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Relationship between selected characteristics of beneficiaries with the adoption of beneficiaries of farmers field school in Ratnagiri district

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Abstract
This study was conducted in Dapoli, Mandangad and Khed tahasils of Ratnagiri district of Konkan region. The sample constituted of 120 i.e., 60 beneficiaries and 60 non-beneficiaries' farmers from 12 villages. The respondents were interviewed with the help of specially designed schedule. Collected data was classified, tabulated, and analyzed by using statistical method. There was a positive and significant relationship between education (0.2720^{*}), scientific orientation (0.2637^{*}), mass media exposure (0.2798^{*}), innovativeness (0.2931^{*}), extension contact (0.2844^{*}), FFS Training received (0.3329^{**}) and knowledge (0.3646^{**}) of beneficiary farmers with the adoption level of recommended rice cultivation practices, whereas age (0.1951^{NS}), farm size (0.0932^{NS}) and farming experience (0.1188^{NS}) with adoption was positively non-significant.Nearly half (51.67 per cent) of beneficiaries had medium yields and also majority (50.00 Per cent) of non-beneficiaries had medium yields.

Keywords: farmer field school, relationship, beneficiaries, non-beneficiaries

Introduction
The Farmer Field School (FFS) approach is based on the idea that the best learning comes from experience, and in the case of farmers, from field observations. The FFS combines ecology and non-formal education to enable farmers to learn more about their crops, share their experiences, and learn from one another. Farmer Field School (FFS) is based on "learning by doing" to motivate communities and increase their capacity for making informed decisions. It gives farmers a place to share their experiences and expertise to enhance their existing methods through experiential learning processes that lead to sustainable agriculture development. Through a discovery-based approach, farmers are given the ability to choose their production methods. It's a "school without walls" made up of groups of farmers who get together regularly during the growing season to try out new production methods as a group. FFS seeks to improve groups of farmers' abilities to test emerging innovations in their fields, evaluate the findings, and determine their suitability to their specific circumstances. They engage with researchers and extension staff on a more demand-driven basis, and they seek assistance in most situations when they are unable to solve a particular problem between themselves. In general, the FFS aims to provide farmers with the information and skills that will enable them to become experts in their fields; to improve farmers' ability to make important and educated decisions that will make their farming productive and sustainable; to educate farmers about new ways of thinking and problem solving, and to assist farmers in learning how to organize themselves and their communities. As a result, a farmer field school is a process rather than a goal.
The FFS's teaching approach is focused on learning by doing, discovery, contrast, and a non-hierarchical relationship between learners and teachers, and it is almost entirely conducted in the field. The FFS method is based on four main principles:

- Grow a healthy crop
- Observe fields regularly
- Conserve natural enemies
- Understand about ecology and become experts in the field.

The FFS approach is a problem-solving and discovery-based learning approach that is innovative, participatory, and interactive. FFS seeks to increase farmers' ability to analyze their production processes, identify the challenges, test potential solutions, and ultimately enable

participants to follow the practices that are most appropriate for their farming systems (FAO, 2003 c).Farmers may also use FFS to practice, test, and assess sustainable land-use technologies, as well as implement new technologies by linking their traditional technologies to their tradition and culture.

Objective

- To study the relationship between selected characteristics with the adoption of beneficiaries of FFSs on rice.
- To compare the yield levels between beneficiaries and non-beneficiaries of FFSs on Rice.

Methodology

The study was purposively conducted in Ratnagiri district of the Konkan region of Maharashtra state. Three tahsils from Ratnagiri district were identified for investigation because the large numbers of beneficiary farmers who provide large area under rice crop were present in these tahsils. On the basis of participation of villagers in Rice Farmers Field School four villages were selected from each tahsil on random basis and thus, the total twelve villages were selected. A total of 120 rice farmers were considered as respondents for present study out of which 60 were beneficiaries of FFSs. The respondents were interviewed with the help of specially designed schedule. Collected data was classified, tabulated, and analyzed by using statistical method. The Ex-post facto research design was used for the present study. The 'personal interview' method was used to collect field data in an informal setting. The respondents' data were scored, tabulated, and analyzed using appropriate statistical techniques such as frequency, percentage, mean, and standard deviation.

Result and Discussion

The relationship between the characteristics such as age, education, farm size, farming experience, mass media exposure, extension contact, scientific orientation, innovativeness, FFS trainings received, knowledge level and adoption of improved rice cultivation practices was tested by computing the correlation coefficient (r). The findings are given in Table 1.

Table 1: Relationship between selected profile characteristics of beneficiaries with the adoption by the beneficiaries of FFSs on rice. (N=60)

Sl. No.	Independent variable	Variable code	Correlation coefficient (r) with adoption level (Y)
1.	Age	X_1	0.1951^{NS}
2.	Education	X_2	0.2720^{*}
3.	Farm size	X_3	0.0932^{NS}
4.	Farming Experience	X_4	0.1188^{NS}
5.	Mass Media Exposure	X_5	0.2798^{*}
6.	Extension contact	X_6	0.2844^{*}
7.	Scientific Orientation	X_7	0.2637^{*}
8.	Innovativeness	X_8	0.2931^{*}
9.	FFS Trainings received	X_9	0.3329^{**}
10.	Knowledge level	X_{10}	0.3646^{**}

Non-significant: ^{NS}
Significant at 0.01 level of probability: ** (0.325)
Significant at 0.05 level of probability:* (0.250)

It is seen from Table 1 that relationship between age of the beneficiaries (X_1) and adoption level (Y) was found to be positive and non-significant. It means age of the respondents did not influence their adoption of improved rice cultivation practices taught in FFS. Thus, it can be said that there is no such difference that either young or old age farmers are adopting technology more than each other.

It is observed from the Table 1 that the relationship between educational level (X_2) and adoption level (Y) of the respondent was positive and significant at 0.05 level of probability. Formal education helps the farmer in acquiring more knowledge through reading and using various media. Further the educated people are more conscious to raise their standards of living by using the available resources to the fullest extent. Because of this, the adoption of improved rice cultivation practices might have been more among the beneficiaries have higher education and vice versa.

It is observed from Table 1 that relationship between farm size of the beneficiaries (X_3) and adoption level (Y) was found to be non-significant. This observation confirms that the adoption of recommended rice cultivation practices was not dependent on the size of the farm. It can be concluded from these findings that the beneficiaries having differential area under rice cultivation had more or less equal adoption of improved rice cultivation practices.

It is seen from Table 1 that relationship between farming experience of the beneficiaries (X_4) and adoption level (Y) was found to be positive but statistically non-significant. This indicates that the experience in rice cultivation of the respondents did not exhibit any impact on the adoption. The experienced farmers might have followed the recommended practices to a lower extent while the less experienced farmers might have adopted the recommended practices to high extent, which resulted in non-significant relationship.

It is observed from the Table 1 that the relationship between scientific orientation (X_5) and adoption level (Y) of the respondent was positive and significant at 0.05 level of probability. It can be concluded from these findings that the adoption level of the respondents had increased remarkably with an increase in their scientific orientation. Scientific orientation refers to a person's proclivity to use scientific methods in farming and decision-making. This shows that the scientific orientation in rice cultivation of the respondents exhibit more impact on adoption. The recommended method in rice is frequent changes, leading to adoption of them in increasing fashion. This might have been the reason for such type of significant relationship between scientific orientation and adoption.

It is observed from the Table 1 that the relationship between extension contact (X_6) and adoption level (Y) of the respondent was positive and significant at 0.05 level of probability. The study area was under the jurisdiction of the DBSKKV University. This might be reason of increased in extension contact in all activities will provide them more confidence about technology and it has direct effect on farmers decisions. So, the extension contacts of FFS trained farmers had adopted recommended rice cultivation practices.

It is observed from the Table 1 that the relationship between mass media exposure (X_7) and adoption level (Y) of the respondent was positive and significant at 0.05 level of probability. It implied that greater mass media exposure greater will be adoption. The possible reason might be that the farmers of the study area have used mass media as a source of

information for getting new ideas regarding the practices in rice cultivation than a media for entertainment.

It is observed from the Table 1 that the relationship between innovativeness (X_8) and adoption level (Y) of the respondent was positive and significant at 0.05 level of probability. The degree to which a person adopted new ideas relatively earlier than others in his social system is described as innovativeness. So, as the farmer with this trait acquire more knowledge from various sources of information and adopt the recommended rice cultivation practices in FFS. It can be concluded from these findings that the adoption level of the respondents had increased remarkably with an increase in their innovativeness. This shows that the innovativeness in rice cultivation of the respondents exhibit more impact on adoption.

It is observed from the Table 1 that the relationship between FFS trainings received (X_9) and adoption level (Y) of the respondent was positive and significant at 0.01 level of probability. All the respondents have completed the FFS trainings of different duration. Training gives everyone a great understanding of their responsibilities and the knowledge and skill. Here the respondents might have got the chance to improve their performance through training. This is also might be due to fact that rice farmers with high innovativeness and high exposure to mass media they can easily learn the new technologies and adopted in FFS practice in rice cultivation.

It is observed from the Table 1 that the relationship between Knowledge (X_{10}) and adoption level (Y) of the respondent was positive and significant at 0.01 level of probability. This confirmed that with an increase in knowledge level of the respondents, their adoption level about the recommended rice cultivation practices also increases significantly. Detailed knowledge of the practice is a pre-requisite for adoption. If the farmer does not have sufficient knowledge of recommended practice, he will not take risk to adopt it. Once he becomes fully aware of the technology and is convinced of its utility, he will not hesitate in adopting it. Obviously, the adoption of the recommended technology would be more among the farmers with high knowledge level than that with low knowledge level.

The yield of rice crops in kilograms per hectare, obtained by the respondents were calculated and presented in Table 2.

Table 2: Distribution of respondents according to their yield scores

Sl. No.	Category of farmers	Beneficiaries (N=60)		Non-beneficiaries (N=60)	
		Frequency	Percentage	Frequency	Percentage
1.	Low	18	30.00	21	35.00
2.	Medium	31	51.67	30	50.00
3.	High	11	18.33	09	15.00
	Total	60	100	60	100
Mean: 954.59				S.D.: 940.17	

It was seen from the Table 2 and Figure 14 that 51.67 per cent of the beneficiaries respondents had medium yields, followed by low (30.00 per cent) and high (18.33 per cent). Whereas, 50.00 per cent of 'non-beneficiaries respondents had medium yields, followed by low (35.00 per cent) and high (15.00 per cent). The means yield of beneficiaries was high (1055.55 kg/ha) than the mean yield of 'non-beneficiaries' respondents (856.97 kg/ha).

Therefore, it could be saying that majority of the beneficiaries respondents were belonged to medium to high category of rice yield than the non-beneficiaries respondents. It means FFS training leads to increasing knowledge and adoption of improved rice cultivation practices, which ultimately increased the yield of the farmers.

Conclusion

It is revealed that there was a positive and significant relationship between education (0.2720^{*}), scientific orientation (0.2637^{*}), mass media exposure (0.2798^{*}), innovativeness (0.2931^{*}), extension contact (0.2844^{*}), FFS Training received (0.3329^{**}) and knowledge (0.3646^{**}) of beneficiary farmers with the adoption level of recommended rice cultivation practices, whereas age (0.1951^{NS}), farm size (0.0932^{NS}) and farming experience (0.1188^{NS}) with adoption was positively non-significant. Nearly half (51.67 per cent) of beneficiaries had medium yields and also majority (50.00 per cent) of non-beneficiaries had medium yields. But the results have shown significant difference between the mean yield scores of beneficiaries of FFS.

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