



# Effectiveness of Training Programmes of Krishi Vigyan Kendra (KVK) towards Socio-economic Development of Farmers in Meghalaya

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## ABSTRACT

This study, to analyse the effectiveness of training programmes conducted by Krishi Vigyan Kendra, West Garo Hills, was conducted in six purposively selected villages under KVK West Garo Hills districts, with 120 sample size from the adopted villages selected by proportionate random sampling. Data collection from the selected respondents was made with the help of pre-tested structured schedule using personal interview method. The study reveals that majority of the respondents in KVK adopted villages had medium level of knowledge and adoption of improved rice cultivation practices with medium level of productivity, annual net income, self-confidence and materials possession. Majority of the respondents also perceived that KVK trainings had enhanced the social recognition of the farmers. The training effectiveness score reveals that effectiveness score for social recognition was the highest followed by materials possession, level of knowledge and skills, economic condition, extent of adoption, productivity and self-confidence respectively.

Keywords: Training programme, socio-economic development, Krishi Vigyan Kendra, Meghalaya

Agriculture is the backbone of Indian economy which provides food and nutritional securities as well as employment and livelihoods to rural masses. Agriculture plays a vital role in employment generation in the Indian economy, with nearly half of the Indian population being dependent on agriculture and allied activities for their livelihood. Over the years, Indian agriculture has made tremendous progress due to the contributions of agricultural science through the development of improved seeds and planting material, pre and post-harvesting technologies, disease control and plant protection, irrigation and soil conservation techniques and the use of machinery in agriculture. However, the shortage of quality food grains production in farmers' field in proportion to the changing population pattern in the country is a matter of concern at present. Agricultural innovations and diffusion of new technologies are

key drivers to attain food security in the country besides providing farmers a competitive edge over traditional farming, thus facilitating better standards of living. To realize their true potential, farmers must have access to the state-of-the-art technologies, necessary inputs and related information in all the segments, be it crop, livestock, forestry or fisheries. In this context, the Government of India through Indian Council for Agricultural Research (ICAR) has established a wide network of Krishi Vigyan Kendra's (KVKs) in all the rural districts of the country. These KVKs under the aegis of the National Agricultural Research and Education System are the real carriers of front-line technologies and they impart knowledge and critical input support to the farmers.

Training is a crucial and continuous requirement for agricultural development. Training needs its context; methodologies and approaches change

with developmental phases, strategies and clientele. Training consists of well-organized opportunities for the participants to acquire necessary understanding and skill (Lynton and Pareek, 1990). Trainings organized by KVKs are helping to ameliorate the poor socio-economic conditions of the farmers, farm women and rural youths in rural India by raising the level of farm productivity, income and employment with the application of agricultural innovation generated at the research station (Dubey *et al.* 2008). Normally KVKs have conducted different types of trainings. The KVK's were originally designed to provide vocational training for rural youth to prepare them for self-employment.

The situation in agriculture sectors are fast changing. The technology in agriculture is evolving. Is this new knowledge being implemented at grass root level and are farmers accepting the same? If yes, then what is the impact in terms of increased productivity in agriculture, increased incomes of farmers resulting in better quality of life through sustainable development? How much time does it take to transfer the technology? What else is needed to make KVKs more effective? It is also to be seen that if new practices are not being adopted by the farmers then what are the reasons behind it? To answer all these questions there is a need to evaluate the effectiveness of training programmes undertaken by Krishi Vigyan Kendra's.

In Meghalaya, rice is a major crop of the state occupying an average annual area of 104800.00 Ha, with West Garo Hills district having the highest area under rice cultivation (42,970 ha) in the entire Garo Hills district with production (68,623 MT) and productivity of (2.434 MT/ha) (District Statistical Handbook, 2015, West Garo Hills. Tura). This sector has been gaining its popularity from an entirely unorganized farming practice to commercial production system with technological interventions and concerted efforts of the government through policies, focused research and the initiatives taken by the private sector. Training is one of the mandated activities of KVK, which contributes to farmers' stability in at least two ways - farmers become efficient after undergoing training and efficient farmers contribute to the growth of the farming sector. But such training programs are of limited use if proper evaluation is not carried out and effectiveness in terms of

change in knowledge and adoption of improved practices and constraints experienced by trainee and trainers in training is not studied. Therefore, it is of paramount importance to examine systematically and scientifically the effectiveness of this training program on the trainees and the constraints faced by the trainees and trainers in training. To measure the effectiveness some parameter were supposed to fix. The purpose of this study, therefore, is to examine the effectiveness of training programmes conducted by Krishi Vigyan Kendra, West Garo Hills, on improved rice production practices and to quantify each and every dimension for training effectiveness under the study.

The findings of the study would be an important document which would be of practical use to the KVKs in planning future trainings. The knowledge on constraints faced by trainee farmers in the training of improved rice cultivation practices will also help to modify and rebuild the existing training programmes as well as to design new training programmes.

### **Methodology**

The study was conducted in West Garo Hills district of Meghalaya during the year 2016-17 by the researchers as part of the M. Sc. (Agril. Extension) degree programme under College of Post-Graduate Studies of Central Agricultural University, Imphal, Umiam, Meghalaya.

### **Location of the study**

West Garo Hills district was purposively selected for the study. Six adopted villages were selected purposively from two blocks having the maximum number of trained farmers under KVK West Garo Hills, Meghalaya.

### **Selection of Farmer respondents**

A complete list of trainee farmers who had participated in at least five training programmes conducted by Krishi Vigyan Kendra, West Garo Hills, was prepared in consultation with the staff of the KVK. Selection of trainees from each selected and adopted villages was done proportionately. From each selected village, respondents were selected proportionately, thus constituted 120 as the final size of the sample.

## Measurement of Variables

The effectiveness of training programme was measured with seven dimensions namely; Improve knowledge on rice technologies, Increase adoption level to the improve practices of rice technology, Increase productivity, Improve economic condition, Enhance self-confidence, Increase social recognition and Increase materials possession.

It was studied by developing a test schedule containing questions on improved method of rice cultivation for knowledge and adoption, structured schedule to measure production and productivity, improve economic condition, increase social recognition and increase material possession. Procedure followed by Roy (2009) was used to measure the self-confidence of farmers with slight modification. The respondents were grouped into categories based upon mean and standard deviation value.

Finally, the total training effectiveness of the respondents was measured by using the formula (Kulkarni and Nikhade, 1996), given below:

$$TE = \frac{D_1}{P_1} + \frac{D_2}{P_2} + \frac{D_3}{P_3} + \dots + \frac{D_n}{P_n} \times 100$$

Where, TE = Training effectiveness,  $D_1, D_2, D_3 \dots D_n$  refers to the total score obtained by all the respondents on a particular dimension of items  $P_1, P_2, P_3 \dots P_n$  refer to the potential scores obtainable on each dimensions included in the study.

## Data Collection

Data collection from the selected respondents was made by using pre-tested "Structured Schedule" using personal interview method followed by group discussion. For this purpose, an interview schedule was constructed for data collection from the respondents in the light of the objectives of the study. The selected respondents were personally approached and interviewed at their place of residence/field by the investigators along with the village leaders and their responses were carefully recorded in the schedule.

## Statistical analysis

The collected data were coded, tabulated and analysed in accordance with the objectives of

the study using appropriate statistical tests. The statistical tools like frequency, percentage, arithmetic mean and standard deviation were applied for analysis of the collected information to draw the meaningful and logical conclusions.

## RESULTS AND DISCUSSION

### Level of Knowledge on rice technologies

The findings related to farmers' knowledge level indicate that over half of the respondents (51.67%) had medium level of knowledge towards rice cultivation practices. While 42.50 per cent and 5.83 per cent respondents had low and high level of knowledge in rice cultivation practices (Table 1). The mean value of 46.63 indicates that by and large, farmers in the study area had low to medium level of knowledge on improved technologies in rice cultivation. It is reported that the concept of improved technologies in agriculture despite gaining its popularity among the farmers, its systematic and scientific application were not properly trained under different farming situations. These calls for hand-on training programmes for farmers by the experts in this field was conducted to improve their knowledge and skills towards improved rice cultivation practices. The findings of the study were in agreement with the results obtained by Naik (2005) and Kumar (2009). Sidram (2008) also reported similar findings with majority respondents belonging to the medium level of knowledge in improved cultivation practices of pigeon pea in Gulbarga district of Karnataka, India.

### Extent of adoption

The result presented in the Table 1 indicate that over half (50.83%) of the respondents had medium level of adoption on improved technologies in rice cultivation followed by low (42.50%) and only 7.50% were found in the high adoption category. Further investigation reveals that a formidable proportion of farmers in the study area although with good knowledge on improved and better cultivation practices in rice cultivation, could not adopt them in full due to their poor nature of short term/immediate returns in small farming situation coupled with poor economic condition of the farmers. This by and large, attributed to the medium level of adoption by majority of the rice

**Table 1:** Distribution of respondents according to Effectiveness dimension

Sl. No.	Effectiveness dimension n = 120				
A.	Level of Knowledge				
	Category	Frequency (f)	Percentage (%)	Mean	S.D.
1	Low (30-41)	51	42.50		
2	Medium (42-50)	62	51.67	46.625	5.14
3	High (51-60)	7	5.83		
<b>B.</b>	<b>Extent of Adoption</b>				
1	Low (20-30)	51	42.50		
2	Medium (31-41)	61	50.83	36.15	6.31
3	High (42-50)	9	7.50		
<b>C.</b>	<b>Productivity</b>				
1	Low (less than 1742 kg/ha)	50	41.67		
2	Medium (1743-1924 kg/ha)	64	53.33	1834.45	91.5
3	High (more than 1925 kg/ha)	6	5.00		
<b>D.</b>	<b>Annual net income (Economic condition)</b>				
1	Low (Below ₹ 41,279)	5	4.16		
2	Medium (₹ 41, 280-76,402)	103	85.83	58841.67	17561.89
3	High (Above ₹ 76,403 )	12	10.00		
<b>E.</b>	<b>Self-Confidence</b>				
1	Low (Up to 18)	49	40.83		
2	Medium (19-34)	60	50.00	27.2	8.6
3	High (Above 35)	11	9.17		
<b>F.</b>	<b>Materials possession</b>				
1	Low (2-4)	20	16.67		
2	Medium (5-6)	60	50.00	5.7	1.6
3	High (7-8)	40	33.33		
<b>G.</b>	<b>Social Recognition</b>				
	Perception factor	Respondents		Total Score	
		Yes (2)	No (1)		
	KVK training has enhanced the social recognition of the farmers	94 (78.33%)	26 (21.67%)	214	

growers. The findings are in conformity with the findings of Raghavendra (2005); Marradi (2006); and Singh *et al.* (2010).

### Productivity

The result presented in the Table 1 indicates that majority of the respondents (53.33%) had medium level of productivity followed by low (41.67%) and high (5.00%). Most of the farmers are marginal with medium level of annual income, hence they could not adopt better cultivation practices. This by and large, attributed to the medium level of productivity by majority of the rice growers.

### Annual net income from rice cultivation (economic condition)

It can be seen from the Table 1 that most of the trainees (85.83%) were found under medium category followed by high (10.00%) and low category (4.16%), respectively. Majority of the farmers are marginal with smaller land holding with medium level of productivity, which probably maybe the reason for medium level of net annual income by majority of trained farmers.

### Self-confidence

The result presented in the Table 1 indicates that half (50.00%) of the respondents had medium level of

self-confidence followed by low (40.83%) and high (9.17%). Exposition of different information and adoption of new technology are assumed to develop farmer's self-confidence. Self-confidence of farmer refers to the judgment of his capabilities to organize and execute courses of action required to attain designated types of agricultural performance. To make the farmers motivated to improve cultivation practices, attention should be paid to adequate training in considering their basic educational level, psychological, economical and personal attributes. The findings are in conformity with the empirical evidence reported by Ahmed *et al.* (2011).

### Materials possession

Majority of the trainee respondent (50.00%) were found under medium category followed by high (33.33%), and low (16.67%), respectively. Because a majority of trainees (70.83%) fell under marginal and small land holding as they possess less farm material. The findings are in conformity with the findings of Roy *et al.* 2013.

### Social recognition

It could be observed from the Table 1 that total score obtained for social recognition was 214. Out of 120 respondents, 94 (78.33%) said that KVK training helped them in enhancing their social recognition in the society. It could be inferred that training programme was found to be effective and useful as perceived by the respondents in understanding the importance of social recognition. Considerable efforts should be made in training of farmers in the common vocations and areas of interest; effective transfer of technologies among the target groups such as field visit to different farms owned by trained farmers is more effective to motivate the farmers for the adoption of new technology.

### Training effectiveness

Following the procedure followed by Kulkarni and Nikhade (1996), the Training Effectiveness Score for various dimensions under study are given in Table 2.

It could be observed from Table 2 that out of seven major dimensions taken for the study, the effectiveness score for social recognition was found to be the highest (89.16) followed by Materials

possession (71.77), Level of knowledge (71.58), Economic condition (68.61), Extent of adoption (56.23), Production and productivity (54.44) and Self-confidence (53.35). Training had substantially increased the materials possession of the trained farmers as evident from the effectiveness score (71.77).

**Table 2:** Training effectiveness score of each dimension under study

Dimensions	Training Effectiveness score (%)	Rank
Social recognition	89.16	I
Materials possession	71.77	II
Level of knowledge	71.58	III
Economic condition	68.61	IV
Extent of adoption	56.23	V
Production and productivity	54.44	VI
Self confidence	53.35	VII
<b>Overall Training Effectiveness score</b>	<b>66.45</b>	

It was found that trainings were effective in increasing the knowledge of trainees about improved rice farming practices hence more number of trainings should be organized by KVKs as to benefit more number of rice growers. It was found that irrespective of training, majority of the farmers did not adopt the practices as indicated by the effectiveness score (56.23). Thus, there is a need to refine these practices at farmer's level and rectify the recommendations for their maximum adoption, and also they need frequent guidelines. Training effectiveness score for economic condition (68.61) implies that training was effective enough to increase their annual net income from rice cultivation but more efforts should be given for further improvement in this area. Since most of the respondents under the study were marginal farmers, their productivity effectiveness score was found to be comparatively lower than other dimension (54.44). Among the dimension under the study, effectiveness score for self confidence was found to be the lowest (53.35), this issue should be thought over seriously as a self-confident person accepts innovation more readily than others. The results show that even though considerable efforts have been made in training of farmers in the common vocations and areas of interest, there

still remains a lacuna which needs to be filled. The KVK's do require re-orienting their trainings based on these findings for effective transfer of technologies among the target groups such as field visit to different farms owned by farmers is more effective to motivate the farmers for the adoption of new technology. Overall training effectiveness score of the training programme worked out to be 66.45 which indicated that the KVK training can be considered to be effective with respect to the dimensions under study.

## CONCLUSION

On the basis of the above findings, it can be concluded that training in different areas was provided to farmers under KVK which resulted in the gain in knowledge and skill of farmers, adoption level, productivity, Economic condition, self-confidence, social recognition and materials possession. But there were some areas of concern where progress was limited. Therefore, there is a need to thrust these factors with suitable changes in training curriculum and time by the scientists for fulfilling the objective of KVK training programmes. Technologies with complicated components and the time and labour required made it difficult to apply the recommended specific practices in their farming systems. More importance should be given to the marginal farmers so that they can increase their productivity and annual net income from rice cultivation. To make the farmers self-confident and to motivate them to improved farming practices, attention should be paid to adequate training in considering their basic educational level. During the training, information education and communication (IEC) system should be followed, otherwise the farmers will not be able to understand or remember much of the new agriculture procedure and techniques. Farmers should be encouraged to make use of all the improved rice production and management practices to achieve the desired result of profitability and sustainability in rice growing sector in the region.

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