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Knowledge Level of Respondents Regarding Important Aspects Covered under DAESI Programme in Rajasthan

Rakesh Kumar[1]*, R. K. Verma[2], A. K. Jhajharia[3] and Rohtash Kumar[4]

[1]Assistant Agriculture Officer, Office of Assistant Director Agriculture (Extension), Bikaner-334006, Rajasthan, India
[2]Professor & Head, [3]Assistant Professor, Department of Agricultural Extension and Communication, COA, SKRAU, Bikaner-334006, Rajasthan, India
[4]Ph.D. Scholar, Department of Extension Education, COA, CCS HAU, Hisar-125004, Haryana, India
*Corresponding author email id: rakeshskrau@gmail.com

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ABSTRACT

Diploma in Agricultural Extension Services for Input Dealers (DAESI) programme is a one year diploma programme started by National Institute of Agricultural Extension Management (MANAGE) to impart technical knowledge on agriculture to input dealers. The programme is being implemented by MANAGE through SAMETIs under overall guidance and supervision of respective state departments. State Institute of Agriculture Management (SIAM) is designated as state level implementing institute in Rajasthan. The present study was conducted in agro-climatic zone IIIa (Semi Arid Eastern Plain) and V (Humid South Eastern Plain) of Rajasthan in the year 2021-22. Total 320 respondents, 160 beneficiaries and 160 non-beneficiaries were selected. Almost two third (64.37%) of beneficiaries had medium level of knowledge regarding important aspects covered under DAESI programme whereas in case of non-beneficiaries (68.12%) of respondents had medium to high level of knowledge. The beneficiaries also found high in level of knowledge in all the selected aspects to measure the knowledge level under study.

INTRODUCTION

The use of high-pay inputs like high yielding varieties seeds, fertilizers, pesticides, irrigation etc. have helped in bringing the 'Green Revolution' in agriculture. India being a vast country with varying situations and lack of infrastructure facilities, supply of key inputs in agriculture to the doors of farmers is a difficult task. However, the major sources of supply of farm inputs to the farmers are the dealers. These dealers mostly supply seeds, fertilizers and pesticides to the farmers. Farmers are mostly guided by the dealers/ retailers in selection and use of plant protection chemicals because mostly the farmers are not aware about particular agrochemicals and its dosage required for different crops and new technologies. So, the input dealers recommend them agricultural inputs based on their own experience and commercial interest. It leads to indiscriminate and unbalanced use of inputs by farmers. Further, leading to increase in the cost of cultivation and deteriorate the quality of natural resources viz-land, water, air and affect the environment. Pesticide dealers have become one of the important sources of farm information to the farming community, although they themselves are not equipped with adequate knowledge (Ram et al., 2014). Considering that the dealer network has spread out in almost all major villages of the country and being an important mechanism to reach out to large farming community, it is felt necessary to expose them to a diploma course and build their capacity in handling field problems and extension communication abilities by increasing their skills in dealing with inputs and discharging regulatory responsibilities. In this context, MANAGE has designed a one year diploma programme titled "Diploma in Agricultural Extension Services for Input Dealers" (DAESI). This

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program was launched in the year 2003 on pilot basis on self-financing mode. The sole objective of this program is to impart technical knowledge on agriculture to input dealers and to transform them into para-extension professionals, so as to enable them to address the day to day problems and issues faced by the farmers at field level.

Based on the success of the pilot program, Diploma in Agricultural Extension Services for Input Dealers (DAESI) was made as Central Sector Plan Scheme from the year 2015-16 by Ministry of Agriculture and Farmers Welfare, Government of India by subsidizing 50 per cent of the course fee for the licensed input dealers and up scaled to across the country. The programme is being implemented by MANAGE through SAMETIs under overall guidance and supervision of respective state departments. State Institute of Agriculture Management (SIAM) is designated as state level implementing institute in Rajasthan. So, keeping in the view, the scope for effective implementation of this programme in the state with around 16 thousand working agri input dealers all over Rajasthan the study was undertaken.

METHODOLOGY

the study was conducted in semi-arid eastern plain and humid south eastern plain of Rajasthan in the year 2021-22. Out of the ten agro-climatic zones of the state, zones were selected purposely on the basis of highest number of registered agri-input dealers under Diploma in Agriculture Extension Service for Input Dealers (DAESI) programme. After selection of these agro-climatic zones, one district from each agro-climatic zone i.e., Jaipur from semi-arid eastern plain and Kota from Humid South Eastern Plain was also purposely selected based on highest number of registered/beneficiary agri input dealers under DAESI programme. (Beneficiaries are the respondents who have completed their diploma and have certificate in Agriculture Extension Services for Input Dealers and involved in profession of input dealing). From both the selected districts, total 320 respondents, 160 beneficiaries and 160 non-beneficiaries (80 beneficiaries and 80 non-beneficiaries from each district separately) were selected. (The non-beneficiaries are the respondents who are not having formal diploma like diploma in Agriculture Extension Services for Input Dealers but involved in profession of input dealing). Knowledge level of respondents was operationalised as extent of important aspects covered under DAESI programme known to input dealers in order to provide appropriate agro advisory services and input supply.

The data were collected through knowledge test developed with a total 63 items under five heads having the combined maximum and minimum attainable score 71 and 0 respectively. After summing up of the scores, the respondents were categorized into three groups based on mean and standard deviation. Further to know the difference between knowledge level of beneficiaries and non-beneficiaries 'z' test was applied.

RESULTS AND DISCUSSION

Knowledge level of respondents regarding important aspects covered under DAESI programme

It clearly indicates that a little less than two third of beneficiaries (64.37%) belongs to medium level of knowledge, followed by high (26.25%) and low (09.38%) level of knowledge regarding important aspects covered under DAESI programme (Table 1). In case of non-beneficiaries, a little more than two third of respondents (68.12%) belongs to medium level of knowledge, followed by low (22.50%) and high (09.38%) level of knowledge regarding important aspects covered under DAESI programme. When the whole sample was considered, also two third of respondents (66.25%) had medium level of knowledge, followed by high and low with 17.81 per cent and 15.94 per cent level of knowledge, respectively regarding important aspects covered under DAESI programme.

Aspects wise comparison of level of knowledge

Efforts were made to study the difference between beneficiaries and non-beneficiaries regarding knowledge of important aspects covered under DAESI programme. To find out the variation in the knowledge of the respondents 'Z' test was applied.

Table 2 shows that the calculated 'Z' value was found to be greater than its tabulated value at 1 per cent level of significance for all the five aspects. Overall calculated 'Z' value was higher than the tabulated value at 1 per cent level of significance leading to the conclusion that there was a noteworthy difference in level of knowledge between beneficiaries and non-beneficiaries respondent regarding important aspects covered under DAESI programme like Soil health management, Seed & seed production, Act, rules & regulations related to agricultural inputs, Pest & disease control and Schemes related to agricultural sectors. The mean value further indicates that beneficiaries had higher knowledge in comparison to non-beneficiaries.

The significant difference between beneficiary and non-beneficiary respondents in level of knowledge regarding important aspects covered under DAESI programme in the study was not unexpected. It might be due to the fact that beneficiary remained in continuous touch with the extension personnel throughout the session of the diploma programme. So, they might have acquired

Table 1. Distribution of respondents according to their level of knowledge regarding important aspects covered under DAESI programme

S.No.	Category	Beneficiaries (n=160) (%)	Non- beneficiaries (n=160) (%)	Overall (n=320) (%)
1.	Low level of knowledge (below 29.56)	09.38	22.50	15.94
2.	Medium level of knowledge(29.56 to 54.58)	64.37	68.12	66.25
3.	High level of knowledge (above 54.58)	26.25	09.38	17.81
	Overall	100	100	100

Mean= 42.07; SD= 12.51

enough knowledge pertaining to various aspects which were taught under DAESI programme. These findings are in contradiction with the findings of Srinivas (2013); Khatri (2017). Srinivas (2013) found that majority 41.70 per cent of DAESI dealers belonged to medium to high knowledge level about cotton production technology and 43.40 per cent of DAESI dealers had high level knowledge about paddy production technology. Whereas Khatri (2017) concluded that majority (50.00%) of DAESI input dealers had medium level of knowledge, while 45.00 per cent, 02.50 per cent and 02.50 per cent of them high, very high and low level of knowledge, respectively about varieties, crop practices and plant protection from research recommendations of Anand Agricultural University.

Association between profile characteristics and knowledge level of respondents

In case of beneficiaries, the r-values in Table 3 indicated that out of thirteen independent variables four variables like, education, risk orientation, decision making and extension agency contact were found to be positively significant at 1% level of probability and economic motivation, management orientation, self-confidence and mass media exposure were found to be positively significant at 5% level of probability. Other five variables, viz., age, caste, business experience as input dealer, social participation and annual income were in negative relation with knowledge level of respondents regarding important aspects covered under DAESI programme. In case of non-beneficiaries, the r-values in Table 4 revealed that out of thirteen selected independent variables, only three variable i.e., education, economic motivation and decision making were found significant at 1% level of probability and three were found significant at 5% level of probability i.e. risk orientation, management orientation and extension agency contact. Whereas rest seven were found non-significant.

Further analysis of Table 5 to know the association of independent variables of overall respondents with their knowledge level indicated that the education, business experience as input dealer, annual income, economic motivation, risk orientation, management orientation, decision making, self-confidence, mass media exposure and extension agency contact were positively correlated with knowledge level of respondents and the association was found significant either at 1 or 5 per cent level of probability. The r-values of age, caste and social participation showed non-significant relation with knowledge level of respondents.

The findings could be explained as, the higher the education, economic motivation, risk orientation, management orientation, decision making, self-confidence, mass media exposure and extension agency contact the higher would be the knowledge level of respondents regarding important aspects covered under DAESI programme.

Table 2. Aspects wise comparison of level of knowledge regarding important aspects covered under DAESI programme

S.No.	Aspects	Beneficiaries (n=160)		Non-beneficiaries (n=160)		'Z' value
		S.D.	Mean	S.D.	Mean	
1.	Soil health management	4.43	15.57	3.59	12.89	5.95**
2.	Seed & seed production	2.58	6.83	2.37	5.42	5.09**
3.	Act, rules & regulations related to agricultural inputs	1.86	5.59	1.97	4.51	5.04**
4.	Pest & disease control	3.25	9.22	3.25	7.78	3.96**
5.	Schemes related to agricultural sector	2.76	8.98	2.86	7.35	5.19**
	Pooled	12.29	46.19	11.34	37.95	6.23**

** 1% level of significance

Table 3. Relationship between independent variables of beneficiaries and their knowledge level regarding important aspects covered under DAESI Programme

S.No.	Characteristics	Correlation Coefficient (r)	Beneficiaries (n=160)		
			b Value	Standard error	t value
1.	Age	0.1334^{NS}	0.154	0.181	1.239^{NS}
2.	Caste	0.0501^{NS}	-0.005	1.686	-0.068^{NS}
3.	Education	0.3260**	0.170	0.319	2.786**
4.	Business experience as input dealer	0.1192^{NS}	0.112	1.111	0.901^{NS}
5.	Social participation	0.0935^{NS}	0.102	0.511	1.449^{NS}
6.	Annual income	0.0182^{NS}	-0.119	0.787	-1.439^{NS}
7.	Economic motivation	0.1906*	0.223	0.390	2.187*
8.	Risk orientation	0.2670**	0.316	0.336	3.574**
9.	Management orientation	0.1772*	0.193	0.176	2.043*
10.	Decision making	0.2712**	0.076	0.436	1.023^{NS}
11.	Self confidence	0.1662*	0.129	0.286	1.461^{NS}
12.	Mass media exposure	0.1598*	0.138	0.347	3.746**
13.	Extension agency contact	0.3851**	0.339	0.415	4.452**

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

Coefficient of determination (R^2) = 0.709

It could be concluded that the knowledge level of respondents regarding important aspects covered under DAESI programme was independent of age, caste and social participation. The findings are in accordance with the results of Srinivas (2013) who reported that education, management orientation, mass media exposure and extension agency contacts were found positively significant either at 1 or 5 per cent level of significance.

Relationship between profile characteristics and knowledge level

In order to ascertain the relationship multiple linear regression analysis was done. Through multiple linear regression, data was critically analysed to work out the separate as well as combined relative influence of selected independent variables.

A critical examination of the data presented in Table 3 shows that age, caste, business experience as input dealer, social participation, annual income, decision making and self-confidence were non-significantly associated with the knowledge level of beneficiary with 0.154, -0.005, 0.112, 0.102, -0.119, 0.076 and 0.129 'b' value, respectively, which indicates that there is no association between age, caste, business experience as input dealer, social participation, annual income, decision making and self-confidence with knowledge level of beneficiary respondents. This might be attributed to the fact that respondent can gain knowledge throughout his life time. Knowledge has no bar of specific age group. Caste, business experience as input dealer, social participation, annual income, decision making and self-confidence are not a determining factor of the knowledge level. While education, economic motivation, risk orientation, management orientation, mass media exposure and extension agency contact were positively and significantly associated with the knowledge level of respondents.

The data presented in Table 3 explained that these independent variables of beneficiary exerted 70.90 per cent influence on their knowledge level. From the above discussion it can be concluded that education, economic motivation, risk orientation, management orientation, mass media exposure and extension agency contact were the important variables which determined the level of knowledge of beneficiary respondents regarding important aspects covered under DAESI programme.

The study of Table 4 revealed that the corresponding calculated 't' values of variables education, economic motivation, risk orientation, decision making, self-confidence and extension agency contact were higher than the tabulated 't' value at 1 per cent level of significance except economic motivation which was significant at 5 per cent level. This elucidates that education, economic motivation, risk orientation, decision making, self-confidence and extension agency contact were positively and significantly associated with the knowledge level of the non-beneficiary respondents. It means that education, economic motivation, risk orientation, decision making, self-confidence and extension agency contact affect significantly on their knowledge level.

Further, the independent variables like age, caste, business experience as input dealer, social participation, annual income, management orientation and mass media exposure were non-significantly associated with the knowledge level of respondents. The value of coefficient of determination indicated that these independent variables combinedly had 73.80 per cent effect on knowledge level of non-beneficiaries regarding important aspects covered under DAESI programme.

Overall respondents and their knowledge level

In case of overall respondents, it was observed from the Table 5 that the coefficients associated with the variables like education, economic motivation, risk orientation, management orientation, decision making, mass media exposure and extension agency contact had a positive relation with a high significance at 1% level of probability towards the knowledge level of respondents regarding important aspects covered under DAESI programme.

Thus, it can be concluded that these are the determining factors for knowledge level of overall respondents. If we see all the thirteen independent variables of overall respondents, they exerted 68.80

Table 4. Relationship between independent variables of non-beneficiaries and their knowledge level regarding important aspects covered under DAESI Programme

S.No.	Characteristics	Correlation Coefficient (r)	Non-beneficiaries (n=160)		
			b value	Standard error	t value
1.	Age	0.0254^{NS}	-0.159	0.149	-1.173^{NS}
2.	Caste	0.0239^{NS}	0.027	1.476	0.353^{NS}
3.	Education	0.2083**	0.310	0.216	3.102**
4.	Business experience as input dealer	0.0971^{NS}	0.182	0.995	1.470^{NS}
5.	Social participation	0.0381^{NS}	0.084	2.249	0.932^{NS}
6.	Annual income	0.0906^{NS}	0.058	0.885	0.748^{NS}
7.	Economic motivation	0.3103**	0.178	0.466	1.975*
8.	Risk orientation	0.1895*	0.289	0.488	2.909**
9.	Management orientation	0.1975*	-0.060	0.212	-0.730^{NS}
10.	Decision making	0.3851**	0.379	0.376	4.658**
11.	Self confidence	0.0501^{NS}	0.338	0.270	2.764**
12.	Mass media exposure	0.1042^{NS}	0.130	0.447	1.709^{NS}
13.	Extension agency contact	0.1740*	0.222	0 .394	2.560**

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

Coefficient of determination (R^2) = 0.738

Table 5. Relationship between independent variables of overall respondents and their knowledge level regarding important aspects covered under DAESI Programme

S.No.	Characteristics	Correlation Coefficient (r)	Non-beneficiaries (n=320)		
			b value	Standard error	t value
1.	Age	0.1413^{NS}	0.024	0.114	0.271^{NS}
2.	Caste	0.0008^{NS}	-0.031	1.110	-0.601^{NS}
3.	Education	0.2121**	0.251	0.430	2.844**
4.	Business experience as input dealer	0.1571**	0.125	0.740	1.502^{NS}
5.	Social participation	0.0657^{NS}	0.140	1.314	1.400^{NS}
6.	Annual income	0.1221*	0.006	0.562	0.117^{NS}
7.	Economic motivation	0.2561**	0.243	0.291	2.639**
8.	Risk orientation	0.3457**	0.296	0.256	4.408**
9.	Management orientation	0.2678**	0.347	0.230	3.754**
10.	Decision making	0.3169**	0.250	0.286	4.540**
11.	Self confidence	0.2366**	0.185	0.189	1.323^{NS}
12.	Mass media exposure	0.1474*	0.137	0.272	2.607**
13.	Extension agency contact	0.3126**	0.264	0.279	5.003**

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

Coefficient of determination (R^2) = 0.688

per cent influence on their knowledge level regarding important aspects covered under DAESI programme.

CONCLUSION

A clear difference in knowledge level of beneficiaries and non-beneficiaries in all the five aspects was observed. It can be concluded that DAESI programme was able to enhance the knowledge of input dealers to an optimal extent. DAESI programme is a very creative and innovative step to help the input dealers in getting and delivering the right knowledge and information regarding agri inputs to the farmers. Hence, efforts must be made to provide required knowledge through conducting more training programmes by the extension functionaries, extension scientists of SAU's, local NGO's and KVK's for the input dealers on topics like soil health management, Act, rules & regulations related to agricultural inputs, Schemes related to agricultural sector etc.

REFERENCES

Anonymous. (2019) Annual report, State Institute of Agriculture Management, Jaipur.

Ganiger, S. (2012) Knowledge, perception and role performance of input dealers in Agro Advisory Services in Northern Dry Zones of Karnataka. M.Sc. (Ag.) Thesis (Unpub.), Acharya N. G. Ranga Agricultural University, Rajendranagar, Hyderabad.

Jugamayagogoi & Rajalakshmi, S. (2017) Knowledge on government policies and programme among input agents in agriculture. *Journal of Humanities and Social Science, 9*(9), 30-35.

Khatri, P. (2017) Knowledge about research recommendations of Anand Agricultural University among the agro-input dealers of Anand district. M.Sc. (Ag.) Thesis (Unpub.), B. A. college of Agriculture, Anand Agricultural University, Anand, Gujrat.

Kumar, S., Roy, S., Atal, R., Panda, C. K., & Sohane, R. K. (2020) Knowledge gap of agri-input dealers in farm production. *Current Journal of Applied Science and Technology*, *39*(4), 92-101.

Madhu Lata, C., Kadian, K. S., Meena, B. S., & Bahera, J. (2021) Impact of DAESI Program on knowledge level of input dealers in Andhra Pradesh, India. *Indian Journal of Extension Education, 57*(2), 82-86.

Mande, J. V., & Darade, N. W. (2011) Training needs of farm input dealers for transfer of agricultural technology. *Journal of Community Mobilization and Sustainable Development, 6*(2), 141-44.

Ogunlade, I., Atibioke, O. A., Ladele, A. A., & Adumadehin, G. S. (2012) Capacity of agro-input dealers in advisory service delivery to maize farmers in Kwara State, Nigeria. *International Research Journal of Agricultural Science and Soil Science, 2*(10), 426-435.

Prajapati, M. R., Patel, V. T., & Patel, J. K. (2012) Knowledge regarding general use of pesticides and Training need of pesticide dealers. *Gujrat Journal of Extension Education, 23*, 99-101.

Ram, D., Singh, M. K., & Priyadarshini, E. (2014) Training needs of pesticide retailers in Imphal district of Manipur. *Journal of Krishi Vigyan, 2*(2), 74-79.

Sarda, M. K., & Gill, S. S. (2005) Training needs of input dealers on pesticide application on cotton crop in Punjab. *MANAGE Extension Research Review*, *6*(1), 63-74.

Singh, A. K., De, H. K., & Pal, P. P. (2015) Training needs of agro-input dealers in South 24 Parganas district of West Bengal. *Indian Research Journal of Extension Education, 15*(2), 7-10.

Singh, M. K., Priyadarshini, E., Ram, D., De, H. K., & Pandey, D. K. (2013) Training needs of pesticides retailers of Manipur. *Indian Journal of Extension Education, 49*(1&2), 46-49.

Singh, N., Gupta, B. K., & Gautam, U. S. (2021) Training needs assessment of agro-input dealers in Banda district of Uttar Pradesh. *Indian Journal of Extension Education, 57*(2), 56-62.

Srinivas, E. (2013) A critical analysis on effectiveness of Diploma in Agricultural Extension Services for Input Dealers (DAESI) programme in Andhra Pradesh. Ph.D. Thesis (Unpub.), Acharya N.G. Ranga Agricultural University, Hyderabad.