TRAINING NEEDS OF AGRICULTURAL OFFICERS REGARDING MECHANIZED FARMING IN PUNJAB, PAKISTAN

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ABSTRACT

The purpose of the study was to identify and prioritize the training needs of agricultural extension agents- Punjab, Pakistan is an agricultural country. However, agricultural production of the country is much lower than that of many other countries. This is an era of information wave, which requires the generation, dissemination, and use of information rapidly. The current technological developments will have a big impact on the future direction of extension and rural development programs realizing the abruptness of the new technologies, Government of Pakistan accorded a very high priority to this sector. For this purpose, they have been asked to under devolution of power plan 2001. That is why the present study has been designed which represents a descriptive survey research. Out of 341 agricultural officers, a random sample of 181 was taken. The panel of experts established face and content validity of research instrument. The Cronbach’s alpha calculated for Farm Machinery (0.91). The discrepancy values based on the mean perceptions of Agriculture officers (AOs) were positive values for all five competencies ranging from lowest value 0.86 to highest value 1.51. It means that AOs needed training in all five competencies of Farm Machinery.

Key Words: Mechanized farming, technical competencies


INTRODUCTION

Punjab is the main agricultural province of Pakistan, Majority of the people live in rural areas spread in 25000 villages with agriculture as mainstay for their livelihood. Total area of the Punjab province is 17310 thousand hectares which is about 29% of the total reported, 57% of the total cultivated and about 69% of the total cropped area of Pakistan. It contributes a major share in agricultural economy of the country providing around 72% of wheat, 95% of the rice, 55% of the sugarcane and 35% of the maize to the national agricultural production. Among fruits mango accounts for 64%, citrus 95.5%, guava 87.2% and dates 34.1% of the total national production of these fruits. It contributes a major share of providing food and fiber to the people of agro-based industries like textile, sugar, etc earning foreign exchange; giving employment opportunities for the people of Pakistan. It can therefore, be assumed that the scope and importance of agriculture sector can be achieved by the application of latest farm machinery, which is of course the need of the day. An effective agricultural extension strategy is therefore, highly imperative for the province to help meet rapidly increasing requirements for agricultural production. Modern agriculture requires a balanced and timely use of various inputs for getting good results. The main inputs are water, mechanization, seed, fertilizer, weedicides and pesticides. The shortage and proper use of these inputs is a cause of low yield of crop.

The Agricultural Research, Extension and Farming Community

The agricultural research, extension and farming community sectors are not free of problems. Major issues and problems in this context are identified as under:

Research is not problem-oriented and site-specific. Research in the past has been heavily concentrated on wheat, cotton, and rice and impact is clearly reflected in the generally enhanced output of these corps. The neglect of crops such as oilseed, maize, pulses, fruits and vegetables must be corrected if the yield and productivity increases in these products are to be expected. Even areas where research has been undertaken on significant scale, the transfer of information and technology to the farmers has been inadequate due to stereotyped approach to extension.

Ahmad (1992) conducted a study to examine a credibility of the extension field staff. He observed that farmers were of the view that extension workers were not able to communicate with the farmers. Lack of training
has also produced a negative impact on the working efficacy of the extension field staff. Khan (1991) conducted a study to evaluate the working efficacy of the extension workers. He reported a working efficiency of the AOs (Extension) and concluded that those officers felt a great need for further training in the areas of technical competencies like plant protection, Agronomy and agricultural extension in the areas of professional competency. They were not satisfied with the existing training facilities. Ali (1991) identified training needs of the Extension Field Staff and recommended that Extension Field Staff (EFS) should be trained in identified areas. Lodhi (2003) identified a lack of training of the organizational staff of the Department of Agriculture (Extension) Government, of Punjab, Pakistan. The extension system is weak and extension workers are considered not fully competent to perform their job as shown in the above mentioned studies. Khan et al. (2004) conducted study to prioritize the training needs of AO (Ext.). They concluded that priority wise professional competencies in which agriculture officer needs training regarding program planning.

Lodhi, et al. (2003) conducted a study to find out the perceptions of organizational staff regarding the need for paradigm shift from top down to participatory extension in the governmental from Agricultural Extension System. They concluded that organizational staff of the top down extension system was in strong support of top down. Extension System whereas organizational staff of participatory extension system rated very low to the position worded statement of top down extension system.

The Agricultural Extension system in the Punjab has been identified as very weak and the extension workers designated as Agriculture Officer (AOs) have been labeled as incompetent to tackle with job requirements under the changing circumstances of globalization and trade liberalization. The information boom and rapidly changing world has created a need for their training and persistent refresher courses.

Need for the Study
There is a dire need to identify the job areas in which AOs are less competent and need trainings. Until and unless these areas are clearly identified their training programs may not be planned efficiently. This study was therefore, planned to identify, analyze, and prioritize the competence of AOs in the use of modern farm machinery. It is hoped that the findings of this study will help design effective training program(s) for AOs.

Objectives
To identify and prioritize the training needs of AOs (Ext.) regarding farm machinery in Punjab, Pakistan.

MATERIALS AND METHODS
Population
The study presented descriptive survey research. The population of this study consisted of 341 agricultural officers (Extension) in Department of Agricultural (Extension) who were employed at various places in the Punjab provides at the time of data collection. The sampling frame was obtained from the office of the Director General Agriculture (Extension and Adaptive Research) Lahore.

Sample
A sample size of 181 agriculture officers was randomly selected from the population for the study. The sample size was determined by using table for determining sample size from a given population (Fitzgibbon et al., 1987).

Instrumentation
A questionnaire was developed by the researcher from the synthesis of related literature reviewed; personnel insights of researcher and discussion with knowledgeable and experienced professionals in the discipline of Agricultural Extension Education. The questionnaire was developed keeping in view the job requirements of AOs. It was also tested for reliability and validity. The Chronbach’s alpha calculated for farm machinery of five competencies statement was 0.91. It was comprised of five technical competencies. Each competency statement requires the respondents to rate the item on two similar 1-5 point Likert scale. One rating was for the possessed level of competency and other for importance level of competency.

Data Collection and Analysis
Data collection was accomplished through the use of mail questionnaire. A questionnaire package containing cover letter and a stamped self addressed return envelop was mailed to 181 agriculture officers, included
in the sample. The cover letter explained the purpose and instructions for completing the questionnaire. The letter stated that all responses would be kept confidential, noting that the code appearing on the questionnaire was strictly for follow-up purpose. The overall response rate was 79.5%. The data were analyzed statistically using computer soft wares Statistical Package for social Sciences (SPSS) and Microsoft Excel.

RESULTS AND DISCUSSION

Agriculture officers themselves rated the levels of competencies they possessed and the importance levels of those competencies for their job performance. The data concerning the possessed and importance levels of competencies regarding farm machinery are presented in Table I.

<table>
<thead>
<tr>
<th>Competency, The ability to</th>
<th>Importance Level</th>
<th>Possessed Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R</td>
<td>M</td>
</tr>
<tr>
<td>Describe the use of various agricultural machines and equipments</td>
<td>1</td>
<td>4.13</td>
</tr>
<tr>
<td>Describe the use of various agricultural hand tools and implements</td>
<td>2</td>
<td>4.06</td>
</tr>
<tr>
<td>Operate modern machines, equipment and implements</td>
<td>3</td>
<td>4.02</td>
</tr>
<tr>
<td>Develop a list of modern machinery required for a big model farm</td>
<td>4</td>
<td>4.00</td>
</tr>
<tr>
<td>Describe the maintenance procedure of farm machinery</td>
<td>5</td>
<td>3.97</td>
</tr>
<tr>
<td>Overall</td>
<td>4.03</td>
<td>0.72</td>
</tr>
</tbody>
</table>

R=Rank; M=Mean; SD=Standard Deviation

Agriculture officer rated all (5) identified competencies as highly important (mean score 3.97 to 4.13) for job performance. Out of five competencies the top two (most important competencies) for the job performance of AOs as perceived by themselves were: (1) the ability to describe the use of various agricultural machines and equipments (mean=4.13); and (2) the ability to describe the use of various agricultural hand tools and implements (mean=4.06). The competencies which received lowest rank order on importance scale included: (1) the ability to describe the maintenance procedure of farm machinery (mean=3.97) and (2) the ability to develop a list of modern machinery required for a big model farm (mean=4.00). The overall mean of all five competencies in the main area “Farm Machinery” on important scale was 4.03. The competencies within the main area “Farm Machinery” which were possessed by AOs at the highest level were: (1) the ability to describe the use of various agricultural hand tools and implements (mean=3.20); and (2) the ability to develop a list of modern machinery required for a big model farm (mean=3.05). Similarly on the same scale competencies which were perceived to be possessed by AOs at lowest levels in this area were: (1) the ability to develop a list of modern machinery required for a big model farm (mean=2.47) and (2) the ability to operate modern machines, equipment and implements (mean=2.51).

The discrepancy values (DV$s)$ on the basis of differences between the importance levels of competencies for the job performance of AOs and the possessed levels of competencies b y AOs were calculated. These differences were considered as the felt levels of training needs in the identified competences. The data concerning these aspects are presented in Table II.

<table>
<thead>
<tr>
<th>Competency The ability to</th>
<th>Importance Level (IL) Mean</th>
<th>Possessed Level (PI) Mean</th>
<th>Difference DV=IL=IP Training Need</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operate modern machines, equipment and implements</td>
<td>4.02</td>
<td>2.51</td>
<td>1.51</td>
<td>1</td>
</tr>
<tr>
<td>Describe the maintenance procedure of farm machinery</td>
<td>3.97</td>
<td>2.47</td>
<td>1.50</td>
<td>2</td>
</tr>
<tr>
<td>Describe the use of various agricultural machines and equipments</td>
<td>4.13</td>
<td>3.04</td>
<td>1.09</td>
<td>3</td>
</tr>
<tr>
<td>Develop a list of modern machinery required for a big model farm</td>
<td>4.00</td>
<td>3.05</td>
<td>0.95</td>
<td>4</td>
</tr>
<tr>
<td>Describe the use of various agricultural hand tools and implements</td>
<td>4.06</td>
<td>3.20</td>
<td>0.86</td>
<td>5</td>
</tr>
</tbody>
</table>

DV$=means$ discrepancy value between importance and possessed levels of competencies; DV=IL=IP IL=importance level; PL=possessed level; R=Rank
The discrepancy values (DV) between the importance levels of technical competencies for the job performance of agriculture officers and the levels of these competencies possessed by them were considered as felt levels of training needs of AOs in these competencies. Out of five training needs of AOs the top two (most important) were: (1) the ability to operate modern machines, equipment and implements (DV = 1.51); and (2) the ability to describe the maintenance procedure of farm machinery (DV = 1.50). The training needs with lowest importance level included: (1) the ability to describe the use of various agricultural hands tools and implements (DV = 0.86); and (2) the ability to develop a list of modern machinery required for a big model farm (DV = 0.95). The discrepancy values based on the mean perceptions of AOs were positive values for all technical competencies ranging from lowest value 0.86 to highest value 1.51. It means that AOs needed training in all five competencies in “Farm Machinery” identified in Table 44. The critical training needs (DV > 0.75) in this area were identified as: (1) the ability to operate modern machines, equipment and implements (DV = 1.51); (2) the ability to develop a list of modern machinery required for a big model farm (DV = 0.95); and (3) the ability to describe the use of various agricultural machinery and implements (DV = 1.09); (4) the ability to describe the use of various agricultural hand tools and implements (DV = 0.86).

CONCLUSION AND RECOMMENDATIONS

The discrepancy values based on the mean perception of AOs were positive values for all technical competencies ranging from lowest value 0.86 to highest value 1.51. It means that AOs needed training in all five competencies in “Farm Machinery” identified in Table II.

REFERENCES


