	23.33
5.	**Annual Income**		
	Up to Rs. 100000	52	43.33
	Rs. 100001-150000	35	29.16
	Above Rs. 150000	18	15.00
6.	**Innovativeness**		
	Low (0-3 score)	34	28.33
	Medium (4 – 6 score)	64	53.33

	High (above 7 score)	22	18.33

7.	Extension Contact	Extent of participation					
		Regular		Occasional		Never	
		F	%	F	%	F	%
	Village Development Officer	21	17.05	51	42.05	47	39.16
	Additional Development Officer	14	11.66	34	28.33	72	60.00
	Block Development Officer	17	14.16	34	28.33	69	57.05
	Subject Matter Specialists	29	24.16	52	43.33	39	32.05
	District Agriculture Officer	17	14.16	36	30.00	67	55.83

It was observed from the table no.1 shows that 29.16% respondents were between the young age group of 18-35 years, whereas 52.05% respondents were between the middle age groups of 36-50 years, and in age of above 50 years there were 18.33% respondents. And there were majority of the respondents 53.33% respondents illiterate, and 22.05% respondents were educated up to primary school whereas educated up to junior high school 10.83% respondents and in higher secondary 7.05% respondents were educated and 5.83% respondents were educated up to graduate and above. It is apparent from the above table that majority of the respondents 55.00% respondents having their main occupation as agriculture and about 24.16% respondents having subsidiary occupation as Ag+ Caste Occupation, followed by 13.33% respondents having agriculture + Business and 7.05% respondents having agriculture + Service. Similar findings are also reported by **Singh (2018)**

It is clear from the Table no.1 shows that 31.66% respondents having their main land holding as below 1-2 hectare, whereas 45.00% respondents having land holding as below 1 hectare, followed by 23.33% respondents having above 2 hectare land holding. It is also found that from the above table regarding income 43.33% respondents were in Rs.50001-100000; similarly 29.16% respondents were in Rs.100001-150000, while 15.00% respondents were in the Above Rs. 150000.

It is revealed from the above table no.1 indicated that 28.33% respondents were in low innovativeness category whereas 53.33% respondents were in medium innovativeness category while 18.33% were in high innovativeness category. And It is also evident from the table no.1 that 17.05% respondents were regularly meeting with Village Development Officer in the that area whereas 42.05% respondents meeting with VDO often while 39.16% never meet with

Village Development Officer of the village, and there was also found that in the area 11.66% respondents were regularly meeting with Additional Development Officer, while 28.33% often meet him and 60.00% never meet with Additional Development Officer of their village, Similar findings are also reported by **Kumar *et al.* (2017),** and 14.16% respondents were meeting with Block Development Officer regularly while 28.33% met with him on often basis whereas 57.055% never met with Block Development Officer of their block and in case of Subject Matter Specialists 24.16% respondents met with them regularly, and 43.33% met him on often basis while 32.05% never met with them, 14.16% respondents met with District Agriculture Officer of their district regularly, 29.16% met him often basis whereas 55.83% never met with him. Similar findings also reported by **Singh (2018)**

CONSTRAINTS FACING BY WHEAT PRODUCER:-

Table-2 Major constraints as perceived by the wheat growers in adoption of wheat Production Technology

S. No.	Constraints	Frequency	Percentage	Rank
A	**Seed Technology**			
1-	Lack of knowledge of growing HYV wheat	70	58.33	IV
2-	Non availability of HYV seed in time	85	70.83	II
3-	High cost of HYV seed	80	66.66	III
4-	Lack of finance	95	79.16	I
5-	Inadequate irrigation facility	35	29.16	V
B	**Seed treatment**			
1-	Lack of knowledge	90	75.00	III
2-	Not availability of seed dresser	98	81.66	I
3-	High cost of chemicals	81	67.05	IV
4-	Lack of finance	95	79.16	II
C	**Soil analysis technology**			
1-	Lack of soil testing facility	73	60.83	IV
2-	Lack of interest by extension personnel	81	67.05	III
3-	Lack of knowledge	89	74.16	II
4-	Lack of convinced about utility	92	76.66	I
D	**Plant protection technology**			

1-	Non availability of chemicals	55	45.83	VI
2-	High cost of pesticide & fungicides	86	71.66	II
3-	Lack of technical help	93	77.05	I
4-	Non-convinced about their effectiveness	73	60.83	V
5-	Non-availability of plant protection equipments	81	67.05	IV
6-	Lack of knowledge	84	70.00	III
E	**Irrigation technology** (such as modern irrigation practices, mobile technology, fertilizer and mechanization management, etc.)			
1-	Lack of finance	95	79.16	I
2-	Lack of irrigation facility	83	69.16	III
3-	Low flow of water in deep tube well	86	71.66	II
4-	Non-availability of underground water for irrigation	75	62.05	IV
F	**Improved implements**			
1-	Lack of knowledge	76	63.33	IV
2-	Small size of land holding	93	77.05	II
3-	Lack of experience	35	29.16	V
4-	High cost of improved farm implements	85	70.83	III
5-	Lack of finance	95	79.16	I

Seed technology:-

It is evident from the Table 1 that 'lack of finance' (79.16%), non availability of HYV seed in time (70.83%), high cost of HYV of wheat (66.66%), Lack of knowledge of growing HYV wheat (58.33%) and inadequate irrigation facility (29.16%) were the important constraints responsible for low adoption of seed technology, which were ranked I, II, III, IV and V, respectively. The similar findings also reported by **Kumar A (2012).**

Seed treatment:-

The above table no.2 shows that not availability of seed dresser (81.66%), lack of finance (79.16%), followed by and lack of knowledge about seed treatment (75.00%) whereas high cost of chemicals (67.5%) is the constraint for low adoption of wheat.

Soil analysis technology:-

It is apparent from the Table 2 that lack of convince about utility' (76.66%), lack of knowledge about soil analysis (74.16%) and lack of extension personnel's interest (67.05%) were the main constraints in getting the soil analyzed by wheat producer.

Plant protection technology:-

Table 2 clearly shows that the important constraints which were responsible for low adoption in case of plant protection technology were lack of technical help (77.05%),high cost of pesticides and fungicides (71.66%), lack of knowledge (70.00%) about their effectiveness (11.67%) respectively.

Irrigation technology:-

The above table no 2 further reveals that lack of finance (79.16%) and low flow of water in deep tube well (71.66) was reported by less than 80.00% of the respondents. The other constraints which were experienced by the respondents were lack of irrigation facility (69.16%).

Improved implements:-

It is clear from the above Table no. 2 that major constraint was responsible for low adoption of improved implements technology was Lack of finance reported by farmers (79.16%), however others constraints which were small size of land holding (77.05%),High cost of improved farm implements (70.83%), lack of experience about improved implements (29.16%), and which were ranked I, II, III, IV and V, respectively. Similar findings also reported by **Singh *et.al* 2020**

CONCLUSION:-

It is concluded from the above results, it may be concluded that major constraints which were responsible for low adoption of wheat production technology as experienced by the wheat producer were lack of soil testing facility, lack of knowledge about chemical weed control, use of chemicals weed control is not as effective as hand weeding, lack of knowledge about soil treatment, lack of non availability of underground water for irrigation, lack of knowledge about plant protection technology, lack of knowledge about seed treatment, non availability of HYV seeds in time, costly chemicals for soil treatment, lack of technical help regarding plant protection technology, high cost of pesticides/fungicides, lack of extension personnel contact, high cost involved in chemical control of weeds, and hence they were not effective in controlling the pests, 'lack of convince about pesticides effectiveness. It may also be concluded from the present investigation that action should be taken to ensure the availability of insecticide/pesticides etc. Farmers must be provided with credit facility for purchase of different inputs at reasonable rate of interest. Fertilizers, insecticide, pesticides are a very serious problems. Government should take efforts for checking the adulteration

in farm inputs for efficient use of the farm inputs, production cost of different farm inputs should be reduced and prices of different farm produce should be remunerative.

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