KNOWLEDGE OF FARMER FIRST PROGRAMME BENEFICIARIES ABOUT DEMONSTRATED TECHNOLOGIES

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ABSTRACT

The Farmer FIRST (Farm, Innovations, Resources, Science and Technology) Programme was initiated by ICAR in October 2016. The investigation tried to explore the knowledge level of beneficiaries about the demonstrated technologies under various modules of FFP and its association with a personal profile. The study was conducted in 2021 in the Jalalpore and Gandevi talukas of the Navsari District of South Gujarat as the project was implemented in this area only. The beneficiaries selected by random proportionate method from Crop, Horticulture, IFS, NRM, Livestock and Entrepreneurship, modules were 26, 34, 10, 25, 19 and 6, respectively. The study was confined to 120 small and marginal farmers. An ex-post facto research design was used. Twelve independent and one dependent variable were chosen. Results of the investigation showed that most of the beneficiaries had a medium level of knowledge regarding the livestock-based module (68.42%), IFS-based module (60.00%), crop-based module (57.69 %), and NRM-based module (56.00%). Half (50.00%) and less than half (47.06%) of the beneficiaries had a medium level of knowledge about the entrepreneurship-based module and horticulture-based module, respectively. The majority (62.50%) of the beneficiaries had a medium level of overall knowledge regarding demonstrated technologies under various modules of FFP. It was found that education, social participation, extension contact, innovativeness, economic motivation, and scientific orientation were found positive and highly significant. Whereas, occupation, annual income, and risk orientation were found to be positive and significant.

Keywords: *FFP, horticulture, integrated farming system, livestock, natural resource management, small and marginal farmers, vermicompost*

INTRODUCTION

The new proposed project Farmer FIRST Programme was initiated by ICAR in October 2016 and implemented in XI ATARI (Agricultural Technology Application Research Institutes) zones under an externally funded category. Navsari Agricultural University was the lead organisation falling under ICAR-ATARI Zone-VIII Pune. Directorate of Extension Education, Navsari, implemented the project entitled "Ensuring livelihood security for small and marginal farmers of South Gujarat" in 2017 in three villages of Navsari District. A total of six modules were implemented. The modules were Crop based module, Horticulture-based module, IFS-based module, NRM-based Module, Livestock-based Module, and Entrepreneurship-based Module.

It was hoped that the findings of this study would be helpful to the officials of ICAR, ATARI zone, Directorate, Gujarat government, Navsari Agricultural University, other extension personnel, and planners for modifying and qualifying their ways and means to improve the project. The knowledge of demonstrated technologies is expected to be affected by the personal profile of beneficiary farmers.

So, the results of such an association would be helpful to the policymakers, planners, administrative authorities, and grass-root level executive functionaries to approach the right people in the right way and motivate the non-beneficiaries to take advantage of FFP. It would also help to know those important factors that influence the knowledge. There was not a single study conducted and reported so far on this crucial project in the Gujarat area. Hence, an attempt was made to assess the knowledge of small and marginal farmers about technologies in the Farmer FIRST Programme; To determine the association of farmers' profile with the knowledge level. The null hypothesis was formulated as there is no relation between the profile of beneficiaries and their knowledge about demonstrated technology.

OBJECTIVE

To analyse the knowledge of beneficiaries about demonstrated technologies in FFP

METHODOLOGY

Study was carried out in the year 2021. Ex-post-

facto design was employed in the present investigation because it was considered appropriate, and the events have already occurred. South Gujrat region comprises these seven districts: Surat, Navsari, Valsad, Dang, Tapi, Bharuch and Narmada. Out of these districts Farmer FIRST Programme was implemented in the Navsari district. Hence, the Navsari district was purposively selected. Navsari district has six talukas *viz.,* Navsari, Chikhli, Gandevi, Vansada, Khergam and Jalalpore. Out of these talukas, the FFP was implemented in Hansapore and Chijgam village of Jalalpore taluka and Pathri village of Gandevi taluka. Thus, a total of three villages were selected from two talukas. As the project was limited to small and marginal farmers, the list of the beneficiary farmers of all six modules was obtained. The beneficiaries selected by random proportionate method from Crop, Horticulture, IFS, NRM, Livestock and Entrepreneurship, modules were 26, 34, 10, 25, 19 and 6, respectively. Thus, the sample size was 120 respondents for the present study. A total of twelve independent variables and one dependent variable were chosen for the study.

The statements about the knowledge test were carefully designed in consultation with experts, CO-PI's of the project, experts of agriculture and other KVK staff. A total of ten statements were framed for each of the technologies under each module, viz., crop-based module, horticulture-based module, IFS-based module, NRM-based module, livestock-based module and entrepreneurship-based module. The knowledge level of an individual farmer was measured by giving a set of statements related to that particular technology given to him. Thus, the set of statements for each farmer depended on the technology he received. The respondents were given one score if they gave a response yes to the statement. The respondents were given no score if they responded no to the statement. The total score obtained by the individual respondent for all the statements was calculated. Then with the help of mean and standard deviation, the total number of respondents was categorised into low (Below $\bar{x} \pm SD$), medium ($\bar{x} \pm SD$) and high (Above $\bar{x} \pm SD$) categories concerning their knowledge level of various practices. The correlation coefficient was calculated to assess the association between the profile of beneficiaries with their knowledge level. Further, the t-test was calculated to check its significance at a 1 % and a 5 % significance level.

An interview schedule was prepared following the study's objectives for data collection. The prepared schedule was pre-tested in the sampling area with non-sample respondents, and necessary changes were made. The data was collected by the personal interview method by the researcher from the respondents. The collected data were coded and tabulated for statistical analysis. Statistical tools used for data collection were frequency, percentage, arithmetic mean, standard deviation, correlation coefficient and t-test for testing of significance of the correlation coefficient.

RESULTS AND DISCUSSION

Knowledge level of farmers about demonstrated technology

Knowledge is an awareness, understanding or familiarity with something or someone, such as skills, objects or facts. Knowledge can be acquired from many sources and in many different ways. It is not limited to perception, reason, memory, testimony, scientific inquiry, education, and practice. It refers to a theoretical or practical understanding of a subject. It can be explicit, formal or informal, systematic or particular. From table 1, it is evident that, in case of the crop-based module, more than half (57.69 %) of the beneficiary farmers had a medium level of knowledge, followed by 26.92 % and 15.38 % had a high level of knowledge and low level of knowledge, respectively. The results are in line with the findings of Biradar et al. (2013), Uma and Sridhar (2014) and Gupta *et al.* (2017).

Table 1: Distribution of the respondents according to knowledge (n=120)

Sr. No.	Categories of knowledge	Frequency	Percentage
I	**Crop based module**		(n=26)
1	Low	04	15.38
2	Medium	15	57.69
3	High	07	26.92
		26	**100.00**
II	**Horticulture based module**		(n=34)
1	Low	08	23.53
2	Medium	16	47.06
3	High	10	29.41
		34	**100.00**

Sr. No.	Categories of knowledge	Frequency	Percentage
III	**IFS (Integrated Farming System) based module**		(n=10)
1	Low	01	10.00
2	Medium	06	60.00
3	High	03	30.00
		10	**100.00**
IV	**NRM (Natural Resource Management) based module**		(n=25)
1	Low	04	16.00
2	Medium	14	56.00
3	High	07	28.00
		25	**100.00**
V	**Livestock based module**		(n=19)
1	Low	01	05.26
2	Medium	13	68.42
3	High	05	26.32
		19	**100.00**
VI	**Entrepreneurship based module**		(n=06)
1	Low	01	16.67
2	Medium	03	50.00
3	High	02	33.33
		06	**100.00**
VII	**Overall knowledge**		(n=120)
1	Low	19	15.83
2	Medium	75	62.50
3	High	26	21.67

In case of the horticulture-based module, slightly less than half (47.06%) of the beneficiary farmers had a medium level of knowledge, followed by 29.41% and 23.53% had a high level of knowledge and a low level of knowledge, respectively. The results are in line with the findings of Jadhav and Manjunath (2011) and Tandel *et al.* (2015).

In case of the IFS-based module, the more than half (60.00%) of the beneficiary farmers had a medium level of knowledge, followed by 30.00% and 10.00% had a high level of knowledge and low level of knowledge, respectively. The results are in line with the findings of Kurbetta *et al.* (2017).

In case of the NRM-based module, more than half (56.00%) of the beneficiary farmers had a medium level of knowledge, followed by 28.00% and 16.00% had a high level of knowledge and low level of knowledge, respectively. The results are in line with the findings of Girawale and Naik (2017).

In case of a livestock-based module, the more than two third (68.42%) of the beneficiary farmers had a medium level of knowledge, followed by 26.32%, and 05.26% had a high level of knowledge and low level of knowledge, respectively. The results are in line with the findings of Moutos *et al.* (2022)

In case of the entrepreneurship-based module, half (50.00%) of the beneficiary farmers had a medium level of knowledge, followed by 33.33% and 16.67% had a high level of knowledge and low level of knowledge, respectively. The results are in line with the findings of Sourabh *et al.* (2018).

In case of the overall knowledge, slightly less than two third (62.50%) of the beneficiary farmers had a medium level of knowledge, followed by 21.67% and 15.83% had a high level of knowledge and a low level of knowledge, respectively. The reasons why the majority of the beneficiary farmers had a medium level of knowledge about demonstrated technology under various modules might be due to the fact that majority of the respondents had a medium level of extension contact, social participation, scientific orientation and innovativeness. This finding is in line with the findings of Kurbetta *et al.* (2017) and Pankaja *et al.* (2017).

Association between the personal profile of respondents and their level of knowledge

Considering the importance of the level of knowledge, the correlation coefficient was calculated with the personal profile of the beneficiary farmers and is furnished in table 2.

Table 2: Association between the personal profile of respondents and their level of knowledge

(n=120)

Sr. No.	Variables	'r' value
X_1	Age	-0.1196 NS
X_2	Education	0.2492 **
X_3	Occupation	0.2309 *
X_4	Type of family	0.0528 NS
X_5	Land holding	0.1622 NS
X_6	Annual income	0.1140 *
X_7	Social participation	0.2623 **
X_8	Extension contact	0.2401 **
X_9	Innovativeness	0.2628 **
X_{10}	Economic motivation	0.2570 **
X_{11}	Scientific orientation	0.3035 **
X_{12}	Risk orientation	0.2261 *

NS Non-significant, * Significant at 0.05 level, ** Significant at 0.01 level.

The data presented in Table 2 indicated that education (0.2492**), social participation (0.2623**), extension contact (0.2401**), innovativeness (0.2628**), economic motivation (0.2570**) and scientific orientation (0.3035**) were found positive and highly significant. Occupation (0.2309*), annual income (0.1140*) and risk orientation (0.2261*) were found to be positive and significant. Whereas, type of family (0.0528 NS) and land holding (0.1622NS) had a positive and non-significant association. While, age (-0.1196NS) was found to be negative and non-significant with the level of knowledge. The reasons for the above results might be due to the fact that education, social participation and extension contact were the factors that led to increased access to the information by the farmers. While, their innovativeness, economic motivation and scientific orientation drived their enthusiasm to acquire and retain knowledge.

These findings are in line with the findings reported by Malla (2019) and Vasava *et al.* (2019).

CONCLUSION

Results of the investigation showed that more than two third (68.42%) of the beneficiaries had a medium level of knowledge regarding the livestock-based module, followed by IFS-based module (60.00%), crop-based module (57.69 %) and NRM-based module (56.00%), entrepreneurship-based module (50.00%) and horticulture-based module (47.06%), respectively. In the case of overall knowledge, slightly less than two third (62.50 %) of the beneficiary farmers had a medium level of knowledge. It was reported that education, social participation, extension contact, innovativeness, economic motivation and scientific orientation were positive and highly significant with the level of knowledge. Occupation, annual income and risk orientation were found positive and significant. Whereas, type of family and land holding had a positive and non-significant association. While, age was found to be negative and non-significant with the level of knowledge.

CONFLICT OF INTEREST

This is to declare that there is "No conflict of interest" among researcher.

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