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Assessment of productivity level among different farmer categories of wheat crop in Malwa region of Madhya Pradesh

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Abstract

India is the largest wheat producer country in the world while Madhya Pradesh is comes under five highest wheat producer states in India. The present study was conducted in Malwa region of Madhya Pradesh for assessed the productivity level of wheat crop grown by the different categories of farmers. We were select three districts for the study from Malwa region. Nine blocks was select from three selected districts and four villages were randomly select from each block. Nine farmers were select for each village therefore total 324 different categories farmers selected for study. Farmers are divided into three categories small, medium and large. The *ex post facto* research design was followed in this study. The result obtained from study that majority of wheat growers irrespective of the different categories of respondent the productivity was founded to be of a medium level. This might be on account of average to low level of education, scientific orientation, risk preference, knowledge and adoption level etc. It was found that the wheat growers varied significantly with respect to productivity level.

Keywords: Knowledge, adoption and Productivity

Introduction

Wheat (*Triticum aestivum*) is an important and strategic cereal crop for the majority of world's populations. It is the most important staple food of about two billion people (36% of the world population). It exceeds in acreage and production of every other grain crop (including rice, maize, etc.) and is therefore, the most important cereal grain crop of the world, which is cultivated over a wide range of climatic conditions. Wheat offers ease of grain storage and ease of converting grain into flour for making edible, palatable, interesting and satisfying foods. Wheat is the most important source of carbohydrate in a majority of countries. Wheat also contains a diversity of minerals, vitamins and fats (lipids). With a small amount of animal or legume protein added, wheat- based meal is highly nutritious. It is consumed in various forms by more than one thousand million human being in the World, In India wheat is the second important staple food crop rice being the first. In areas where wheat is the staple cereal food it is consumed in the form of Chapatti's. It provides about 20 per cent of the total food calories required for the human race. Besides staple food for human beings wheat straw is good source of food for large population of cattle in our country. Wheat competes well with other important cereals in its nutritive values and also contains higher protein as compared to other cereals.

In India wheat is grown over area of 30.60 million hectares with total production of 98.38 million tonnes with the average yield is 3216 kg/hectares and in Madhya Pradesh, it is grown over an area of 6.03million hectares with total production of 17.94 million tonnes with the average yield 2976 kg/ha (DAC & FM, 2017) [3].

In Hoshangabad district, wheat is grown over area of 0.26 million hectares with total production of 1.11 million tonnes with the average yield is 4440 kg/hectares (FWADD, 2017) [4]. In Harda district, wheat is grown over area of 0.17 million hectares with total production of 0.66 million tonnes with the average yield is 3843 kg/hectares (FWADD, 2017) [4]. In Sehore district, wheat is grown over area of 0.25 million hectares with total production of 0.90 million tonnes with the average yield is 3645 kg/hectares (FWADD, 2017) [4]. The extension service in the country has a huge network of professional extension workers at national, state district, sub-division, and block and village level. Several programmers motivating the farmers in adoption of new technologies are in operation throughout the country.

But still there is wide gap between the technology available with the researchers and its adoption in farmer's field particular in wheat. There is urgency particularly in wheat to minimize the technological gap and to ensure that the developed technology should be transmitted speedily to the farmers for increasing yield through reorganized agricultural extension system. The adoption of improved technology of wheat crop by the farmers is not uniform due to several reasons. Hence, this study was under taken to identify the technological status of wheat crop among different categories of farmers in Hoshangabad, Harda, Sehore district (M.P.). So this study was designed to study the Productivity level of wheat crop grown by the different categories of farmers in Malwa region (M.P.).

Research Methodology

The *ex post facto* research design was followed in this study. This study was carried out in Hoshangabad, Harda and Sehore districts of Madhya Pradesh State during 2018-19 to know the productivity level of wheat crop grown by the different categories of farmers in Malwa region (M.P.). A total 36 villages were selected with the help of stratified random sampling method from 9 blocks namely Hoshangabad, Pipariya, Itarsi, Harda, Timarni, Khirkiya, Sehore, Ichhawar and Narsullaganj (4 villages from each block) on account of maximum area covered under wheat crop. A total of 324 wheat growers, 9 farmers (3 big, 3 medium and 3 small farmers) were selected with simple random sampling from

each selected village under the study. The primary data was collected personally through group discussion and a pre-tested interview schedule which was prepared on the basis of objectives of the study. For determining the productivity level of wheat crop a questionnaire was prepared as productivity per unit area under the crop on the field of respondents and was measured in quintal per hectare.

Results and Discussion

The productivity level of wheat crop was determined by asking the individual farmers from different categories of farmers are presented below in Table 1.1. Table indicates data concerning the productivity level of wheat crop among the different categories of the farmers. It is evident from the table that the overall mean productivity level for overall categories of farmers was 38.61 qtl per hectare. The big farmers showed a mean productivity level 39.92 qtl. per hectare, medium farmers 39.16 qu. per hectare and small 36.75 qtl. per hectare.

The 'z' test reveals that the various categories of farmers varied significantly with regards to their mean of productivity level of wheat crop. Thus, shows that the calculated value of 'z' is more than its tabulated value at 5 per cent level of significance. Thus null hypothesis (H_0) is rejected and research hypothesis is accepted. Thus, the data leads to conclude that the productivity level of wheat crop among different categories of farmer i.e. big, medium and small farmers was differ significantly.

Table 1.1: Mean production score of different categories of farmers.

S. No	Categories	No.of respondents	Mean	`Z` - value
1.	Big farmers	108	39.92	- -
2.	Medium farmers	108	39.16	3.227* -
3.	Small farmers	108	36.75	9.484* 6.708*
	Overall mean		38.61	

* Significant at 0.05 level of probability.

Table 1.2: Percentage distribution of respondents according to the productivity level of wheat crop

S. No	Productivity level	Small farmers n=108	Medium farmers n=108	Large farmers n=108	Overall farmers n=324
		Freq.	Freq.	Freq.	Freq.
1.	Low (up to 35.66 qtl.)	27 (25)	9 (8.33)	-	36 (11.11)
2.	Medium (35.67 to 39.33 qtl.)	58 (53.70)	57 (52.77)	56 (51.85)	171 (52.77)
3.	High (Above 39.33 qtl.)	23 (21.29)	42 (38.88)	52 (48.14)	117 (36.11)
	Total	108 (100.00)	108 (100.00)	108 (100.00)	324 (100.00)

(Figures in parenthesis are percentage)

The data presented in Table 1.2 indicate the distribution of the different category of farmers according to their productivity level of wheat crops. Observation of the data indicates that by converting total yield in the average yield. It is clear from the table that in case of small farmers 25 percent had low productivity level, 53.70 per cent medium and 21.29 percent farmers were in high productivity level. The medium farmers categories 8.33 per cent had low, 52.77 per cent medium and 38.88 percent had high where as incase of large farmers none farmers was found in low productivity level and majority 51.85 per cent were in medium and 48.14 percent in high productivity level.

The overall sample reveals that of total respondent 52.77 per cent were in medium 36.11 per cent in high and 11.11 percent were in low production level.

Conclusion

It is concluded from the study that majority of wheat growers

irrespective of the different categories of respondent, the productivity was founded to be of a medium level. This might be on account of average to low level of education, scientific orientation, risk preference, knowledge and adoption level etc. It was found that the wheat growers varied significantly with respect to productivity level.

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