

TRAINING NEED ASSESSMENT OF AGRI-INPUT DEALERS

Pallavi Saikia¹, Pallabi Das² and Pallabi Deka³

1 SMS (Agril. Extn.), Krishi Vigyan Kendra, Golaghat, Assam Agricultural University, Assam - 785013

1 Assistant Professor, Dept. of Ext. Edu., College of Agriculture, Assam Agricultural University, Jorhat, Assam - 785001

3 SMS (Agril. Econ.), Krishi Vigyan Kendra, Assam Agricultural University, Udalguri, Udalguri, Assam - 784509

Email : pallabi.das@aau.ac.in

ABSTRACT

In India, research and extension are two crucial components of agricultural growth. To achieve continuous expansion in agriculture, an effective extension system can quickly disseminate farm technology throughout farming communities. Agricultural input dealers play a significant role in the production and sale of agricultural products in addition to the extension services provided to farmers by the state Department of Agriculture and other organizations. Due to their easy accessibility in rural regions, they build a solid connection and help to enhance the agricultural extension system by offering the farming community useful services in a way that disseminates technology. Therefore, it is crucial that they take refresher training courses to provide themselves with the most recent agricultural expertise and information. Hence keeping this in mind, the present investigation was conducted in Jorhat, Golaghat, Morigaon and Udalguri districts of Assam during 2021-22 to ascertain training needs of agro-input dealers. A total 120 numbers of Agri-input dealers were selected as respondents by proportionate allocation method from each of the four districts. Data were collected by using pretested structured interview schedule. The needs assessment were done in the training areas viz., manures and fertilizers, pesticides, seeds, farm machineries, computer application and record keeping with three point continuum of 'much needed', 'needed' and 'not needed' having the value of 3, 2 and 1 respectively. The data were analyzed with the help of proper statistical techniques and it was revealed that 96.66 percent of the respondents require training on integrated nutrient management practices, 70 percent have much need for pest protection of stored seeds, training on certification techniques of seeds (76.66%), latest farm implements and machinery (78.06%) and 75.97 percent have much need for training on record keeping software. A few characteristics of the dealers like age, experience in dealership, input supply and annual income have significantly negative relationship with their training needs.

Keywords: training need assessment, agro-input dealers, training areas, transfer of technology.

INTRODUCTION

Agriculture is demographically the broadest economic sector and plays a significant role in the overall socio-economic development of India. Rapid rate of increasing population of India places constant pressure on agriculture to improve productivity, Girawale and Naik, (2016). Today, India ranks second worldwide in farm output. Agriculture and allied sectors accounted for 18.30 per cent of the GVA (Gross Value Added) in 2023, Press Information Bureau, (2023). Research and extension are the two main important factors for the development of agriculture of a country. Efficient extension systems that can spread need-based agricultural techniques throughout rural areas in a timely manner are essential for sustainable growth of agriculture. Communicating all agricultural-related information to farmers is a major challenge for all stakeholders. From farmers, the major players in agriculture, to the ultimate inventors of technology, scientists have taken on a variety of roles and responsibilities in making food for

the billions of people involved. One of these stakeholders, agricultural traders, plays an important role. They play a major role in reaching out to farmers by providing them with agricultural materials and information in an informal way. They are small, often independent stockists or distributors of agricultural inputs. In India, there are about 2.82 lakh practicing agri-input dealers, who are the prime source of farm information to the farming community, Goel, (2003). They become one of the important sources of agri-farm information to the farming community though not equipped with adequate knowledge, Sangamesh, (2012). In spite of not having formal agricultural education, their words are very much appealing to the farmers resulting in development of strong linkage to meet their agri-input demands. An input dealer forms an important bridge between the farmers and the agricultural development agencies, and is often regarded by farmers as a "friend, philosopher and guide" and is truly a change agent (Patel *et al.* 2020).

Therefore, in order to build their technical

competency and to facilitate them to serve the farmers better, training is much required. Training is an added input to equip with modern agricultural technologies (Sangma *et al.* 2022). It is an important process of capacity building of individuals to improve the knowledge and skill and to organize an effective training programme, the first step is to conduct training need assessment to identify present problems and future challenges to met through capacity building. It is required to find out the needs of individual person on which professional competencies should be built to carry out the assigned job in an organization. If agricultural input traders have sufficient knowledge about research recommendations, they can pass them on to farmers to increase production and improve agriculture, ultimately leading to improved living standards for farmers.

OBJECTIVE

The present study was undertaken with a purpose to assess the training needs of agri-input dealers to make them competent and help them act as para-extension professionals for the farming community.

METHODOLOGY

Out of the six agro-climatic zones in Assam, the present study was purposively conducted in upper and central Brahmaputra valley zone with two districts from each zone i.e Jorhat, Golaghat and Morigaon, Udalguri respectively during 2021-22 to ascertain training needs of agro-input dealers. From each district, thirty numbers of agri-input dealers were selected by proportionate allocation method which constitutes a total of one hundred and twenty numbers of respondents as the final sample size of the study. Based on the objective of the study, a pretested structured interview schedule was prepared. Assessment was done by including some relevant

statements which were grouped into five broad training need areas namely: manures and fertilizers, pesticides, seeds, farm machineries, computer application and record keeping. Twelve numbers of independent variables were selected for the study. A total of 35 number of statements were taken and the responses were obtained in at three-point continuum of ‘much needed’, ‘needed’ and ‘not needed’ having the score of 3,2 and 1 respectively. Appropriate statistical techniques like frequency, percentage, Weighted Mean Score rank, Chi-square etc. were used for analysis and interpretation of data. The relationship between a few quantitatively selected socio-personal characteristics of agri input dealers with their training needs was analyzed by using Karl Pearson’s correlation coefficient(r) with the given below formula:

$$r = \frac{\sum xy - \sum x \sum y / n}{\sqrt{\{\sum x^2 - \frac{\sum x^2}{n}\} \{\sum y^2 - \frac{\sum y^2}{n}\}}}$$

Where, r = co-efficient of correlation, x = Independent variable, y = Dependent variable, $\sum x$ = Sum total of x, $\sum y$ = Sum total of y, $\sum xy$ = Sum total of product of x and y, $\sum x^2$ = Sum total of square of x, $\sum y^2$ = Sum total of square of y and n = Total number of respondents.

The Fisher’s ‘t’ ratio was used to test the significance of the correlation coefficient. The calculated ‘t’ values were compared with values at 0.05 level of probability.

where, r = co-efficient of correlation, n = number of observations, d.f. = degree of freedom

RESULTS AND DISCUSSION

The training needs of the agri-input dealers are discussed in details as hereunder:

(n=120)

Table 1: Training needs of agri-input dealers related to manures and fertilizers

Sr. No.	Subject area	Much needed	Needed	Not needed	WMS	Rank
		F (%)	F (%)	F (%)		
1	Integrated nutrient management practices	116 (96.66 %)	3 (2.5 %)	1 (0.83 %)	2.95	I
2	Fertigation process	96 (80.00 %)	20 (16.66 %)	4 (3.33 %)	2.76	II
3	Vermin-composting	88 (73.33 %)	17 (14.16%)	15 (12.50%)	2.60	III
4	Equipments and implements used for fertilizer application	84 (70.00 %)	16 (13.33%)	20 (16.66%)	2.53	V
5	Fertilizer doses of different crops.	80 (66.66 %)	30 (25.00%)	10 (8.33%)	2.58	IV
6	Preparation of cake fertilizers	76 (63.33 %)	30 (25.00%)	14 (11.66%)	2.51	VI

Sr. No.	Subject area	Much needed	Needed	Not needed	WMS	Rank
		F (%)	F (%)	F (%)		
7	Preparation of bio-fertilizers	76 (63.33 %)	22 (18.33%)	22 (18.33%)	2.45	VII
8	Preparation of compost	72 (60.00 %)	28 (23.33%)	20 (16.66%)	2.43	VIII
9	Process of soil testing for fertilizer application	72 (60.00 %)	25 (20.83%)	23 (19.16%)	2.40	IX
10	Different Methods of fertilizer application	60 (50.00 %)	25 (20.83%)	35 (29.16%)	2.20	XIII
11	Methods of nitrogenous fertilizer application	60 (50.00 %)	40 (33.33%)	20 (16.66%)	2.33	X
12	Micro nutrients	60 (50.00 %)	38 (31.66%)	22 (18.33%)	2.31	XI
13	Different types of fertilizers	56 (46.66 %)	45 (37.50%)	19 (15.83%)	2.30	XII

Training needs on manures and fertilizers

It can be observed from Table 1 that majority of the agri-input dealers had expressed most needed training on Integrated nutrient management practices with the (WMS-2.95) with rank I followed by Fertigation process (WMS-2.76) with rank II and vermicomposting (WMS-2.60) with rank III. Similarly, training on Equipments and implements used for fertilizer application, Fertilizer doses of different crops, Preparation of cake fertilizers, Preparation of bio-fertilizers, Preparation of compost, Process of soil testing for fertilizer application, Different methods of fertilizer application, methods of nitrogenous fertilizer application, Micro nutrients and finally training on Different types of fertilizers were needed by the respondents with WMS of 2.53, 2.58, 2.51, 2.45, 2.43, 2.40, 2.20, 2.33, 2.31 and 2.30

with the ranking of V, IV, VI, VII, VIII, IX, XIII, X, XI and XII respectively.

Agri input dealers mainly engaged in manures and fertilizer business. Farmers not only purchase these inputs, but also receive advice on what type, amount and when to apply these them. For this reason, traders need more up-to-date information on crop nutrients for different crops, their uses, etc. in order to advise and build trust with farmers in selling their inputs. Findings of the study are in accordance with the findings of Waghmode *et al.* (2014) and Shelake *et al.* (2015) who reported that input dealers had expressed 'high' training needs on micronutrient fertilizers, integrated nutrient management practices and micronutrient fertilizer. Moreover, it was also found that input dealers have medium level of knowledge regarding fertilizers and its proper doses (Patel *et al.* 2019).

Table 2: Training needs of agri-input dealers related to pesticides.

(n=120)

Sr. No.	Subject area	Much needed	Needed	Not needed	WMS	Rank
		F (%)	F (%)	F (%)		
1	Protection of stored seeds from pest	84 (70.00 %)	20 (16.66%)	16 (13.33%)	2.56	I
2	Protective measures and treatment for poisoning	72 (60.00 %)	30 (25.00%)	18 (15.00%)	2.45	II
3	Preparation of pesticide solution for spraying	68 (56.66 %)	35 (29.16%)	17 (14.16%)	2.42	III
4	Types of pesticides	60 (50.00 %)	30 (25.00%)	30 (25.00%)	2.25	IV
5	Techniques of spraying and dusting	56 (46.66 %)	30 (25.00%)	34 (28.33%)	2.18	V
6	Disposal of empty containers and bottles	52 (43.33 %)	38 (31.66%)	30 (25.00%)	2.18	V
7	Types of improved sprayers and dusters	48 (40.00 %)	36 (30.00%)	36 (30.00%)	2.10	VI

Training needs on pesticides: The data showed in Table 2 revealed that majority of the agri-input dealers had much training needs on protection of stored seeds from pest (WMS-2.56) with rank I, protective measures and treatment for poisoning (WMS-2.45) with rank II followed by preparation of pesticide solution for spraying (WMS-2.42) with rank III. The other training aspects include Types of pesticides (rank IV), Techniques of spraying and dusting and disposal of empty containers and bottles (rank V) and finally the Types of improved sprayers and dusters (rank VI) with

WMS of 2.25, 2.18, 2.18 and 2.10 respectively.

The knowledge gained through training in the identified new areas will help to provide new technical advice to farmers, thereby gaining their trust, which will also improve their business. Similar findings were observed by Prajapati *et al.* (2012), Mande *et al.* (2011) who observed that all farm input dealers perceived training needs on various aspects of pesticides. These findings are also confirmed by Ganiger, (2012), Thorat, (2015). Singh *et al.* (2021) and Raut *et al.* (2022).

(n=120)

Table 3: Training needs of agri-input dealers related seeds

Sr. No.	Subject area	Much needed	Needed	Not needed	WMS	Rank
		F (%)	F (%)	F (%)		
1	Certification techniques of seeds	92 (76.66 %)	18 (15.00%)	10 (8.33%)	2.68	I
2	Viability of seeds for different crops	80 (66.66 %)	20 (16.66%)	20 (16.66%)	2.50	II
3	Fumigation of seed	80 (66.66 %)	18 (15.00%)	22 (18.33%)	2.48	III
4	Ideal seed storage	72 (60.00 %)	28 (23.33%)	20 (16.66%)	2.43	V
5	Improved varieties and hybrids of different crops	72 (60.00 %)	32 (26.66%)	16 (13.33%)	2.46	IV
6	Calculation on germination percentage of seeds	72 (60.00 %)	26 (21.66%)	22 (18.33%)	2.41	VI
7	Different types of seeds	64 (53.33 %)	36 (30.00%)	20 (16.66%)	2.36	VII
8	Seed treatment	60 (50.00 %)	30 (25.00%)	30 (25.00%)	2.25	VIII
9	Cultivation practices of hybrid seeds of different crops	56 (46.66 %)	30 (25.00%)	34 (28.33%)	2.18	IX

Training needs on seeds

From Table 3, it can be inferred that 92.00 per cent of the agro input dealers much needed training on certification techniques of seeds (WMS-2.68) followed by Viability of seeds for different crops (WMS-2.50) then Fumigation of seed (WMS-2.48) with the ranking of I, II, and III respectively. It was also revealed from their responses that they need training on Improved varieties and hybrids of different crops, Ideal

seed storage, Calculation on germination percentage of seeds, Different types of seeds, Seed treatment and finally they asked for training on Cultivation practices of hybrid seeds of different crops with WMS of 2.46, 2.43, 2.41, 2.36, 2.25 and 2.18 with the ranking of IV, V, VI, VII, VIII and IX respectively. The same results had been found in the study done by Mande *et al.* (2011) and Khatri *et al.* (2018), Singh *et al.* (2023), Patel *et al.* (2023), Panke *et al.* (2023), and Patel *et al.* (2023).

Table 4: Training needs of agri-input dealers related to farm machineries

(n=120)

Sr. No.	Subject area	Much needed	Needed	Not needed	WMS	Rank
		F (%)	F (%)	F (%)		
1	Latest farm implements and machinery	94 (78.06 %)	20 (16.66%)	6 (5.00%)	2.73	I
2	Maintenance of farm implements and machinery	76 (63.33 %)	25 (20.83%)	19 (15.83%)	2.47	II

Training needs on Farm machineries:

In case of training needs on farm machineries, the input dealers needs training on Latest farm implements and machinery (rank I) and Maintenance of farm implements

(rank II) with WMS of 2.73 and 2.47 respectively as shown in Table 4. Agri- input dealers also sell small farm implements and tools for the farmers and also give advices for repair and maintenance, exclusive trainings on the farm machinery aspects will help to improve the competencies.

Table 5: Training needs of agri-input dealers related to Computer application and record keeping

(n=120)

Sl. No.	Subject area	Much needed	Needed	Not needed	WMS	Rank
		F (%)	F (%)	F (%)		
1	Record keeping software.	91 (75.97 %)	15 (12.50%)	14 (11.66%)	2.64	I
2	Online e- billing	86 (71.66 %)	20 (16.66%)	14 (11.66%)	2.60	II
3	Stock book entry	71 (59.16%)	29 (24.16%)	20 (16.66%)	2.42	III
4	GST filling	67 (55.83%)	30 (25.00%)	23 (19.16%)	2.36	IV

Training needs on computer application and record keeping

It is depicted from Table 5 that training on Record keeping software was given top most priority by agro input dealers (WMS-2.64) with rank I followed by Online e- billing, rank II with WMS-2.60. Other than these two needs, they also need training on stock book entry and GST filling with rank III and IV having WMS of 2.42 and 2.36 respectively.

The use of modern ICT tools is essential for any business when providing up-to-date information. Most of them required training in the use of record keeping software to maintain all business activities. The use of ICT has brought about major changes in the world's work culture, especially in the field of marketing. These changes create professional challenges in equipping, training and retraining sales and marketing professionals with the latest skills. The use of ICT is important to most businesses, regardless of their size. This is important for retailers looking to expand and improve efficiency. Nowadays, the agricultural sector constantly uses information technology through advanced communication tools such as web portals, blogs, web mail, online trading and business, and it is justified to carry out training on these aspects. Singh *et al.* (2015) concluded that the use of ICT also improves customer services and consequently customer satisfaction. Kumar *et al.* (2019) and Mahammad *et al.* (2021) has also presented that respondents being educated and young in age have the potential to use ICT to their advantage.

Table 6: Relationship of a few socio-personal of agri input dealers with their training needs

(n=120)

Sr. No.	Variables	Correlation Coefficient ('r' value)	't' value
1	Age	-0.92*	-32.13
2	Experience in dealership	-0.25 ^{NS}	-2.41
3	Input supply	-0.38*	-4.26
4	Annual income	-0.05 ^{NS}	-0.57

* (Significant at 5 percent level of probability)

** (Significant at 1 percent level of probability)

It was revealed from Table 6 that in case of age and training needs of agri input dealers, the t-value was found to be -32.13, significant at $p < 0.05$ which indicates that there is a negative significant relationship between age and training needs of the agricultural input dealers. This may be because the younger dealers might be more adept at adopting new technologies and methods, thereby requiring less training compared to older dealers who may be less familiar with or resistant to changes. Also, the younger dealers may have received more recent and comprehensive education or training in agricultural practices, reducing their need for additional training compared to older dealers who may have entered the profession with less formal education or training. In case of experience in dealership and training needs, the $t = -2.41$, non-significant at $p < 0.01$ which indicates that there is no significant relationship between experience in dealership and training needs. This may be because the dealers may have accumulated more years of experience in the field, which

could mitigate their need for additional training. They might have encountered a broader range of situations and developed problem-solving skills that younger dealers are still acquiring. In case of input supply ($t = -4.26$, significant at $p < 0.05$ which shows that there is a negative significant relationship between input supply and training needs of the agricultural input dealers. Again, in case of annual income ($t = -0.57$), which indicates that there is no significant relationship between annual income of the agricultural input dealers and training needs. While income is a measure of financial success, it may not directly correlate with the need for training. Even high-income dealers may require training to stay updated with evolving agricultural practices, technological advancements, or regulatory changes.

Table 7: Association between independent variables and training needs of agricultural input dealers (n=120)

Sr. No.	Independent variables	Cvalue (χ^2)
X ₁	Education	74.66*
X ₂	Information seeking behaviour	21.78*
X ₃	Cosmo politeness	11.67 ^{NS}
X ₄	Extension contacts	36.89*
X ₅	Economic motivation	37.83*
X ₆	Training exposure	66.78*
X ₇	Risk orientation	5.91 ^{NS}
X ₈	Type of advice	91.45*

* (Significant at 0.05 level of probability)

From the data displayed in Table 7, it was revealed that education, information seeking behaviour, extension contacts, economic motivation, training exposure and types of advices acquired by input dealers are significantly associated with their training needs with the chi-square values of 74.66*, 21.78*, 36.89*, 37.83*, 66.78* and 91.45* respectively. These may be due to the fact that input dealers with higher levels of education may have a better understanding of complex agricultural practices, market dynamics and technological advancements. However, their specific training needs might still vary based on the depth and focus of their education. Dealers who actively seek out information are likely to have a better grasp of current trends, innovations, and best practices in the agricultural sector and require training to translate this information into practical skills or to address specific gaps in their knowledge. Interaction with agricultural extension services can provide input dealers with valuable insights, resources, and networking opportunities. Economic factors, such as market demand and competition can drive input dealers to seek training that helps them

optimize their business operations, improve sales techniques, or diversify their product offerings. Continuous exposure to training initiatives can help dealers stay updated and adapt to changing market dynamics. Dealers who receive diverse, up-to-date, and reliable advice may still require training to effectively implement recommendations or address gaps in their expertise.

Whereas, cosmopolitaness (11.67^{NS}) and risk orientation (5.91^{NS}) of the input dealers are not significantly associated with their training needs because they may influence general attitudes or approaches to learning, they might not directly impact the specific skills or knowledge areas that dealers seek to enhance through training.

CONCLUSION

Agri input dealers are involved in the supply and service of agricultural products. Farmers approach them with easy access, high dependency, higher reliability, clear intentions and less ambiguity. They therefore, play an important role in technology transfer. The department of Agriculture can use them for technology transfer and the scope will be extensive. Therefore, they needed knowledge and specific training and from the results revealed from the study, we can conclude that agro input dealers expressed their training needs on different aspects like integrated nutrient management practices, pest protection of stored seeds, certification techniques of seeds, latest farm implements and machinery and training on record keeping software. Hence, institutions support to these input dealers must give undue important on their preference of training need areas.

POLICY IMPLICATIONS

Serious efforts are hereby needed to develop useful training modules by the extension agencies of State Department of Agriculture, State Agriculture Universities and Private companies. KVK's may also play an important role in conducting training program in desired manner for retailers and input supplier. The identified problems need to tackle by capacity building through training with exposure will be more helpful to deliver latest information to farmers.

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CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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