IMPACT OF WATERSHED ON ADOPTION OF WHEAT PRODUCTION TECHNOLOGIES

Jagdish Morya[1]

ABSTRACT

The present study was conducted in Ichhawar block of Sehore district in Madhya Pradesh during the year 2003 to compare the knowledge and adoption of improved wheat production technology of the farmers in Rajiv Gandhi watershed programme with the farmers of non-watershed area. The findings indicated that the farmers in watershed area have comparatively more knowledge and adoption than in non-watershed so for the scientific wheat production technology is concerned.

Key words : *Knowledge; Adoption; Wheat production technology; Watershed*

INTRODUCTION

In India, nearly seventy per cent of the net cropped area is rainfed and increasing the productivity of such a large area is a major challenge. Realizing this need, Government of India with the World Bank's financial assistance has started pilot project named as Rajiv Gandhi Watershed Programme in four states. viz. Maharashtra, Karnataka, Andhra Pradesh and Madhya Pradesh. Madhya Pradesh is the second largest rainfed farming state of the country accounts for 86.04 per cent of rainfed cultivated area. The state is basically dominated by mono cropped area as the soil have limited water retention capacity and second crop is not feasible on residual moisture. The watershed programme endeavours to improve and sustain production and productivity in all categories of land. It endeavours to increase productivity of lands with better returns to the farmers on a sustainable basis through adoption of better technology and cropping patterns. In mono cropping, wheat is one of the most important cereal crop grown in watershed area.

Therefore, the present study was designed to determine the level of knowledge and extent of adoption of scientific wheat production technology by the farmers of the watershed area and have comparative view with the farmers of non-watershed area to get insight of the development in production and productivity as a result of implementation of the programme.

METHODOLOGY

This study was conducted in Ichhawar block of Sehore district. There are total eight watershed projects in the district but one watershed project area i.e. Ichhawar was selected randomly. In the village of watershed area programme there were 90 beneficiary farmers, out of which 50 beneficiary farmers were selected by random sampling method. The beneficiary farmers were those farmers who were approached to induce change in their knowledge and adoption with respect to irrigated wheat production technology. For better comparison 50 non-beneficiary farmers of the same block were also included in the sample that were not covered in watershed programme. Thus, the total sample consisted of 100 farmers out of which 50 were beneficiary and 50 non-beneficiary farmers. On the basis of collected data, the respondents were categorized into complete knowledge and partial knowledge, complete adoption and partial adoption according to quartiles.

RESULTS AND DISCUSSION

The data regarding farmers' knowledge and adoption levels in relation to wheat production technology was presented in the Table 1. It was recorded that 70 per cent farmers in watershed and 30 per cent farmers in non-watershed area have complete knowledge about improved varieties. Similarly, 58 per cent respondents in watershed and 26 per cent respondents in non-watershed area have completely adopted improved varieties of the crop. It was observed that 54 per cent respondents under watershed area and 26 per cent respondents in non-watershed area have complete knowledge about the irrigation management while 44 per cent respondents in watershed area and 20 per cent respondents in non-watershed area were adopted completely scientific irrigation management practices. So far recommended dose of chemical fertilizers is concerned it was observed that 52 per cent respondents in watershed and 24 per cent respondents in non-watershed area have complete knowledge while 28 per cent respondents and 8 per cent respondents in watershed and non-watershed area respectively adopted completely the recommended dose of chemical fertilizers in wheat crop. In case of weed control, it was observed that 40 per cent respondents in watershed area and 10 per cent respondents in non-watershed area have complete knowledge about this practice.

Similarly, 32 per cent r espondents in watershed area and 6 per cent respondents in non-watershed area have adopted weed control completely.

1. Ex. P.G. Student, R.A.K. College of Agriculture (JNKVV) Sehore (M.P.)

Table 1. Knowledge and adoption level of farmers in wheat production technology under watershed and non-watershed area.

Practices	Level of Knowledge of WPT*				Level of Adoption of WPT*			
	Watershed		Non-watershed		Watershed		Non-watershed	
	N	%	N	%	N	%	N	%
Improved varieties								
(A) Complete knowledge & adoption	35	70.0	15	30.0	29	58.0	13	26.0
(B) Partial knowledge & adoption	15	30.0	35	70.0	21	42.0	37	74.0
Irrigation management								
(A) Complete knowledge & adoption	27	54.0	13	26.0	22	44.0	10	20.0
(B) Partial knowledge & adoption	23	46.0	37	74.0	28	56.0	40	80.0
Recommended dose of chemical fertilizers								
(A) Complete knowledge & adoption	26	52.0	12	24.0	14	28.0	04	08.0
(B) Partial knowledge & adoption	24	48.0	38	76.0	36	72.0	46	92.0
Weed control								
(A) Complete knowledge & adoption	20	40.0	05	10.0	16	32.0	03	6.00
(B) Partial knowledge & adoption	30	60.0	45	90.0	34	68.0	47	94.0
Insect control								
(A) Complete knowledge & adoption	29	58.0	13	26.0	19	36.0	08	16.0
(B) Partial knowledge & adoption	21	42.0	37	74.0	31	62.0	42	84.0
Disease control								
(A) Complete knowledge & adoption	22	44	05	10.0	20	40.0	03	06.0
(B) Partial knowledge & adoption	28	56.0	45	90.0	30	60.0	47	94.0
Proper time of harvesting								
(A) Complete knowledge & adoption	29	58.0	13	26.0	14	28.0	04	08.0
(B) Partial knowledge & adoption	21	42.0	37	74.0	36	72.0	46	92.0

*WPT-Wheat Production Technology

The study further revealed that 58 per cent respondents in watershed area and 26 per cent respondents in non-watershed area have complete knowledge about insect control while 38 per cent respondents in watershed area and 16 per cent respondents in non-watershed area have completely adopted the various methods of insect control. It was pointed out that 44 per cent respondents in watershed area and 20 per cent respondents in non-watershed area have complete knowledge about disease control. It was recorded that 40 per cent respondents in watershed area and 6 per cent respondents in non-watershed area have completely adopted disease control practices. The study also highlighted that 58 per cent respondents in watershed area and 26 per cent respondents in non-watershed area have the complete knowledge about proper time of harvesting of weed crop while 28 per cent respondents in watershed area and 8 per cent respondents in non-watershed area have completely followed proper time of harvesting. The partial knowledge and adoption of the respondents was recorded comparatively more in case of non-watershed area than in watershed area. The results were conformity with the Rajput, A.M. and Verma, A.R. (1993), Saxena, K. K., Jain, Navin and Pandya, S.C. (1990) and Singh, D.K. (1991).

CONCLUSION

It is concluded that the farmers of the watershed area have comparatively more knowledge which resulted in proportionately higher adoption of improved varieties, irrigation management, recommended dose of chemical fertilizer, weed control, insect control, disease control and proper time of harvesting of wheat crop. Hence, there is a need to develop watershed in rainfed area and motivate the farmers for adoption of improved farming practices.

REFERENCES

1. Rajput, A.M. and Verma, A.R. (1993). Stabilization of productivity through improved watershed technology in Malwa region of Madhya Pradesh. *Crop Research Journal*, 6 (2): 195-201.
2. Saxena, K.K.; Jain, Navin and Pandya, S.C. (1990). Transfer of rainfed technology its adoption by the farmers in Malwa region. *Indian Jr. of Extn. Edu*. 26 (3 & 4) 70-73.
3. Singh, D.K. (1991). Impact of watershed on land use and cropping pattern in the catchment area of Matatila river valley project in Lalitpur district of Bundelkhand region, Uttar Pradesh. *Indian J. of Agril. Eco*. 46 (3) : 324-325.