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RELATIONSHIP BETWEEN SELECTED PROFILE OF THE POTATO GROWERS AND THE KNOWLEDGE LEVEL OF BENEFICIARY FARMERS ABOUT POTATO PRODUCTION TECHNOLOGY

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ABSTRACT

The present study was undertaken in KVK at Deesa of Banaskantha district. Out of 14 talukas Banaskantha District seven talukas falls under the jurisdiction of KVK, Banaskantha-I (Deesa). Among the seven talukas four taluka was purposively selected on the basis of maximum numbers of activities carried out by KVK. From each selected talukas three villages were selected purposively on the basis of maximum numbers of beneficiary farmers. A comprehensive list of the beneficiary potato growers of each adopted village was obtained from KVK. From this list, ten beneficiary potato growers from each village were selected randomly for the study. Thus, 120 beneficiary potato growers were selected for the study. To know the impact of KVK, the same numbers of non beneficiary potato growers were selected randomly from same villages. Thus, altogether 120 beneficiary and 120 non beneficiary potato growers were selected for the study. Thus, total 240 potato growers were selected. Among the selected variables, the variable viz., education, extension participation, source of information, scientific orientation, risk orientation, economic motivation and attitude had exerted positive and highly significant relationship while farming experience, size of land holding, occupation, yield and social participation had positive and significant relationship. Whereas, age exerted negative and non-significant relationship and annual income had positive and non-significant relationship with knowledge level about potato production technology.

Keywords*: potato production technology, potato growers, knowledge and association*

INTRODUCTION

Agriculture is the backbone of Indian economy. Modernization of agriculture greatly depends on development of farm and its dissemination. A large number of agricultural technologies are available, but full use of it is not being done in many parts of the country. Thus, there is a big gap in the technology generation and dissemination. There is need for transfer of improved agricultural technology from research station to the farmer's field. Appropriate training to the farmers is very crucial to increase agricultural production with a view to get benefit. To assist these huge masses, innovative programme related to transfer of technology were launched in our country. ICAR mooted the idea of establishing Krushi Vigyan Kendra (Farm Science Centre) as innovative institutions for imparting vocational training to the farmers and field level extension functionaries. They act as the training centers for the transfer of technology with an aim to reduce the time lag between technology generation and their transfer. It would be necessary to review the development activities and programmes undertaken by KVK to improve the socio-economic conditions of farmers through increased agricultural production. The achievements of KVKs are measured in terms of impact of these trainings on the farming community. Therefore, it is necessary to examine the impact of KVK on level of knowledge, adoption and attitude towards various activities of KVK. With this task in view a study entitled, "Impact of Krushi Vigyan Kendra, Banaskantha-I on potato production technology" was conducted.

OBJECTIVES

(1) To study the profile of the potato growers

(2) To assess the relationship between selected profile of the potato growers and the knowledge level of beneficiary farmers about potato production technology

MATHODOLOGY

The present study was undertaken in KVK at Deesa of Banaskantha district. Gujarat state has 33 districts, out of which Banaskantha district was selected for this study as Krishi Vigyan Kendra, Banaskantha-I (Deesa) is situated in this district. Banaskantha-I (Deesa), was first KVK in Gujarat state is established in 22nd February, 1976 in the 5th five years plan of the ICAR. This KVK was under Sardarkrushinagar Dantiwada Agricultural University Jurisdiction. The study was confirmed to Ex-Post Facto research design. The multistage

sampling technique was used for select a representative sample of respondents for present investigation. Out of 14 talukas of Banaskantha District Deesa, Dantiwada, Vadgam and Palanpur taluka was purposively selected on the basis of maximum numbers of activities carried out by Krushi Vigyan Kendra, Banaskantha-I (Deesa). From each selected talukas three villages were selected purposively on the basis of maximum numbers of beneficiary and more number of activities carried out by Krushi Vigyan Kendra, Banaskantha-I (Deesa). Thus, total twelve villages were selected. From this list, ten beneficiary potato growers from each village were selected randomly for the study. Thus, 120 beneficiary potato growers were selected for the study. To know the impact of KVK, the same numbers of non beneficiary potato growers were selected randomly from same villages. Thus, altogether 120 beneficiary and 120 non beneficiary potato growers were selected for the study. Thus, total 240 potato growers were selected. The data were collected by personal contact method with the help of structured interview schedule and collected data were coded, classified, tabulated and analyzed in light of objective and in order to make the findings meaningful for drawing meaningful interpretation.

RESULTS AND DISCUSSION

Profile of Beneficiary farmers and non- Beneficiary farmers

Keeping in view the objectives of the study, the relevant variables were selected on the basis of an extensive review of literature related to the study, in consultation with experts and members of advisory committee. Only those variables which were found most relevant to the present investigation were finally selected. The result of selected variables were presented in Table 1.

Table 1: Distribution of the potato growers according to their personal profile (n = 240)

Sr. No.	Personal profile	Classification	Beneficiary farmers (n-120)		Non-beneficiary farmers (n-120)	
			Frequency	Per cent	Frequency	Per cent
1	Age	Young (up to 35 years)	20	16.67	19	15.83
		Middle (36 to 50 years)	70	58.33	68	56.67
		Old (above 50 years)	30	25.00	33	27.50
2	Education	Illiterate	06	05.00	11	09.16
		Functionally literate	19	15.84	22	18.33
		Primary school (1^{st} to 8^{th} standard)	46	38.33	53	44.17
		Middle school (9^{th} to 10^{th} standard)	32	26.66	24	20.00
		High school (11^{th} to 12^{th} standard)	10	08.34	06	05.00
		College/Post-graduation	07	05.83	04	03.34
3	Farming experience in potato cultivation	Low (Up to 5 years)	20	16.67	26	21.67
		Medium (6 to 10 years)	55	45.83	53	44.16
		High (Above 10 years)	45	37.50	41	34.17
4	Area under potato cultivation	Up to 1.00 ha	18	15.00	25	20.84
		1.01 to 2.00 ha	35	29.17	40	33.33
		2.01 to 4.00 ha	36	30.00	38	31.67
		4.01 to 10.00 ha	20	16.67	12	10.00
		Above 10.00 ha	11	09.16	5	04.16
5	Annual income	Very low (Up to ₹. 1,50,000/-)	12	10.00	22	18.34
		Low (₹. 1,50,001/- to ₹. 3,00,000/-)	25	20.83	26	21.67
		Medium (₹. 3,00,001/- to ₹. 4,50,000/-)	37	30.84	41	34.16
		High (₹. 4,50,001/- to ₹. 6,00,000/-)	30	25.00	23	19.16
		Very high (Above ₹. 6,00,000/-)	16	13.33	08	06.67
		Very low (Up to ₹. 1,50,000/-)	12	10.00	22	18.34

Sr. No.	Personal profile	Classification	Beneficiary farmers (n-120)		Non-beneficiary farmers (n-120)	
			Frequency	Per cent	Frequency	Per cent
6	Occupation	Only agriculture	05	04.16	09	07.50
		Agriculture and labourer	15	12.50	21	17.50
		Agriculture and animal husbandry	59	49.17	58	48.33
		Agriculture, animal husbandry and business	31	25.84	25	20.84
		Agriculture, animal husbandry and service	10	08.33	07	05.83
		Only agriculture	05	04.16	09	07.50
7	Yield(kg/ha)	Low	(< 3091)	19	15.83	(<19400)
		Medium	(≥23091 to < 31522)	75	62.50	(≥19400 to < 28246)
		High	(≥31522)	26	21.67	(≥ 28246)
8	Social participation	No participation	14	11.67	48	40.00
		Membership in one organization	73	60.83	50	41.67
		Membership in more than one organization	28	23.33	19	15.83
		Membership with position holding	05	04.17	03	02.50
9	Extension participation	Low	(<11.66)	20	16.67	(< 10.65)
		Medium	(≥ 11.66 to < 23.73)	73	60.83	(≥10.65 to <21.75)
		High	(≥23.73)	27	22.50	(≥21.75)
10	Sources of information	Low	(< 17.11)	20	16.67	(< 15.55)
		Medium	(≥17.11 to <31.93)	65	54.16	(≥15.55 to <30.71)
		High	(≥ 31.93)	35	29.17	(≥30.71)
11	Scientific orientation	Low	(< 12.31)	23	19.17	(< 10.23)
		Medium	(≥12.31 to <22.96)	63	52.50	(≥10.23 to < 21.63)
		High	(≥ 22.96)	34	28.33	(≥ 21.63)
12	Risk orientation	Low	(< 11.62)	26	21.67	(< 11.03)
		Medium	(≥11.62 to <22.46)	63	52.50	(≥11.03 to <21.33)
		High	(≥ 22.46)	31	25.83	(≥ 21.33)
13	Economic motivation	Low	(< 14.51)	22	18.33	(< 12.03)
		Medium	(≥14.51 to <25.81)	65	54.17	(≥12.03 to <25.54)
		High	(≥ 25.81)	33	27.50	(≥ 25.54)
14	Attitude	Low	(< 55.96)	22	18.33	(< 49.08)
		Medium	(≥55.96 to <113.48)	67	55.83	(≥49.08 to < 94.43)
		High	(≥ 113.48)	31	25.84	(≥ 94.43)

Sr. No.	Personal profile	Classification	Beneficiary farmers (n-120)		Non-beneficiary farmers (n-120)	
			Frequency	Per cent	Frequency	Per cent
15	Knowledge	Low	(<17.36)	20	16.67	(<14.06)
		Medium	(≥17.36 to <23.95)	68	56.66	(≥14.06 to < 20.31)
		High	(≥ 23.95)	32	26.67	(≥ 20.31)
16	Adoption	Low	(< 14.02)	25	20.83	(< 11.30)
		Medium	(≥14.02 to < 20.36)	67	55.84	(≥11.30 to < 17.28)
		High	(≥ 20.36)	28	23.33	(≥17.28)

Table 1 indicate that majority (83.33%) beneficiary farmers and (84.17%) of non beneficiary farmers had belong to middle to old age groups, having nearly two-thirds beneficiary farmers (64.99%) and non beneficiary farmers (64.17%) were educated primary to middle level of education, 45.83 per cent of the beneficiary and (44.16%) non beneficiary farmers had medium level of farming experience (6 to 10 years). Majority (79.99%) of the beneficiary farmers and (85.00%) non beneficiary farmers had small to medium size of land holding (1.01 to 10.00 ha). More than half (55.83%) of beneficiary farmers and more than two-fifths (45.83%) non beneficiary farmers had cultivated potato more than 4.00 ha of land. More than two-thirds (69.17%) of the beneficiary farmers and three-fifths (59.99%) non beneficiary farmers had medium to very high level of annual income. Nearly half (49.17%) of beneficiary farmers and (48.33%) of the non beneficiary farmers were dependent on agriculture and animal husbandry. Majority (84.17%) beneficiary farmers and (73.33%) non beneficiary farmers had medium to high level of potato yield (kg/ha). Majority (84.16%) of beneficiary farmers and nearly three-fifths (57.50%) of non beneficiary farmers had participation in one and more than one organization. Two-thirds (83.33%) of the beneficiary farmers had medium to high level of extension participation while, (84.16%) non beneficiary farmers had low to medium level of extension participation. Having more than half (54.16%) of the beneficiary farmers and 53.33 per cent of the non beneficiary farmers had medium level of use of sources of information while, more than half (52.50%) of the beneficiary farmers and (52.50%) non beneficiary farmers had medium level of scientific orientation. Slightly more than half (52.50%) of the beneficiary and (51.66%) of non beneficiary farmers had medium level of risk orientation. More than half (54.17%) of beneficiary farmers and half (50.83%) of non beneficiary farmers had medium level of economic motivation while, more than half (55.83%) of beneficiary farmers and more than half (55.00%) non beneficiary farmers had medium attitude towards various activities of KVK. Having nearly three-fifths (57.50%) of the beneficiary farmers and half (50.00%) of the non beneficiary farmers had medium level of knowledge about potato production technology. Whereas, more than half (55.84%) of beneficiary farmers and (46.67%) non beneficiary farmers had medium level of adoption of potato production technology.

The similar findings have been reported by Chaudhary (2018), Kakkad (2019) and Chaudhary (2020).

Relationship between selected profile of the potato growers and the knowledge level of beneficiary farmers about potato production technology

Total 14 variables *viz.,* age, education, farming experience in potato cultivation, size of land holding, annual income, occupation, yield, social participation, extension participation, source of information, scientific orientation, risk orientation, economic motivation and attitudes towards various activities of KVK were used to know association with the knowledge level beneficiary of potato growers about potato production technology. A statistical method of Karl Pearson's coefficient correlation ('r') was used to calculate this. The result obtained is dispensed in Table 2.

The results of correlation analysis indicated that out of the fourteen independent variables like, personal, economic, social, communicational and psychological variables, the variables *viz.,* education (0.277**), extension participation (0.280**), source of information (0.578**), scientific orientation (0.567**), risk orientation (0.485**), economic motivation (0.399**) and attitude of potato growers towards various activities of KVK (0.491**) had exerted positive and highly significant relationship with knowledge level about potato production technology, while farming experience (0.223*), size of land holding (0.211*), occupation (0.219*), yield (0.211*) and social participation (0.221*) had positive and significant relationship. Whereas, age (-0.105^{NS}) exerted negative and non-significant relationship and annual income (0.148^{NS}) had positive and non-significant relationship with knowledge level about potato production technology.

Table 2: Relationship between the profile of the potato growers and the knowledge level of beneficiary farmers about potato production technology
(n = 120)

Sr. No.	Characteristics	Coefficient of correlation ('r')
X_1	**Age**	-0.105 NS
X_2	**Education**	0.277**
X_3	**Farming experience in potato cultivation**	0.223*
X_4	**Size of land holding**	0.211*
X_5	**Annual income**	0.148NS
X_6	**Occupation**	0.219*
X_7	**Yield**	0.211*
X_8	**Social participation**	0.221*
X_9	**Extension participation**	0.280**
X_{10}	**Source of information**	0.578**
X_{11}	**Scientific orientation**	0.567**
X_{12}	**Risk orientation**	0.485**
X_{13}	**Economic motivation**	0.399**
X_{14}	**Attitudes of potato growers towards various activities of KVK**	0.491**

* Significant at 0.05 level of probability
** Significant at 0.01 level of probability
NS = Non significant

This finding is found similar to the finding reported by Dholariya (2014), Singh *et al.* (2015), Chaudhary (2018), Kumar *et al.* (2018), Gajera *et al.* (2019), Kakkad (2019), Patel (2019), Verma *et al.* (2019), Patel *et al.* (2020), Tala *et al.* (2020), Bhat *et al.* (2022), Kalasariya *et al.* (2022), Paradva *et al.* (2022), Rathwa *et al.* (2022).

CONCLUSION

The finding related to profile of the beneficiary farmers indicate that majority of beneficiary and non beneficiary farmers had belong to middle to old age groups, having primary to middle level of education, having medium level of farming experience, had cultivated potato more than 4.00 ha of land, having medium level of annual income, were dependent on agriculture and animal husbandry, had medium to high level of yield of potato crop per ha., had participation in one and more than one organization. Majority of the beneficiary farmers had medium to high and non beneficiary farmers had low to medium level of extension participation, beneficiary farmers use medium to high level and non beneficiary farmers use low to medium level of sources of information, beneficiary farmers were medium to high level and non beneficiary farmers were low to medium level of scientific orientation while, majority of beneficiary farmers have medium to high level and non beneficiary had low to medium level of risk orientation. Majority of beneficiary farmers have medium to high level and non beneficiary farmers have low to medium level of economic motivation. Great majority of beneficiary farmers had medium to high and non beneficiary farmers had low to medium attitude towards various activities of KVK. Majority of beneficiary farmers had medium to high and non-beneficiary farmers had low to medium level of knowledge about potato production technology, While majority of beneficiary farmers had medium to high level and non-beneficiary farmers had low to medium level of adoption of potato production technology.

While in case of association, independent variables viz., education, extension participation, source of information, scientific orientation, risk orientation, economic motivation and attitude of potato growers towards various activities of KVK had exerted positive and highly significant relationship with knowledge level about potato production technology. This infers that sincere efforts put-forth by implementing agencies *i.e.* training by Krushi Vigyan Kendra to communicate the potato production technology to beneficiary potato growers. This may be perhaps due to positive impact of KVK's activities on beneficiary farmers in terms of increase in their knowledge, frequent extension contact, higher mass media exposure and high social participation which may be resulted in their higher adoption of potato production technology.

POLICY IMPLICATION

The finding of the study indicated that, results related with the level of knowledge and extent of adoption shows that beneficiary and Non beneficiary farmers had medium level of knowledge and extent of adoption. There is wide scope to increase in knowledge level and adoption rate. Specific extension strategies should be developed for conducting different extension programmes, motivate and educate them about the importance and potentialities of recommended potato production technology.

CONFLICT OF INTEREST

The authors of the paper declare no conflict of interest

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