



Training need of Agro-input Dealers in Hazaribag District of North Chhota-Nagpur Region in Jharkhand

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ABSTRACT

In rainfed farming state of Jharkhand, agro-input dealers play vital role in farm production. Input dealers can contribute towards strengthening agriculture extension system through creation sound technological linkage with farmers. So, it is very essential to know the knowledge level of input dealers with modern crop production technologies including agro machinery. Present study was conducted during 2016-18 in Hazaribag district of North Chhota-Nagpur region of Jharkhand to prioritize need for training of agro-input dealers. Through personnel interview of 40 retailers, 47.5 % were young (36-45years), and 35 % were graduates. Around 45 % of the respondents mobilized their own resources for the business and 37 % seek bank credit facility. Identification of pest in vegetables (Potato, Tomato, Cucurbits and Brinjal etc.) emerged as the most needed training area followed by identification of disease of vegetables (Potato, Tomato, Cucurbits and Brinjal etc.). Training in computer and its application with record keeping software was another preferred area. Food crop rice ranked first followed by vegetables as crop specific training needs. Seed based requirement was highest business followed by fertilizer and agro chemicals. The annual growth of business was 10.22 %, 8.63 %, 9.32% and 7.90% in respect of seed, fertilizer, agrochemical and agro machine in district of Hazaribag.

KEYWORDS

Input dealers, Jharkhand, Training, Hazaribag, Pest management

INTRODUCTION

Agriculture needs technology infusion to accelerate the growth, so that food sustainability is maintained with the concern of sustainability of natural resources and environment. Our agriculture is still technology deficit resulting in lower yields per hectare of food grain, fruits and vegetables in our country as compared to the global average. Jharkhand is no exception, enhancing productivity with profitability can only be provided by infusion of the latest technology with efficient extension channel.

The changing agriculture landscape, land holdings and emerging agri-business scenario call for redesigning agriculture extension. Farmers are largely unaware about the use of the crop input which are safe for environment and soil. The large community of farmers are mostly guided by the dealers/ retailers in selection and use of technology for maximum production (Singh, 2015). The outreach of state agriculture university and state extension department to the farmers in minimal as reported by Bhushan *et al.*, (2013). The knowledge intensive technologies require a strong research and extension system to reach to farmers. The public extension service has becoming the strong channel to popularize the technology among the farmers. Private sector extension channel providers *viz* Input dealers, producer's association, NGOs, Corporate sector etc. are supplementing them. Agri-input dealers are operating in rural areas covering almost all parts of country, who are the prime source of farm information and input (Goel, 2003). They have become one of the important sources of farming information, but they themselves are not equipped with adequate knowledge. Enhancing the skills and knowledge of dealers will ultimately help the farmers. It was felt necessary to expose them to scientific knowledge of agriculture and builds their capacity in handling field problems and extension communication ability.

Jharkhand is one of the economically poor states among all eastern states (Bharati *et al.*, 2014) due to lack of assured irrigation facilities rainfed farming is very common. Rice is the main staple food with its rich biodiversity. Mono cropping is very often and followed by vegetable cultivation, where agro-input dealers playing vital role in farm production (Kumar *et al.*, 2019). The farmers of Jharkhand have small and fragmented land holding mostly upland in nature. Input dealers can contribute towards strengthening the agriculture extension system through technological linkage among farmers with their valuable service (Kumar *et al.*, 2019). Hence, a study was carried out to assess the personal and situational characteristics of agro-input dealers in district Hazaribag of North Chhota-Nagpur region, their training needs and identify the constraints faced by them.

MATERIALS AND METHODS

The study was conducted during 2016-18 in Hazaribag district of Jharkhand. Total 40 agro- input dealer/retailers were selected randomly from the district. Respondents were surveyed through personnel interview using pretested structured interview schedule. Different data *viz*. Socio-economic profile of the Agri- input dealers, training required for sale improvement of inputs, specific crop, pest & management, constraints, computer application, type of business, most

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preferred input and Increase of business were rated by the respondents on three point scale as Most needed, Needed and Not needed. Training need was measured by computing the weighted mean score.

Weighted Mean:

A mean where some values contribute more than others. When the weights add to 1: multiply each weight by the matching value and sum it all up. Otherwise, multiply each weight w by its matching value x , sum that all up, and divide by the sum of weights.

Weighted Mean = $\Sigma w \times \Sigma w$. (Vogt and Burke, 2005).

Areas of training were ranked as per weighted mean score minimum. Simple statistical measures like frequency distribution, percentage and weighted mean were used to interpret the data.

RESULTS AND DISCUSSION

Socio-Economic profile of the pesticide dealers

It is evident that majority (47.5%) of the respondents belongs to young age 36-45 years and 35 percent dealers were Graduates (Table 1). It was a heartening situation where 45%

Table 1: Socio-economic profile of the Agri-input dealers (N=40)

Variables	Category	Number	Percentage
Age	Young (< 35 years)	14	35.0
	Middle (36-45 years)	19	47.5
	Old age (> 6 years)	7	17.5
Education	Up to VIII standard	3	07.5
	High school (X th)	7	17.5
	Higher Secondary	10	25.0
	Graduate	14	35.0
	PG & above	5	12.5
Source of finance	Bank and other financial institute	15	37.5
	Friends/partners	2	05.0
	Family/relatives	3	07.5
	No outside source	18	45.0
	Local money lender	2	05.0

of respondents self-financed and not required any outside source of fund. About 37.50 per cent have availed loan from Bank and other financial institute.

Table 2: Training required for sale improvement of inputs

Topic	Most urgent	Medium	Not needed	Weight MS	Rank
Identification of Pest of cereals crop (Paddy, Chick pea, Maize etc)	21	18	1	2.49	V
Identification of disease of cereals crop (Paddy, Chick pea, Maize etc)	24	15	1	2.57	III
Identification of Pest of Vegetables (Potato, Tomato, cucurbits, brinjal etc.)	31	8	1	2.74	I
Identification of disease of Vegetables (Potato, Tomato, cucurbits, brinjal etc.)	32	6	0	2.70	II
Identification of nutrient deficiency	21	18	1	2.40	X
Identification of pesticide for pest	20	18	2	2.45	VII
Identification of fungicide for disease	21	17	2	2.47	VI
IPM in vegetables	20	18	2	2.45	VII
IPM in Cereals crop	16	18	6	2.25	XV
Control of Rat, Bird	17	18	5	2.29	XIV
Nature of mode of action of chemicals for target pest and disease	19	18	3	2.39	XI
Use of weedicides	19	19	2	2.39	XI
Use of different Spray machine	17	21	2	2.37	XII
Precaution of handling of chemicals	16	18	6	2.25	XV
Use of bio fertilizer	18	16	6	2.30	XIII
Hi-tech agriculture	22	13	5	2.42	IX
Contract farming	18	16	6	2.30	XIII
Crop management	17	18	5	2.29	XIV
Contingent crop planning	18	14	8	2.25	XV
Seed issue	19	19	3	2.44	VIII
Soil health	22	17	2	2.55	IV
Climate CHANGE	18	20	2	2.40	X
Floriculture	12	17	11	2.02	XVI

Training needs of the input retailers

The identification of pest in vegetables emerged as the most needed training area and it ranked 1st with mean score (2.74) (Table 2). Other training areas in descending order of training need were identification of disease of Vegetables (Potato, Tomato, cucurbits, brinjal etc.), identification of disease of cereals crop (Paddy, Chick pea, Maize etc., Soil health, identification of Pest of cereals crop (Paddy, Chick pea, Maize etc.), identification of fungicide for disease, IPM in vegetables and identification of pesticide for pest etc. Mande and Darade (2011) and Raghav *et al.* (2018) observed that training needs of farm input dealers for transfer of agriculture technology is very important. Mono-cropping of crops in valley areas prompted the chances for outbreaks of many insect pests (Thakur *et al.*, 2012). More over paddy crop is the staple food crop and. Yellow stem borer, leaf folder, case worm, Gandhi bug are the important pest prevalent in the region. Hence pesticide dealers were in need of training to identify the symptoms of insect pest and disease of vegetables and rice crop on priority basis. Ram *et al.*, 2014 also reported that retailer lack in knowledge in identification of pest and disease and they require training in this area.

Training needs in ICT application and records keeping

The presence of ICT has brought about accelerated change in globally, especially in the field of marketing. These changes come along with the enormous problem and create attention for professional challenge to equip training and retaining the personnel in sales and marketing with model business model. Dealers ranked application of computer for billing and recording purpose first with mean score of 2.82 (Table 3). Other preferable training area were knowledge of record keeping software, CD ROM, record keeping, Internet etc. Using information communication technology (ICT) is becoming crucial to most business, regardless of size. Similar results were reported by Singh *et al.* (2015).

Training areas	Most needed	Needed	Not needed	Weighted MS	Rank
Record keeping	24	15	1	2.57	IV
Record keeping software	32	5	3	2.72	II
Computer billing and recording	33	7	0	2.82	I
CD roam	28	8	4	2.6	III
Internet	18	19	3	2.37	V
Cashless business	18	16	6	2.3	VI
Email	15	20	5	2.24	VII

Constraints faces by Agri-Input dealers

For dealers the major problems faced is the lack of knowledge of Scientific agriculture. Hence, they ranked need-based training program as first among different constraints. About 75 percent of the respondents ranked it 1st with a mean score of 2.67 (Table 4). Fluctuation of selling season was ranked 2nd

Table 4: Constraints faced by Agri-Input dealers

Statement	High-est	Med-ium	Low-est	Weighted MS	Rank
Lack of capital	25	12	3	2.54	VI
Non availability of bank loan	22	17	1	2.52	VII
Fluctuation of selling season	27	12	1	2.64	II
Transportation cost	17	18	5	2.29	IX
Lack of extension approach	18	17	5	2.32	VIII
Need based farmers training	30	7	3	2.67	I
Lack of knowledge of maintenance of stock	24	14	2	2.55	V
Lack of technical knowledge of new product	24	15	3	2.62	III
Departmental cooperation	24	16	0	2.6	IV
Local politics	10	28	2	1.7	X

with mean score of 2.64 by 67.5 % input dealers. It was followed by Lack of technical knowledge, non-availability of bank loan facility, delay in renewal of license, maintenance of stock entry etc. Singh *et al.* (2015) also reported similar results in South 24 Parganas District of West Bengal.

Preference of Agri-input business adopted by input dealers

The majority of dealer are involved in seed & ago-chemical business as 100% (Table 5), but 97% of input dealers are involved in fertilizer business. Only 90% dealers are involved in other agri-machinery/farm machinery items. Dealers have diversified in selections of items. They are not dealing in single items. This gives them hedging opportunity, if any slump in markets come.

Table 5: Preference of Agri-input business adopted by input dealers (N=40)

Type of business	Number of delars in business	%
Seed	40	100
Fertilizer	39	97.5
Agrochemicals	40	100
Others (Agri machine)	36	90

The most preferred input sale

As reported by the dealers, the mostly used input by farmers is Paddy seed followed by maize. In vegetables category: Tomato followed by cabbage/cauliflower, in chemical fertilizers category: Urea (100%) followed by DAP (73%) and Murate of Potash as (36.0%), in chemical fungicide: Mancozeb and Carbendazim use popularly by farmers, in chemical insecticide: Superkillar, Koragen, Rogor were use commonly by majority of farmers. As herbicide/weedicide - Butachlore, Byspyrabic sodium and Topstar preferably used for weed management commonly by the farmers for crop management. (Bhushan *et al.*, 2013) also has agreed with most preferred input available in the district.

Table 6: Most preferred input sale use by farmers(N=40)

Category of items	Rank 1 st	Rank 2 nd	Rank 3 rd	Rank 4 th
Crop	Paddy	maize	mustard	Pigeon pea/ ground net
Vegetables	Tomato	Cabbage/ cauliflower	Potato/ cucurbits	Brinjal/okra/ sweet potato
Fertilizers	Urea (100%)	DAP (73%)	MOP (36%)	SSP/Liquid fertilizers (16%)
Fungicide	Mancozeb, Bavistin,	Blue copper, Amistar	Cluch, validamycin	Kawach, Folicure
Insecticide	Rogor, Superkiller, Koragene	Profenophos, Cyperme- thrin, Ekalux	Current, Confidor, Regent	Acetamiprid, Abamentinben joate, Indoxcarb
Weedicide	Butachlore, Nomini gold, Topstar	Turga super, Pretilachlor, Oxygold	Sticker, Glyphosate, Hakama	Society,

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CONCLUSION

As per this survey age and education has positive impact for adopting the agro input dealers as entrepreneur. To use input dealers for scientific information dissemination purpose, they need proper training especially about insect disease and pest management. Also, specific training module should be developed for this purpose. They also need training in the area of stock keeping and use of computer for this purpose. KVK's may lay emphasis on this preference which designing and 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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