

Vol.6 No. 1, 10-13 (2017)

Received: January, 2017; Accepted: March, 2017

## Association Between Adoption Level of Farmers and the Selected Independent Variables of Moth Bean Production Technology

Hemant Kumar Jhingoniya<sup>1</sup>, Subhash Chandra<sup>2</sup>, Amit Kumar Keshri<sup>3</sup> and Rajendra Kumar Meena<sup>4</sup>

E-mail : h.k.jhingonia@gmail.com

1. Ph.D Scholar (Ext. Edu.), Rajasthan college of Agriculture, MPUAT, Udaipur
2. Programme Coordinator, Krishi Vigyan Kendra, Lunkarnsar, Bikaner.
3. Ph.D Scholar (Agri. Ext. and Comm.) Allahabad School of Agriculture, SHIATS, Allahabad
4. Ph.D Scholar (Ext. Edu.) Rajasthan College of Agriculture, Udaipur

### Abstract

*The present study was conducted in purposely selected Bikaner district of Rajasthan. Two Panchayat Samities namely Bikaner and Lunkaransar where Krishi Vigyan Kendra conducted it's activities on Moth bean crop were selected. From the above two Panchayat Samities ten villages were identified and from each village 5 farmers of Moth bean were selected randomly and were called as Beneficiary farmers. Equal number of Moth bean growers from the same villages were also selected to make the study comparable. Thus a total sample of 100 farmers were included in the study. The data were collected with the help of structured questionnaire & by personal interview method. Collected data were tabulated & inferences were drawn after subjecting the data to statistical analyses. Various statistical measures viz., chi-square test, 'z' test, 't' test and spearman's rank correlation tests were used for analyzing the data. There was significant association between age, education, size of land holding, annual income, social participation and land holding with level of adoption of respondents regarding Moth bean production technology. The caste and family type of Moth bean Growers were non-significantly associated with the level of adoption of the respondents.*

**Key words:** Adoption, Association, Production technology, Respondents, etc.

### Introduction

Krishi Vigyan Kendra's play a pivotal role in transfer of agricultural technologies. Krishi Vigyan Kendra's are conducting the activities on the basis of mandates prescribed by ICAR. The mandates include conducting On Farm Testing for the refinement of technologies to make them locality suitable and the other activities like Front Line Demonstrations, Trainings, Farmers fair, Exhibitions etc. for quick transfer of technology to the farmers with the addition of other aspects like soil and water testing labs, Model nurseries, Mobile services to the farmers and so on<sup>[1,5]</sup>. The Krishi Vigyan

Kendra has got the shape of an institution. The Krishi Vigyan Kendra Bikaner has been serving the farming community of the district since 1983. It has been also developing the programme mes by identifying the needs of people. The Bikaner is also known for Bikaneri bhujia and papad. The major raw material for preparation of Bikaneri bhujia and papad comes from the Moth bean. Since the Moth bean is in demand in the district therefore these crops are grown in larger areas as compared to other crops grown in the district. Moth bean crop being the important crops of the district were selected in the present investigation.

## Material and Methods

Bikaner district was selected purposely due to the reason that the major part of Bikaner was under desert and Government paid more attention for developing it. Moth bean crop was selected on the basis of highest area in the district in kharif season. Bikaner district has six Panchayat samities, namely Bikaner, Lunkaransar, Nokha, Shri Dungargarh, Khajuwala and Kolayat. Bikaner and Lunkaransar Panchayat samities were selected randomly. List of villages where KrishiVigyan Kendra had conducted its activities in last five years in both the Panchayat Samities was prepared by taking the data from the KrishiVigyan Kendra, Bikaner there were 28 villages in the list. Out of the list ten villages were selected randomly. Hundred farmers (50 Beneficiary & 50 Non-Beneficiary) were selected randomly from the ten randomly selected villages where KrishiVigyan Kendra, Bikaner and Lunkaransar have conducted its activities for measuring the adoption of the farmers. The adoption scale was specially developed to measure the adoption level of farmers about improved package of practices of Moth bean production technology.

## Result and Discussion

**Total farmers:** Data in table I. showed that all the seven variables together explained to the extent of 80.28 variation in the adoption of Moth bean technology by the total farmers. The respective 'F' value i.e. 53.68 which was significant at 1 percent level with (792) degree of freedom. Thus, the result implied that all the seven independent variable would account for a significant amount of variation in the adoption of Moth bean technology by the farmers. Further, it was observed that the 't' test of significance indicated that coefficient of regression (b-value) were found to be significant for the variables: Age, Education, Social participation and Land holding at 1 percent level of significance and Occupation at 5 percent level of significant. This means that these variable were the important for predicting the adoption

level about Moth bean production technology by the farmers. The regression coefficient was found non-significant for remaining variable namely: Caste, and Family type. This leads to the conclusion that these variables were not important with regard to adoption of Moth bean technology by the farmers. Hence the null hypotheses  $H_{0.1.2}$ ,  $H_{0.1.6}$  were accepted & the null hypothesis  $H_{0.1.1}$ ,  $H_{0.1.3}$ ,  $H_{0.1.4}$ ,  $H_{0.1.5}$ ,  $H_{0.1.7}$  were rejected

**Beneficiary Farmers:** It was revealed from the same table the seven independent variables taken together explained to the extent of 71.57 percent of the in the adoption of Moth bean technology<sup>[2]</sup> by the Beneficiaries. The respective 'F' value was significant at 1 percent level at (742) degree of freedom which was 30.52 Thus, the result implied that all seven independent variables would account for a significant amount of variation in the adoption level of the Beneficiaries. Further, 't' test of significance indicated that coefficient of regression (b-value) were found to be significant for the variables: Education, Land holding, Occupation, Family type<sup>[3,4]</sup>. This means that these variables were the important for predicting the adoption of Moth bean technology by the farmers. The regression coefficient found non-significant for remaining variable namely: Age, Caste and social participation. Hence the null hypotheses  $H_{0.2.1}$ ,  $H_{0.2.2}$ ,  $H_{0.2.5}$  were accepted & the null hypothesis  $H_{0.2.3}$ ,  $H_{0.2.4}$ ,  $H_{0.2.7}$  were rejected

**Non Beneficiary Farmers :** It was also revealed from the same table the seven independent variable taken together explained to 83.53 percent of the variation in the adoption level of the Non-Beneficiaries. The respective 'F' significant at 1 percent level at (742) degree of freedom which was 15.13. Thus, the result implied that all seven independent variables would account for a significant amount of variation in the adoption of the Non-Beneficiaries. The 't' test of significance indicated that coefficient of regression (b-value) were significant for the variable : Education, Social participation, and Land holding at significant 1 percent level of

significant . This means that these three variable were the most important for predicting the adoption of Moth bean technology by the Non-Beneficiaries as compared to rest of the variables under the study. The regression coefficient found non-significant for remaining variable namely: Age, Caste, Occupation and Family type. Hence it may be concluded that Education, Land holding, Age, Social participation, and Occupation were the important variables which determined the adoption of Moth bean technology by the farmers. Hence the null hypotheses  $H_{0\ 3.1}$ ,  $H_{0\ 3.2}$ ,  $H_{0\ 3.4}$ ,  $H_{0\ 3.6}$ , were accepted & the null hypothesis  $H_{0\ 3.3}$   $H_{0\ 3.5}$ ,  $H_{0\ 3.7}$  were rejected.

**Conclusion**

In case of total farmers the overall effect of the seven independent variables was about 80 per cent and the ‘f’ value calculated was 53.68, which was significant at 1% level. However, in case of Beneficiary farmers the effect was 83 per cent and the effect was 71 per cent in case of Non-Beneficiary farmers. Age, education, occupation, social participation and land holding were observed important variables predicting adoption level of Moth bean technology of total farmers. In case of Beneficiaries education, occupation, family type land holding and in case of Non-Beneficiaries education, social participation and land holding were the important variables for determine in the adoption level of Moth bean production technology.

**Table 1 Association between personal attributes of Moth bean growers with their extent of adoption of Moth bean production technology**

Sr. No.	Personal attributes	Beneficiary farmers (n=50)			Non-Beneficiary farmers (n=50)			Pooled (n=100)		
		b value	Standard error	t value	b value	Standard error	t value	b value	Standard error	t value
1	Age	-0.0438	0.1040	0.42 <sup>NS</sup>	0.0310	0.1607	0.19 <sup>NS</sup>	-0.2971	0.089	3.35 <sup>**</sup>
2	Caste	0.0212	0.0571	0.37 <sup>NS</sup>	-0.0599	0.1651	0.36 <sup>NS</sup>	-0.0514	0.060	0.86 <sup>NS</sup>
3	Education	0.3952	0.1045	3.78 <sup>**</sup>	0.3304	0.0942	3.51 <sup>**</sup>	0.1926	0.055	3.48 <sup>**</sup>
4	Occupation	0.2338	0.1115	2.13 <sup>*</sup>	0.0127	0.1833	.07 <sup>NS</sup>	0.2441	0.098	2.49 <sup>*</sup>
5	Social participation	0.1798	0.1559	1.15 <sup>NS</sup>	0.4914	0.1706	2.88 <sup>**</sup>	0.3827	0.083	4.60 <sup>**</sup>
6	Family type	0.4214	0.1583	2.66 <sup>**</sup>	0.2004	0.1517	1.32 <sup>NS</sup>	0.0966	0.103	0.94 <sup>NS</sup>
7	Land holding	0.2623	0.2623	3.12 <sup>**</sup>	0.1050	0.0308	3.41 <sup>**</sup>	0.3101	0.084	3.70 <sup>**</sup>

\*\* = Significant at 1% level, \* = Significant at 5% level, NS = Non-Significant

**Beneficiary farmers**

Correlation of coefficient ( $R^2$ ) = 0.8353  
 Multiple Correlation (R) = 0.230  
 Calculated Value of ‘F’ = 30.52<sup>\*\*</sup>  
 d.f. = 7,42

**Non-Beneficiary farmers**

Correlation of coefficient ( $R^2$ ) = 0.7157  
 Multiple Correlation (R) = 0.846  
 Calculated Value of ‘F’ = 15.13<sup>\*\*</sup>  
 d.f. = 7,42

**Total farmers**

Correlation of coefficient ( $R^2$ ) = 0.8028  
 Multiple Correlation (R) = .896  
 Calculated Value of ‘F’ = 53.68<sup>\*\*</sup>  
 d.f. = 7,92

**References**

1. Gaikwad, B. H. and Gunjal, S. S. (1999) "Knowledge and adoption behaviour of technologies by the beneficiaries of KVK in Maharashtra. *Journal of Maharashtra Agricultural Universities*, 24(3):279-281.
2. Singh, B. and Chouhan T. R. (2006). Factor influencing the adoption of moth bean production technology in arid zone of Rajasthan. *Journals of Arid Legumes*. 3 (1) : 34-38.
3. Pandhare, S.P. Nadre, K. R. Deshmukh, R. S. and Bhosale, P. B. (2012). Adoption of Krishi Vigyan Kendra (KVK) recommended practices. *Agriculture Update*, 7(1/2): 85-91.
4. Ramakrishna, S. H. Hosakoti, S. S. Maraddi, G. N. and Meti, S. K. (2013). A critical analysis of transplanting method of redgram cultivation adoption through demonstration. *Environment and Ecology*, 31 (1A): 263-269.
5. Sharma, P. Singh, G. P. and Jha, S. K. (2013). Impact of training programme on knowledge and adoption of preservation technologies among farm women: a comparative study. *Indian Research Journal of Extension Education*, 13 (1):96-100.