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Assessment of Training Need for Banana Cultivators in Uttar Pradesh, India

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ABSTRACT

India holds a dominant position in the global banana production landscape, accounting were an impressive 22.5% of the world's total banana output. The significant contribution to the agricultural sector amounts to 2% of India's Agricultural GDP (Government of India (2019). The research was carried out in the Fakharpur and Hijurpur blocks of Uttar Pradesh's Bahraich district of Uttar Pradesh. The research identified key training needs among banana growers. The highest priority areas for training included manures and fertilizers, propagation, pruning and desuckering. Farmers preferred university scientists as their top choice for organizing training programs, followed by district horticulture officers, progressive farmers, village-level workers, and block-level officers. Most farmers favoured conducting training at the field level or in villages, reflecting their practical orientation. The study revealed positive correlations between age, experience, farm size of banana growers and their training needs. Education, on the other hand, showed a negative correlation with training needs, as more educated farmers were better equipped to access information independently. The research also assessed farmers' attitudes toward banana cultivation, with 70% of respondents having a favorable view due to its profitability. Education, farm size, and the area under banana cultivation positively influenced farmers' attitudes. These findings highlight the importance of tailored training programs in addressing the specific needs of banana growers in Uttar Pradesh, with a focus on areas such as soil management, propagation, pest control, and storage practices.

INTRODUCTION

The banana occupies a distinguished place as one of the earliest cultivated crops, with India recognized as one of its primary centers of origin. Worldwide, there exists a rich diversity of over 1000 distinct banana varieties. Within India, the banana claims the second-highest position among fruit crops, trailing only behind the mango in importance. Furthermore, it enjoys the status of being the most widely consumed fruit in the country. Bananas contribute significantly, comprising approximately 32% of India's total fruit production. This prominence can be attributed to several factors, including its year-round availability, affordability, and wide range of varieties, delightful taste, and its nutritional and medicinal values, which cater to people of all strata (Vision ICAR-NRCB 2050). Globally, bananas are cherished not only for their nutritional content but also for their substantial economic significance,

particularly for small-scale farmers in developing nations (FAO, 2012).

The total area dedicated to banana cultivation in India covers approximately 858,100 hectares, constituting about 13 percent of the overall fruit cultivation land. Bananas hold the distinction of being the second most significant fruit crop in the country, following mangoes. India's average banana yield stands at an impressive 34 tons per hectare, which is considered quite commendable on a global scale. Specifically in Uttar Pradesh, the cultivation area allocated for bananas spans 67,400 hectares, resulting in a total production of 3,078.73 thousand tons. This equates to a productivity of 45.68 tons per hectare, at present India is the largest producer of banana in the world (Kumar, 2008).

It is imperative that farmers be trained in banana cultivation to keep them abreast of the latest innovations available so as to maintain its quality and stability in production. Training is vital and essential to induce motivation, create confidence and inculcate efficiency in an individual. Training only can bridge the enormous gap between the remarkable yield achieved by the scientist and that obtained by the farmers.

Keeping the above facts in view, a study entitled “Assessment of Training Need of Banana Grower of Uttar Pradesh” was planned with the following specific objectives:-

1. To identify the training needs in the main areas of banana cultivation as perceived by the banana growers.
2. To identify respondents' preference for types of trainer and location of training
3. To determine the relationship between selected socio-economic factors and training needs of banana growers.
4. To study the attitude of banana growers towards banana cultivation and its relationship with socio-economic factors.

MATERIALS AND METHODS

The study was carried out In Uttar Pradesh state. The farmers in the districts such as Sitapur, Kaushambi, Bahraich, Faizabad, and Barabanki of Uttar Pradesh are growing bananas along with the more traditional produce of paddy, sesame and maize.

The study was conducted in Fakharpur and Hijurpur block of Bahraich district of Uttar Pradesh as the Bahraich district being more concentration of banana cultivation in the state (4000 ha). From this district, two blocks, were purposively selected on the basis of large area under banana production. From these two blocks ten villages of banana growers and from each village 10 banana growers were selected for this study. Thus, a total of 100 respondents formed the sample. Data were collected with the help of structural interview schedule.

Assessment of training needs

Total 18 main areas in which banana growers needed training were identified for the study purpose. A three-point rating scale (most needed-3, needed-2, and not needed-1) was employed to measure the training needs of banana growers in the main areas of banana cultivation. The respondents were asked to indicate any one of three alternative responses against each item of the main areas, depending upon their level of training needs.

Firstly, the total training need score of a particular item was calculated considering the responses expressed by all the respondents. Secondly, the mean score of a

particular item was worked out by dividing the total score of that particular item with the total number of respondent (100).

Finally, based on the mean score, the rank order of preference for training in a particular area was found by following the class intervals of the scores assigned to the three-points of the rating scale as illustrated below:-

2.25-3.00= Most Needed

1.50-2.24= Needed

0.75-1.49= Not Needed

RESULTS AND DISCUSSION

Training needs in main areas of banana cultivation

As the data in Table 1 reveals, the area in which the respondents needed training most and which ranked first was manures and fertilizers. This is in agreement with the finding of Babanna. T,(2002), Kumar. H.S, (2008). Other areas in which training was perceived as 'most needed' by the respondents were in descending order, propagation, pruning and desuckering, plant disease protection/ pest control, harvesting, improved varieties of banana and storage. The areas *viz.*, irrigation, intercultural operations, time of planting, spacing, rotation and inter-cropping and marketing were perceived as just 'needed', while the banana growers did not need any training in areas like preparatory cultivation, weed control, improved implements and credits.

Table 1: Training needs of banana growers in the main areas of banana cultivation n=100

Sl. No	Main Area	Training Needs			Total Score	Mean	Rank
		Most needed	Needed	Not needed			
1	Improved varieties of banana	54	33	13	241	2.41	VI
2	Propagation	80	17	3	277	2.77	II
3	Preparatory cultivation	10	28	62	148	1.48	XIV
4	Time of planting	45	25	30	215	2.15	X
5	Spacing of planting	38	32	30	208	2.08	XI
6	Manures and fertilizers	83	15	2	281	2.81	I
7	Irrigation	44	30	26	218	2.18	VIII
8	Pruning and de-suckering	76	16	8	268	2.68	III
9	Inter-cultural operation	42	32	26	116	2.16	IX
10	Rotation and inter-cropping	28	48	24	204	2.04	XII
11	Weed control	15	15	70	145	1.45	XV
12	Pest control	75	15	12	261	2.61	IV
13	Plant diseases protection	73	15	12	261	2.61	IV
14	Improved implements	7	28	65	142	1.42	XVI
15	Harvesting	57	35	8	249	2.59	V
16	Storage	45	32	23	222	2.22	VII
17	Marketing	15	40	45	170	1.70	XIII
18	Credit	6	22	72	134	1.34	XVII

The respondents appeared to be aware of the facts that soil fertility gets depleted with successive cropping and ultimately affects the crop growth resulting in poor yield. They realised that application of fertilizers is obviously very essential. In terms of nutrients, nitrogen has a vital role in inducting flowering, synchronizing, flowering in the first ratoon crop and hastening growth (Gopalan *et al*., 1980), Realising the importance of fertilizers, the banana growers might have considered this area as most important one in terms of their training need.

Banana is propagated vegetatively by means of suckers or rhizomes which are considered to be the seed material for multiplication, (Paranjpe *et al.* 1974).It is believed that often suckers originate in pairs from opposite sides and when one is removed, the other grows well. Unless desuckering operation is done promptly, nutrition of the parent plants as well as growth vigor, size and fruiting period of flower are affected. The banana growers might not be aware of these facts and hence considered propagation, pruning and desuckering as the second and third 'most needed' areas of training.

High-yielding verities of any crop are very susceptible to pests and diseases and banana is not an exception to this. But fortunately, banana cultivation in India is not affected so severely as in other countries. However, pests and diseases cause a considerable damage to the crops. The banana growers are not able to identify the symptoms in the plants caused pests, diseases, or nematodes. They are also generally not aware of control measures. These reasons might have motivated them to assign fourth rank to pests and diseases control so far as the need of training is concerned.

Most of the respondents were found growing a particular variety of banana based on a preconceived idea and did not know much about others. Recently, a number of verities have been released which cause confusion in the minds of the farmers who are not in a position to decide as to which variety should be grown. The soil and agro-climatic conditions suitable to one variety may not be so far the others and the selection of a proper variety as per the soil conditions, topography, drainage, etc, becomes a problem for the farmers. This is why improved varieties of banana were considered as one of those areas in which training is needed most.

Banana plant is made of a pseudo stem. It has no capacity to withstand the natural rain, etc. The plant is also easily broken after emergence of bunch, before it attains maturity. In order to saves the bunch, adequate knowledge in storage is essential. Poor knowledge in storage leads to quick disposal due to its perishable nature. The other areas in which the respondents just indicated their need for training were harvesting, irrigation, intercultural operations, time of planting, spacing of planting, rotation and intercropping and marketing in descending order.

The areas in which the respondents did not need any training were preparatory cultivation, weed control, improved implements and credits in descending order.

Most of the banana growers were members of co-operative societies. Loans from banks were also available to them. Few of them were also getting loan from local money lenders. The timely and adequate supply of credit by farm financing institutions may go long way in popularizing the banana in the area which in turn may lead to higher

income and employment generation to the banana growers. For all these reasons perhaps, they held the view that training is not required with respect to credit. Use of improved implements in banana cultivation is negligible. Weed is perhaps not a problem in banana cultivation and so is preparatory cultivation. Perhaps due to these reasons, the respondents required minimal training in the four areas: preparatory cultivation, improved implements, credit, and weed control.

Table 2: Distribution of respondents according to their preference for trainer n=100

Sl.No	Response Categories	Mean Score	Ranking
1	VLWs	2.14	IV
2	Progressive farmers	2.23	III
3	Block level officers	2.10	V
4	District horticulture officers	2.48	I
5	Universities Scientists	2.42	II

The farmers' preferences for various categories of trainers in training programms were assessed and summarized in Table 2. The table demonstrates that the farmers ranked university scientists as their top choice among other trainers for organizing training programms. Following this, district horticulture officers, progressive farmers, village level workers (VLWs), and block level officers were ranked second, third, fourth, and fifth, respectively, by the farmers (Singh and Saini, 2004,and Pasvan et al 2013)

Preferences for ideal location for training sessions

The farmers were surveyed to ascertain their preferences regarding various training venues, as outlined in table 3.

Table 3: Preference for ideal location for organizing training n=100

Sl.No	Response Categories	Mean Score	Ranking
1	At the field	2.47	I
2	In the village	2.36	II
3	At the block headquarters	1.65	III
4	At the agricultural university/ KVK/Training Institutions	1.27	IV

The results indicate that the majority of the farmers favoured organizing training camps at the field level as the ideal location. The second most preferred option was conducting training at the village level, which was deemed suitable for the majority of farmers' training needs. The third choice for place for organising training was the block headquarters. The least favored option among all surveyed farmers was conducting training at the agricultural university/KVK/ITI. The result of the study was in line of the study conducted by Pasha *et al* in 2013.

Relation betweensocio-economic factors and training needs of banana growers

Table 4 reveals that age, experience in banana cultivation, farm size and area under banana cultivation had positive and significant correlation with training needs in the main areas of training. Education had significantly negative correlation with needs in the main areas of banana cultivation. The farmers with more age and experience in banana cultivation generally have less

contact with extension personnel. Therefore, they need more training in the main areas of cultivation. As the farm size and areas of cultivation increases, the training need in the main areas also increases due to the fact that larger areas under banana cultivation are exposed to greater hazards of farming. As such, theses farmers need more training in the main areas to adopt the latest techniques in banana cultivation so as to harvest a good return.

Table 4: Co-efficient of correlation between socio-economic factors and training needs of banana growers

Sl. No	Socio- Economic Factors	Correlation co-efficient 'r' value
1	Age	0.2576**
2	Education	-0.2454**
3	Occupation	-0.0491 NS
4	Social participation	-0.1830 NS
5	Income	-0.1067 NS
6	Experience in banana cultivation	0.2152*
7	Farm size	0.4096**
8	Areas under banana	0.6819**

NS = Non-significant; * = Significant at 0.05 %; ** = Significant at 0.01 %

Education was found to be negatively correlated with training needs in the main areas of banana cultivation. This might be due to the fact that education develops the mental faculty of an individual as a result of which he/she grasps analysis and interprets things in a better way than the less educated ones. The more educated farmers can make use of printed materials too. Possibly due to these reasons, the farmers with high level of education did feel the need of training in the main areas of banana cultivation. The remaining factors like occupation, social participation and income had no significant relationship with the training needs.

Attitude of banana growers towards banana cultivation

As a part of the study, an attempt was made to analyses whether the farmers had favourable or unfavourable attitude towards banana cultivation. The farmers' responses regarding their attitude towards banana cultivation are presented in table 5.

Table 5: Distribution of banana growers according to their attitude toward Banana cultivation

Sl.No	Attitude	Percentage
1	Favourable	70.00
2	Neutral	17.00
3	Unfavourable	13.60

It is evident from the data in Table 5, that 70 percent of the respondents under the study had favourable attitude towards banana cultivation. This confirms that banana cultivation is profitable for most of the farmers. However, 17 and 13 percent of the farmers respectively appeared to have neutral and unfavourable attitudes towards banana cultivation respectively. These farmers might have less area under banana cultivation and hence no worth-while profit.

Table 6: Co-efficient of correlation between socio-economic factors and attitude towards banana cultivation

Sl.No	Socio-economic factors	Correlation co-efficient 'r' value
1	Age	-0.1339 NS
2	Education	0.5819**
3	Occupation	0.1007 NS
4	Social Participation	0.0827 NS
5	Income	0.1004 NS
6	Experience in banana cultivation	-0.0808 NS
7	Farm size	0.2971**
8	Area under banana	0.2680**

NS = Non-significant; * = Significant at 0.05 %; ** = Significant at 0.01 %

From Table 6, it can be seen that the factors such as education, farm size and area under banana were found to be positively and significantly correlated with attitude towards banana cultivation. With increased education, farmers realise the merits of banana cultivation in terms of its economic return in a better way than the less educated ones. The larger farm size, the higher acreage under banana brings greater economic return to the farmers. All these contribute to their favourable attitude towards banana cultivation. Other factors such as age, occupation, social participation, income and experience in banana cultivation had no association with attitude towards banana cultivation.

CONCLUSION

Banana is most important crop in the district under study. Of late, its cultivation has become a difficult proportion mainly because of the technical know-how involved in banana cultivation and its longevity in the field. Therefore, the farmers were not able to follow the recommended practices in the cultivation. Inspite of this, banana is grown and will continue to be grown on large areas in Bahraich District. The finding of study focus on some of the inherent short-coming in banana cultivation which will go a long way in providing the much needed feedback to the scientists and the extension personnel.

The study suggests, that the training programme should be well organized, taking into consideration the local needs and problems and applicability of new techniques. It should primarily include manures and fertilizers, propagation, pruning and desuckering, plant protection, improved variations of banana and storage in relation to banana cultivation.Since farm size and area under banana were positively and significantly correlated with training needs of farmers, special attention and care should be given to the farmers having larger farm size and bigger area under banana.

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