Perceived competency level and effectiveness of public and private extension field staff (EFS) in Balochistan, Pakistan

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Abstract

Current research sought to examine the competency level and sources of information as used by public and private sector extension as perceived by farmers in Balochistan, province of Pakistan. Five districts, one from each ecological zone, were selected purposively, i.e. Kech, Lasbela, Mastung, Sibi and Loralai. A sample of 375 farmer respondents were taken by using systematic sampling procedure. However, the response rate was 82.67%. The results reveal that public Extension Field Staff (EFS) positive attitude (3.61) and sound communication skill (3.43) were ranked 1st and 2nd respectively as perceived by farmers. Whereas private EFS positive attitude (3.84) and ability to mobilize farming community (3.73) were ranked 1st and 2nd respectively. Further, segregated data based upon sources of information revealed that neighboring farmers was highest weightage score (Score=1278) and mean score (4.12), private extension field staff (3.73) and public extension field staff (3.37) were ranked 1st, 2nd and 3rd respectively. The study recommended that a real problem-oriented and genuine systematic interaction between system actors is recommended in order to make extension services more efficient, need-based and result-oriented. The participatory approach plays main role in diffusion of any agricultural practices, therefore, it is recommended that Agricultural Extension Wing should promote and encourage the joint venture programs between public and private extension services and other stakeholders at community and farm level in order to accelerate and encourage farmers to adopt new technologies. Private extension services should arrange seminar and exhibition for farmers at union council and district level.

Keywords: public, private, Balochistan, competency level, sources of information

1. Introduction

Competency has been defined as joint set of related knowledge, skills and attitudes that activated and encouraged performance of individual in effective way for effective presentation (Cooper and Graham, 2001; Herringer, 2002; Langdon & Whiteside, 2004; Teodorescu, 2006). It is also defined as to enhance the greater exposure for recently appointed newly extension workers and indispensable for institutional improvement (Owen, 2004). Various areas of competency level as important for the extension field staff to perform their job and duty in efficient manner have been reported by Oakley & Garforth (1985).
Extension field staff is always co-related with the competency level (Oakley and Garforth, 1985). Stone & Bieber (1997), Langdon and Whiteside (2004), and Lakai (2010) described competency as comprehensive and combined set of skills, knowledge, attitude and attributes that assist collective performance of the actions. The competency level is considered as ability to involve and lead farmers to adopt innovation and act accordingly (Linders, 2001; Armstrong, 2006 and Ali et al., 2008). Four domains i.e., knowledge, attitude, skill and quality contribute to develop competency level of extension workers (Cooper & Graham, 2001 and Ali et al., 2009). A number of factors such as time management, quantity, quality, effectiveness of work, knowledge, skill in work, effectiveness of communication, ability to manage and discipline has influence on competency level of extension workers (Tiraieyari, 2009).

1.1 Problem statement

As in other provinces of Pakistan, the Department of Agriculture and Livestock of Balochistan has provided advisory services to its stakeholders, the rural farmers, however as yet the outcome of these activities are not on a par with the success seen in other provinces. As a result, socio-economic condition of the farming community has not improved, which implies that there is a gap between information dissemination and adoption process (Mengal. et al., 2014). Beside public and private extension services are also involved in extension activities. However, limited research was carried out to find out the success or failure of the delivery system of these public and private extension services. Balochistan province was selected for this study due to the need to address the issues of uncertainty in public and private extension services felt by the stakeholders. It is also important to provide relevant information to agriculture sector about competency level and sources of information in Balochistan province of Pakistan.

1.2 Objectives

The general objective of present research was to determine the perceived competency level effectiveness of extension field staff as perceived by farmers. The specific objectives of the present research were to:

1. To determine the perceived competency level of extension field staff (EFS) in study areas.
2. To study the farmer’s perception about public and private agricultural extension services regarding sources of information.
3. To develop firm recommendations for the future policy for reciprocally to dynamic sectors.

1.3 Review of related literature

1.3.1 Empirical studies at national level

Khan (2003) identified the training needs of Agriculture Officers (AOs) regarding professional and technical competencies in the Punjab province of Pakistan. The results revealed that the discrepancy value between importance level and possessed level of competencies were positive in all professional competence categories ranging from lowest 0.16 value to highest 2.18 value. In addition, discrepancy values between importance level and possessed level of competencies of AOs (training needs) were negative in all professional competence categories. However, technical competencies (AOs training need areas) were identified as: crop protection, crop production and utilization of farm machinery. Hussain (2004) analyzed the professional competency level of extension administrators in Punjab. The results showed that discrepancy value between importance and possessed level competencies of Extension Administrators was positive. Researcher concluded that Extension Administrations need training about computer skill, management, leadership and audio visual aids. Ali et al. (2011) assessed the competency level employed by private extension field staff in Punjab Pakistan. They reported that three hundred twenty multinational and local companies (pesticide, insecticide) were keenly engaged in agriculture extension activities in Punjab province. In this regard private extension services were mainly bound to deliver extension services to the farmers in order to sell their commodities. The results revealed that professional competencies of private extension field staff regarding knowledge; attitude, skills and attributes of mean values were 3.68, 3.82, 3.84 and 3.73 along with standard deviation of 0.47, 0.39, 0.38 and 0.49 respectively. Study concluded that competencies possessed by private extension field staff (Syngenta) were between the range of strength and great strength.

1.3.2 Empirical studies at international level

Stoller (1971) identified the professional competencies of agricultural educators. There were seventy-four
professional competencies identified and studied. He reported similarities in the core competencies in all groups. A significant difference was observed between professional competencies of instructors and county extension agents. The study suggested that pre-service, in-service, induction and experience-types of training program should be arranged. Volanty (1977) identified the competencies needed for successful job performance of county extension agents. The results of this study showed that significant differences were recorded among respondent’s perceptions regarding competency items. It was concluded that in-depth research should be conducted for the county extension agents about trainings related to the competencies. Al-Zahrani (1992) analyzed the competencies needed by extension workers in the Southern province of Saudi Arabia. The results of the study showed that majority of the extension agents were young and unspecialized in extension discipline. Author observed that extension agents needed training in the following areas such as: research/ evaluation, teaching and learning process. Significant differences were found between the extension agent’s characteristics and their need for training. The researcher recommended that Kingdom of Saudi Arabia should establish agricultural extension collages and organize training (competency) courses for extension agents so as to enhance their competency level. Radhakrishna and Edgar (1996) identified the technology transfer constraints on the basis of the perception of three groups of extension personnel in state of Karnataka India. The results showed that lack of funds to conduct timely research; limited resources of farmers, inadequate transportation and high cost of inputs were the most important constraints of technology transfer as perceived the extension personnel in dry land agriculture. One-way ANOVA were used to find out if any difference exists between perceptions of the three groups of extension field staff regarding constraints of technology transfer. The results also revealed that significant differences were observed between the perceptions of three groups regarding technology transfer constraints, research constraints and extension constraints. Abankwaa (2004) conducted a study in order to determine competency levels and training needed by extension agents regarding agricultural communication methods and teaching aids in the greater Accra Ghana. The results of the study revealed that competency level in planning, implementing and evaluating extension teaching aids was found to be good. The researcher recommended that competency level of extension agents regarding communication method and extension teaching aids should be improved through training. Adesijii (2006) examined the competency needed by Village Extension Agents (VEAs) of Osun State Agricultural Development Programme in Nigeria. Results of the study indicated that all eight competency included in the questionnaire were perceived by VEAs as important to their job performance. However, research methodology, teaching and program evaluation were two competency areas for which VEAs felt need for training. The researcher recommended that Nigerian Government should be organizes training courses and allocate funds for training of Village Extension Agents in order to increase their competency level. Shaffril et al. (2009) examined the socio-demography factors for level of competency among rural administrators in three zones of Peninsular Malaysia. Authors reported that village development and security committee members had high level of competency. They further found that village grade had significant difference with competency level while age had positive correlation with level of respondent’s competency. The study suggested that the agency should create programs whereby respondents can share and teach useful experience to the younger members so as to strengthen the quality of their communication skills. Tiraieyari (2009) determined the relationships between cultural competency and performance among extension workers at department of agriculture, Malaysia. The results of the study showed that positive relationship existed between cultural competency and performance of extension agents. It was concluded that extension agents needed training in order to scale up their efficiency. Lakaii (2010) identified the current competency level of extension agents in North Carolina Cooperative Extension however the response rate was 66%. The results of the study revealed that current level of competency for EAs moderate to high in all forty-two statements. Researcher also reported that the experience and age were major determinants of extension overall competency level. Researcher found that experienced workers were more knowledgeable and capable as compared to those with less experience. Tiraieyari et al. (2010) analyzed the competencies of agricultural extension agents regarding program development through process of technology transfer. Researchers found that extension agents perceived themselves competent in developing program planning, program implementation and program evaluation. The study concluded that continuous assessment of extension agents’ competencies and performance was recommended. Lopokoiyit et al. (2013) examined the current extension management competencies of public and
private extension agents in Kenya. The results of the study revealed that extension agents needed competencies and training in the areas of: motivating employees, stress management, managing conflict, strategic planning, coaching employees, employee appraisal and counseling. They further, reported that there were no significant differences were observed between the perceptions of public and private extension field staff regarding training needs and only managing finances was significantly different between frontline extension workers (FEW) and subject matter specialists (SMS). Study concluded that there was need for holistic training in non-technical areas in order to achieve the objectives of vision 2030. Wasihunet al. (2013) examined technical competencies of agricultural extension agents from the perspectives of male/ female farmers, and extension agents (EAs) themselves in Soddo district of Southern Ethiopia. The findings of the study revealed that farmers and extension agents assigned overall mean value (2.26 and 2.99) for the competencies. Female farmers perceived the two competency levels (professional 2.11, technical 2.65) significantly lower (p <0.05) than that of the male farmers (professional 2.30, technical 2.80). The authors recommended that the professional competency of extension agents should be developed.

2. Methodology

The research design of this study was to utilize a descriptive survey method. This type of survey plays a prime role in educational research (Knupferet al., 2001) and is considered most suitable for gaining people’s perception on socio-economic actualities of existing condition (Cohen et al., 2007; Mark, 2003; Trochim, 2000; Jonassen, 2001). The list of farmers was obtained from the Executive District Offices (EDO) Extension Wing of respective districts. The study covered five purposively selected districts namely Kech, Lasbela, Mastung, Sibi and Loralai of Balochistan province for being the enormous potential for agriculture productions and agricultural important districts. A sample of 375 farmers; seventy-five (75) farmers from each district were selected because the farmer’s population of these districts was about similar in size and shape. The sample was selected using systematic sampling procedure whereby every $K^{th}$ number is randomly selected (Gay & Mills, 2006). The sample size of populations was determined by using Wunsch (1986) table of “Selecting Sample Sizes”. In this study Likert scaling was used for rating of attitude on five point scales in order to find out the perception of the respondents regarding competency level within agricultural extension system (Chizari et al., 1999; Lindner et al., 2003). Total score was obtained after summating all these weight-age. A 1-5 Likert type scale was used to measure the responses on the individual statement (Trochim& William, 2006). The scale used by Annor-Fremponget al., (n.d), Khan (2000), Asiabaka & Owens (2002), Idrees (2003), Lodhi (2003), Mincemoyeret al., (2004), Ricketts & Place (2005), Dromgoole &Boleman (2006), Sadafet al., (2006), Boone et al., (2007), Allahyariet al., (2008), Harder & Lindner (2008), Hassan (2008), Iqbal (2008), Afzal (2009), Iftikhar (2010), Akhtar (2011), Ayansina (2011) and Riaz (2012) were adopted for this study. The data coding sheet was administrated for the questionnaire used in collection of data for this study. The Cronbach’s Alpha program was used to test the reliability for the questionnaire (Ary et al., 1996). The reliability coefficients ranged from .80 to .94, indicating that the interval consistency of the instrument was excellent Nunnally (1967), Nunnally (1978), Bentler&Bonet (1980), Nunnally & Bernstein (1994), Kline (2000), George &Mallery (2003), Schilling (2002), Spector et al., (2002) and Rothbard & Edwards (2003). The minimum reliability coefficient was 0.7 as suggested by (Nunnally & Bernstein, 1994). A data-coding sheet was developed to record the captured data as collected. Researchers personally conducted interviews during the data collection few farmers were absent due to migration and their domestic problems. However, the response rate was 82.67 (310 farmer respondents out of 375) which is sufficient for data analysis procedure (Wunsch, 1986). The data collected by the researcher was tabulated and analyzed by applying quantitative approaches and standard statistical techniques. SPSS (PC) program was used to analysis the data (Boone et al., 2002; Davis et al., 2004). The rank order, mean efficient score, standard deviation (SD) was calculated to know the perception of farmers. In this connection the rank orders were assigned to all the categories on the basis of the mean scores. The category with highest mean scores as the 1st and lowest mean scores as the last rank the same procedure was used by (Lodhi, 2003).

3. Results and Discussion

It has been considered very important to judge the validity of professional value and competency level statements according to the job distributions of public and private extension field staff. In this regard, farmers were asked about the perceived competency
level possessed by public extension field staff and their responses in this regard are presented in table 1.

Table-1: Relative ranking regarding competency level as possessed by public extension field staff.

<table>
<thead>
<tr>
<th>Competency level items</th>
<th>Weighted Score</th>
<th>Ranked Order</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFS positive attitude</td>
<td>1119</td>
<td>1st</td>
<td>3.61</td>
<td>1.16</td>
</tr>
<tr>
<td>Sound communication skill</td>
<td>1062</td>
<td>2nd</td>
<td>3.43</td>
<td>1.26</td>
</tr>
<tr>
<td>Ability to mobilize farming community</td>
<td>1051</td>
<td>3rd</td>
<td>3.39</td>
<td>1.24</td>
</tr>
<tr>
<td>Talent to use latest agriculture information</td>
<td>998</td>
<td>4th</td>
<td>3.19</td>
<td>1.28</td>
</tr>
<tr>
<td>Maintain relationship with clients</td>
<td>997</td>
<td>5th</td>
<td>3.22</td>
<td>1.24</td>
</tr>
<tr>
<td>Identify the need of farmers</td>
<td>972</td>
<td>6th</td>
<td>3.14</td>
<td>1.23</td>
</tr>
<tr>
<td>Pro-active and innovative in approach</td>
<td>896</td>
<td>7th</td>
<td>2.89</td>
<td>1.19</td>
</tr>
<tr>
<td>Knowledge and skill in work</td>
<td>866</td>
<td>8th</td>
<td>2.79</td>
<td>1.17</td>
</tr>
<tr>
<td>Utilize audio visual material</td>
<td>848</td>
<td>9th</td>
<td>2.74</td>
<td>1.16</td>
</tr>
<tr>
<td>Hegemony quality</td>
<td>820</td>
<td>10th</td>
<td>2.65</td>
<td>1.12</td>
</tr>
<tr>
<td>Ability of planning</td>
<td>768</td>
<td>11th</td>
<td>2.48</td>
<td>0.99</td>
</tr>
<tr>
<td>Meeting with clients frequently</td>
<td>753</td>
<td>12th</td>
<td>2.43</td>
<td>1.10</td>
</tr>
<tr>
<td>Mange the problem and issue</td>
<td>735</td>
<td>13th</td>
<td>2.37</td>
<td>1.06</td>
</tr>
</tbody>
</table>

The rank order was calculated on the basis of mean score in order to find out the relative importance of each competency level statements. The study used 13 statements which were relevant to competency level of public and private extension field staff. EFS positive attitude (3.61), sound communication skill (3.43) and ability to mobilize farming community (3.39) were ranked 1st, 2nd and 3rd respectively. Whereas meeting with clients frequently (2.43) and manage the problem and issue (2.37) were ranked least; 12th and 13th respectively. Similar results were found by Stoller (1971), Volanty (1977), Al-Zahrani (1992), Abankwa (2004), Adesiji (2006), Shaffrilet al., (2009), Tiraeyari (2009), Tiraeyari et al., (2010), Lopokotiyit et al., (2013) and Wasihunet al., (2013) who also reported there was a significant difference between the extension agent’s perceptions regarding competency or professional level. This similarity is may be because the similar mode of data collection procedure. The main tool for the success of an extension field staff member is his/her technical competency. Without having substantial technical competency, it is not possible to identify farmer’s problems; neither is it possible to find out or evaluate solutions to their problems; nor is it possible to persuade farmers to adoption technical recommendations. Nobody has the talent to persuade farmers to adopt a technology solution without having sufficient knowledge of the subject. Farmers were asked to judge the professional competency and its effectiveness as possessed by public and private Extension Field Staff (EFS). Possession of competency is considered an imperative tool for EFS. Various studies showed the importance of competencies. Masud et al. (2011) found that Agriculture Officers of public extension services possessed average levels of program planning competencies. Khan et al. (2008) observed that there were differences between possessed and required levels of professional competencies in participatory extension methods. Rivera &Qamar (2003) found that the main function of agriculture extension to diffuse the agricultural information along with the accelerating and promoting the knowledge, attitudes and skills of the rural masses. Khalil et al. (2008) found the competency levels regarded as one of the significant variables which enhance the performance of extension field staff. Certain qualities such as competency level, dedication, humility, honesty, reliability and commitment to work with people are very important for successful extension workers (Oakley and Garforth, 1985). Ali et al., (2011) reported that the self-perceived competencies regarding knowledge, attitude, skills and attributes of extension field staff were considered as great strengths in agriculture extension.
Table-2: Relative ranking regarding competency level as possessed by private extension field staff

<table>
<thead>
<tr>
<th>Competency level items</th>
<th>Weighted Score</th>
<th>Ranked Order</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFS positive attitude</td>
<td>1190</td>
<td>1st</td>
<td>3.84</td>
<td>1.08</td>
</tr>
<tr>
<td>Ability to mobilize farming community</td>
<td>1157</td>
<td>2nd</td>
<td>3.73</td>
<td>0.84</td>
</tr>
<tr>
<td>Sound communication skill</td>
<td>1102</td>
<td>3rd</td>
<td>3.55</td>
<td>0.89</td>
</tr>
<tr>
<td>Pro-active and innovative in approach</td>
<td>1080</td>
<td>4th</td>
<td>3.48</td>
<td>0.99</td>
</tr>
<tr>
<td>Talent to use latest agriculture information</td>
<td>1070</td>
<td>5th</td>
<td>3.45</td>
<td>0.96</td>
</tr>
<tr>
<td>Mange the problem and issue</td>
<td>1067</td>
<td>6th</td>
<td>3.44</td>
<td>1.09</td>
</tr>
<tr>
<td>Identify the need of farmers</td>
<td>1045</td>
<td>7th</td>
<td>3.37</td>
<td>1.04</td>
</tr>
<tr>
<td>Maintain relationship with clients</td>
<td>1044</td>
<td>8th</td>
<td>3.37</td>
<td>1.06</td>
</tr>
<tr>
<td>Utilize audio visual material</td>
<td>962</td>
<td>9th</td>
<td>3.10</td>
<td>1.21</td>
</tr>
<tr>
<td>Knowledge and skill in work</td>
<td>889</td>
<td>10th</td>
<td>2.89</td>
<td>1.07</td>
</tr>
<tr>
<td>Hegemony quality</td>
<td>854</td>
<td>11th</td>
<td>2.75</td>
<td>1.08</td>
</tr>
<tr>
<td>Ability of planning</td>
<td>850</td>
<td>12th</td>
<td>2.74</td>
<td>1.04</td>
</tr>
<tr>
<td>Meeting with clients frequently</td>
<td>747</td>
<td>13th</td>
<td>2.41</td>
<td>0.96</td>
</tr>
</tbody>
</table>

The rank order was given on the basis of mean in order to find out the relative ranking of each category regarding sources of information and competency level. Extension field staff (EFS) positive attitude (3.84), ability to mobilize farming community (3.73) and sound communication skill (3.55) were ranked 1st, 2nd and 3rd respectively. While, ability of planning (2.74) and meeting with clients frequently (2.41) were ranked 12th and 13th respectively. Present research results showed that the extension agent positive attitude and mobilize farming communities in adoption of innovations were the foremost professional competency level of public and private extension field staff. The results are in somewhat in conformity with Hussain, (2004) who had observed that the extension administrators have professional competency regarding planning and management categories. On the other hand, private input companies worked in a well-organized way, where every individual has a task ahead is bounded with some responsibilities. In several countries local people’s organizations and private institution have been more successful than public extension units in facilitating appropriate and efficient resources management both in resource conservation and in transfer technology (FAO, 1991). Farmers in Pakistan are more contacted by the private agencies such as fertilizer companies for adoption of innovation (Ali, 1980; Chaudhary, 1980). Farmers gave high preferences to private extension field staff as compared to public extension field staff regarding competency level. On the basis of results, it was concluded that private EFS was comparatively more competent as compared to public EFS.

Table-3: Relative scores of farmer’s perceptions regarding sources of information

<table>
<thead>
<tr>
<th>Categories</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Undecided</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Score</td>
<td>F</td>
<td>Score</td>
<td>F</td>
<td>Score</td>
</tr>
<tr>
<td>Neighboring farmers</td>
<td>04</td>
<td>04</td>
<td>12</td>
<td>24</td>
<td>05</td>
<td>15</td>
</tr>
<tr>
<td>Private EFS</td>
<td>09</td>
<td>09</td>
<td>40</td>
<td>80</td>
<td>11</td>
<td>33</td>
</tr>
<tr>
<td>Public EFS</td>
<td>30</td>
<td>30</td>
<td>62</td>
<td>124</td>
<td>08</td>
<td>24</td>
</tr>
<tr>
<td>Print media</td>
<td>39</td>
<td>39</td>
<td>126</td>
<td>252</td>
<td>07</td>
<td>21</td>
</tr>
<tr>
<td>Agriculture programs on radio</td>
<td>33</td>
<td>33</td>
<td>136</td>
<td>272</td>
<td>15</td>
<td>45</td>
</tr>
<tr>
<td>Agriculture literature</td>
<td>44</td>
<td>44</td>
<td>125</td>
<td>250</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>Agriculture programs on TV</td>
<td>38</td>
<td>38</td>
<td>143</td>
<td>286</td>
<td>18</td>
<td>54</td>
</tr>
</tbody>
</table>
Segregated data based upon sources of information revealed that neighboring farmers was highest weightage score (Score=1278), private extension field staff (Score=1156) and public extension field staff (Score=1045) respectively given by the farmers as shown in table-3. While agriculture programs on radio (Score=859), agriculture literature (Score=853), and agriculture programs on TV (Score=825) respectively were lowest weightage.Farmers perceived that neighboring farmers were more effective sources of information. Farmer respondents were also asked to identify the main sources of information they utilize. The results revealed that the neighboring farmers were the main source of information as perceived by the farmer respondents. These finding are in line with the findings of Muhammad and Garforth (1999), Asiabaka& Owens (2002), Agumagu&Adesope (2006), Irfanet al., (2006), Lodhiet al., (2006), Siddiqui (2006), Farooq et al., (2007), Adinyaet al., (2008), Tajet al., (2009), Adesiyiet al., (2011), Rehmanet al., (2011), Kumbharet al., (2012), Bahalkani, (2013), Ali et al., (2014) and Fatima et al., (2014), who reported that the neighboring farmers served as main sources of agricultural information. This might be due to the fact that neighboring farmers are easily in contact with each other due to short distance between their houses, same background, origin, tradition and culture. Therefore, they easily share their views regarding domestic problems and exchange their views regarding farming issues. Neighboring farmers learning broadly from one another provides an argument about traditional farming methods that views farmers as passive receptions of knowledge and skills.

Table-4: Relative ranking of farmer’s perception regarding sources of information.

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Weighted Score</th>
<th>Ranked Order</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neighboring farmers</td>
<td>1278</td>
<td>1st</td>
<td>4.12</td>
<td>0.72</td>
</tr>
<tr>
<td>Private EFS</td>
<td>1156</td>
<td>2nd</td>
<td>3.73</td>
<td>0.92</td>
</tr>
<tr>
<td>Public EFS</td>
<td>1045</td>
<td>3rd</td>
<td>3.37</td>
<td>1.18</td>
</tr>
<tr>
<td>Print media</td>
<td>869</td>
<td>4th</td>
<td>2.80</td>
<td>1.17</td>
</tr>
<tr>
<td>Agriculture programs on radio</td>
<td>859</td>
<td>5th</td>
<td>2.77</td>
<td>1.12</td>
</tr>
<tr>
<td>Agriculture literature</td>
<td>853</td>
<td>6th</td>
<td>2.75</td>
<td>1.17</td>
</tr>
<tr>
<td>Agriculture programs on TV</td>
<td>825</td>
<td>7th</td>
<td>2.66</td>
<td>1.10</td>
</tr>
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</table>

Information is an indispensable innovation aspect in agriculture and rural development (Garforth et al., 2003). Information coming from outside the area can carry new ideas and awareness of new opportunities. Seven (7) statements regarding sources of agricultural information were used in this study. Farmers were asked to perceive sources of information. Table-4 depicts the results. The rank order was given on the basis of mean in order to find out the relative ranking of each category regarding effectiveness of various sources of information. Five point Likert scale was used where 1 stands for “strongly disagree”, 2 for “disagree”, 3 stands for “undecided”, 4 for “agree”, and 5 stands for “strongly agree”. Neighboring farmers (4.12), private extension field staff (3.73) and public extension field staff (3.37) were ranked 1st, 2nd and 3rd respectively. While, agriculture literature (2.75) and agriculture programs on television (2.66) were ranked 6th and 7th respectively.

4. Conclusions and policy implications

The rank orders, means and standard deviation (SD) were calculated for the perception of public and private extension field staff in order to find out the relative ranking of each category. There were 13 (thirteen) statements of competency level and likewise 7 (seven) statements about agricultural sources of information as used by public and private extension field staff as perceived by farmers. Farmers were also asked to give their suggestions for making competency level and sources of information more effective. In response, majority of the farmers suggested that diffusion of new improved practices should be continued with realistic approach. For this, there should be collaboration and effective linkage between public and private extension services. Service delivery of public extension field staff should be regularized through trainings. Further, it is suggested that a real problem-oriented and genuine systematic interaction between system actors is recommended in order to make extension services more efficient, need-based and result-oriented. The participatory approach plays main role in diffusion of any agricultural practices, therefore, it is recommended that Agricultural Extension Wing should promote and encourage the joint venture programs between public and private extension services and other stakeholders.
at community and farm level in order to accelerate and encourage farmers to adopt new technologies. Promote group-based extension programs and strategies should be accelerated, it is therefore suggested that field-level trainings should be arranged for farmers in order to enhance the capacity building of the rural farmers. Arrange seminar and exhibition are the key success tools of extension field staff (EFS) in this connection, private extension services should arrange seminar and exhibition for farmers at union council and district level.

References


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