



## Knowledge Level of DAESI and Non-DAESI Dealers for Paddy and Wheat Cultivation in Punjab

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### ABSTRACT

The study was conducted during 2020 in Ludhiana and Faridkot district of Punjab to know the knowledge level of DAESI (Diploma in Agricultural Extension Services for Input Dealers) and non-DAESI dealers about paddy and wheat cultivation in Punjab. From the study it was found that DAESI dealers had medium to high level of knowledge on wheat where non-DAESI dealers had medium to low level of knowledge. DAESI dealers had high level of knowledge on cultivation practices of paddy than non-DAESI dealers. In case of DAESI dealers, education, economic motivation, management orientation, decision making, mass media utilization and extension contact had positive and significant relationship with knowledge about cultivation practices of wheat and paddy. But only education had positive and significant relationship with knowledge about cultivation practices of wheat and paddy in non-DAESI dealers.

### INTRODUCTION

National Institute of Agriculture Extension Management (MANAGE) has propelled a one-year certificate course titled “Diploma in Agricultural Extension Services for Input Dealers (DAESI)” in the year 2003, which illuminates pertinent and area explicit agricultural instruction to furnish these input dealers with adequate information to change them into para-extension professional to empower them to address the present issues being looked by the farmers at the field level. Picturing this significance of the program, Government of India has pronounced DAESI as Central Sector Plan Scheme since October 2015. In Punjab, the programme has started under Punjab Agricultural Management and Extension Training Institute (PAMETI) in Ludhiana and Agricultural Technology Management Agency (ATMA) in Faridkot district during 2018-19. Till now, three batches at PAMETI, Ludhiana and two batches at ATMA, Faridkot have completed their training from both centres. As per the MANAGE guidelines, a batch of 40 agri-

input dealers participate in this programme every year. PAMETI in Ludhiana focuses upon the training of paddy, wheat, maize, oilseeds while ATMA in Faridkot focuses more in cotton and wheat.

Improving farmers expertise requires hands on education, such as provided by the FFS Kumar et al., 2007; Kumar and Nain, 2013). There has been evidences that trained and non trained stakeholders have significant difference in their knowledge regarding the subject matter (Raina et al., 2017; Kobba et al., 2020a, Kobba et al., 2020b; Singh et al., 2021). Srinivas (2013) revealed that majority (41.70%) of DAESI holders had medium level of knowledge about cotton production technology whereas in case of non-DAESI holders 48.30 per cent had medium level of knowledge about cotton production technology. Regarding paddy, 43.40 per cent DAESI holders had high level of knowledge whereas 45 per cent non-DAESI input dealers had medium level of knowledge. Nain and Bhagat (2005) revealed that the knowledge difference between trained and non-trained women farmer was significant. Chinmayee (2018) discovered that seed and seed production technique (54.90%) had the greatest

impact on knowledge scores. The total knowledge scores obtained by DAESI dealers differed by 35.95 per cent from those obtained by non-DAESI dealers. She observed that majority (60.00%) of DAESI dealers had medium level of knowledge whereas majority (96.66%) of input dealers had low level of knowledge. According to Khatri et al., (2018), most agro-input dealers knew of research recommendations. The majority of agro-input dealers (87%) who had not taken the DAESI course had low to medium knowledge about research recommendations 95.00 per cent DAESI had medium to high understanding about research recommendations. The agro-input traders who had done the DAESI course knew more about plant protection, agricultural techniques, and variety. The studies in other ecologies state the difference of knowledge of two groups but there has not been any specific study conducted on the effectiveness of this programme till date. As such the study was organized to study the effectiveness of Diploma in Agricultural Extension Services for Input Dealers (DAESI) programme in Punjab state.

**METHODOLOGY**

The study was conducted in Ludhiana and Faridkot districts of Punjab state. Ludhiana and Faridkot districts were selected purposively for research study as DAESI programme conducted

by PAMETI, Ludhiana and ATMA, Faridkot. From 2 selected districts, 60 input dealers (30 DAESI dealers and 30 non-DAESI dealers) from each district were selected through simple random sampling technique, thus making the total sample size of 120 respondents. Knowledge level on wheat and paddy production technology was assessed with specifically designed knowledge test. Relationship with socio personal characteristics was established and multiple regression was performed to analyse the factors affecting the knowledge level about cultivation practices of wheat of input dealers.

**RESULTS AND DISCUSSION**

**Knowledge level of input dealers about cultivation practices of location specific crop**

The knowledge of the respondents about the recommended practices of rice and wheat cultivation was measured with the help of knowledge test development for the study. The respondents were categorised into three groups such as low, medium, and high based on range method, as presented in Table 1. Majority of input dealers (51.67%) had medium level of knowledge about cultivation practices of wheat. Majority of DAESI dealers (50.00%) had high level of knowledge about cultivation practices of paddy where majority of non-DAESI dealers (53.33%) had medium level of knowledge.

**Table 1.** Distribution of respondents according to their knowledge about cultivation practices of wheat crop

S.No.	Parameters	Categories	DAESI % (n=60)	Non- DAESI % (n=60)	Total % (n=120)
1	Knowledge on Wheat	Low (6-9)	8.33	41.67	27.50
		Medium (10-13)	46.67	56.67	51.67
		High (14-17)	40.00	01.66	20.83
2	Knowledge on Paddy	Low (9-12)	16.67	21.67	19.17
		Medium (13-16)	33.33	53.33	43.33
		High (17-20)	50.00	25.00	37.50

**Table 2.** Difference in knowledge about cultivation practices of location specific crops between DAESI and non-DAESI dealers

S.No.	Parameters	Categories	Mean	Standard Deviation	Z- value
1	Knowledge on wheat	DAESI	12.41	2.359	6.158**
		Non-DAESI	10.01	1.683	
2	Knowledge on paddy	DAESI	15.75	2.814	3.317**
		Non-DAESI	14.20	2.275	

\*\*-. Significant at 0.01 level of probability

**Table 3.** Relationship of socio-psychological characteristics of input dealers with knowledge level of input dealers

S.No.	Independent Variables	Correlation Co-efficient		Correlation Co-efficient	
		DAESI Dealers	Non-DAESI Dealers	DAESI Dealers	Non-DAESI Dealers
X <sub>1</sub>	Age	-0.157	-0.032	-0.133	0.045
X <sub>2</sub>	Education	0.914**	0.318*	0.909**	0.415**
X <sub>3</sub>	Business Experience	0.247	-0.025	0.205	-0.013
X <sub>4</sub>	Annual Income	0.136	0.146	0.119	0.321*
X <sub>5</sub>	Economic Motivation	0.367**	0.050	0.378**	0.032
X <sub>6</sub>	Management Orientation	0.439**	0.009	0.429**	-0.113
X <sub>7</sub>	Decision Making	0.968**	0.024	0.966**	0.084
X <sub>8</sub>	Self Confidence	0.252	0.272*	0.236	0.021
X <sub>9</sub>	Mass Media Utilisation	0.930**	0.151	0.888**	0.187
X <sub>10</sub>	Extension Contact	0.957**	0.032	0.962**	-0.129

\*\*-. Significant at 0.01 level of probability, \*- Significant at 0.05 level of probability

Table 1 indicated that the mean value of knowledge about cultivation practices of wheat in DAESI and non-DAESI dealers were 12.41 and 10.01 respectively. The calculated value of Z is 6.158 which is more than the tabulated value at 0.01 level of probability. The mean value of knowledge about cultivation practices of paddy in DAESI and non-DAESI dealers were 15.75 and 14.20 respectively. The calculated value of Z is 3.317 which is more than the tabulated value at 0.01 level of probability. Hence, there is a significant difference between knowledge level of DAESI and non-DAESI dealers.

#### Relationship of socio-psychological characteristics of input dealers with knowledge level

Table 2 indicated that education, economic motivation, management orientation, decision making, mass media utilization and extension contact had positive and significant relationship with knowledge level of DAESI dealers about cultivation practices of wheat and paddy at 0.01 level of probability. Education and self-confidence had positive and significant relationship with knowledge level about cultivation practices of wheat of non-DAESI dealers at 0.05 level of probability. Education had positive and significant relationship with knowledge level about cultivation practices of paddy of non-DAESI dealers at 0.01 level of probability. Annual income had positive and significant relationship with knowledge level on paddy of non-DAESI dealers at 0.05 level of probability.

#### Determinants of factors affecting knowledge level of input dealers

Data in the Table 4 indicated that the variation in knowledge about cultivation practices of wheat by selected independent variables were explained to the extent of 96 and 32 per cent in DAESI and non-DAESI dealers respectively. Decision making, mass media utilization and extension contact in case of DAESI dealers whereas education and self-confidence in case of non-DAESI dealers contributed significantly for the variation in knowledge about cultivation practices of wheat. Due to the high level of mass media utilization and extension contact DAESI dealers had improved their knowledge about cultivation practices of wheat. That's why mass media utilization and extension contact had contributed significantly to knowledge level of DAESI dealers about cultivation practices of wheat. Due to higher level of knowledge DAESI dealers had made correct decision in their business. So, decision making contributed significantly to variation in knowledge about cultivation practices of wheat. Majority of the non-DAESI dealers had completed graduation. So, education had contributed significantly to variation in knowledge about cultivation practices of wheat in case of non-DAESI dealers.

Data in Table 5; the variation in knowledge about cultivation practices of paddy by selected independent variables were explained to the extent of 97 and 36 percent in DAESI and non-DAESI dealers respectively. Decision making, age, extension contact and self-

**Table 4.** Multiple regression analysis for the factors affecting the knowledge level about cultivation practices of wheat of input dealers

S.No.	Independent Variable	DAESI Dealers (n=60)		Non-DAESI Dealers (n=60)	
		Regression Coefficient	't' Value	Regression Coefficient	't' Value
X <sub>1</sub>	Age	0.012	1.41	0.021	0.55
X <sub>2</sub>	Education	-0.041	-0.42	0.369**	3.09
X <sub>3</sub>	Business Experience	0.009	0.91	-0.04	-1.00
X <sub>4</sub>	Annual Income	0.002	0.08	0.0994	0.77
X <sub>5</sub>	Economic Motivation	-0.023	-0.54	0.061	0.52
X <sub>6</sub>	Management Orientation	0.026	1.57	-0.052	-1.19
X <sub>7</sub>	Decision Making	0.269*	2.20	-0.0032	-0.03
X <sub>8</sub>	Self Confidence	-0.04	-1.61	0.168*	2.29
X <sub>9</sub>	Mass Media Utilisation	0.645**	3.69	0.224	1.27
X <sub>10</sub>	Extension Contact	0.429**	2.89	0.081	0.54
	R <sup>2</sup>	0.9650		0.3198	

\*\* - Significant at 0.01 level of probability, \* - Significant at 0.05 level of probability

**Table 5.** Multiple regression analysis for the factors affecting the knowledge level about cultivation practices of paddy of input dealers

S.No.	Independent Variable	DAESI Dealers (n=60)		Non-DAESI Dealers (n=60)	
		Regression Coefficient	't' Value	Regression Coefficient	't' Value
X <sub>1</sub>	Age	0.0239**	2.42	0.036	0.79
X <sub>2</sub>	Education	-0.049	-0.43	0.457**	3.27
X <sub>3</sub>	Business Experience	-0.014	-1.18	-0.049	-1.03
X <sub>4</sub>	Annual Income	-0.010	-0.33	0.286	1.91
X <sub>5</sub>	Economic Motivation	0.016	0.33	-0.002	-0.02
X <sub>6</sub>	Management Orientation	0.025	1.32	-0.041	-0.81
X <sub>7</sub>	Decision Making	0.608**	4.32	0.013	0.11
X <sub>8</sub>	Self Confidence	0.063*	2.20	0.049	0.57
X <sub>9</sub>	Mass Media Utilisation	0.0609	0.30	0.221	1.07
X <sub>10</sub>	Extension Contact	0.553**	3.24	-0.131	-0.75
	R <sup>2</sup>	0.9674		0.3614	

confidence in case of DAESI dealers whereas education in case of non-DAESI dealers contributed significantly for the variation in knowledge about cultivation practices of paddy. Decision making and extension contact contributed significantly at 0.01 level of probability where self-confidence contributed significantly at 0.05 level of probability in DAESI dealers. In non-DAESI dealers education contributed significantly at 0.01 level of probability. Due to higher level of knowledge DAESI dealers had made correct decision in their business. So, decision making contributed significantly in variation in knowledge about cultivation practices of paddy. Due to the high level of extension contact DAESI dealers had improved their knowledge about cultivation practices of paddy. High level of self-esteem and self-confidence help the DAESI dealers to acquire more knowledge. DAESI dealers had high level of knowledge about cultivation practices of paddy so they had high risk bearing ability. Majority of the non-DAESI dealers had completed graduation. So, education had contributed significantly in variation in knowledge about cultivation practices of wheat in case of non-DAESI dealers.

### CONCLUSION

The assessment of knowledge level of input dealers revealed that there is significant difference between knowledge level of DAESI dealers and non-DAESI dealers about cultivation practices of wheat and paddy crop. DAESI dealers had high level of knowledge about cultivation practices of paddy and wheat crop than non-DAESI dealers. Further, this study would throw light on the relationship as well as direct and indirect effects of personal and socio-economic factors associated with knowledge level of input dealers on recommended practices of paddy and wheat crop. The study revealed that DAESI programme helps in improving knowledge level of input dealers about cultivation practices.

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