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Relational Analysis between Profile of Farmers and Extent of Adoption of Cluster Frontline Demonstrations (CFLDS)

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Krishi Vigyan Kendra's (KVKs) conducted Cluster Front Line Demonstrations (CFLDs) under the National Food Security Mission (NFSM) to showcase the productivity of newly released technologies on farmers' fields. These demonstrations aimed to disseminate various technologies

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and engage farmers and extension workers in farming and extension activities. The study focused on Chittoor district in Andhra Pradesh. For CFLDs beneficiary farmers, the study found that variables such as education, training, mass media exposure, innovativeness, scientific orientation, management orientation, economic orientation, and risk orientation had a significant positive relationship with the extent of adoption. However, age and farming experience showed a significant negative relationship. Farm size, extension contact, social participation, and achievement motivation were not significantly related to changes in yield level.In the case of non-beneficiary farmers, education, social participation, scientific orientation, management orientation, economic orientation, and achievement motivation were negatively significant, while age, farm size, farming experience, training, extension contact, mass media exposure, and innovativeness were not significantly related to changes in yield level. When considering all 14 independent variables together, they explained approximately 73.60% of the variation in yield level changes among beneficiary farmers and 55.20% among non-beneficiary farmers participating in CFLDs.

Keywords: Cluster Frontline Demonstrations (CFLDs); beneficiary; non-beneficiary; extent of adoption; Krishi Vgyan Kendras (KVKs).

1. INTRODUCTION

Krishi Vigyan Kendra, a district level front-line extension system, plays a critical role in technology assessment & refinement and conduct large scale demonstrations on successful technologies to convince the farming community and increase adoption. In order to enlarge the production and productivity of oilseed crops in the country, Ministry of Agriculture and Farmers' Welfare, Government of India sanctioned a project on “Cluster Frontline Demonstrations of Oilseeds in 2017-18” under National Mission on Oilseeds and Oil Palm (NMOOP) implemented through eleven ICAR-Agricultural Technology Application Research Institutes (ATARI) all over India. Cluster Frontline Demonstrations (CFLDs) play a crucial role in agricultural development and innovation adoption. They serve as practical platforms for showcasing and promoting new agricultural practices, technologies, and techniques to farmers. CFLDs aim to bridge the gap between research institutions and farmers, facilitating the transfer of knowledge, improving agricultural productivity, and enhancing farmers' livelihoods.

Cluster frontline demonstrations are conducted in specific geographic clusters, where a group of farmers collectively participates in the demonstration of innovative agricultural practices. These demonstrations are often organized by agricultural extension agencies, research institutions, or non-governmental organizations (NGOs) in collaboration with local farmers' groups or cooperatives. The primary objective of cluster frontline demonstrations is to provide firsthand experience to farmers by showcasing the benefits and effectiveness of new agricultural technologies and practices.

2. METHODOLOGY

The present study was conducted in Chittoor district of Andhra Pradesh state.

2.1 Research Design

This study used an ex-post facto research design. Because independent variables are intrinsically non-manipulable, ex-post facto research design is a systematic empirical investigation in which the researcher does not have direct control over them.

2.2 Method of Sampling

A multistage sampling technique was used for the study. Sampling was done at five stages viz., the selection of districts, selection of KVKs, selection of mandals, selection of villages and selection of respondents.

2.2.1 Selection of the district

Chittoor district of Andhra Pradesh was purposively selected for the study. Being a native of the district, the researcher was familiar with social conditions, local language, culture of the people, officers and KVK scientists which helped for in depth study combined with personal observations.

2.2.2 Selection of KVKs

Krishi Vigyan Kendra, Kalikiri and Rashtriya Seva Samithi - Krishi Vigyan Kendra (RASS-KVK),

Karakambadi in Chittoor district were selected purposively for the study. The KVKs selected for the study.

2.2.3 Selection of mandals

Out of 66 mandals in Chittoor district, two mandals adopted by each KVK thus making a total of two mandals were selected purposively for the study. The selected mandals.

2.2.4 Selection of the villages

Three villages from each of the selected mandals, were selected by purposive sampling technique, thus making a total of six villages.

2.2.5 Selection of the respondents

From each of the selected villages, 10 CFLDs beneficiary and 10 non-beneficiary farmers were selected by following simple random sampling procedure, thus making a total of 120 respondents.

2.3 Statistical Tools and Techniques

The data were collected with the help of pretested interview schedule from the respondents as per their convenience at their home or farm. The collected data was analysed by using following statistical techniques.

2.3.1 Karl pearson's coefficient of correlation

Karl Pearson's correlation coefficient (r) was used to find out zero order correlation between dependent and independent variables to see the nature of relationship existed.

$$r = \frac{\sum xy - \frac{(\sum x)(\sum y)}{n}}{\sqrt{\sum x^2 - \frac{(\sum x)^2}{n}}\ \sqrt{\sum y^2 - \frac{(\sum y)^2}{n}}}$$

2.3.2 Multiple regression analysis

The technique was used to know the partial and complete influence of independent variables on dependent variable. For the present study, linear model of regression equation was used as follows.

$$Y1 = a + b_1x_1 + b_2x_2 + \ldots\ldots + b_nx_n + \mu$$

3. RESULTS AND DISCUSSION

3.1 Correlation Analysis between Profile and Change in Extent of Adoption of CFLDs Farmers

Correlation analysis between profile and change in extent of adoption of CFLDs farmers presented in Table 1 and pictorial presentation given in Fig. 1.

3.1.1 Age Vs change in extent of adoption

From the Table 1, it is evident that co-efficient of correlation (r = -0.334**, -0.284*) between age and adoption of the CFLDs beneficiary farmers and non-beneficiary farmers was greater than the table value of 'r' at 0.01 level and 0.05 level of significance respectively. Therefore, it could be inferred that there was a negative and significant relationship between age and adoption by the beneficiary and non-beneficiary farmers of CFLDs.

Majority of the farmers belonged to middle age group. They had medium innovativeness, high scientific orientation and medium mass media exposure. As the individuals grow older, their willingness to adopt new ideas or technologies lowers since they are inclined to more conventional methods and do not desire to try new things. Therefore, as the age increases the extent of adoption decreases. This finding was in agreement with Sreenivasulu [1] and Madhushekar et al. [2].

3.1.2 Education Vs change in extent of adoption

From the Table 1, it is evident that co-efficient of correlation (r = 0.808**) between education and adoption of beneficiary farmers was greater than the table value of 'r' at 0.01 level of significance. Hence, null hypothesis was rejected and empirical hypothesis was accepted. Therefore, it could be inferred that there was a positive and highly significant relationship between education and adoption by the beneficiary farmers of CFLDs. Whereas, in case of non-beneficiary farmers co-efficient of correlation ($r = 0.200^{NS}$) between education and adoption of the non-beneficiary farmers was less than the table value of 'r' at 0.05 level of significance.

This might be due to the reason that if education of farmers is more, their mental horizons are sharpened and they will acquire more knowledge

about new technologies and try to practice in their field. Non-beneficiary farmers had non-significant relationship because majority of them were educated up to primary school so, they were interested to follow traditional farming in their fields. This finding was in line with the findings of Sreenivasulu [1] and Kadalgi [3].

3.1.3 Farm size Vs change in extent of adoption

From the Table 1, it is evident that co-efficient of correlation ($r = -0.014^{NS}$, -0.047^{NS}) between farm size and adoption of the respondents was less than the table value of 'r' at 0.05 level of significance. Hence, null hypothesis was accepted and empirical hypothesis was rejected. Therefore, it could be inferred that there was a negative and non-significant relationship between farm size and adoption by the beneficiary and non-beneficiary farmers of CFLDs.

The possible reason for this was irrespective of their farm size farmers might have adopted new technologies in their fields. These findingswere similar with the findings of Siddeswari [4], Chouhan [5], Gathiye [6] and Singh [7].

3.1.4 Farming experience Vs change in extent of adoption

From the Table 1, it is evident that co-efficient of correlation (r = -0.289*) between farming experience and adoption of the beneficiary farmers was greater than the table value of 'r' at 0.05 level of significance. Therefore, it could be inferred that there was a negative and significant relationship between farming experience and adoption by the beneficiary farmers of CFLDs. Whereas, in case of non-beneficiary farmers, co-efficient of correlation ($r = -0.143^{NS}$) between farming experience and adoption of the non-beneficiary farmers was less than the table value of 'r' at 0.05 level of significance. Therefore, it could be inferred that there was a negative and non-significant relationship between farming experience and adoption of non-beneficiary farmers of CFLDs.

In case of beneficiary farmers, irrespective of their farming experience in farming, the grasping level of new innovations and adopting it in the field situation was dependent on individual's personal interest. This finding of the study was in agreement with the findings of Sreenivasulu [1] Sahu [8] and Singh [9].

3.1.5 Training undergone Vs change in extent of adoption

From the Table 1, it is evident that co-efficient of correlation (r = 0.484**) between training undergone and adoption of the beneficiary farmers was greater than the table value of 'r' at 0.01 level of significance. Therefore, it could be inferred that there was a positive and highly significant relationship between training undergone and adoption by the beneficiary farmers of CFLDs. Whereas, in case of non-beneficiary farmers, co-efficient of correlation ($r = 0.031^{NS}$) between training undergone and adoption was less than the table value of 'r' at 0.05 level of significance. Therefore, it could be inferred that there was a positive and non-significant relationship between training undergone and adoption of non-beneficiary farmers of CFLDs.

Probably this could be due to the fact that beneficiary farmers who have attended more number of trainings had a greater understanding and exposure to new technology. After being acquainted with this technology, individuals develop a favourable attitude towards the technology and decided to adopt it. Non-beneficiary farmers were unaware of new technology since they were not interested in attending trainings conducted by KVKs .These findings were inline with the findings of Bhowmik et al. [10] and Vishal [11].

3.1.6 Extension contact Vs change in extent of adoption

From the Table 1, it is evident that co-efficient of correlation (r = 0.310**, -0.219*) between extension contact and adoption of the respondents was greater than the table value of 'r' at 0.01 and 0.05 level of significance respectively. Therefore, it could be inferred that there was a positive and significant relationship between extension contact and adoption of beneficiary farmers whereas, negative and significant relationship between extension contact and adoption of non-beneficiary farmers of CFLDs.

The probable reason for this trend might be that beneficiary farmers who were participated in CFLDs scheme could have frequent contact with extension personnel than non-beneficiary farmers. This might be because beneficiary farmers contact the KVK functionaries for acquiring more knowledge on new technologies

and management practices, it helps them to adopt the technologies and know how to manage it. This finding of the study was in agreement with the findings of Siddeswari [4] and Chouhan [5].

3.1.7 Mass media exposure Vs change in extent of adoption

From the Table 1, it is evident that co-efficient of correlation (r = 0.727**) between mass media exposure and adoption of the beneficiary farmers was greater than the table value of 'r' at 0.01 level of significance. Therefore, it could be inferred that there was a positive and highly significant relationship between mass media exposure and adoption by the beneficiary farmers of CFLDs. Whereas, in case of non-beneficiary farmers co-efficient of correlation (r = 0.208^{NS}) between mass media exposure and adoption was less than the table value of 'r' at 0.05 level of significance. Therefore, it could be inferred that there was a positive and non-significant relationship between mass media exposure and adoption of non-beneficiary farmers of CFLDs.

It is natural that increased mass media exposure broadens the understanding and awareness on the recommended practices and which in turn leads to better adoption. Messages sent by extension personals through mass media channels also help beneficiary farmers to know about the management practices and weather forecasting than non-beneficiary famers. This finding was in line with the finding of Sreenivasulu [1] and Venkanna [12].

3.1.8 Social participation Vs change in extent of adoption

From the Table 1, it is evident that co-efficient of correlation (r = 0.209^{NS}) between social participation and adoption of the beneficiary farmers was less than the table value of 'r' at 0.05 level of significance. Therefore, it could be inferred that there was a positive and non-significant relationship between social participation and adoption by the beneficiary farmers of CFLDs. Whereas, in case of non-beneficiary farmers co-efficient of correlation (r = 0.220*) between social participation and adoption was greater than table value of 'r' at 0.05 level of significance. Therefore, it could be inferred that there was a positive and significant relationship between social participation and adoption of non-beneficiary farmers of CFLDs.These findings were similar to the findings of Pandey et al. [13].

3.1.9 Innovativeness Vs change in extent of adoption

From the Table 1, it is evident that co-efficient of correlation (r = 0.654**, 0.340**) between innovativeness and adoption of the respondents was greater than the table value of 'r' at 0.01 level of significance. Therefore, it could be inferred that there was a positive and highly significant relationship between innovativeness and adoption of beneficiary and non-beneficiary farmers of CFLDs.

Innovativeness is associated with the individual's earliness in the use of new practices. Innovative farmers will always be experimenters. During any constraint situation, farmers with high level of innovativeness will experiment the new ways of doing things to change the existing situation. This finding was in line with the finding of Sreenivasulu [1], Siddeswari [4], Kadalgi [3] and Gajanan [14].

3.1.10 Scientific orientation Vs change in extent of adoption

From the Table 1, it is evident that co-efficient of correlation (r = 0.480**, 0.383**) between scientific orientation and adoption of the respondents was greater than the table value of 'r' at 0.01 level of significance. Therefore, it could be inferred that there was a positive and highly significant relationship between scientific orientation and adoption of beneficiary and non-beneficiary farmers of CFLDs.

Farmers having more scientific orientation will be motivated to know more about improved agricultural technologies. Due to this, they might develop favourable attitude towards technologies, which in turn led them to adopt new agricultural technologies. Hence, the above trend was noticed. This finding was in line with the finding of Siddeswari [4].

3.1.11 Management orientation Vs change in extent of adoption

From the Table 1, it is evident that co-efficient of correlation (r = 0.683**, 0.407**) between management orientation and adoption of the respondents was greater than the table value of 'r' at 0.01 level of significance. Therefore, it could be inferred that there was a positive and highly significant relationship between management orientation and adoption of beneficiary and non-beneficiary farmers of CFLDs.

CFLDs empowers the farmers to implement quality decisions in their fields based on more scientific understanding of the agro ecosystem thus developing their capability to be better managers of their farming systems. Management orientation is the ability of a farmer in scientific farm management in planning, production and marketing. Farmers endowed with these attributes could naturally strive hard to get maximum profits by adopting the ICM practices. This might be the reason for such relationship between the variables. The finding was in conformity with the findings reported by Siddeswari [4] and kadalgi [3].

3.1.12 Economic orientation Vs change in extent of adoption

From the Table 1, it is evident that co-efficient of correlation (r = 0.526**, 0.431**) between economic orientation and adoption of the respondents was greater than the table value of 'r' at 0.01 level of significance.. Therefore, it could be inferred that there was a positive and significant relationship between economic orientation and adoption of beneficiary and non-beneficiary farmers of CFLDs.

CFLDs inculcate cost reduction technologies and measures to manage crop pests which improve the quality of produce. The farmers with high economic orientation will work towards higher yields and economic returns. During this process, they will acquire more knowledge and skills from different sources of information and adopt the same in their fields. Hence, the above trend was observed. The above finding is in conformity with the findings of Kadalgi [3], Singh et al. [12] and Padiyar [15].

3.1.13 Risk orientation Vs change in extent of adoption

From the Table 1, it is evident that co-efficient of correlation (r = 0.552**) between risk orientation and adoption of the beneficiary farmers was greater than the table value of 'r' at 0.01 level of highly significance. Therefore, it could be inferred that there was a positive and significant relationship between risk orientation and adoption by the beneficiary farmers of CFLDs. Whereas, in case of non-beneficiary farmers co-efficient of correlation (r = 0.070^{NS}) between risk orientation and adoption was less than the table value of 'r' at 0.05 level of significance. Therefore, it could be inferred that there was a positive and non-significant relationship between risk orientation participation and adoption of non-beneficiary farmers of CFLDs.

Risk orientation is the ability to take the right decision during uncertainties these uncertainties are nothing but the constraints. The farmer who is willing to take calculated risks during constraint situation will gain better results. Farmers with higher risk preference would be much ahead of others in exploiting the potentialities of eco-friendly cardamom cultivation. These farmers will be very much critical and cautious in understanding different aspects of this technology which directly or indirectly might have helped them to acquire different components essential for better adoption of location specific technologies. The above finding is in conformity with the findings of Tiwari [16].

3.1.14 Achievement motivation Vs change in extent of adoption

From the Table 1, it is evident that co-efficient of correlation (r = 0.347**) between achievement motivation and adoption of the beneficiary farmers was greater than the table value of 'r' at 0.01 level of significance. Therefore, it could be inferred that there was a positive and highly significant relationship between achievement motivation and adoption by the beneficiary farmers of CFLDs. Whereas, in case of non-beneficiary farmers co-efficient of correlation (r = 0.177^{NS}) between achievement motivation and adoption was less than the table value of 'r' at 0.05 level of significance. Therefore, it could be inferred that there was a positive and non-significant relationship between achievement motivation and adoption of non-beneficiary farmers of CFLDs.

Individuals with high achievement motivation would be determined to reach his goal with concentrated efforts. In this process, he knows the importance of recommended practices and this leads to high adoption. It is obvious that a farmer with high achievement motivation will definitely conceive new ideas and skills better than others and this might have influenced to have a better level of adoption. This finding was in line with the finding of Kadalgi [3].

Table 1. Correlation coefficients between profile with change in extent of adoption of the beneficiary and non-beneficiary farmers of CFLDs (n = 120)

S. No.	Variable	Correlation coefficients ('r' values)	
		CFLDs Beneficiary farmers	CFLDs Non-beneficiary farmers
1.	Age	-0.334**	-0.284*
2.	Education	0.808**	0.200^{NS}
3.	Farm size	-0.014^{NS}	-0.047^{NS}
4.	Farming experience	-0.289*	-0.143^{NS}
5.	Training undergone	0.484**	0.031^{NS}
6.	Extension contact	0.310**	-0.219*
7.	Mass media exposure	0.727**	0.208^{NS}
8.	Social participation	0.209^{NS}	0.220*
9.	Innovativeness	0.654**	0.340**
10.	Scientific orientation	0.480**	0.383**
11.	Management orientation	0.683**	0.407**
12.	Economic orientation	0.526**	0.431**
13.	Risk orientation	0.552**	0.070^{NS}
14.	Achievement motivation	0.347**	0.177^{NS}

** : Significant at 0.05 level of probability*
*** : Significant at 0.01 level of probability*
NS : Non-significant

Table 2. Multiple linear regression analysis of the selected independent variables with change in extent of adoption of the beneficiary and non-beneficiary farmers of CFLDs (n = 120)

S. No.	Variable	CFLDs beneficiary farmers				CFLDs non-beneficiary farmers			
		Std. error	'b' values	't' values	'p' values	Std. error	'b' values	't' values	'p' values
1.	Age	0.097	0.011	0.114^{NS}	0.910	0.140	0.041	0.290^{NS}	0.773
2.	Education	1.789	5.488	3.068**	0.004	0.557	0.208	0.374^{NS}	0.710
3.	Farm size	0.468	-0.140	-0.299^{NS}	0.767	0.468	0.626	1.337^{NS}	0.188
4.	Farming experience	0.117	-0.113	-0.964^{NS}	0.340	0.165	0.032	0.195^{NS}	0.846
5.	Training undergone	0.429	-0.295	-0.687^{NS}	0.495	0.807	-1.657	-2.052^{NS}	0.046
6.	Extension contact	0.133	0.243	1.819^{NS}	0.076	0.087	-0.184	-2.102^{NS}	0.041
7.	Mass media exposure	0.791	-1.190	-1.504^{NS}	0.140	0.284	0.404	1.422^{NS}	0.162
8.	Social participation	0.918	0.701	0.764^{NS}	0.449	0.814	0.724	0.889^{NS}	0.379
9.	Innovativeness	0.058	0.236	4.109**	0.000	0.118	0.192	1.622^{NS}	0.112
10.	Scientific orientation	0.392	0.021	0.054^{NS}	0.957	0.501	0.119	0.238^{NS}	0.813
11.	Management orientation	0.173	0.120	0.691^{NS}	0.493	0.119	0.027	0.227^{NS}	0.821
12.	Economic orientation	0.346	0.294	0.850^{NS}	0.400	0.260	0.465	1.789^{NS}	0.080
13.	Risk orientation	0.328	-0.325	-0.990^{NS}	0.327	0.173	-0.385	-2.221^{NS}	0.031
14.	Achievement motivation	3.394	-13.982	-4.120^{NS}	0.000	0.210	0.098	0.468^{NS}	0.642
		R^2 = 0.724				**R^2 = 0.405**			

** : Significant 0.05% probability*
*** : Significant 0.01% probability*
NS : Non-significant

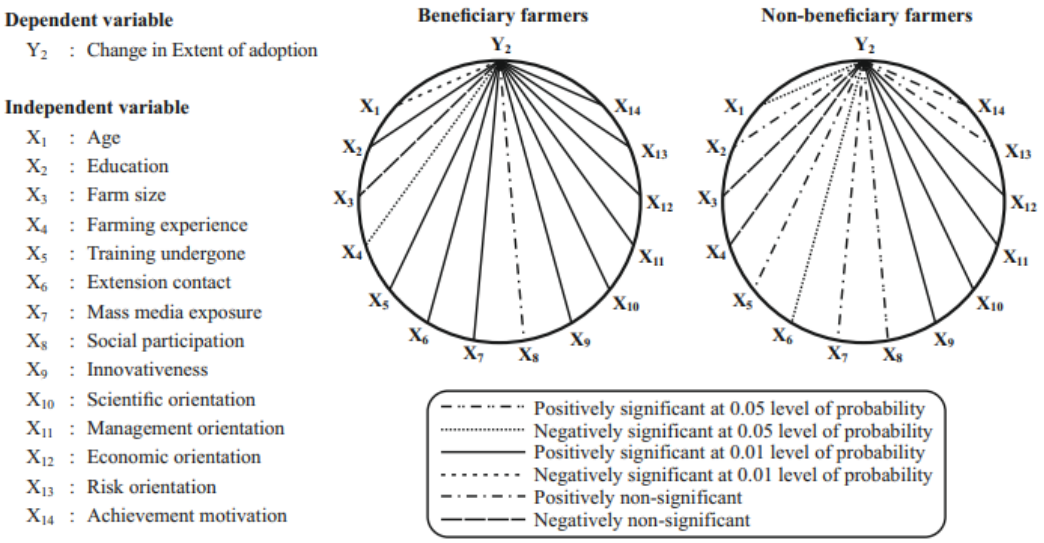

Fig. 1. Correlation between profile of CFLDs beneficiary and non-beneficiary farmers and change in extent of adoption

3.2 Regression Analysis

Table 2 shows that the coefficient of determination '$R^{2,}$ value was significant. The '$R^{2,}$ value of 0.724 which depicted that all the selected fourteen independent variables put together explained about 72.40% variation in change in extent of adoption of CFLDs beneficiary farmers. The remaining 27.60% might be due to the effect of extraneous variables. Hence, it indicates that the profile selected to a large extent explained the variation in change in extent of adoption of CFLDs beneficiary. The multiple regression coefficients presented in Table 2 further revealed that the independent variables viz., education (Sig. = .004) and innovativeness (Sig. = .000) were found positively and statistically significant as evident from their significant 't' values in CFLDs beneficiary farmers. Whereas in case of non-beenficiary farmers 'R^2 ' value of 0.405 which depicted that all the selected fourteen independent variables put together explained about 40.50% variation in change in extent of adoption of CFLDs non-beneficiary farmers .

The remaining 59.50% might be due to the effect of extraneous variables. The multiple regression coefficients presented in Table 2 further revealed that the independent variables didn't explain more about CFLDs non-beneficiary farmers. This implied that education and innovativeness have contributed to most of the variation in the change in extent of adoption of CFLDs beneficiary farmers. Normally a farmer with high education makes him to strive hard to get more information through various means to meet his requirements. High level of innovativeness helps to farmers to adopt the new technologies recommended by the scientist which directly help them to get more benefits the the non-beneficiary farmers.

4. CONCLUSION

The extent to which beneficiary farmers adopt new practices showcased in cluster frontline demonstrations is influenced by their educational background and exposure to agricultural information, including contact with extension agents and training programs. Beneficiary farmers with higher education levels and greater exposure to such resources demonstrate a greater receptiveness towards adopting these innovations. They possess a better understanding of the advantages associated with these practices and are more likely to adopt them in order to enhance their agricultural productivity and income, in comparison to non-beneficiary farmers. The profile of cluster frontline demonstration beneficiary farmers holds a significant impact on the adoption levels of these practices, distinguishing them from non-beneficiaries. Consequently, it becomes imperative to comprehend the distinct needs, constraints, and motivations of different farmer profiles in order to effectively disseminate and successfully implement agricultural innovations.

By doing so, the benefits of cluster frontline demonstrations can be extended to all farmers, regardless of their backgrounds or available resources.

5. IMPLICATION

Understanding the relationship between the extent of adoption and the profile of CFLDS beneficiaries and non-beneficiaries is crucial for the scientific community to assess program effectiveness, improve targeting mechanisms, refine program design, address inequality, and inform policy decisions.

CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Sreenivasulu M. Empowerment of farmers through farmer field school in Andhra Pradesh. Ph. D Thesis. Acharya N.G Ranga Agricultural University, Hyderabad; 2011.
2. Madhushekar BR, Narendar G, Goverdhan M and Kumar K. Impact of Front-line Demonstration in Transfer of Groundnut Production Technologies for the Livelihood Improvement of Oilseed Farmers. International Journal of Bio-resource and Stress Management. 2022; 13(8):806-814.
3. Kadalgi M. Impact analysis of frontline demonstrations of Krishi Vigyan Kendra on beneficiary farmers in Belagavi district of Karnataka. *M.*Sc. (Ag.) Thesis. University of Agricultural Sciences, Gandhi Krishi Vigyan Kendra Bengaluru; 2017.
4. Siddeswari GK. Impact of Farmers Field Schools (FFS) on the rice farmers in Nellore district of Andhra Pradesh. M.Sc. (Ag.) Thesis. Acharya N.G. Ranga Agricultural University, Hyderabad; 2015.
5. Chouhan B. A study on adoption behaviour of beneficiary and non-beneficiary farmers of green gram cultivation under Front Line Demonstration (FLD) in Khargone district of Madhya Pradesh. *M.Sc. (Ag.)* Thesis. Vijayaraje Scindia Krishi Vishwa Vidyalaya College of Agriculture, Indore; 2019.
6. Gathiye GS, Verma V, Aswani, RC, Prajapati BL. and Dhakad SS. Impact of frontline demonstrations on chickpea (*Cicer arietinum* L.) productivity and profitability at tribal farmer's fields in Dhar district of Madhya Pradesh. The Pharma Innovation Journal. 2022;11(9):2862-2865.
7. Singh SRK, Naberia S, Shrivastava S. Profile of Cluster Frontline Demonstration Beneficiaries in Madhya Pradesh and Chhattisgarh State. Asian Journal of Agricultural Extension, Economics and Sociology. 2022;40(11):472-477.
8. Sahu R, Kumar D, Sohane R, Kumar A, Prasad M, Singh R. Evaluation of technological interventions, yield attributes, yield and economics of cluster frontline demonstration mustard in Banka district of Bihar: Cluster frontline demonstration on mustard. Journal of Agri. Search. 2022; 9(3):218-221.
9. Singh AK. Integrated Crop Management Practices of Wheat through Frontline Demonstration in Bundelkhand Region. Indian Journal of Extension Education. 2022;58(1):36-39.
10. Bhowmik P, Biswas P, Das S. Impact of Cluster Front Line Demonstrations on Productivity and Economics of Lentil (*Lens culinaris* L.), Chickpea (*Cicer aeritinum* L.) and Field Pea (*Pisum sativum* L.) in Old Alluvial Zone of Malda, West Bengal, India. Legume Research-An International Journal. 2022;45(12):1553-1558.
11. Vishal M, Ahirwar RP, Sahare KV, Pandre NK, Ketki D, Minakshi M. Impact of cluster frontline demonstrations (CFLD) oil seeds on yield enhancement of mustard (Brassica juncea) in tribal district of Mandla, Madhya Pradesh. The Pharma Innovation. 2022;11(1):118-123.

12. Venkanna Y, Rao BB, Srinivas A, Vinayak R and Naresh B. Performance of Cluster Front Line Demonstrations on Integrated Crop Management in Red Gram (*Cajanus cajan*) Using Variety PRG-176 in Peddapalli District under North Agroclimatic Zone of Telangana State in India. Asian Journal of Agricultural Extension, Economics and Sociology. 2022;40(8):96-103.
13. Pandey NK, Kumar S, Hnamte V, Shukla R. Impact and Assessment of Frontline Demonstration (FLD) Management of Weeds in Pineapple by Plastic Mulch. Asian Journal of Agricultural Extension, Economics and Sociology. 2022;40(11):314-319.
14. Gajanan BM. Impact of linseed demonstrations on the beneficiary Farmers. *M.Sc. (Ag.) Thesis*. Dr. Panjabrao Deshmukh Krishi Vidyapeeth Krishinagar, Akola; 2019.
15. Padiyar K. Impact of front line demonstration on knowledge and adoption level among green gram growers in Dewas district Madhya Pradesh. M.Sc. (Ag.) Thesis. Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Indore, Madhya Pradesh; 2017.
16. Tiwari A, Singh S, Srivastva R and Meena K. Performance of Pigeonpea (*Cajanus cajan* L.) Varieties Sown on Ridge under Front Line Demonstration at Farmer's Field in Deoria District of Uttar Pradesh, India. International Journal of Plant and Soil Science. 2022;34(23): 764-771.

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