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A study on demographic and occupational profile of input dealers in Southern Rajasthan

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Abstract
From the seven districts in southern Rajasthan, two districts of this area were selected on the basis of maximum number of input dealers. District Bhilwara and Udaipur having maximum number of input dealers 330 and 309 respectively, hence selected for this study. Within these districts, specific tehsils were chosen based on similar criteria: Bhindar, Girwa, Mavli and Salumbar tehsils selected from Udaipur and Jahazpur, Kotri, Mandal and Shahpura tehsils selected from Bhilwara. Hence, total eight tehsils selected from two identified districts. To select input dealers, a list of input dealers was compiled with assistance of deputy director agriculture, agriculture officers and agriculture supervisors. From these lists, 30 input dealers were randomly selected from each tehsil. thus, a total sample size of 240 input dealers for the study.
The study analyzed the personal profiles of agricultural input dealers in Udaipur and Bhilwara districts. It examined their age, education, dealing and farming experience, training received, annual income, scientific orientation, and exposure visits. Results showed most input dealers were middle-aged, graduates, and had medium levels of dealing experience. A majority had received DAESI training and earned a medium annual income. Scientific orientation was mostly medium, with varied levels of exposure visits across districts. The findings highlight the dealers' readiness and areas for capacity building in agricultural input services.

1. Introduction
Agriculture is a major dominating occupation catering to employment of huge segment of population worldwide. In India, almost 60.00 per cent of work force relies upon agriculture as their primary occupation and contributes almost 16.50 per cent of India's Gross Asset Value (GVA). The nation has witnessed a record food grain production (296.65 million tonnes) despite of the unfavourable situations prevailed due to Covid-19 and there is 332.29 million tonnes production of food grains in year 2023-24. This sector contributes almost 16.50 per cent of India's GVA.
In order to continue with this sustaining growth of agriculture in India and to achieve the targeted value, multi-prolonged strategy, including effective and efficient delivery of farm information, is a prerequisite. However, the ratio of extension service provider to operational farm holdings has also reduced far below against a recommended rate of 1:750 (Nandi., 2019) [12].
The second half of 20th century witnessed dramatic shift from the traditional subsistence Indian farming to a commercial agriculture. Commercial agriculture besides requiring high investment and technology requires timely supply of all agriculture inputs including farm advisory (Shekara and Durga 2007) [15].
In India, there are about 2.82 lakh practicing agri-input dealers, who are the prime source of farm information to the farming community. The first contact point for majority of farmers is the agri-input dealer. While purchasing different inputs required for farming operations, the farmer naturally tries to find out from the input dealer about the usage of inputs, both in terms of quality and quantity (Ghanghas *et al.* 2020) [10]. If these input dealers can be shaped as para-extension professionals by providing requisite knowledge, they can professionalize extension services and contribute to bring a paradigm shift in Indian Agriculture. It is in this context, the National Institute of Agriculture Extension Management (MANAGE) had designed a one-year diploma course titled 'Diploma in Agricultural Extension Services for Input Dealers (DAESI)', which imparts relevant and location-specific agricultural education to equip these input dealers with sufficient knowledge to transform them into

para-extension professionals so as to enable them to address the day-to-day problems being faced by the farmers at field level. MANAGE launched DAESI program in the year 2003 and so far, covered the practicing input dealers of Andhra Pradesh, Telangana, Tamil Nadu, Maharashtra, Orissa, Jharkhand, and West Bengal.

2. Research Methodology
The study employed an ex-post-facto research design, as defined by Robinson (1976), which involves systematic empirical inquiry into phenomena where the independent variables cannot be manipulated because they have already occurred or are inherently uncontrollable. This approach allows for deducing theories by analysing existing behavioural phenomena under specific conditions.

The research was conducted in southern Rajasthan, India's largest state by area, known for its sandy, loam, and silt soils, low groundwater levels, and uneven rainfall patterns, with most precipitation occurring between July and September. The state spans 342,239 km² and occasionally experiences droughts due to sporadic rainfall.

From the seven districts in southern Rajasthan, Two districts of this area were selected on the basis of maximum number of input dealers. District Bhilwara and Udaipur having maximum number of input dealers 330 and 309 respectively, hence selected for this study. Within these districts, specific tehsils were chosen based on similar criteria: Bhindar, Girwa, Mavli and Salumbar tehsils selected from Udaipur and Jahazpur, Kotri, Mandal and Shahpura tehsils selected from Bhilwara. Hence, total eight tehsils selected from two identified districts.

To select input dealers, a list of input dealers was compiled with assistance of deputy director agriculture, agriculture officers and agriculture supervisors. From these lists, 30 input dealers were randomly selected from each tehsil. thus, a total sample size of 240 input dealers

3. Personal profile of input dealers
In this section, result related to personal profile of input dealers *viz.,* age, education, dealing experience, farming experience, training received, annual income, scientific orientation and exposure visit have been present in subsequent Tables.

3.1 Age
Selected input dealers were grouped into three age categories on the basis of age mean and standard deviation. The distribution of input dealers in each category is given in Table 1.

The Table 1 depicts majority of input dealers (65.42%) were of middle age. Whereas, 18.33 per cent input dealers were in old age and remaining 16.25 per cent input dealers possessed young age.

The same information when further examine at district level, Table 1 shows that 65.83 per cent input dealers of Udaipur district and 74.17 per cent input dealers of Bhilwara district were of middle age. While, 15.83 per cent input dealers of Udaipur district and 8.33 per cent input dealers of Bhilwara district were of old age and remaining 22 input dealers (18.33%) of Udaipur district and 21 input dealers (17.50%) of Bhilwara district belonged to young age.
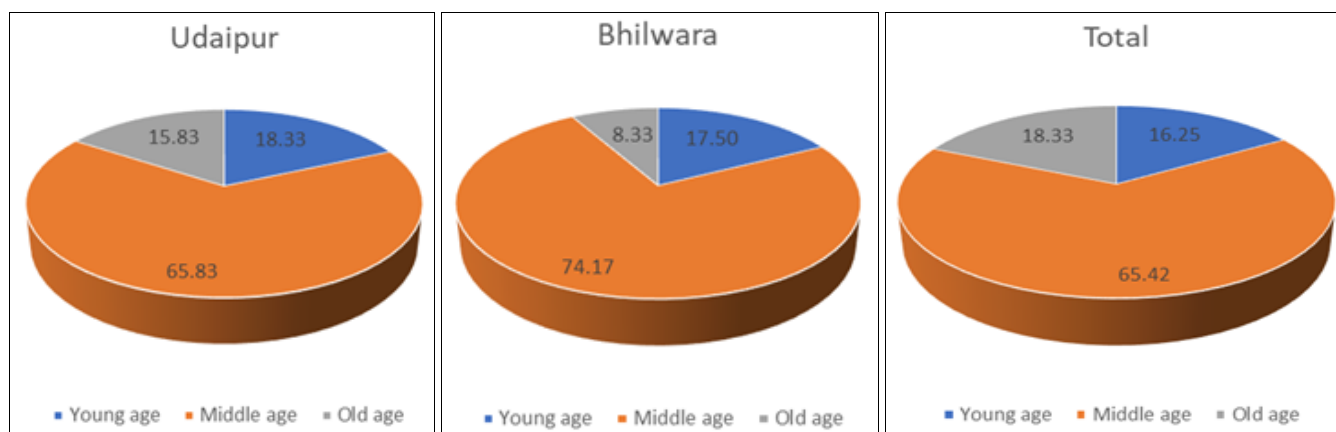

Fig 1: Distribution of input dealers according to their age

Table 1: Distribution of input dealers according to their age

S. No.	Age	Udaipur (n₁=120)		Bhilwara (n₂=120)		Total (n=240)	
		f	%	f	%	f	%
1	Young age	22 (<31 Y)	18.33	21 (<34 Y)	17.50	39 (<32 Y)	16.25
2	Middle age	79 (31-47 Y)	65.83	89 (34-52 Y)	74.17	157 (32-50 Y)	65.42
3	Old age	19 (>47 Y)	15.83	10 (>52 Y)	8.33	44 (>50 Y)	18.33
	Total	120	100.00	120	100.00	240	100.00

(Udaipur: - Mean-39.32, Sd-7.90) (Bhilwara: - Mean- 42.80, Sd- 8.92) (Overall: - Mean 41.06, Sd- 8.92), Y- Years

The most of input dealers of both districts belongs to middle age group because of middle aged input dealers had dominate agriculture input dealerships due to their extensive experience, financial stability, and established relationships within the agricultural community.

Results are agreed with the findings of Prajapati *et al.* (2015) [14] who reported that majority (54.67%) of the pesticide dealers were in middle age group followed by 22.00 per cent and 23.33 per cent belonged to old and young age group, respectively. His study also supported by Kumar

et al. (2020) that majority of (56.66%) agri-input dealers were middle aged, followed by old aged 27.67 per cent and young aged 16.67 per cent.

3.2 Education
Education is the process of bringing desirable changes in human behaviour. Formal education of agro input dealers plays an important role in determining their knowledge acquiring capability and attitude towards agro services. Considering these aspects, the formal education of agro input dealers was studied. Information about education was collected from agro input dealers and presented in Table 2.

Table 2: Distribution of input dealers according to their education

S. No.	Education	Udaipur (n₁=120)		Bhilwara (n₂=120)		Total (n=240)	
		f	%	f	%	f	%
1	Up to secondary school (class VIth to Xth)	14	11.67	14	11.67	28	11.67
2	Senior secondary (Class XIth to XIIth)	50	41.66	33	27.50	83	34.58
3	Graduate	38	31.67	51	42.50	89	37.08
4	Post graduate	18	15.00	22	18.33	40	16.67
	Total	120	100.00	120	100.00	240	100.00

Information in Table 2 indicates that among all selected input dealers, majority of input dealers (37.08%) were graduate. Whereas, 34.58 per cent input dealers were educated up to senior secondary. It was followed by 16.67 per cent and 11.67 per cent input dealers were post graduate and secondary education, respectively.

Again, analysis of Table 2 at district level shows that 31.67 per cent input dealer of Udaipur district and 42.50 per cent input dealers of Bhilwara district were graduate, while 41.66 per cent input dealers of Udaipur district and 27.50 per cent input dealers of Bhilwara district were educated up to senior secondary. Similarly, 15.00 per cent and 18.33 per cent input dealers of Udaipur and Bhilwara district were educated up to post-graduation, respectively. Remaining 11.67 per cent input dealers of udaipur and Bhilwara districts educated up to secondary school.

Above study is in line with the findings of Panja *et al.* (2021) [13] revealed that 31.25 per cent agri-input dealers had their formal education up to graduation, 28.75 per cent agri-input dealers had their education up to higher secondary school, followed by education up to high school (22.50 per cent).

3.3 Dealing experience
Dealing experience of input dealers were divided into three categories in order to gain insight into their dealing experiences. Both districts (Udaipur and Bhilwara) and overall got different dealing experience on the basis of mean year and standard deviation which were mentioned in research methodology chapter. The overall distribution of input dealers is given in Table below:
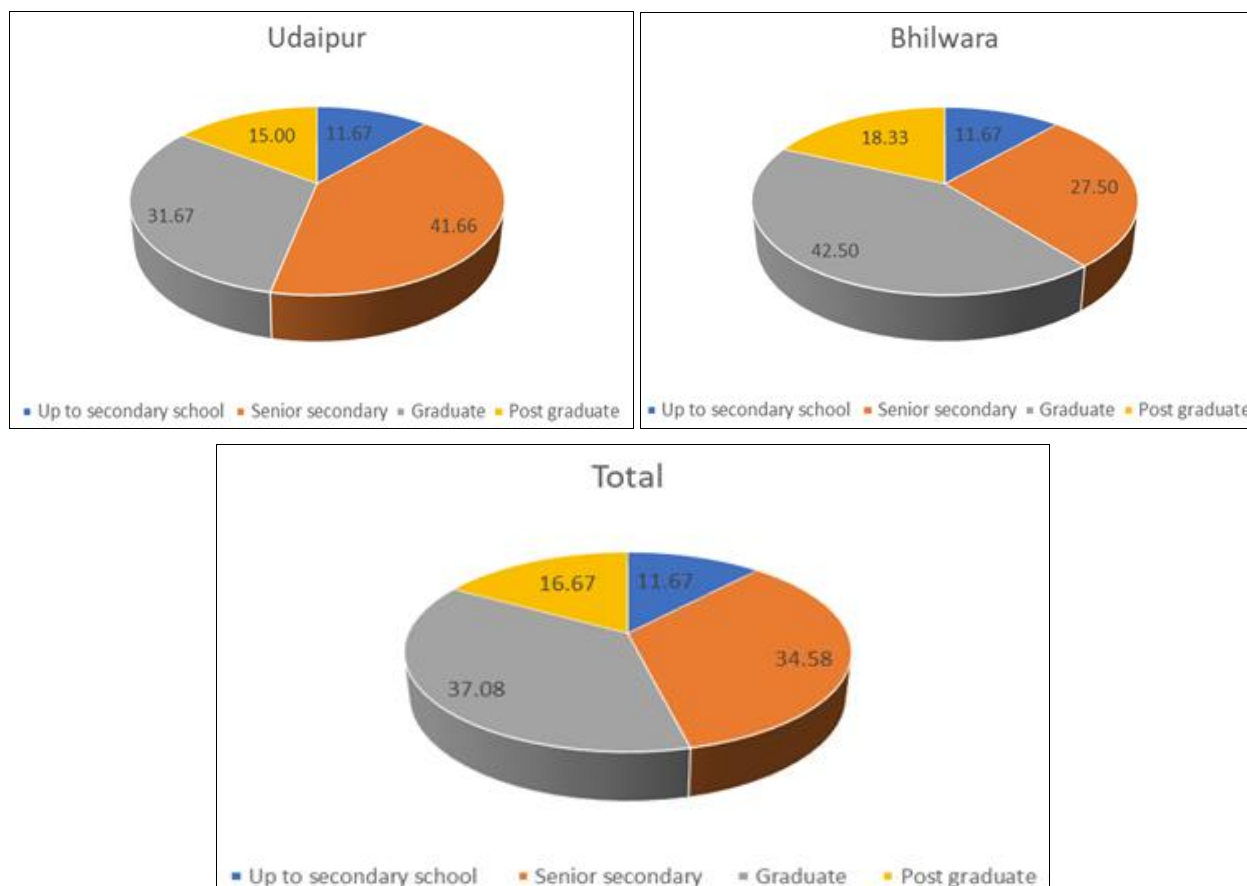

Fig 2: Distribution of input dealers according to their education

Table 3: Distribution of input dealers on the basis of their dealing experience

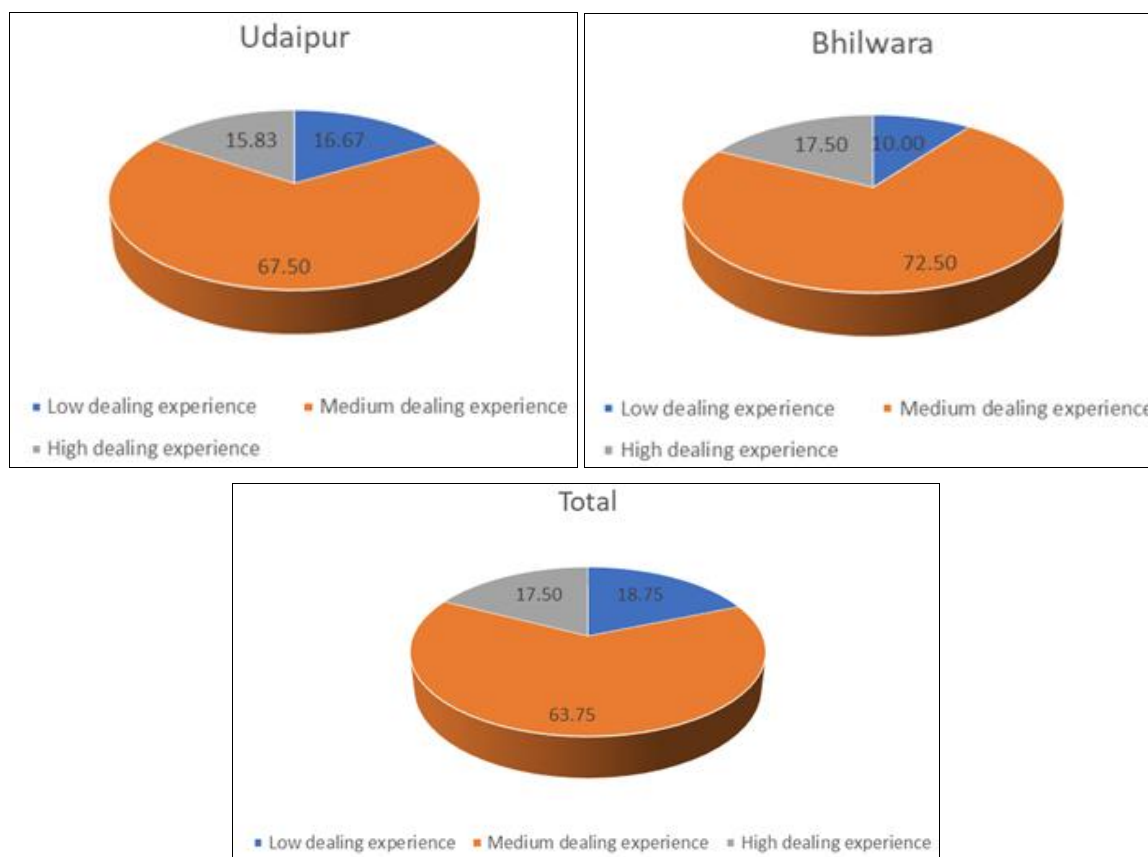| S. No.	Level of Dealing experience	Udaipur (n₁=120)		Bhilwara (n₂=120)		Total (n=240)	
		f	%	f	%	f	%
1	Low dealing experience	20 (<4 Y)	16.67	12 (<8 Y)	10.00	45 (<6 Y)	18.75
2	Medium dealing experience	81 (4-18 Y)	67.50	87 (8-22 Y)	72.50	153 (6-20 Y)	63.75
3	High dealing experience	19 (>18 Y)	15.83	21 (>22 Y)	17.50	42(>20 Y)	17.50
	Total	120	100.00	120	100.00	240	100.00

((Udaipur: - Mean- 10.97, Sd- 6.71) (Bhilwara: - Mean- 16.62, Sd- 6.82) (Overall: -Mean- 12.88, Sd- 7.21), Y- Years

Information in Table 3 indicates that among all selected input dealer, majority of input dealers (63.75%) were having 6-20 years of dealing experience. Whereas, 18.75 per cent had less than 4 years dealing experience and remaining 17.50 per cent input dealers possessed more than 20 years of dealing experience.

Further examine Table 3 at district level shows that 67.50 per cent input dealer of Udaipur district have 4-18 years of experience. While, 72.50 per cent input dealers of Bhilwara district had 8-22 years of dealing experience. While, 16.67

per cent input dealers of Udaipur district had less than 4 years dealing experience and 10.00 per cent input dealers of Bhilwara district had less than 8 years of dealing experience and remaining 19 input dealers (15.83%) of Udaipur district had more than 18 years of dealing experience and 21 input dealers (17.50%) of Bhilwara district had more than 22 years of dealing experience.

Above discussion are similar with the findings of Latha (2019) that majority of (84.40 per cent) DAESI dealers had medium experience of 15-31 years.

Fig 3: Distribution of input dealers according to their dealing experience

3.4 Farming experience
To get an overview of farming experience in yeas of input dealers they were grouped into three categories. Both districts (Udaipur and Bhilwara) and overall got different

farming experience on the basis of mean year and standard deviation which were mentioned in research methodology chapter. The overall distribution of input dealers is given in Table below:

Table 4: Distribution of input dealers according to their farming experience

S. No.	Level of farming experience	Udaipur (n₁=120)		Bhilwara (n₂=120)		Total (n=240)	
		f	%	f	%	f	%
1	Low farming experience	51 (<1.05 Y)	42.50	53 (< 0.14 years)	44.17	105 (< 1.50 Y)	43.75
2	Medium farming experience	39 (1-20 Y)	32.50	35 (0.14-24.08 Y)	29.17	86 (1.51-22.71 Y)	35.83
3	High farming experience	30 (> 19.51 Y)	25.00	32 (> 24.08 Y)	26.67	49 (>22.71 Y)	20.42
	Total	120	100.00	120	100.00	240	100.00

(Udaipur: - Mean- 9.23, Sd- 10.28) (Bhilwara- Mean: - 11.97, Sd- 12.11) (Overall: - Mean- 10.60, Sd- 12.11), Y-Years

Table 4 indicates that among all selected input dealers, majority of input dealers (43.75%) had less than 1.5 years farming experience. Whereas, 35.83 per cent input dealers had 1.51-22.71 years of farming experience and only 20.42 per cent input dealers possessed more than 22.71 years of farming experience.

Further analysis of Table 4 at district level indicates that

42.50 per cent input dealer of Udaipur district had less than 1.05 years of farming experience and 44.17 per cent input dealers of Bhilwara district had less than 0.14 years of farming experience. While, 32.50 per cent input dealers of Udaipur district had 1-20 years of farming experience and 29.27 per cent input dealers of Bhilwara district had 0.14-24.08 years of
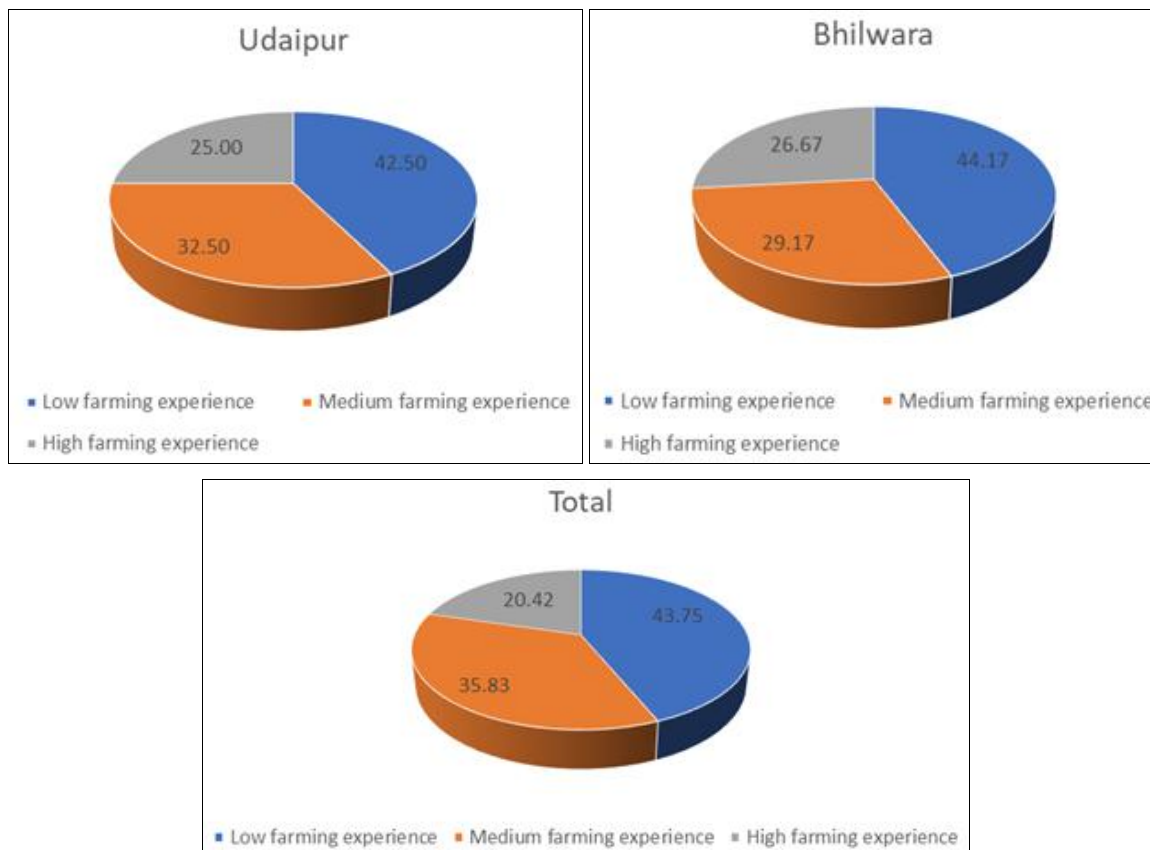

Fig 4: Distribution of input dealers according to their farming experience

farming experience and remaining 30 input dealers (25.00%) of Udaipur district had more than 19.51 years of farming experience and 32 input dealers (26.67%) of Bhilwara district had more than 24.08 years of farming experience.

3.5 Training received
Training is important for improving knowledge and skill of input dealers about their enterprise. To get an insight about training received by input dealers they were grouped into their categories. The distribution of input dealers in their categories is given in Table below:

Table 5: Distribution of input dealers according to their type of training received

S. No.	Training	Udaipur (n$_1$=120)		Bhilwara (n$_2$=120)		Total (n=240)	
		f	%	f	%	f	%
1	DAESI	77	64.17	81	67.50	158	65.83
2	Retail Fertilizer Dealers Training	33	27.50	48	40.00	81	33.75
3	DAESI+ Retail Fertilizer Dealers Training	27	22.50	31	25.83	58	24.17

DAESI- Diploma in Agricultural Extension for Input Dealers

The information in Table 5 indicates that among all selected input dealer, majority of input dealers (65.83%) received training on DAESI. Whereas, 33.75 per cent input dealers received training on Retail Fertilizer Dealers Training. Followed by, only 58 (24.17%) input dealers received training on DAESI and Retail Fertilizer Dealers Training.
Further Table 5 reveals that 64.17 per cent of input dealer of Udaipur district and 67.50 per cent input dealers of

Bhilwara district received training on DAESI. While, 27.50 per cent input dealers of Udaipur district and 40.00 per cent input dealers of Bhilwara district received training on Retail Fertilizer Dealers Training. It was succeeded by 22.50 per cent input dealer of Udaipur and 25.83 per cent dealers of Bhilwara district received training on DAESI and Retail Fertilizer Dealers Training.
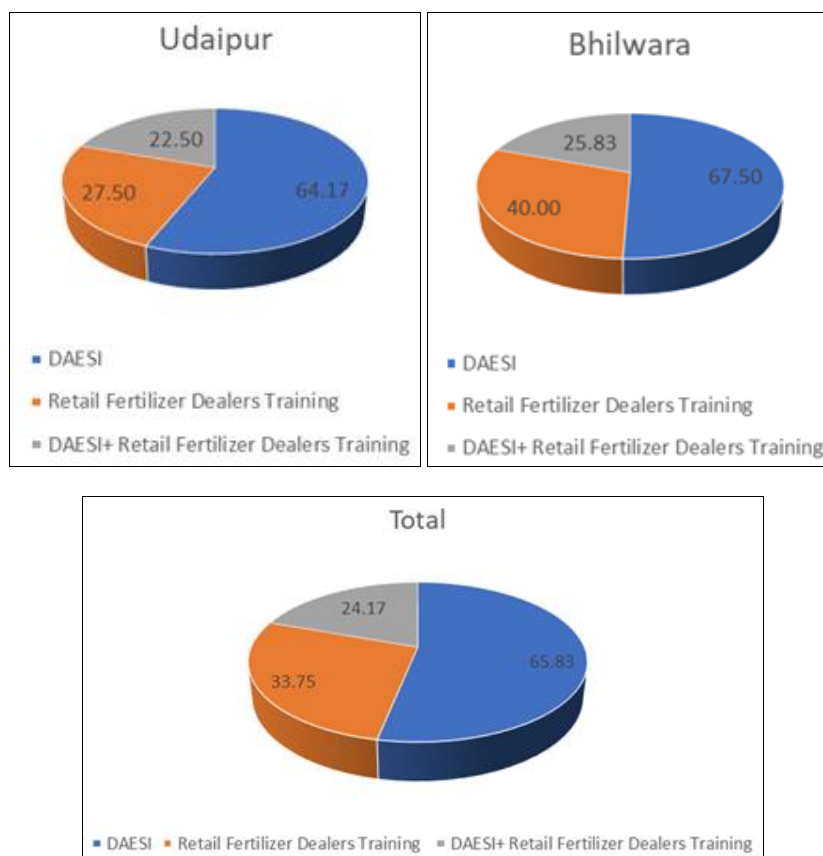
Fig 5: Distribution of input dealers according to their training received

Above findings are line with the findings of Thulasi *et al.* (2021) [16] found that majority (96.67%) of input dealers received trainings on DAESI programme.

3.6 Annual income
It indicates total annual income earned by agro input dealers. A higher income earning enables input dealers to greater investment in the business and allows for effective planning of multipurpose programs, as credit are now days readily available. Moreover, it facilitates input dealers for timely and optimal supply of inputs to the farming community, thereby reducing the technological gap. The annual income of agro input dealers plays a significant role in their engagement in input dealing, as well as influencing their knowledge and attitude. Thus, it was included as an independent variable in the study. To get a deep overview about annual income of input dealers they were grouped into three categories. input dealers of both districts (Udaipur and Bhilwara) and overall have different earning scenario on the basis of mean income and standard deviation which were mentioned in research methodology chapter. The overall distribution of input dealers was given in Table below:

Table 6: Distribution of input dealers according to their annual income

S. No.	Annual income	Udaipur (n₁=120)		Bhilwara (n₂=120)		Total (n=240)	
		f	%	f	%	f	%
1	Low income	16 (< ` 367788.73)	13.33	12 (<` 309545.35)	10.00	4 (< ` 245338.46)	1.67
2	Medium income	101 (` 367788.73-807227.94)	84.17	90 (` 309545.35-1116387.00)	75.00	212 (₹ 245338.46-1055136.54)	88.33
3	High income	3 (` ₹ 807227.94)	2.50	18 (>`1116387.00)	15.00	24 (> ₹ 1055136.54)	10.00
	Total	120	100.00	120	100.00	240	100.00

(Udaipur: - Mean- 587508.33, Sd- 219719.61) (Bhilwara- Mean: -712966.67, Sd- 403421.31) (Overall: - Mean- 650237.50, Sd- 404899.04), ₹- Rupees

Information in Table 6 indicates that among all selected input dealers, majority of input dealers (88.33%) had annual income of ₹ 2,45,338.46 to 10,55,136.54.
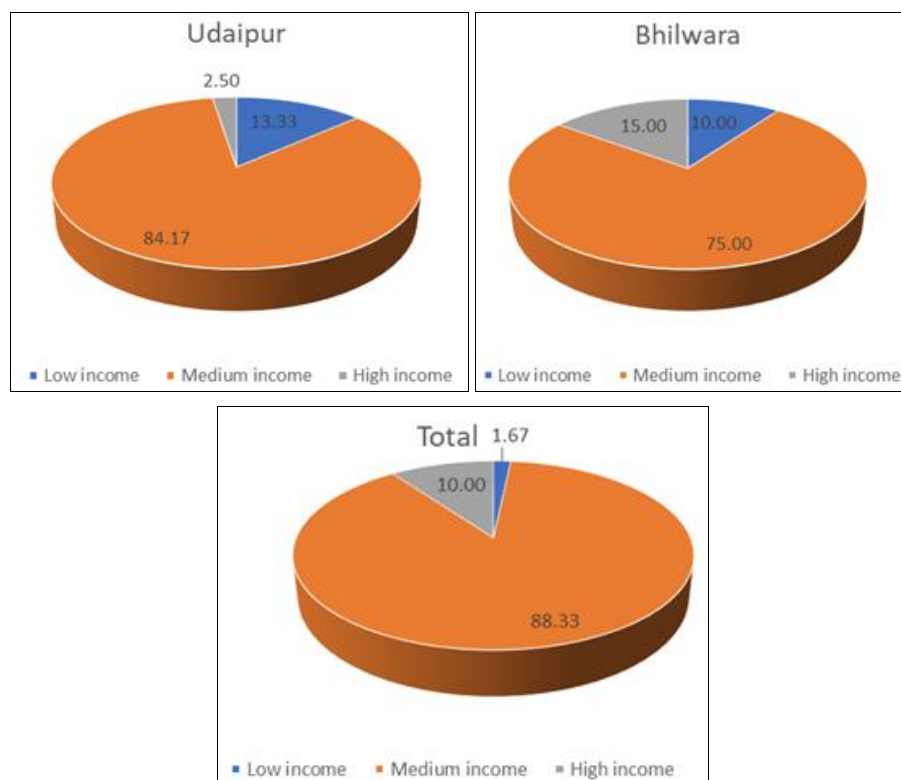
Fig 6: Distribution of input dealers according to their annual income

Whereas, 10.00 per cent input dealers had annual income of more than ₹ 10,55,136.54 and remaining 1.67 per cent input dealers earn less than ₹ 2,45,338.46 per year.

Further analysis of Table 6 at district level shows that 84.17 per cent input dealers of Udaipur district had annual income ₹ 3,67,788.73 to 8,07,227.94 and 75.00 per cent input dealers of Bhilwara district had annual income ₹ 3,09,545.35 to 11,16,387. While, 13.33 per cent input dealers of Udaipur district had less than ₹ 3,67,788.73 per year and 10.00 per cent input dealers of Bhilwara district had ₹ 3,09,545.35 annual income and remaining 3 input dealers (2.50%) of Udaipur district had annual income of more than ₹ 8,07,227.94 and 18 input dealers (15.00%) of Bhilwara district had more than ₹ 11,16,387.00 annual income.

Above findings are similar with the findings of Shrihari (2014) investigated that majority of (71.66%) agri-input dealers had medium annual income.

3.7 Scientific orientation

Scientific orientation is operationalised as degree to which agro input dealers are oriented towards the use of scientific procedures, methods and information during selling of agriculture inputs to the farmers. To acquire an understanding of input dealers' scientific orientation were grouped into three categories. Input dealers of both districts *i.e.,* Udaipur, Bhilwara and overall got different scientific orientation score on the basis of mean and standard deviation which are mentioned in research methodology chapter. The overall distribution of input dealers is given in Table 7.

Information in Table 7 indicates that among all selected input dealers, majority of input dealers (59.17%) were having medium scientific orientation. Whereas, 22.08 per cent input dealers had high scientific orientation and remaining 18.75 per cent input dealers possessed low scientific orientation.

Further examine Table 7 at district level reveals that 66.67 per cent input dealers of Udaipur district and 60.00 per cent input dealers of Bhilwara district had medium scientific orientation. While 18.33 per cent input dealers of Udaipur district and 14.17 per cent input dealers of Bhilwara district had low scientific orientation and remaining 18 input dealers (15.00%) of Udaipur district and 31 input dealers (25.83%) of Bhilwara district had high scientific orientation.

Table 7: Distribution of input dealers according to their scientific orientation

S. No.	Categories	Udaipur (n₁=120)		Bhilwara (n₂=120)		Total (n=240)	
		f	%	f	%	f	%
1	Low scientific orientation	22 (<9.28 score)	18.33	17 (< 7.77 score)	14.17	45 (< 8.42 score)	18.75
2	Medium scientific orientation	80 (9.28-13.20 score)	66.67	72 (7.77-11.98 score)	60.00	142 (8.42-12.70 score)	59.17
3	High scientific orientation	18 (> 13.20 score)	15.00	31 (> 11.98 score)	25.83	53 (< 12.70 score)	22.08
	Total	120	100.00	120	100.00	240	100.00

(Udaipur: - Mean- 11.24, Sd- 1.96) (Bhilwara- Mean: 9.98) Sd- 2.10) (Overall: - Mean- 10.56, Sd-2.14)

Above findings are contradictory with the findings of Mamatha (2018) [11] that half of the trained dealers (50.00 per cent) belonged to high level of scientific orientation followed by medium (30.00 per cent) and low (20.00 per cent) level of scientific orientation.

3.8 Exposure visit
Exposure visit of agriculture input dealers involves traveling

to different states, districts, and reputed ICAR institutes to explore the latest agricultural products and technologies. These visits enable dealers to know about new inputs, compare products, and receive experts' advice on effective usage. By learning from diverse sources, they improve their knowledge, enhance productivity, and adopt innovative solutions for their businesses. This exposure aims to broaden their knowledge and support sustainable
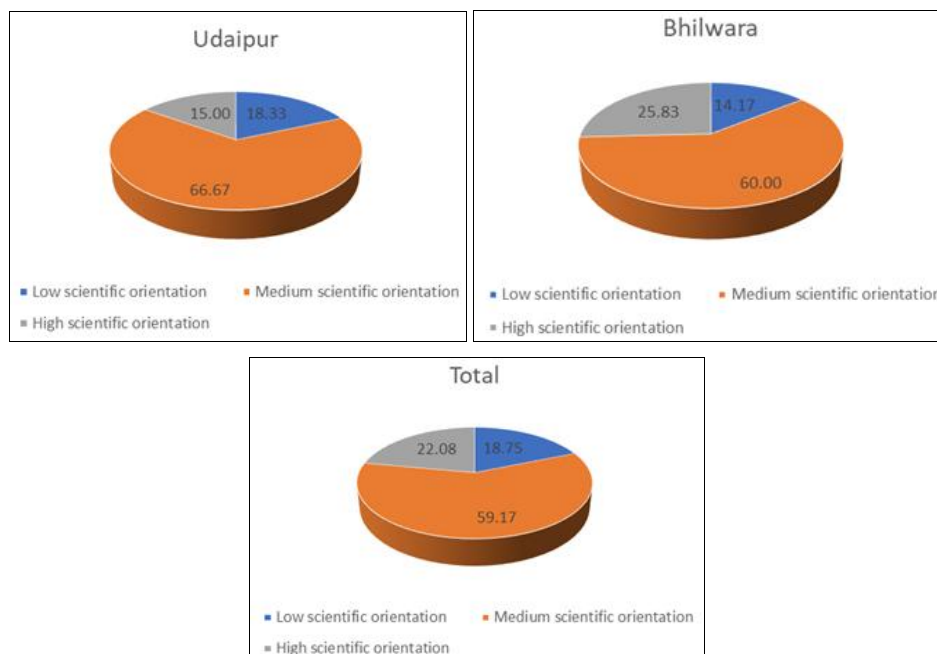

Fig 7: Distribution of input dealers according to their scientific orientation

agriculture practices. To get an understanding of exposure visit made by input dealers were grouped into three categories as mentioned in research methodology chapter. The distribution input dealers are made on the basis of exposure visit which is given in Table below:

Table 8: Distribution of input dealers on the basis of their visit exposure

S. No.	Visit exposure	Udaipur (n₁=120)		Bhilwara (n₂=120)		Total (n=240)	
		f	%	f	%	f	%
1	Different districts	47	39.17	67	55.83	114	47.50
2	Outside states	32	26.67	50	41.67	82	34.17
3	Reputed agri institutes of ICAR	15	12.50	29	24.17	44	18.33

Information in Table 8 indicates that among all selected input dealer, majority of input dealers (47.50%) visited different districts of Rajasthan. Whereas, 34.17 per cent input dealers visit other states and remaining 18.33 per cent input dealers visited reputed agri institutes of ICAR.
Further analysis of Table 8 at district level reveals that 39.17 per cent input dealers of Udaipur district and 55.83 per cent input dealers of Bhilwara district visited different districts of Rajasthan. While, 26.67 per cent input dealers of Udaipur district and 41.67 per cent input dealers of Bhilwara district visited other states and remaining 15 input dealers (12.50%) of Udaipur district and 29 input dealers (24.17%) of Bhilwara district visited reputed agri institutes of ICAR.

4. Summary and conclusion
The study concluded that most agricultural input dealers in Udaipur and Bhilwara districts belong to the middle-age group and hold at least a graduate degree. A majority had medium-level dealing experience, indicating they are well-established in their business. Many dealers also have farming experience, which helps them understand farmers' needs better. Most input dealers received formal training, especially through the DAESI programme, strengthening their advisory capabilities. Medium annual income levels reflect reasonable business performance and potential for growth. Scientific orientation among dealers is generally medium, showing scope for further capacity building.
Exposure visits, mainly to other districts and states, have enhanced their awareness of new technologies and products. Overall, the dealers weres moderately equipped to provide quality agro-services but still need continuous training and exposure for better service delivery.

5. References
1. Bochalya BC, Javia RM. Analysis of technological knowledge and its variables effect in adoption of recommended production technology of aonla. Agric Update. 2013;8(4):577-9.
2. Choudhary S, Khan IM. Relationship between agriculture information management behaviour of aonla growers. Int J Curr Microbiol Appl Sci. 2017;6(8):257-69.

3. Singh RPN. Knowledge and adoption of aonla production technology by farmers. RASA J Sci Soc. 2020;1(3):162-4.

4. Suryawanshi D. A study on adoption behaviour of improved potato production technology among the farmers of Chhindwara block in Chhindwara District (M.P.) [MSc thesis]. Jabalpur: JNKVV; 2014.

5. Ghintala A, Singh K. Knowledge and adoption of sprinkler irrigation system by the farmers of Banaskantha District of North Gujarat. Indian J Ext Educ Rural Dev. 2013;21:26-9.

6. Jethi R, Roy ML, Mukherjee A, Chandra N, Joshi P. Knowledge level of vegetable growing farmers in hills of Uttarakhand: A comparative study. J Multidiscip Adv Res. 2019;8(2):1-8.

7. Nasrin M, Borua S, Borua R, Deka B. Knowledge level of farmers on recommended cultivation practices of off-season vegetable crops under low cost polyhouse technology in Assam. Asian J Agric Ext Econ Sociol. 2017;21(4):1-6.

8. Yadav K, Yadav JP, Bijarniya S. Adoption of drip irrigation system by the farmers in Jhotwara Panchyat Samiti of district Jaipur, Rajasthan. Indian J Ext Educ. 2019;55(1):142-4.

9. Rai AK, Khajuria S, Lata K. Impact of front line demonstrations in transfer of groundnut production technology in semi-arid region. Gujarat J Ext Educ. 2020;31(1):6-10.

10. Ghanghas BS, Chahal PK, Rohilla AK. Communication pattern of prime source of farm information: Agro input dealers of Haryana. J Community Mobil Sustain Dev. 2020;15(1):135-41.

11. Mamatha DN. Impact of diploma in agricultural extension services for input dealers (DAESI) training on agricultural input dealers [Master's thesis]. Bengaluru: University of Agricultural Sciences; 2018.

12. Nandi R, Nedumaran S. Agricultural extension system in India: A meta-analysis. Res J Agric Sci. 2019;10(3):473-9.

13. Panja A, Gowda NS, Kusumalatha DV, Jayasingh DK. Role performance of agricultural input dealers in agro-advisory services in West Bengal. Indian J Ext Educ. 2021;58(3):8-13.

14. Prajapati MR, Patel VT, Patel JK, Thakar KP, Pandya SP. Knowledge regarding general use of pesticides and training need of pesticide dealers of North Gujarat. Int J Home Sci Ext Commun Manag. 2015;2(2):79-83.

15. Shekara PC, Durga PK. Impact of Agri clinics and Agribusiness Centers on the economic status of the farmers. IUP J Agric Econ. 2007;4(3):66-78.

16. Thulasi K, Reddy PBH, Chowdary KR, Reddy ST, Lakshmi T. Profile of farm input dealers of DAESI programme in Chittoor district of Andhra Pradesh. Environ Health. 2021;20:1-20.