



Enhancing Effectiveness of Farm School through Community Wall Magazine (CWM): A Field Experimental Study

Netrapal Malik¹ and Shantanu Kumar Dubey^{2*}

¹Scientist, Agricultural Extension, KVK (CSAUA&T, Kanpur), Aligarh-202122, Uttar Pradesh, India

²Director, ICAR-ATARI, Kanpur-208002, Uttar Pradesh, India

*Corresponding author email id: skumar710@gmail.com

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ABSTRACT

A field experimental study was conducted in Aligarh District of Uttar Pradesh to assess the feasibility of enhancing the effectiveness of Farm Schools (FS) through Community Wall Magazine (CWM). Four treatments with two replications were taken in the study. Treatments were information sharing through CWM (T_1), information sharing through FS (T_2) and supporting information sharing through FS with CWM (T_3). Treatment T_0 was taken to eliminate the effect of extraneous variables. Before and after treatment score of gain in the knowledge level of farmers regarding paddy cultivation practices was measured with the help of a knowledge test developed for the study. Matching in terms of the general profile of the farmers under all the replications was ensured before exposure to the treatments. Total farmers under the study were 200. Through CWM 21.83 per cent enhancement in knowledge level regarding rice cultivation practices of the farmers was observed. Due to the effect of FS on rice, 47.18 per cent enhancement in knowledge level was observed. The FS on rice which were supported with the information sharing through CWM 61.02 per cent enhancement in the knowledge level of beneficiary farmers was observed.

INTRODUCTION

Communication is an essential prerequisite for development, which is getting the attention of development professionals in recent times. Communication for Development is a social process based on dialogue using a broad range of tools and methods. It is also about seeking change at different levels including listening, building trust, sharing knowledge and skills, building policies, debating and learning for sustained and meaningful change. It is not public relations or corporate communication (FAO, 2006). The communication for development process goes beyond information dissemination to facilitate active participation and stakeholder dialogue. It highlights the importance of raising awareness, the cultural dimensions of development, local knowledge, experiential learning, information sharing and the active participation of rural

people and other stakeholders in decision making (FAO, 2011). It is a tool for social and political transformation. It promotes participation and social change using the methods and instruments of interpersonal communication, community media and modern information technologies (SDC, 2016).

Under the Agricultural Technology Management Agency (ATMA) Scheme, Farm Schools (FS) are being operationalised at the Block/Gram Panchayat level. In general, one or two FS are organised in each block of the district. FS are set up in the field of outstanding or achiever farmers. Front Line Demonstrations in one or more crops and/or allied sectors is the core activity of the FS with focus on Integrated Crop Management (ICM), Integrated Pest Management (IPM), Integrated Nutrient Management (INM) etc. FS provides season-long learning to the target farmers (Directorate of Extension, 2018). It is based on the concepts of

experiential learning, information sharing and active participation of rural people. Learning in FS occurred through hands-on experience, observation, analysis and discussions. Farmers Field School (FFS) is a dynamic process that is practiced and controlled by the farmers to transform their observations to create a more scientific understanding of the crop/livestock agro-ecosystem (Khisa, 2004). There are two major outcomes of FFS, i.e., experiences gained by the farmers through learning by doing and analyzing the farm situations and identification of appropriate technology suitable for the local ecological, economic, social, cultural sub-systems of the farming community. However, the benefits of outcomes of FFS remain restricted to the group members of FFS. This limitation of FFS might be overcome by disseminating the outcomes of FFS in the farming community having similar situations through Community Wall Magazine (CWM). A CWM can be perceived as a group of inter-related articles (essay, story, poem, question-answer, etc.) designed and developed with the participation of the community members, displayed and read in public places, such as walls. CWM is a participatory communication tool that connects the farming community with experts in the dialectic process of understanding the conception of location specific farming. Participatory processes can lead to more inclusive and democratic perspectives of collective knowledge sharing and appropriation (Metcalf et al., 2022). Participatory science communication promotes a positive cooperation of trust that extends the scientific-technological applications to the socio-economic level (Lin, 2022). The present field experiment was conducted to analyse effectiveness of farm school through community wall magazine.

METHODOLOGY

The study was conducted in Aligarh district of Uttar Pradesh as an On Farm Trial (OFT) activity of Krishi Vigyan Kendra (KVK), Aligarh with the four treatments:

T_0 : No treatment (Farmers were receiving agricultural information from the sources available in their information environment), T_1 : T_0 + information sharing through CWM, T_2 : T_0 + information sharing through FS organized by the Department of Agriculture (DoA) under the Agricultural Technology Management Agency (ATMA) scheme and T_3 : T_0 + Information sharing through FS and CWM

FS of aromatic/basmati paddy crop were selected for the study. There are twelve blocks in the district. Two FS in different villages were being organized in each block of the district under the ATMA Scheme. The villages from *Kheir* and *Iglash* blocks selected by the Department of Agriculture (DoA) for organizing FS on paddy were taken for T_2 and T_3 of the study, respectively. Keeping in view the farming situations of T_2 and T_3 treatment villages of *Kheir* and *Iglash* blocks, two villages from *Jawan* and *Dhanipur* blocks were selected for T_1 and T_0 treatment, respectively. In nutshell, there were four treatments, each replicated twice, having 25 farmers per replication, thus, in total data was collected from 200 farmers.

A knowledge test on aromatic/ basmati rice cultivation practices was developed for the study. To develop the knowledge test sixty-six items were selected from package of practices for aromatic/ basmati rice cultivation. Each selected practice was put in question

form. The correct answer was given a score of 'one' and incorrect responses 'zero'. The maximum and minimum obtainable score from each respondent was 66 and 0, respectively. The test was applied on all the selected farmers irrespective of the treatments before giving exposure of the treatment. Pre-test was done before sowing of seed in paddy nursery. Under each treatment scores of all the selected farmers were added, and it was taken as cumulative pre-test knowledge level score of the respective treatment. Thereafter, as per the design of experiment, information on paddy cultivation practices was shared among groups of selected farmers at different stages of the crop through CWM, FS, and both FS+CWM. CWM was mounted at the commonplace in selected villages, ensuring accessibility to all the farmers of the village. Articles of the CWM were changed as per the information needs of the farmers that emerged with the stages of paddy crop. Content of the message was kept similar in all the treatments of the study. After the crop harvesting, same knowledge test was applied on all the selected farmers under each treatment. Scores of all the farmers under the respective treatment was added. It was taken as cumulative knowledge level score of post-test of the respective treatment. On the basis of cumulative pre-test and post-test scores of the farmers under each treatment, enhancement in knowledge level was calculated using percentage. General profile of the farmers under each treatment was also studied for ensuring matching of the subject in each treatment.

RESULTS AND DISCUSSION

General profile of the farmers

Data presented in Table 1 indicates that the maximum number of farmers under the study were between the age of 36 to 55 years, educated up to intermediate, having medium family size and land up to 1.6 hectares. Subcategories of the general profile of the farmers under all four treatments were also almost matching. Sastry et al., (2014) also reported that participant and non participant farmers of FFS were homogeneously distributed under medium socio-economic status.

Data presented in Table 2 indicates that 4.61 per cent enhancement in the knowledge level of farmers under the control group (T_0) was observed. This was taken as the effect of extraneous variables. This score was subtracted from the effect of all three treatments. The rest of the score was assumed as the effect of treatment. After subtracting the effect of extraneous variables 21.83 per cent enhancement in knowledge level was observed as effect of information sharing through CWM. Previous study also revealed that only 13 per cent of young farmers were using print for receiving agricultural information (Singh et al., 2021) and the farm periodicals need to be designed according to the personal and social needs of the readers (Nain, 2003). Further, the knowledge level of paddy farmers enhanced by 15 per cent through extension literature similar to that of Monikha et al., (2021). Additionally, Dominic et al., (2023) was in view that educational module (folder) was effective when it was developed keeping in the view content relevancy and quality of the module. Nain et al., (2019) opined that strength of relevance of information and need for agri enterprise creation was major concern for designing the entrepreneurial

Table 1. General profile of the farmers under each treatment

S.No.	Aspect of general profile	Percentage of farmers				Total (N=200)
		Control Group* (T ₀) (n=50)	Information sharing through CWM (T ₁) (n=50)	Information sharing through FS (T ₂) (n =50)	Information sharing through FS and CWM (T ₃) (n = 50)	
1.	Age					
	26 to 35 years	16	14	16	18	16.00
	36 to 45 years	36	40	36	36	37.00
	46 to 55 years	38	38	40	32	37.00
	56 to 65 years	10	08	08	14	10.00
2.	Educational level					
	Illiterate	04	0	06	04	03.50
	Primary	06	06	06	08	06.50
	Middle	24	26	20	24	23.50
	High School	32	34	28	26	30.00
	Intermediate	28	30	32	28	29.50
	Graduate	06	04	08	10	07.00
3.	Family Size					
	Small (Up to 4 members)	22	18	24	20	21.00
	Medium (5 to 8 members)	56	52	56	58	55.50
	Large (<8 members)	22	30	20	22	23.50
4.	Land holding					
	Up to 0.8 hectare	30	36	32	34	33.00
	>0.8 and ≤ 1.6 hectare	50	48	50	48	49.00
	>1.6 and ≤ 2.4 hectare	18	10	14	12	13.50
	>2.4 and ≤ 3.2 hectare	02	06	04	04	04.00
	>3.2 and ≤ 4.0 hectare	0	0	0	02	0.50

*Farmers were receiving agricultural information from the sources available in their information environment

Table 2. Gain in knowledge level of the farmers under each treatment

Treatment		Cumulative knowledge level score of 50 farmers		Increase in knowledge level score	% increase in knowledge level score	
		Pre-test	Post-test		Over pre-test	Over pre-test due to treatment
T ₀ :	No treatment*	976	1021	45	04.61	-
T ₁ :	T ₀ + Information sharing through CWM	1090	1328	238	21.83	17.22
T ₂ :	T ₀ + Information sharing through FS	1006	1527	521	51.79	47.18
T ₃ :	T ₀ + Information sharing through FS and CWM	996	1600	634	65.63	61.02

*Farmers were receiving agricultural information from the sources available in their information environment, FS=Farm School, CWM=Community Wall Magazine

technical information packages (ETIPs). Since the CWM was displayed at a common place accessible to all the farmers of the villages and the content and treatment of the message were kept as per the requirement and preference of the farming community, it was observed that CWM not only delivered the right information, at right time, at the doorstep of the farmers, it also created a dialogue among the farming community. The study by Panda et al., (2019) showed that access and usage on ICT tools have significance to influence on benefit extraction, which indicated that if we could able to increase the awareness level than access and usage of ICT tools possibly increase.

The cumulative enhancement in the knowledge level of the beneficiary farmers of the FS organised by the DoA under the ATMA scheme was 47.18 per cent. A study conducted in Sri

Lanka provided evidence that FFS can contribute to increasing farmers' skills and lowering insecticide use in rice (Tripp et al., 2005). Another study also showed that the rice farmers who attended the FFS have benefited higher levels of adoption and attitude toward biological control compared to those did not attend this course (Moumeni-Helali & Ahmadvour, 2013) Furthermore, studies showed that FFS positively affect the rice farmers' knowledge, attitude and practices, and the farm profitability of the rice enterprise (Red et al., 2021).

The fourth treatment of the study was running CWM with FS as a supporting information-sharing mechanism. Combined implementation of CWM and FS showed 61.02 per cent enhancement in knowledge level regarding appropriate paddy cultivation practices, additionally, 13.84 per cent enhancement in

the knowledge level of the beneficiary farmers. Previous study revealed that combined use of video-mediated learning and FFS, helps the farmers in effective learning and acquiring knowledge relatively faster than the individual approaches (Ongachi et al., 2018).

It is clear from the findings that CWM can be used as need-based location-specific information sharing tool with the farming community. It also has the potential of enhancing the effectiveness of FS being operationalised under the ATMA scheme. For harnessing the potential of CWM for sharing need-based location-specific information with the farming community, it can be run by line departments and/or NGOs involving local youth and farmers at the community level with the technical support of KVKs. Line departments of each district and NGOs have a vast network of extension functionaries up to the grassroots level. KVKs are functioning in almost all the rural districts of the country. These KVKs have technical expertise in agricultural technology and extension methodology. The KVKs might train the extension functionaries of their respective districts in implementing the FFS and running CWM in the villages. Properly implemented FFS might yield outcomes relevant for the farmers having similar farming situations. Their outcomes of the FFS and other relevant information might be shared with the farming community through CWM. Extension functionaries and scientists of KVKs jointly may identify the farming communities having similar situations, where outcomes of the FFS might be implemented. Due to limitations of human and non-human resources neither extension functionaries nor scientists of the KVKs can run the wall magazine in all the identified farming communities. In this situation, local youth/farmers for managing the wall magazine at the village level can be identified. KVKs of the respective districts may organise trainings for these youth/farmers on different aspects of management of wall magazine at the village level. In this way, farmers can get the right information at right time in their closer proximity.

CONCLUSION

Based on the field experimental study it can be concluded that Community Wall Magazine has the potential of sharing need-based, location-specific agricultural information with the farming community. When FS were supported with Community Wall Magazine the effect of FS on knowledge enhancement was accelerated. Community Wall Magazine can be used as a need-based location-specific information-sharing tool with the farming community in isolation. It can also be used for enhancing the effectiveness of FS being operationalized under the Agricultural Technology Management Agency (ATMA) scheme. It can be run in the villages by line departments involving rural youth and farmers with the technical support of KVK of the respective districts.

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