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Constraints Perceived by Wheat Growers in Sitapur District of Uttar Pradesh

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ABSTRACT

The present study was undertaken to investigate the constraints perceived by wheat growers in adoption of scientific wheat technologies in Sitapur district of Uttar Pradesh. Twenty five respondents were selected randomly from each of the selected four villages. Thus, a total of 100 respondents who were practicing wheat cultivation were interviewed by using pre tested interview schedule. The constraints were classified into four major categories such as technological, administrative, and financial and resource. Each category of constraints was further bifurcated into several sub heads and rank analysis was done based on the frequency. Unawareness about seed treatment, lack of technical know-how of the agricultural staff, problem of marketing, non availability of pesticides and equipments were perceived as the major constraints encountered by the wheat growers of Sitapur district.

Key Words: Adoption, Constraint, Extension, Improved technology, Wheat.

INTRODUCTION

Wheat is the second most important staple cereal food after rice in India. It is not only the staple food for wheat consuming population of India but also the major source of their dietary energy. Wheat is grown globally in about 217 Mha area with a total production of 632 Mt. In India, wheat is cultivated in about 29.6 Mha of the total cultivated area with an annual production of 93.5 Mt. The average wheat productivity of India is 31.5 q/ha (FAO, 2013). Wheat is one of the major crops, which has benefitted tremendously from the 1st green revolution. Over the last 50 years, area under wheat cultivation was increased from 10 Mha to 26 Mha in India. Wheat productivity has been showing a similar pattern of improvement from 7.0 t/ha in 1950 to 28 t/ha in 2019. This increase in wheat productivity may be attributed to the increase increased irrigation facilities, application of inorganic fertilizers, improved varieties and socioeconomic support provided to the farmers.

The major wheat growing states of India are Uttar Pradesh, Punjab, Haryana, Rajasthan, Madhya Pradesh and Bihar (https://www.intechopen.com/online-first/wheat-production-in-india-trends-and-prospects). Uttar Pradesh is largest wheat growing state of the country with an annual production of 30.30 Mt from an area of 9.73 mha. The average productivity of the Uttar Pradesh is 31.14 q/ha (Anon, 2013). The major wheat production constraints in Uttar Pradesh were declining soil health due to multinutrient deficiencies, soil salinity/alkalinity and low input use efficiency. Poor agronomic practices such as higher seed rate, unsuitable variety, use of imbalance fertilizer, improper use of weed control measures and unavailability of irrigation facilities etc. were also affecting negatively on wheat productivity in the state. There is no scope for area expansion, additional production has to come by increasing the per hectare productivity (Joshi *et al,* 2007).The yield gaps between potential and realizable vary

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Table 1. Unawareness about wheat production technologies. (n=100)

Sr. No	Perceived constraint	Per cent	Rank
1	Knowledge about seed treatment	72	I
2	Knowledge about harvesting technology	71	II
3	Knowledge about control of weeds	68	III
4	Knowledge about high yielding varieties	65	IV
5	Knowledge about dose of fertilizers	62	V
6	Knowledge about depth of sowing	60	VI
7	Knowledge about Irrigation	31	VII

from on zone to another zone due to prevalence of various biotic and abiotic factors. The major gap in productivity noticed were prevalence of rain fed condition in hills, improper nutrient management, non availability of improved varieties and lack of knowledge of improved agronomical practices (Paswan and Sinha, 2014).

Several transfer of technology programmes are operational in the country yet the new improved technologies have not penetrated the target audience as expected. The prominent reasons behind this were non adoption/ low adoption of recommended technologies by the farmers because of their lack of technical know how, lack of awareness and knowledge about resources, credit and marketing facility (Sharma, 2003). The major constraint perceived by farmers was lack of irrigation facility followed by lack of mechanization (Singh *et al*, 2012) If these constraints are managed somehow then farmers can harvest more yield with the same level of inputs which would definitely improve their socio-economic status. Hence, a study was undertaken with an objective to assess the various constraints being perceived by the farmers regarding wheat cultivation so that KVK can make changes in their mode adopted for technology transfer.

MATERIALS AND METHODS

Sitapur district of Uttar Pradesh was purposely selected for the study because the area under wheat cultivation was more in this district. Sitapur district is comprised of 19 community development blocks and farmers were using recommended technologies for wheat cultivation. Two community development blocks i.e. Khairabad and Biswan and the two villages from each block were selected namely Kodari and Ashrafpur and from Biswan (Paindapur and Matikarpur). A list of the wheat growers from each selected village was prepared. Twenty five respondents from each of the four selected villages were identified for the purpose by random method. Hence the total sample size for the present study comprised of 100 respondents. Data were collected with the help of pre tested structured schedule covering all aspect of the study. Frequency, percentage and rank analysis was done for analyzing the data collected. Rank was assigned to each sub category on the basis of frequency.

RESULTS AND DISCUSSION

Technological Constraints

Observation of Table 1 reveals that knowledge on seed treatment technology (72%) was realized as a constraint with high intensity by wheat growers which are indicated by their first rank. This was followed by harvesting technology (71 %), weed control measures (68%), selection of high yielding varieties (65%), dose and timing of fertilizer application (62 %), depth of sowing of seed (60%) with 2^{nd} , 3^{rd}, 4^{th}, 5^{th} and 6^{th} rank assigned in orders, respectively. Irrigation technology (31%) was perceived as least important constraint. These constraints may be due to lack of training and capacity building programmes in the research area and lack of interest among farmers to improve their production and socio-economic status. These results

Table 2. Depiction of Administrative and financial constraints perceived by wheat growers. (n=100)

Sr No	Perceived constraint	Per cent	Rank
A.	**Administrative constraint**		
1	Lack of technical knowhow of the Agril. Deptt.staff	77	I
2	Irregular visits of the staff during crop season	72	II
3	Barriers in the distribution of required varieties and seed	66	III
4	Inefficiency of extension workers	64	IV
B.	**Financial constraint**		
5.	Problem of marketing	86	I
6.	High cost of fertilizer	69	II
7.	High cost of Chemicals and equipments	67	III
8.	Less risk bearing capacity of farmer	62	IV
9.	Labor enhanced wage rates	56	V

were aligning with Mahawar (1998) who found that unawareness about seed treatment technology and plant protection measures were the major constraints among technological constraints faced by wheat growers. Shriram (1999) also reported that low production and productivity of wheat was due to these technological constraints. In a similar study Ajay (2003) stated that under technological constraints, non-availability of quality seeds (68.6%) of wheat, followed by high weed infestation (57.1%) and non-availability of chemical fertilizer (50%) were expressed as perceived constraints by the respondents.

Administrative constraints

The data (Table 2) show that lack of technical knowhow of the staff was perceived as important constraint with top priority and accorded first rank by the farmers. This was followed by irregular visits of the staff during crop season, barriers in the distribution of required varieties and seed and inefficient extension workers with 2nd, 3rd, 4th, 5th and 6th rank assigned in orders, respectively which hinder the wheat production. Thus, the most important constraint in extension related constraints found is due to lack of competency of extension staff, low credibility of extension agents and no efforts of rapport building with farmers, vacant posts of extension professionals etc. These findings were similar to the findings of Singh *et al,* (2019).

Financial constraints

A glance at the Table 2 depicts that unregulated marketing facility was perceived as the major constraint by wheat growers. This was followed by high cost of wages (69%), high cost of chemicals and equipments (67%), less risk bearing capacity of farmers (62%), enhanced labor wage rates (56%) with 2nd, 3rd, 4th and 5th rank, respectively. Till date farmers depend on local merchants/ commission agents for credit who exploit them accordingly, government policies are still lacking in clear cut subsidy framework for fertilizers, unavailability of equipments at subsidized rates, poor literacy and pathetic condition of farmers prevent them to take risks at the cost of their only livelihood source are some of the factors behind these constraints. These findings were similar to the study undertaken by Kumar (2012). Furthermore, the results were also in agreement with Singh and Rajput (2000) who concluded that lack of capital, high prices of fertilizers, lack of irrigation facility, low price of farm produce, lack of communication were major constraints faced by wheat growers.

Table 4. Depiction of Resource constraints perceived by wheat growers. (n=100)

Sr. No	Perceived constraint	Per cent	Rank
1	Non availability of chemicals and equipments	78	I
2	Scarcity of labours	74	II
3	Lack of regular electricity	69	III
4	Untimely and inadequate availability of credit from the formal source	53	IV
5	Non availability of improved and healthy seed	48	V

Resource Constraints

The resource constraints reported by wheat growers about adoption of wheat production technology are depicted in Table 4. Looking to the figures in the above table reveals that non-availability of chemicals and equipments at the right time was perceived as the major constraint followed by scarcity of labors (74 %), lack of regular supply of electricity (69%), untimely and inadequate availability of credit from the farmer sources (53 %) and non-availability of improved and healthy or quality seeds (48%) respectively. The reason behind these constraints is lack of linkages among different stakeholders, low extension to farmer ratio, lack of information about the credit facilities and unawareness about different agencies for the supply of inputs. Similar constraints were reported by Sriram and Chauhan (2005). Additionally the results were in agreement with the study undertaken by Kumbhare and Singh (2011).

Suggestions

Some suggestions for wheat growers for minimizing the constraints faced by them in adopting improved wheat production technology are knowledge should be increased in various aspects of wheat production technology like seed treatment, harvesting technology and quality seeds through systematic training, credit facility should be extended at proper time to wheat growers, extension agency should convey the relevant information at right time, adequate institutional support should be ensured, unconventional source of energy like solar panels should be established for regular supply of electricity, result demonstrations should be conducted to win trust of farmers about recommended wheat technology and suitable HYVs should be made available to all the farmers in the area.

CONCLUSION

Agricultural transformation is of utmost importance for regional development. If the productivity has to be improved then massive efforts from extension personnel are required who acts as change agents among farming community. The study revealed that unawareness about seed treatment, lack of technical knowhow of the agricultural departmental staff , problem of marketing , non availability of chemicals and equipments were the major constraints perceived by wheat growers in the district of Sitapur of Uttar Pradesh. These constraints can be minimized if Extension department staff would be imparted with the necessary skills, timely credit would be made available to the farmers and regular inspection of the crop during crop season and high quality inputs would be arranged for the farmers.

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