A Quasi-Longitudinal Analysis of Agricultural Extension Services in Pakistan

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ABSTRACT

The efficiency of extension systems for sustainable agriculture and rural development to ensure food security is a major policy concern for the contemporary governments and international agricultural development organizations. This study was carried out in northwest Pakistan to analyze and compare agricultural extension services in the area over a period of two decades – from 1986-87 to 2005-06. Drawing on information from six villages, the study depicted that tendency of extension workers to contact farmers has significantly been reduced in the course of time. Majority of farmers, particularly small and medium holders, noted no visits of extension workers to their farm. Thereby, farmers often relied on their traditional skills or advices from the non-technical input dealers in the local market. The study concludes that major reforms in extension system such as decentralization, effective research-extension-farmers linkages, and shift from public to private extension domains are essential to improve efficiency of extension services in Pakistan.

INTRODUCTION

The developing economies worldwide are often characterized by a growing agricultural sector. The burgeoning rural populations in these countries exhibit tremendous pressure on agricultural sector for food security and employment generation. Increased human welfare is, hence, invariably associated with efficiency of the agricultural sector (Raabe, 2008). The performance of agricultural sector to enhance productivity largely depends on, including other factors; the availability of latest information about farm practices, uptake of new technology, and adoption of modern farming practices (Inayat et al. 2008a). The World Bank (2007) emphasizes on the role of agricultural extension as inevitable for sustainable, participatory, and pro-poor agricultural and hence economic development.

Agricultural extension is a dynamic concept; hence, it is too difficult to give a specific definition of agricultural extension which is universally
acceptable. Feder et al. (1999) define agricultural extension system as “a system and a set of functions performed by that system to induce voluntary changes among farming communities”. The authors further elaborates that the set of functions performed by the agricultural extension system include: (i) transferring information and technology for sustainable agricultural production, transformation, and marketing; (ii) building capacities of the farmers to better organize themselves to identify their capabilities both individually and as a group, clarify their own goals, and prioritize the means and methods to achieve them; (iii) enhancing their capacities in managerial (managing their human power, natural resources, and capital), technical (better farm management, improved marketing knowledge, etc.), administrative, and legal aspects.

Agricultural extension is one of three pillars of the broader knowledge system for rural development, variously referred to as Agricultural Knowledge and Information Systems for Rural Development (AKIS/RD) by the World Bank and FAO, or simply the Agricultural Knowledge System (AKS) by the OECD (Organization for Economic Cooperation and Development) countries. The other pillars of the system include agricultural education and research. According to the AKIS/RD ‘strategic vision and guiding principles’ (FAO/World Bank, 2000), the triangular system integrates farmers, agricultural educators, researchers and extensionists, enabling them to harness knowledge and information from various sources to improve farming and livelihoods (Figure 1). In principle, agricultural extension receives relevant information from the agricultural education system and feeds back field observations to this system (Rivera et al. 2001). Likewise, the link between agricultural research and extension is even closer. Any latest development through agricultural research is transmitted to the framers via extension services (Ban & Hawkins, 1998). Hence, the role of extension as a linkage between agricultural knowledge, research, and farmers is quintessential for sustainable agricultural development.

Figure 1: Agricultural Extension as Part of Agricultural Knowledge System

Source: Rivera et al. 2001.
The role of agricultural extension in knowledge and technology dissemination to farmers is globally recognised. Agricultural development can be invariably linked to provision of efficient and effective extension services. Nevertheless, the fact remains that agricultural extension faces the challenge of establishing a well-managed, effective, and accountable system of meeting the needs of a large number of farmers around the globe (Feder et al. 1999). The negative experiences with agricultural extension in the past have sparked considerable debate worldwide about the best ways to provide and finance agricultural extension (Birner & Anderson, 2007).

According to a general assessment of global extension systems by Kidd et al. (2000), agricultural extension is widely regarded as an important mechanism for improving agricultural systems worldwide. The principal responsibility of providing extension services to the farmers is that of the state (Anderson & Feder, 2004; Swanson et al. 1997). Large public administrations, hierarchically structured and staffed with permanent employees fulfilling various roles and responsibilities were supposed to maintain a broad impact on the farmers. Nonetheless, the general feeling is that in offering sufficient services to the farmers and adequately addressing their needs, these administrations were too inflexible and unresponsive, bringing insufficient benefits with high costs. This general assessment of agricultural system corresponds to extension systems in many developing countries including Pakistan.

The Dilemma of Extension Services in Pakistan
The provision of well-defined extension services is essential for increasing productivity, particularly in agricultural-based and transforming economies like Pakistan. As in many developing countries, traditional extension systems in Pakistan failed to meet their goals because of the coordination gap between the 'providers' and 'recipients' of the extension services. In Pakistan, majority of the farmers are small or medium farm holders. An overwhelming majority of these farmers are 'non-contact farmers' which means they have no formal contacts with extension workers. For seeking advice, these farmers primarily rely on information from the input suppliers, or other contact farmers. In either case, the likelihood of securing inadequate and unreliable information is high (Davidson & Munir, 2003). Another problem related to the extension services in Pakistan is low educational level and lack of training opportunities for the extension workers itself. In many such cases, the extension workers are under-trained, not-mobile, and ultimately not proactive (FAO, 2001). This has lead into the unsatisfactory performance of extension workers in the field. In traditional extension system in Pakistan; the low educational levels and poor communicative skills of the extension workers in the pre T & V era, and the lack of motivation, governance, and training opportunities in the post T & V era, has been the
main contributors to poor performance of extension workers in the field (Inayat, 2007).

**Purpose of the Study**

Since the inception of Pakistan, various extension approaches have been practiced in the country with the aim to improve agricultural productivity. This study makes an attempt to analyze agricultural extension services in Khyber Pakhtunkhwa Province of Pakistan over a period of two decades extending from 1986-87 to 2005-06. The study specifically focuses on the extension-farmers linkages in the area over the given time period.

**Methodological Consideration**

The research was carried out in 2005-06 in six villages of district Peshawar in Khyber Pakhtunkhwa Province (formerly NWFP - North West Frontier Province) of Pakistan. The villages included in the study were Dalazak, Kukar, Gulbela, Kochian, Mushtarzai, and Yousaf Khel. The study was a part of the project on institutional changes executed by Georg-August University Goettingen, Germany. The same project was undertaken in the same villages in 1986-87 (see for example, Manig, 1992; Humayun, 1990). These villages were selected on the basis of different socioeconomic and logistic criteria, such as the influence of the economic and administrative centre Peshawar, land tenure system, type of irrigation system and employment structure (Manig, 1991).

The data were collected through interviews. A semi-structured questionnaire was administered to collect the data. A household - defined as a group of persons who normally live and eat together in the same dwelling (Chianu & Tsujii, 2004) - was the unit of analysis for this study. All households in each village were separated as farm and non-farm households. The farm households were further categorized on the basis of landholding and employment structures. To ensure an even and unbiased inclusion of all socioeconomic groups in the sample, the selection of respondent in each village was made proportionately from different socioeconomic categories of farmers. The total sample size across six villages was 120 which were proportionately selected from all farm household categories. Thus proportionate stratified random sampling technique was used to select the sample size.

Information from the officials of the extension department was also collected as outreach survey. The officials were informally interviewed.
and information was recorded as notes. The data was analyzed using SPSS version 13. The findings were compared with those of 1986-87 of the same project (for details see Humayun, 1990; Manig, 1992).

RESULTS AND DISCUSSION

The main focus of this study was to make a comparison of the agricultural extension services in the area over a period of two decades. To assess any potential changes in the extension system services in the area, the following comparisons are made.

**Frequency of Extension Workers Visits to the Area**

The spirit nurtured in an extension worker at the outset of his career is strong commitment and dedication as a true teacher to develop themselves and their clienteles. This spirit and philosophy flourishes in the minds of those who have a deep concern for the well-being of mankind in general and an abiding faith in rural people in particular (Inayat, 2007). Driven by a strong commitment, the extension worker copes with his problems as a true teacher and leaves a profound influence on his clients. The efficiency of extension workers with which the knowledge of modern technology is being transferred to the farmers can be sustained and improved with the regularity in contacting farmers (Humayun, 1990).

Figure 2 provides a comparison of the extension workers visit to the research villages within the last two decades. The figure clearly displays that only 3 % respondents in 2005-06 confirmed the extension workers visit to their farm during the last year. The response was rather worse than 14 % in 1986-87. More detailed comparison of the situation was made by exploring the exact situation during the last 5 and 10 years. But it was found again that the extension agent visited only 10 % of the total farmers in 2005-06 and 13 % in 1986-87. The situation, however, was totally different 10 years before. In 1987, it was noted that only 6 % of the farmers were visited 10 years before but in 2005-06, surprisingly 63 % farmers were found visited by the extension field staff. This might not be the true situation, as the response of the people might just based on their optimistic perception of past being better than present.
The cross-check of the extension workers performance and on-farm efficiency can be done through visit by the extension officers to the field. This not only encourages the extension agents in the field but also provides them with an opportunity to deal with any immediate complex problem which is out of the range of knowledge of the extension field worker. The effectiveness of the extension mechanism can be determined by the fact that high rank officers also devote time to the field to provide farmers with their insights (Inayat et al. 2008b).

To portray on the true picture of extension system in the area, the farmers were asked about the visits paid by extension officers to their village. Table 1 clearly illustrates the poor response in this case in 1986-87 where only 6 % farmers confirmed about extension officers visit to their farms. The situation again was worst in 2005-06 where no evidence of extension officers visit to the farms was found. In 1986-87, the T & V system was operational in the research area and the follow up visits by the extension officers were reported only in the project areas. Similar results were noted by the Muhammad (1981) whereby only 7 % of the farmers in the Shahkot area of Punjab confirmed visits by the extension officers to their farm. Such poor professional attitude of the extension officers leads to the poor performance of the extension agents having no fear of accountability.
Table 1: Response about Extension Officers Visit to the Area (%)

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<th>1986-87</th>
<th>2005-06</th>
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<tr>
<td>Yes</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>No</td>
<td>94</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
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Notes: N = 70 in 1986-87, and = 120 in 2005-06
Sources: Own Survey, 2005-06; Humayun, 1990

Methods of Acquiring Extension Services

The ideology behind deployment of extension agents in the field is to incorporate the scientific knowledge as a byproduct of research and development into the day-to-day farming practices at the grassroots level. Extension services tend to shift the farmers from traditional and less productive practices to more sophisticated and productive ones. Acquiring modern agricultural and extension services is highly recommended to farmers in developing countries. The Figure 3 illustrates that how farmers acquired extension services in different time periods. It was observed that 34% of the farmers in 1986-87 and 53% in 2005-06 approached the nearby extension office had any technical assistance was required. A poor on-farm efficiency of the extension workers is reflected from the responses that only 9% and 3% respectively in 1986-87 and 2005-06 reported about extension workers visit to their field to assist in any problem. A large proportion of 57% in 1986-87 and 43% in 2005-06, however, confirmed that they need no assistance from any extension agent. These were the farmers either disparate about the role of extension workers or the very traditional and expert farmers who believes in their own skills rather than outsider extension services.

Figure 3: Distributions of Sample Farmers by Method of Acquiring Extension Services

Sources: Own Survey, 2005-06; Humayun, 1990
Changes in Organizing Plot Demonstrations

Plot demonstration is one of the most widely used extension methods to teach farmers about the new methods of farm practices. The strength of extension structures in field can be recognized by the fact that how frequently extension agents have been organizing demonstrations in their field area. To compare the extension scenario in the area over time, the respondents were asked about the demonstration held by the extension department in their respective villages. Unfortunately, no farmer in 2005-06 reported about demonstration plots being arranged in their area. In 1986-87, however, 63% farmers noted about organizing demonstrations by extension department (table 2). Again, it is pertinent to mention that higher rate of extension plots held in the area was due to prevalence of T & V system in the area.

Table 2: Knowledge of farmers about Demonstrations plots in their area (%)

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<th></th>
<th>1986-87</th>
<th>2005-06</th>
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<tbody>
<tr>
<td>Yes</td>
<td>64</td>
<td>0</td>
</tr>
<tr>
<td>No</td>
<td>36</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
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</tbody>
</table>

Notes: N = 70 in 1986-87, and = 120 in 2005-06
Sources: Own Survey, 2005-06; Humayun, 1990

Changes in the Structure of Extension Organizations

The 'Devolution Plan 2000' by the government of Pakistan was aimed to ensure decentralization and transfer of power to the government functionaries at the local levels. As a result of these decentralization policies, structural changes have incurred in all the government functionaries including extension department of the government of Khyber Pakhtunkhwa. The mechanism of the services delivery, however, did not incur any change and maintained the status quo. Nonetheless, some changes have occurred in the nomenclature and jurisdictions of the officials of the department. For example, the Assistant Directors whose jurisdiction was a district have been replaced by District Officer Agriculture. Similarly, the traditional and T & V systems of agricultural extension have been replaced by more training oriented and participatory approaches namely, Farming Field School (FFS), Integrated Pest Management (IPM), etc.
CONCLUSIONS

Agricultural extension plays an important role in reducing the problem of global food insecurity. Agricultural extension is an important intermediary channel between farmers and agricultural knowledge and research. The role of extension becomes more explicit in agricultural based economies such as Pakistan. In recent past, the Government of Pakistan has made a considerable investment to improve efficiency of extension services to increase agricultural productivity. As part of the sustainable agricultural development agenda, the government is enforcing structural adjustments time and again in the agricultural extension system in Pakistan. However, studies have shown that extension workers in many rural areas in Pakistan have exhibited insufficient and substandard performance. Thereby, traditional extension systems in Pakistan failed to demonstrate any significant impact at all. The bureaucratic nature of the higher extension officials and poor governance mechanisms has lead to lack of devotion, motivation, and sense of responsibility in the extension workers. This has engraved a wide communication and coordination gap between the suppliers and recipients of extension services. Resultantly, insignificant and undesirable results are achieved with high costs. In recent times, thinking and practice about agricultural extension have moved towards more pluralistic ways of providing extension services (Birner et al. 2006). To ensure sustainable agricultural and subsequent economic development, the government must introduce major reforms in agricultural extension system which should focus on decentralization, privatization, and the role of NGOs and farmers based organizations.

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References


