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Constraints in Adoption of Technology and Productivity in Farming

Adoption level of the individual farmer is defined as the degree of use of new technology in long run equilibrium when the farmer has full information about new technology and its potential. As the population is increasing at an alarming rate, the demand for agricultural produce is also increasing rapidly, thereby the scope of bringing more land under cultivation is receding fast. But observation reveals that there is a great variation in productivity of wheat and mustard in some of the wheat prominent states, Madhya Pradesh is one of them, where it is exorbitantly higher. Though Gwalior district in Gird region has registered on an appreciable productivity in wheat and mustard crop but still it is far behind the potential yield and yield demonstrated under different adoptive trials conducted in the area.

Adoption of technology recommended for any individual crop is a function of non-availability, less availability or untimely availability of important inputs required for production which varied according to location and size of holdings, development of financial institution and investment capacity of farmers including their risk bearing capacity. These factors restrict the extent of adoption technology resulting ultimately in production gap of concerned crops.

Thus, increasing production per unit of available land is the only answer to the problem. For this, it is necessary to find out the adoption level of technology and factors associated with the productivity of crops, so that rational action for increasing agriculture productivity could be initiated and measure suggested for the removal of such constraints could be considered for inclusion in policy.

The study was conducted in Morar block of Gwalior district. The sample size constituted 60 participating farmers of Krishi Vigyan Kendra programme randomly selected from three villages. The data was collected through structured schedule. Adoption level refers to the extent of number of package of practices followed either completely or partially as against the total number of practices recommended. Productivity in farming refers to the yields per unit area as compared to average yield in the study area.

Rogers (1962) defined the adoption process as "the mental process of an individual passing from first hearing about an innovation to final adoption". In this context the study was undertaken to identify the various factors directly affecting or hindering adoption level of wheat and mustard rabi crops grown by participant marginal and small farmers listed in table -1. The data in table -1 reveals that high majority of the participant marginal and small farmers expressed lack of timely availability of certain crucial inputs (93.33%) and inadequate supply of inputs (93.33%) as the major factors hindering adoption followed by lack of knowledge about plant protection measures (88.33%) and lack of knowledge about dose of fertilizers nutrients per hectare (88.33%), lack of knowledge about seed dressing (86.66%), non-availability of certain improved implements (86.66%), non-availability of technical guidance (53.33%), lack of credit facilities (40%), uncertainty of remunerative returns (38.33%), fear of decline in the yield because of seasonal conditions (12%), lack of faith in recommended technology (16.66%) and lack of knowledge about method of fertilizers application (16.66%) in that order of ranking. The listed last four factors were not considered as

major factors hindering the adoption by most of the farmers.

The data pertaining to constraints affecting the productivity of wheat and mustard crops is presented in table - 2. The majority of the farmers reported that uncertainty of irrigation, high cost of fertilizers and low price for farm produce were the major constraints directly influencing the crop productivity as evident from the ranks in accordance with the degree of severity. It is clear from the data that uncertainly of irrigation due to lack of electricity power supply was the major constraint in wheat production for cent percent of farmers. Similarly high cost of fertilizer (91.66%), low price for farm produce

Table 1.Factors hindering adoption level of rabi crops by participants marginal and small farmers

S.No.	Factors	Frequency	Percentage	Remark
1.	Lack of timely availability of certain inputs	56	93.33	I
2.	Inadequate supply of inputs	56	93.33	I
3.	Lack of knowledge about plant protection measures	53	83.33	II
4.	Lack of knowledge about doses fertilizer nutrients	53	83.33	II
5.	Lack of knowledge about seed dressing	52	86.66	III
6.	Non-availability of certain improved implements	52	86.66	III
7.	Non-availability of technical guidance	32	53.33	IV
8.	Lack of easy credit facilities	24	40.00	V
9.	Uncertainty of remunerative return from crops	23	38.33	VI
10.	Fear of decline in the yield because of seasonal conditions	12	12.00	VII
11.	Lack of faith in recommended technology	10	16.66	VIII
12.	Lack of knowledge about method fertilizer application	10	16.66	VIII

Table 2. Constraints faced in productivity in farming by participant marginal and small farmers

S.No.	Constraints	Frequency	Percentage	Remark
1.	Uncertainty of irrigation	60	100.00	I
2.	High cost of fertilizer	55	91.66	II
3.	Low price for farm produce	55	91.66	II
4.	Timely unavailability of credit	55	91.66	II
5.	Non-availability of improved seed	55	91.66	II
6.	Lack of communication	25	41.66	III
7.	Soil problem	25	41.66	III
8.	Insufficient training on latest technology	20	33.33	IV
9.	Poverty	11	18.33	V

(91.66%) timely unavailability of credit and improved variety of seed in time (91.66%) were other responsible constraints in that order of ranking.

Further observation of the data reveals that, lack of communication and soil problem, 41.66 per cent each, whereas insufficient training on latest technology had accounted for 33.33 per cent followed by poverty 18.33 per cent.

On the basis of observations it can be concluded that the lack of timely availability of certain inputs, inadequate supply of inputs, lack of knowledge about fetilizer nutrietns and doses application and lack of knowledge about seed-dressing adversely affected the adoption level of participant marginal and small farmers in the study area.

Similarly, data reveals that the productivity of wheat and mustard crops was strongly associated with the constraints like critical inputs i.e. fertilizer, irrigation, low price of farm produce and non-availability of improved seed and credit facilities etc. in Morar block of Gwalior district.

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References

JAULKAR, A.M., SINGH, V.N. AND DAIPURIA, O.P., 1992, Constraints affected crops productivity of wheat and mustard. *Maharashtra Journal of Extension Education*, **11**: 166-169.

ROGERS, E. M., 1962, *Diffusion of Innovation.* The Free Press, New York.