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L Muralikrishnan
Scientist, Division of
Agricultural Extension, IARI,
New Delhi, India

Quadri Javeed Ahmad Peer
Assistant Professor, Division of
Agricultural Extension and
Communication, FoA, Wadura
SKUAST- Kashmir, Jammu
Kashmir, India

Maddina Sreekanth
Research Scholar, Division of
Agricultural Extension and
Communication, FoA, Wadura
SKUAST- Kashmir, Jammu
Kashmir, India

Irfath Rashid
Research Scholar, Division of
Agricultural Extension and
Communication, FoA, Wadura
SKUAST- Kashmir, Jammu
Kashmir, India

Correspondence
Quadri Javeed Ahmad Peer
Assistant Professor, Division of
Agricultural Extension and
Communication, FoA, Wadura
SKUAST- Kashmir, Jammu
Kashmir, India

Analyse the relationship between the profiles of farmers with their symbolic adoption behaviour in adoption of eco-friendly conservation practices in the Nilgiris district of Western Ghats

L Muralikrishnan, Quadri Javeed Ahmad Peer, Maddina Sreekanth and Irfath Rashid

Abstract

The farm lands in the Western Ghats ecosystem has been losing its fertility, bio diversity, ecological uniqueness due to long uses of chemical fertilizers, commercial farm management practices and chemical pesticides. To solve these issues, eco-friendly farming practices are one of the major solution. The eco-friendly farming has a long heritage of farming with traditional wisdom, which acts as the basis for ecological knowledge base and the eco-friendly farming practices provide long term sustainability to the resource poor farmers. But adoption of eco-friendly farming practices requires symbolic adoption behavior to tackle the tasks and challenges in the adoption process. The Nilgiris district of Tamil Nadu was purposively selected due to the prevalence of wide biodiversity and diversified farming practices in the Western Ghats region. The study was further aimed to analyses the symbolic adoption behavior of farmers towards eco-friendly conservation practices. Further regression analysis suggested that the Innovativeness, Educational Status, Leadership Abilities, Contact with Extension Agency has played important elements in the symbolic adoption behaviour level of farmers in the adoption of eco-friendly conservation practices in Western Ghats in the Nilgiris District. The step wise regression shows that the In the Innovativeness, educational status, leadership abilities and Contact with Extension Agency contributing the percentage levels were 58.139%, 27.01%, 5.72%, 2.86% respectively in the symbolic adoption behavior of adoption of the eco-friendly farming practices in The Nilgiris district of western Ghats.

Keywords: Symbolic adoption Behaviour, Eco-friendly farming practices

Introduction

Background of the study

The Western Ghats plays a significant role in determining the climate and physiographic of the country. The Western Ghats covers of six states namely Gujarat, Maharashtra, Karnataka, Kerala, Goa and Tamil Nadu. It has a wide range of vegetation and topographical features. Bio geographically, the hill chain of the Western Ghats constitutes the Malabar province of the Oriental realm, running parallel to the west coast of India from 8° N to 21° N latitudes, 73° E to 77° E longitudes of around 1600 km. The Western Ghats region forms the upper catchment of major rivers like the Krishna, Godavari and Cauvery and several of their tributaries. Unfortunately during the 19th century, large tracts of forest lands of the Western Ghats region were cleared and converted the land for commercial agriculture practices of tea, coffee, exotic vegetables likes potato, carrot, etc.

The long-term implications of estate and plantation agriculture have been created ecological problems due to long uses of chemical fertilizers, commercial farm management practices and chemical pesticides. It suffers the soil fertility, bio diversity, ecological uniqueness. This creates new hazardous situation in the entire agro biodiversity (R. J. Daniels. 1996) [7]. Further Agricultural biodiversity is a vital sub-set of biodiversity. It is a creation of humankind whose food and livelihood security depend on the sustained management of those diverse biological resources that are important for food and agriculture (Ramakrishnan (2002) [9]. In this context, the eco-friendly farming practices minimize the agricultural production risks and conserve the sustainable management of the Western Ghats ecosystem.

Eco friendly farming practices is a holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles and soil biological activity (FAO, 1999) [3]. Eco-friendly farming offer the possibility of long term sustainability. Eco-friendly agriculture is affordable for resource poor farmers.

Eco-friendly farming has a long heritage of farming with traditional wisdom, which acts as the basis for ecological knowledge (Rahaman, 2001). In ecological agriculture, organic, mechanical, biodynamic, physical and cultural practices of agriculture are mainly used for environmental conservation and sustainable farm production. So, it is correct time to regain the lost ecological status to start the ecological agriculture in Western Ghats (Conservation International, 2013)^[4].

According to Ajzen and Fishbein (1980)^[2], the behavior of an individual is basically determined by two factors; one is the individual's nature and the other reflects perceived social pressure. So adoption of eco-friendly farming practices requires strong attitude to the farmers to tackle the tasks and challenges in the adoption process (Hossain *et al.*, 2002)^[5]. Hence, the present study aimed to analyse the relationship between the profiles of farmers with their symbolic adoption behaviour in adoption of eco-friendly conservation practices in the Nilgiris district of Western Ghats. And so, The Nilgiris district play a representative sample of the entire Western Ghats with varying topography, biodiversity richness and ecological diversity.

Methodology

The study was conducted purposefully in The Nilgiris district of Tamil Nadu and data were collected by using the interview schedule. All four blocks was taken for this study. The samples of 80 farmers were selected from each block. Totally, 320 respondents were selected from the district. The respondents have been selected based on the simple random sampling technique with the support of the state department of horticulture. The farmers interviewed in correspondence with the objective set forth. Further regression analysis was carried out with the profile of the farmers with their symbolic adoption behaviour in adoption of eco-friendly conservation practices in the Nilgiris district of Western Ghats.

The association and contribution of profile characteristics of farmers with the symbolic adoption behaviour level towards the eco-friendly conservation practices in the Nilgiris District of Western Ghats.

The association and contribution of profile characteristics of farmers with their symbolic adoption behaviour level towards the eco-friendly conservation practices in the Nilgiris District of western Ghats. Correlation and multiple regression analysis were carried out. The results are furnished in table 53.

Table 1: The association and contribution of profile characteristics of farmer's symbolic adoption behaviour level, towards the eco-friendly conservation practices in the Nilgiris District of Western Ghats.

Sl. No.	Profile characteristics	Farmers			
		Correlationr	Regression ('b' value) coefficient	SE of b	't' value
1.	(X1) Age	0.020	-0.002	0.072	-0.034
2.	(X2) Educational Status	0.564**	0.098	0.033	2.943**
3.	(X3) Occupational Status	0.428**	0.086	0.043	2.005*
4.	(X4) Farming Experiences	-0.133*	-0.002	0.074	-0.022
5.	(X5) Farm Size	0.079	-0.012	0.067	-0.175
6.	(X6) Annual Income	0.067	0.002	0.059	0.032
7.	(X7) Social Participation	0.498**	0.006	0.046	0.128
8.	(X8) Economic Motivation	-0.373**	0.000	0.060	-0.004
9.	(X9) Risk Orientation	0.362**	0.056	0.090	0.623
10.	(X10) Scientific Orientation	0.488**	0.055	0.072	0.763
11.	(X11) Information Seeking Behaviour	0.446**	0.048	0.084	0.574
12.	(X12) Training Undergone	0.407**	0.053	0.076	0.699
13.	(X13) Progressiveness	0.412**	0.118	0.079	1.494
14.	(X14) Perception on Environmental Degradation	0.439**	0.166	0.098	1.690*
15.	(X15) Perception on Environmental Conservation	0.511**	0.025	0.071	0.349
16.	(X16) Innovativeness	0.570**	0.156	0.056	2.788**
17.	(X17) Self Reliance	0.505**	-0.036	0.054	-0.672
18.	(X18) Contact with Extension Agency	0.503**	0.052	0.027	1.918*
19.	(X19) Socio Cultural Linkage	-0.482**	-0.083	0.063	-1.327
20.	(X20) Leadership Abilities	0.516**	0.058	0.073	0.783

$R^2 = 0.559$ $F = 13.903$ Constant = -0.030

*P < 0.05; **P < 0.01; NS-Non-significant; NA-Not applicable

It could be observed from the table 1, that the variables, Educational Status, Innovativeness of farmers towards have had positive and significance relationship with the symbolic adoption behaviour level of farmers towards the eco-friendly conservation practices in western Ghats in the Nilgiris District at one per cent level of probability. The variables Occupational Status, Perception on Environmental Degradation, Contact with Extension Agency of farmer's symbolic adoption behaviour level had positive and significance relationship with the eco-friendly conservation practices in Nilgiris District of Western Ghats at five per cent level of probability.

The regression results from the table1, were also indicates that all the selected twenty variables acted as a cause to bring 55.9 per cent variation in symbolic adoption behaviour level of

farmers in the eco-friendly conservation practices in the Nilgiris District of Western Ghats. The prediction equation was fitted for perceived eco-friendly conservation practices in Western Ghats in the Nilgiris District

Attitude level of farmers in eco-friendly conservation practices in western Ghats in the Nilgiris District (Y) = -0.030 - 0.002 (X1) + 0.098 (X2) + 0.086 (X3) - 0.002 (X4) - 0.012 (X5) + 0.002(X6) + 0.006 (X7) + 0.00 (X8) - 0.056 (X9) - 0.055 (X10) - 0.048 (X11) + 0.053 (X12) + 0.118 (X13) + 0.166 (X14) + 0.025 (X15) + 0.156 (X16) - 0.036 (X17) + 0.052 (X18) - 0.083 (X19) + 0.058 (X20)

This revealed that one unit increase in Educational Status, Occupational Status, Perception on Environmental Degradation, Innovativeness Contact with Extension Agency, *ceteris paribus* would result in an increase of 2.943 units,

2.005 units, 1.690 units, 2.788 units and 1.918 units in overall symbolic adoption behaviour level of eco-friendly conservation practices in Western Ghats in the Nilgiris District.

It could be observed from the table1, that among the 20 variables, Educational Status, Occupational Status, Perception on Environmental Degradation, Innovativeness, Contact with Extension Agency were found to positively contributing on the symbolic adoption behaviour level of the eco-friendly conservation practices in the Nilgiris District of Western Ghats.

In general, Innovativeness, Educational Status, Leadership Abilities, Contact with Extension Agency was a key element in the symbolic adoption behaviour level of farmers in the eco-friendly conservation practices in the Nilgiris District of Western Ghats. This in turn played a crucial factor to the adoption level of eco-friendly conservation practices in the Nilgiris District of Western Ghats.

Step wise regression analysis of independent variables on to the symbolic adoption behaviour level farmers towards the eco-friendly conservation practices in the Nilgiris District of Western Ghats.

All twenty independent variables together accounted for 55.90 per cent variation of the symbolic adoption behaviour level of the eco-friendly conservation practices in the Nilgiris District of western Ghats. Step wise regression analysis was further administered to find out remarkably contributing variables among all twenty variables and results are presented in table 2.

Table 2: Step wise regression analysis of independent variables on to the symbolic adoption behaviour level farmers towards the eco-friendly conservation practices in the Nilgiris District of Western Ghats.

Step No.	Variables Added at each step	R2	% variation	F value
1.	(X16)Innovativeness	0.325	58.139	114.727
2.	(X2) Educational Status	0.476	27.01	107.740
3.	(X20) Leadership Abilities	0.508	5.72	81.295
4.	(X18) Contact with Extension Agency	0.524	2.86	64.569

From table 2, it could be concluded that all the twenty independent variables altogether accounted for 55.90 per cent variation in the first step of step up regression. In each steps the addition of the variable with the percentage level of contribution the adoption of eco-friendly conservation practices in The Nilgiris District of Western Ghats. The Innovativeness, educational status, leadership abilities and Contact with Extension Agency contributing the percentage levels were 58.139%, 27.01%, 5.72%, 2.86% respectively. Remaining variables were the least contributing variables in the symbolic adoption behaviour level of farmers towards the eco-friendly conservation practices in the Nilgiris District of Western Ghats.

Conclusion

The Symbolic adoption behaviour plays very important role in the adoption process in the eco-friendly farming practices in the Nilgiris of Tamilnadu. The eco-friendly farming practices are an effective and holistic system of farming practices for environmental friendly, economically viable, and socially acceptable way of adoption process. The variables of Innovativeness Educational Status, Occupational Status, Perception on Environmental Degradation, Contact with

Extension Agency has played positive and significance relationship with the eco-friendly conservation practices in the Nilgiris District of Western Ghats. Further the regression analysis result indicated that the Innovativeness, educational status, leadership abilities and Contact with Extension Agency contributing the percentage levels were 58.139%, 27.01%, 5.72%, 2.86% respectively. Mainly, the increased contact with extension agency and identification & promotion of leadership abilities supported with the enhanced level of opinion leadership towards eco-friendly conservation practices helps in faster adoption of the Eco Friendly Conservation Practices. And so, the eco-friendly farming practices promotion should be based on the farmer's preference for participatory technologies development and dissemination in sustainable development process.

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