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Extent of delivery and utilization of farm advisory services of public and private extension service organizations in Meghalaya

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ABSTRACT

The study was conducted during 2020–21 in Ri-Bhoi district of Meghalaya with two organizations functioning therein, viz. Krishi Vigyan Kendra (KVK) as public extension organization and Rural Resource Training Centre (RRTC) as private extension organization. The present investigation was aimed to study the extent of delivery of services by these two farm advisory services i.e. KVK and RRTC, over a period of time and extent of utilisation of these by the farmers. The extension programs and activities of the two extension organisations in their adopted villages was documented using descriptive approach. The mean scores of extent of utilisation index of beneficiaries of RRTC were more than that of those of KVK. In KVK, Ri-Bhoi extent of utilization for exhibition is more with mean value of 69.6 and the least utilized farm advisory services was exposure visit with mean value of 1.82 whereas in RRTC, field day was the most utilized farm advisory services with mean value of 67 and New varieties/ inputs (in terms of improved crop seeds, fertilizers, pesticides, weedicides) were the least utilized farm advisory services with mean value of 7.9. The study revealed that both KVK and RRTC were found to be energetically working to cater the needs of farmers, youth and women for providing various kinds of farm advisory services. They appear to be at par as far as the extent of delivery of farm advisory services is concerned.

Keywords: Farm advisory services, Private extension organization, Public extension organization

Farm advisory services (FASs) are one of the important factors in promoting agricultural development. FAS helps in educating farmers in innovation, crop yields, and to protect environment (GFRAS 2012). An FAS is the entire set of the organization to help, support and give facilitation to the people engaged in the field of the agriculture. Agricultural extension and advisory services refer to any organization in the public or private sectors that facilitates farmers and other rural actors' access to knowledge, information and technologies, and their interactions with other actors; and assists them to develop their own technical, organizational and management skills and practices, so as to improve their livelihoods and well-being (Christoplos 2010). Globally the farm service provider connects researchers and the farmers to meet the farm related issues and problems (Agbamu 2007, Apantaku and Oyegunle 2016).

In India, main responsibility for extension activities rests with state governments, since agriculture is a state subject, a large number of private sector firms and civil society extension service providers co-exist with public extension system and make Indian agriculture increasingly more pluralistic in nature.

Though both the public and private sector extension organizations work for enhancing the food production, ensuring the food and nutrition and livelihood security of the rural people, and they differ in aspects such as nature, approach of the extension services, mode of operation, organizational structure, provision of various kinds of farm advisory services and their level of performance and impact on farmers' lives. So, it is imperative to know as to how different are the public and private extension service organisations from each other in terms of understanding needs of local people and how much the two extension systems in terms of delivery of farm advisory services were utilized by the farming community. In this study, the two organizations were compared on the extent of delivery and extent of utilization of the farm advisory services by the organization and the farmers. The study was conducted with the objective of finding out which organization is more effective and preferred by the farmers in delivering the farm advisory services.

MATERIALS AND METHODS

Present study was carried out during 2020–21 in Ri-Bhoi district of Meghalaya. Ri-Bhoi was selected purposively as many NGOs besides the ICAR Institute,

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Agricultural Colleges and KVK are situated in this district. The Ri-Bhoi lies between 90°55‟15–91°16‟ latitude and 25°40‟–25°21‟ longitude. From the list obtained for FASs available in Ri-Bhoi district, two extension service organizations: KVK, Ri-Bhoi as Public sector extension service organization and Rural Resource Training Centre (RRTC) a non-government organisation as Private extension service organization were selected randomly. From Ri-Bhoi district, two different blocks i.e, Umsning where KVK delivers farm advisory services (FAS) and Umran where RRTC is delivering farm advisory services (FAS) were selected randomly. In next stage, from each block, one adopted and non-adopted village having similar agro-eco system for both public and private organization were selected randomly. Thus four villages were selected from two blocks. In order to select the respondents' simple random sampling technique was utilised. From each adopted and non-adopted village, 30 farmers were selected randomly for each organization, totalling 120 farmers (60 from adopted villages and 60 from non-adopted villages) made the sample of the present study. Further, in order to study the extension services organization on FAS and their functionaries, 10 extension functionaries from both the organizations have been selected, totalling 20 extension functionaries. So, total sample size was 140.

Descriptive approach was used to document the extension programs and extension activities of the two extension organisations in their adopted villages. To measure the extent of delivery of farm advisory services, the number of various activities delivered by KVK, Ri-Bhoi and RRTC during last three years were compiled.

Extent of utilisation of farm advisory services was operationalised as the degree to which farmers have utilized the farm advisory services, over a period of time and here, we recorded the services utilized by the farmers in last one, two and three years. It was measured as the percent of total obtained scores on all items of farm advisory services utilised by farmers over the maximum obtainable score of all items of farm advisory services utilised. This was measured with the following formula used by Neethi and Sailaja (2018) given as Extent of Utilization Index of farm advisory services:

$$EUI = \frac{\text{Total obtained scores on all items on extent of utilisation and adoption}}{\text{Maximum possible scores on all items}} \times 100$$

Farmers were getting benefits of KVK and of RRTC from the farm advisory services and their utilisation was measured using the Extent of utilisation index giving equal weightage to each parameters i.e, the extension methods adopted by KVK, Ri-Bhoi and RRTC, and on the basis of extent of utilisation the respondents were categorized into five groups: very high, high, medium, low and very low.

RESULTS AND DISCUSSION

To measure the extent of delivery of farm advisory services, the number of various activities delivered by KVK, Ri-Bhoi and RRTC during last three years were compiled under 13 different components according to the responses received from the various extension officials from the interview schedule developed. The results showed (Table 1) the comparative analysis of extent of delivery of farm advisory services provided by KVK, Ri-Bhoi and RRTC.

The RRTC provided much greater number of farmers' training, input support services, number of farm techniques as compared to KVK, Ri-Bhoi. RRTC was found to have managed to garner support from various external agencies in procuring input support mini–kits for supply to poor farmers. In terms of livestock services provided to farmers, RRTC could manage to provide a greater number of such services as poultry vaccination, artificial insemination of cattle, FMD-HSBQ vaccination services, etc.

Table 1 Extent of farm advisory services delivered in last three years

Components of extent of delivery during last three years (Number)	KVK, Ri-Bhoi	RRTC
Awareness camps organised by extension service organisations	15	20
Demonstrations organized by the village extension workers	30	30
Farmers' trainings (on-campus/off-campus) conducted by extension workers	150	2000
Field days organized by village extension workers	18	10
Exhibitions organised by extension organisation	10	15
Scheduled discussion meetings held between farmers and extension workers	60	30
Mobile advisory services provided by extension organisation	300	100
Exposure visits of farmers (to research farms) conducted by extension organisation	15	45
Leaflets, folders and other extension literature provided to farmers	20	500
Field day conducted by the organization	15	10
Office calls and Kisan Calls (toll-free phone services) received and attended to by extension organisation staff	2400	30
Input support services (in terms of mini-kits–improved crop seeds, fertilizers, pesticides, weedicides, improved livestock (poultry, fisheries, goats, rabbits, etc., provided to farmers)	65	300
Services provided to farmers (in terms of poultry vaccination, artificial insemination of cattle, FMD-HSBQ vaccination services, etc.)	70	200
Farmers trained by the extension service organisation	4200	3500
New farm techniques provided by extension organisation	15	500
Farmers attended awareness camps of extension services	600	1200

KVK, Ri-Bhoi provided a greater number of farm advisory services through mobile and toll-free phone service calls and discussion meetings. As far as number of farmers trained, KVK, Ri-Bhoi trained 4200 farmers as compared to 3500 farmers by RRTC. In terms of scheduled discussion meetings held in villages between farmers and extension specialists, KVK, Ri-Bhoi was far ahead in delivery of farm advisory service. RRTC could manage to get more funds for organising a greater number of exposure visits of farmers to other places of interest. RRTC had organised more exhibitions for the benefit of their clientele. RRTC had organised more awareness camps than KVK, Ri-Bhoi did. KVK, Ri-Bhoi had organised more field days in the villages to mark the successful performance of field demonstrations and created greater awareness about the better performance of high yielding varieties of ICAR and SAUs, who have specialised in breeding for better crop varieties. With respect to toll-free office phone calls and delivery of mobile text messages to farmers KVK, Ri-Bhoi did much better than RRTC. But RRTC could provide nearly 500 types of extension literature to farmers on various kinds of information useful to villagers.

Thus, it can be concluded that both the extension service organisations performed in a better competitive mode in utilising awareness camps, field demonstrations, training programs, schedule discussion meetings, field days, exhibitions, etc. Both KVK, Ri-Bhoi and RRTC were found to be quite eagerly and energetically working to cater to the needs of farmers, youth and women and proving various kinds of farm advisory services. Both these organisations were well aware of and better tuned to the needs of these hill villagers. They appear to be on par as far as the extent of delivery of farm advisory services is concerned.

Extent of utilization of the farm advisory services: Extent of utilisation of farm advisory services is the degree to which farmers have utilized the farm advisory services, over a period; it recorded the services utilized by farmer in last 3 years. It is measured as the percent of total obtained scores on all items of farm advisory services utilised by farmers over the maximum obtainable score of all items of farm advisory services utilised. Farmers getting benefits of KVK, Ri-Bhoi and of RRTC have been utilising the farm advisory services and their utilisation was measured using the utilisation index and the results are given in Supplementary Table 1. The mean score value of KVK, Ri-Bhoi in extent of utilization of technologies by farmers was 27.05 which was lesser compared to the mean score value 35.26 of RRTC. This showed that farm advisory services of RRTC had more extent of utilization by the farmers as compared to KVK, Ri-Bhoi farm advisory services. The utilisation index scores ranged from 19.8–30.7 in case of KVK, Ri-Bhoi and these index scores ranged from 28–43 in case of RRTC. The standard deviations in both samples indicate consistency. Farmers may prefer to use public technologies but the rate of utilization for private extension is more than the public extension services. Van den Ban and Hawkins (1996), in their study observed that farmers need to distribute the work of farm services and fees or part of the cost among the other farmers. In private extension, clients are expected to pay for the service fee (e.g. Private Agricultural consultancies), or extension services provided for product promotion (e.g. Agri-business firms-seed companies), or for the procurement of farm produce (e.g. contract farming) or free of cost extension (e.g. NGOs).

The distribution of the frequencies revealed that while the frequency distribution of utilisation index scores of farmers of KVK, Ri-Bhoi were slightly skewed towards the lower end of utilisation, the frequencies of farmers of RRTC were highly skewed towards the higher end of utilisation of farm advisory services, as can be seen from 37% in very high category and 27% in high category of utilisation index scores.

Farmers' extent of utilization ranked by extension methods of KVK and RRTC: The extent of utilization index was developed using 13 parameters namely Awareness camps, Demonstration, Training programme, Field day, Exhibition, Farmers –extension personal discussion/meeting, Mobile advisory, Exposure visit, Provision of extension literature: leaflet, folders, manuals, etc., Farmers field school, Help through phone or Toll free phone (No. 1551), New varieties/inputs (in terms of improved crop seeds, fertilizers etc.), Allied technologies (improved livestock (poultry, fisheries, goats, rabbits, etc.) provided to farmers.

The results in Supplementary Table 2 depict utilization of extension methods by farmers of farm advisory services provided by KVK, Ri-Bhoi and RRTC. Among extension services provided by KVK, Ri-Bhoi the extent of utilization of 'Exhibition' ranked first, followed by 'Awareness camps 'and 'Demonstrations'. In contrast, the most utilised service provided by RRTC were the 'Field days' at first rank, followed by 'Farmers Field Schools' and 'Exhibitions'. The non-significant ($P<0.01$) Spearman's Rank Correlation Coefficient (p) of 0.30 also confirmed that both the institutions differentially used various extension methods for delivering the information for their respective clients. For example, where RRTC emphasized most on farmers' site oriented extension activities like field days (I), farmers field school (II) and holding exhibitions (III), KVK on the other hand accorded these programmes ranked as VI, V and I respectively. The mean differences on use of extension methods utilized by farmers showed that the two organizations, KVK, Ri-Bhoi and RRTC were highly different in terms of the extension methods that they use in delivery. Farmers' extent of utilization of the farm advisory services was also tested for their respective mean scores (Table 2). All the extension methods adopted by these two extension service organisations were significantly different from each other, as out of 13 extension methods, 11 are highly statistically significant at 0.01 level of probability and the rest two were statistically significant at 0.05 level of probability. Supplementary to this study Agbarevo and Benjamin (2013) reported that in the farm dissemination services, farmer visits, meetings between farmers and extension personnel, demonstration were functioning well

Table 2 Comparison of KVK, RiBhoi and RRTC on Use of Extension Methods

Extension Methods in Utilization of FAS	KVK (n=30) Mean	RRTC (n=30) Mean	Mean Differences	't' value	p-value
Awareness camps	51.70	40.50	11.20	2.25*	0.03
Demonstration	50.60	25.20	25.40	5.88**	<0.001
Training programme	21.77	6.30	15.47	7.94**	<0.001
Field day	29.80	67.00	37.20	26.89**	<0.001
Exhibition	69.60	53.10	16.50	-6.70**	<0.001
Farmers –extension personal discussion/meeting	9.88	20.10	10.22	6.80**	<0.001
Mobile advisory	7.57	24.36	16.79	-4.61**	<0.001
Exposure visit	1.82	46.37	44.55	-12.49**	<0.001
Provision of extension literature: leaflets, folders, manuals	35.70	44.60	8.90	-9.48**	<0.001
Farmer's field schools	33.30	58.30	25.00	-2.35*	0.02
Help through phone or Toll free phone (1551)	1.98	51.88	49.90	-5.58**	<0.001
New verities/ inputs	18.60	7.90	10.70	-19.11**	<0.001
Allied technologies provided to farmers	19.00	12.70	6.30	6.18**	<0.001

*0.05 level of significance; **0.01 level of significance

at field level, while Research-Extension-Farmer-Linkages, farmer training programmes and distribution of training materials were not functioning well to the expectations. It is evident from the extent of utilization of farm advisory services that technologies which are input intensive are not utilized by the farmers since, most of the farmers' economic income is low and have small land holdings which are used mainly for subsistence farming.

Correlates of Extent of Utilisation of Farm Advisory Services: Using a Pearson's Correlation analysis, the results in Supplementary Table 3 reveal correlation between independent variables and extent of utilization of farm advisory services of both the organization KVK and RRTC. There is positive correlation between sex and extent of utilization of RRTC at 0.05 level of significant. This implies that more number of men were found to utilise the farm advisory services. There was also significant relationship between farming experience and extent of utilization of farm advisory services in KVK, Ri-Bhoi at 0.05 level of significance. This finding implies that the farmers with more farming experience tend to rely more on KVK, Ri-Bhoi for their farm advisory services. But negative correlation was seen between contact with other extension agencies at 0.05 level of significance, which implies that beneficiary farmers' of KVK, Ri-Bhoi were relying more on KVK, Ri-Bhoi than other extension agencies and line departments in the district.

Thus, it can be concluded that the mean scores of extent of utilisation index of beneficiaries of RRTC were more than that of beneficiaries of KVK, Ri-Bhoi. The frequency distribution of KVK farmers skewed towards the lower end of their extent of utilisation index scores, while the frequencies of RRTC farmers skewed towards the higher end of their extent of utilisation index scores. With respect to the extension methods used in extent of utilisation of farm advisory services, KVK farmers used Exhibitions, Awareness camps and demonstrations most, while the farmers of RRTC used Field days, Farmers' Field Schools and Exhibitions. With regard to differences between the two sets of farmers, they were quite different from each other on all the extension methods being used by KVKs in the delivery and farmers' extent of utilisation of farm advisory services. With regard to correlates of extent of utilisation of farm advisory sex, and farming experience were found to be positively associated with extent of utilisation of farm advisory services of KVK, Ri-Bhoi and RRTC.

Both the organizations, KVK, Ri-Bhoi and RRTC were highly different in terms of the extension methods that they use in delivery for farmers. The extent of utilization of farm advisory services is in adopting technologies which are inputs intensive and are not utilized by the farmers, as most of the farmers' economic income is low and have small land holding which are used mainly for subsistent farming. More number of women were found to utilise the farm advisory services. Change in knowledge is most important contributory factor towards perceived effectiveness of FASs. The adoption of technology and change in yield and income are all important factors found for enhancing the effectiveness of FASs. Still, considering the inherent mandates of both the organizations, such difference is inevitable. Whereas KVK has more focus on farmer-centred and problem solving on-farm researches, RRTC may be focussing more on information and institutional empowerment of their client.

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