AN INVESTIGATION OF PROFESSIONAL AND TECHNICAL COMPETENCIES OF AGRICULTURE OFFICERS IN NWFP PAKISTAN

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ABSTRACT
The paper aims at collecting information about professional and technical competencies of Agriculture officers in NWFP, Pakistan. Data for the study was collected from 112 agriculture officers working in the province through administration of a questionnaire during 2006. The study found that majority of the respondents are university graduates but still need in-service training to improve their competencies.

Keywords: Investigation, Professional and Technical Competencies, Agriculture Officers, NWFP.

INTRODUCTION
Agriculture is one of the predominant sector of Pakistan’s economy. It contributes about 22% to GDP and provides employment to 44.8% civilian labour force (GOP, 2006). Agriculture is not only the main source of foreign exchange earnings through exports of cotton, cotton products and rice, but it also provides raw materials to industries and consumes products of several industries as inputs.

Since independence of Pakistan, all governments have attempted to achieve self-sufficiency in major agricultural crops but this self-sufficiency has always proved to be fragile due to communication gap between farmers and agriculture extension agents, despite the fact that we have a well established extension and research system. Agricultural Extension Department is responsible for transferring of agricultural technology and providing technical guidance to farmers for improving agricultural practices to increase agricultural productivity. So failing to achieve self sufficiency in major agriculture products has always been ascribed to inefficiency of our agriculture extension services. Urooba (2001); Idrees (1994); Ahmad (1993); Iqbal (1990); Hussain (1983); Hayat (1982); Naz (1987) and Muhammad (1981).

Total geographical area of Pakistan is 79.61 million hectares and total reported area is 59.48 million hectares. Total cultivated area was 22.15 million hectares, net sown area was 15.154 million hectares and total cropped area was 22.51 million hectares. Total area of the NWFP is 13.5 % of the country’s area (GOP, 2005).

NWFP is situated in the north west of Pakistan, hence it has been named as North West Frontier Province (NWFP). It is situated at latitude 30° to 37° North and longitude 69° to 74° East latitude and varies from 6000 m above sea level in upper Chitral to less than 300 m in Southern D.I. Khan. In NWFP there are seven administrative divisions namely Peshawar, Mardan, Malakand, Hazara, Kohat, Bannu, D.I. Khan before devolution plan. The number of districts in each division varies from 2 to 7 and there are a total of 24 districts in NWFP.

This province being less industrialized compared to the other provinces has much greater dependence upon the agricultural sector for its economic prosperity and public well-being.

Wheat, maize, sugarcane and tobacco are the major crops of NWFP. The climate of the province is mainly sub-humid and semi-arid with variable temperature, rainfall and humidity. Accordingly, four important agro-climatic zones of the province i.e. Northern Mountains (Malakand) zone, Eastern mountains (Hazara) zone, Central valley plains (Peshawar-Hazara) zone and Piedmont plains (Southern) zones, exist in the province.

Pakistan, after its independence in 1947, basically followed American Model of Agricultural Extension for transfer of technology, but the model could not achieve the desired targets. So in1978 a new system of agricultural extension i.e. training and visit system was tried on experimental basis in D.I.Khan and Buner.
This system also did not work. Therefore, since 2001, after devolution plan, a new system of local government was introduced throughout Pakistan. After the introduction of the devolution plan in NWFP, there is a Secretary of the Department of Agriculture who is overall in charge of the Department of Agriculture, who is assisted by the Director General (Agric. Extension). Both are further assisted by Principal, Agricultural Training Institute, Project Director for Barani Areas, Deputy Director Information, Plant Protection Officer, Horticulturist and Deputy Director Economic and Marketing. The Zila Nazim on the district level is the head of the district administration and is supported by an Executive District Officer Agriculture (EDOA). The EDOA is to distribute the work among the officers, branches and/or section of each district office. At present the province is divided into 24 districts with the District Officer of Agriculture (DOA), as in charge of activities relating to agriculture extension. Agriculture Officers are posted under DOA. Each Agriculture Officer is supported by 5-10 Field Assistants with his office located in each Union Council. Through a large network of agricultural extension exists, but the results are not encouraging. This paper is an attempt to explore the professional and technical competencies of Agriculture Officers in the province.

MATERIALS AND METHODS
Agriculture Officer is the hub of agricultural extension service in the province. On the one hand, Agriculture Officers supervise the work of Field Assistants who are posted at grassroots level to give technical guidance to farming community and on the other hand they are in contact with experts and subject specialists, trained in various disciplines of agriculture. He also directly visits farming community, listens their agricultural related problems, analyze the situations and plans remedial measures and agricultural promotional activities. Professional competencies are essential for all Agriculture Officers in order to perform their job effectively. Agriculture Officers must be proficient in a number of educational competencies that include capabilities, knowledge and skills that are required to effectively perform their jobs.

Agriculture officers of agriculture extension department was the universe of the study. A list of agriculture officers was obtained from the Director General Agricultural Extension, NWFP, Pakistan. The total number of Agriculture Officer (AOs) in the province was 112, and questionnaires were administered to all of them, but 111 questionnaires were returned by them. The data collected were analyzed using SPSS.

RESULTS AND DISCUSSION.

Age and Professional Experience of the Agriculture Officers
An individual becoming older in age since childhood to teen age and beyond, it is a common belief that he or she becomes wiser and wiser if he or she is not abnormal. Along with growing of age professional experience is the number of years spent by an individual working in certain departments / organizations. The premise is that age in professional experience does contribute significantly to human behavior, workmanship, maturity and official routine or non routine procedures. It was therefore, felt necessary to collect the information on this aspect which is presented in Table I.

Table-I shows that the mean age of the AOs was 44.21 years ranging from 25 to 60 years. Similar results were reported by Haynes (2000) showing the age bracket of 28 – 60 years with a mean age of 45 years. Majority of the respondents were in the age group of 41-50 years, as given in the frequency distribution of age (Table-II).

Table I further explains the mean job experience as 16.81 years with standard deviation of 9.24 and rather high C.V. (54.94). However, the data in Table III indicates that most (29.73 %) of the AOs had 16 – 20 years of job experience while 2.7 % of them had 6 – 10 years of job experience. The variation in distribution of AOs based on job experience is the gap in recruitment and followed by further recruitment in the last five years.

Frequency Distribution of AOs according to Age
In order to have in depth information of the 111 respondents regarding their age, frequency distribution of Agriculture Officers has been constructed as Table. II.

Majority of the Agriculture Officers were in the age group between 41 – 50 years (Table II). Their percentage was 42.34, followed by 27.93% in the age group between 51-60 years, 17.12% in the age group between 31- 40 years and 12.61% in the age group between 25 – 30 years. The analysis of the frequency table shows that Agriculture Officers can be regarded as well experienced. Their services can best be utilized by exposing them to the modern techniques of the present time. Frequency distribution of the professional experience is shown in table III. About 63% of the AOs had job experience of more than 15
years while about 20% of AOs had been freshly appointed having five or more than five years of experience as AOs.

**Educational Qualification of the Agriculture Officers**

Summary of data collected through questionnaire is presented in Fig.1. Majority of the Agriculture Officers had master degrees in various disciplines. However, it was noted that the only 3% Agriculture Officers had Ph.D. degree, 9% had B.Sc. (Hons) degree and 88% had Master degrees in various subjects. Higher educational qualification plays a vital role in changing the minds of the farming community. Actually bachelor degree in agriculture is the basic criterion for recruiting the Agriculture Officers. The present findings indicate that only few Agriculture Officers had Ph.D. degree. As higher qualifications play a vital role in the uplift of any enterprise therefore, proper education and training of the Agriculture Officers are needed to solve the problems of farming community. According to Gibson and Hillison (1994) the problems faced by our society are becoming so specialized and complex that generalist extension agents have great difficulty keeping abreast with technological developments on all fronts.

In Pakistan, agricultural extension is one of the essential elements for accelerating Agricultural and rural development. A lot of money, manpower and facilities have been invested to ensure its effectiveness. Although the extension service was introduced as early as 1910 i.e. before partition of the sub-continent by the Revenue department, the focus was primarily concerned with crop research and development. However in 1935, it was upgraded as full-fledged department.

**Specialization of the Agriculture Officers**

The data given in Fig. 2 shows the ranked order of the Agriculture Officers along with their specialization in twelve subjects. Majority of the Agriculture Officers (25.23%) had specialization in agronomy, 20.72% in soil science, and 13.51% in plant breeding and genetics. While minimum number of Agriculture Officers (1.80%) had their specializations in animal husbandry, agricultural chemistry and plant protection. Analogous results were reported by Chizari et al, (1999). They reported that majority of the Agriculture Officers had specialization in agronomy. Similarly, Khan et al, (2003) reported that majority of the Agriculture Officers had specialization in the field of agronomy. Only 4.50 and 3.60% of the Agriculture Officers had the specialization in social sciences like agricultural economics and agricultural extension, respectively. Ranked order of the agriculture Officers in their specializations indicates that majority of the Agriculture Officers have their degrees in technical subjects matter in agriculture. While only few had specializations in the subjects that deal with the social issues and management such as agricultural economics or agricultural extension.

The present results show that proper technical and professional training must be arranged so that Agriculture Officers can tackle the problem of the farming community. Because Agriculture Officers with specialization in one or another subject cannot solve the diversified problems related to agriculture, therefore, it can be concluded that generalists with more training in extension methods are needed. Some general course like Agronomy, Applied Pathology, Applied Entomology, Weed Science, Horticulture, Soil Management, Water Management, etc. with training in extension method and motivation produce very effective agricultural extension workers.

**CONCLUSION**

The study concludes that on the average AOs were about 44 years old having about 17 years of job experience. Majority of the AOs (88%) possessed master degree in agriculture and only 3% had Ph.D degrees. The study found that professional experience of the respondents ranged from 1 – 34 years. However, specialization of the AOs varied but majority of the respondents had agronomy major followed by soil science and plant breeding and genetics. The study concludes that AOs needed frequent inservice training to make the system more effective. Besides, many of the AOs are posted in the remote areas and they face difficulties in mobility due to lack of transport facilities and rough physical weather conditions. Therefore, it is suggested that such facilities be provided to enhance the professional competencies.
### Table I. Showing age and professional experience of Agriculture Officers

<table>
<thead>
<tr>
<th>Demographic Characteristics</th>
<th>Mean</th>
<th>Range</th>
<th>SD</th>
<th>95% Conf. Interval</th>
<th>CV</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual Age</td>
<td>44.21</td>
<td>25</td>
<td>60</td>
<td>9.48</td>
<td>21.45</td>
<td>55</td>
</tr>
<tr>
<td>Professional Experience</td>
<td>16.81</td>
<td>1</td>
<td>34</td>
<td>9.24</td>
<td>54.94</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Field Data.

### Table II. Frequency distribution of Agriculture Officers according to age

<table>
<thead>
<tr>
<th>Age in years</th>
<th>Mid point</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Frequency</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 - 30</td>
<td>27.5</td>
<td>14</td>
<td>12.61</td>
<td>14</td>
<td>12.61</td>
</tr>
<tr>
<td>31 - 40</td>
<td>35.5</td>
<td>19</td>
<td>17.12</td>
<td>33</td>
<td>29.73</td>
</tr>
<tr>
<td>41 - 50</td>
<td>45.5</td>
<td>47</td>
<td>42.34</td>
<td>80</td>
<td>72.07</td>
</tr>
<tr>
<td>51 - 60</td>
<td>55.5</td>
<td>31</td>
<td>27.93</td>
<td>111</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Source: Field Data.

### Table III. Frequency distribution of Agriculture Officers according to their professional experience

<table>
<thead>
<tr>
<th>No</th>
<th>Experience in years</th>
<th>Mid point</th>
<th>Frequency</th>
<th>Percent</th>
<th>Frequency</th>
<th>Cumulative Frequency</th>
<th>Cumulative Percent</th>
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</thead>
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<tr>
<td>1</td>
<td>0 – 5</td>
<td>2.5</td>
<td>22</td>
<td>19.82</td>
<td>22</td>
<td>19.82</td>
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</tr>
<tr>
<td>2</td>
<td>6 – 10</td>
<td>8</td>
<td>3</td>
<td>2.70</td>
<td>25</td>
<td>22.52</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>11 – 15</td>
<td>13</td>
<td>16</td>
<td>14.41</td>
<td>41</td>
<td>36.94</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>16 – 20</td>
<td>18</td>
<td>33</td>
<td>29.73</td>
<td>74</td>
<td>66.67</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>21 – 25</td>
<td>23</td>
<td>22</td>
<td>19.82</td>
<td>96</td>
<td>86.49</td>
<td></td>
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<tr>
<td>6</td>
<td>26 – 30</td>
<td>28</td>
<td>15</td>
<td>13.51</td>
<td>111</td>
<td>100.00</td>
<td></td>
</tr>
</tbody>
</table>

Source: Field Data.

#### Fig. 1. Educational qualification of Agriculture Officers in NWFP

- M. Sc. 88%
- B. Sc. 9%
- Ph. D. 3%
Fig.2. Distribution of AOs according to their field of specialization

REFERENCES


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