

## **The Use of Fertilizers, Improved Quality Seeds and Pesticides by the Farmers in Balochistan: Findings of the Research Study**

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### **Abstract**

*The role of the public and private sectors in the context of agricultural extension services regarding fertilizers, recommended improved quality seeds and pesticides were analyzed in detail in the previous paper. The present paper gives an account of the findings of the study and the research analyses. The findings of the research study indicate that around two third of the farmers were found using the recommended quantity and type of fertilizer appropriately and fulfill all the required conditions of the best use. They were mainly persuaded for the use of proper quantity of fertilizers by agriculture department, fellow farmers and elders. A large number of farmers were reported to be having poor knowledge about the use of appropriate quality seeds type. The private sector was found to be dominant in case of seed supply. Regarding the use of pesticides by the farmers the data reveals that on the average, around 70 % use pesticides regularly, while 19% occasionally and 11% do not use at all.*

**Key Words:** Fertilizers, Improved Quality seeds, Pesticides, Agricultural extension services,

### **Introduction**

The paper is a sequel to the previous paper "An analysis of the effectiveness of Agricultural extension services: The role of public and private sectors in Balochistan" appearing in International Journal of Humanities and Social Science (IJHSS), Volume 7 • Number 7 • July 2017, where the role of the public and private sectors in the context of agricultural extension services was analyzed in the context of their effectiveness in extension work and their relative importance in changing the attitude of the farmers to adopt new technologies and improved practices in agriculture of the province. The present

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paper gives an account of the findings of the study coming at surface in the result of the research analyses.

### **Selection of Sample**

The response and reaction of the farmers towards the technologies and improved practices introduced by the learned extension workers has been captured in the five districts; Khuzdar, Lasbella, Naseerabad, Qilla-Saifullah and Quetta. The selection of the 5 five sample districts out of 26 was purposive and based on the criteria including ecological conditions, types of important crops cultivated and different well known crop problems attempted to be addressed during the extension process.

The random selection process was adopted for the selection of farmers that helped include different land holding sizes, tenurial status, irrigation mode etc. Around 60 farmers from each of the five districts were selected at random for interview and discussion. The whole analyses of this study has been based on the responses of the farmers from the five districts.

### **Collection of Primary Data**

The decision about the collection of data for the study was arrived at by keeping in view the difficulty of the non-availability of any support data<sup>2</sup>. The lack of supporting information and material necessitated to resort to the first hand information through primary data. The required information was collected at two levels that laid the basis of primary data.

(a) The information collected from farmers where 300 farmers selected at random from five districts constituted the main component of the study. For that purpose, a questionnaire was structured that was used to obtain all the required information. The questionnaire addressed all the issues pertaining to the indicators responsible for assessment of the level of the two competitors in delivery of services to the farmers introducing new techniques and technologies. The questionnaire was finalized after pre-test that contained both the quantitative and qualitative queries.

(b) In addition to the information collected from farmers through questionnaire, information was also collected from the staff of agriculture posted at districts and Quetta (the provincial capital). However, this exercise of discussion with governmental staff was aimed at acquiring knowledge about views of the staff of public sector who are approaching farmers through extension workers and also to give view point of the implementers in comparison to views of the farmers. But for that purpose no questionnaire was used, discussions were preferred to obtain detail from their perspective related to extension interventions.

## **Secondary Sources of Data**

As already mentioned, major emphasis of the study has been laid down on primary data, however, where necessary information from secondary sources has also been used in support of the primary data. The sources of secondary data are mainly from agriculture department; Directorate of Agriculture Extension, Agriculture Research Institute and unpublished record and documents.

The objective of the current paper is to present the findings of the study as a result of the intervention made in connection to adoption of new agricultural technologies and improved practices in agriculture of the province.

## **Research Findings**

1. Regarding the proper use of fertilizer by the farmers, in fact, the agriculture department has succeeded in approaching 30% of the farmers effectively, while fellow farmers 28% and elders 27%. An absolute large number of farmers (94%) in Khuzdar district have highly benefited from fellow farmers, while in Lasbella, extension workers in persuading majority of the farmers (57%) have played major role. In Qilla Saifullah district, highest numbers of farmers (46%) have been persuaded by elders while, in Quetta district, the highest number (51%) by extension workers.
2. On the average, the perception of 69% of the farmers is that they use fertilizer appropriately and are fulfilling all the necessary pre-conditions. The percentage of appropriate use of fertilizer is the highest, 94% and 77% in two districts, Quetta and Naseerabad respectively.
3. It was a matter of great concern that despite, the fact that farmers who have availed the opportunity of learning from professionals, experienced farmers, village fellows, elders or other persons have even been using fertilizer in an in-appropriate way.
4. Most of the farmers have wished certain types of assistance related to the proper use of fertilizer, information about supply centers, better quality of fertilizer and availability of fertilizer on credit
5. Regarding the knowledge about appropriate quality seeds type with proper application with additional knowledge of; soil characteristics, water availability conditions and crop requirements, a large number of farmers were not properly disseminated by specialist extension workers instead of unskilled and non-professional persons.

6. The analyses based on Survey Data indicate that in case of seed supply the role of private sector (non formal & non-organized) is much dominant and ahead of the public sector extension workers. On the average, private shops account supply seed to the highest number of farmers. Other main suppliers are; self stored seed, and seed provided by progressive farmers.
7. On the average, 87% farmers were found to be involved in the practice of seedbed preparation essentially, before cultivation of the crops. Usually, the seedbed operation is carried out for all crops except fruits.
8. Despite certain difficulties, particularly the rare availability of quality seed, around 62% farmers were found involved in nursery raising for different crops in the province such as tomatoes, egg plants, chillies & onion.
9. The overall position of the province represented by the five districts indicates that on the average, 70% farmers' use pesticides regularly, 19% occasionally and 11% do not use at all. This estimation is based on self assessment about using the pesticides & insecticides on their crops.
10. By looking at the number of farmers using pesticides appropriately, 51% farmers at the provincial level think that they are using pesticides appropriately in terms of the quantity per acre/tree, frequency of use per season as per requirement of the crops etc.
11. The most important reason farmers have quoted for the unsatisfactory use of pesticides was traced to the failure of the change agents/extension workers who introduced the use of pesticides, as they have been unable to convince the farmers about the quantity and timely use with required interval on their crops.
12. The extension workers of the public sector play a guiding role to some extent but a supplementary role. In other words, roughly 90% role is that of private and 10% of public sector in persuasion of farmers to spray their crops.
13. On the average, around 59% farmers are satisfied with the guidance provided by the Agriculture department regarding supply of agriculture inputs, in other words, input supply centres, while, 41% are of the opinion that the guidance has not lead us to be in contact with the suitable input supply centres that will solve their problem of quality agric. inputs essential for the increase of their production level. Three

of the districts are Naseerabad, Qilla Saifullah and Quetta have largely benefited from the support provided

14. Among the respondents, only 9% farmers have confessed that they have benefited satisfactorily from linkage with Agriculture department, 15% have shown moderate level of satisfaction, and 1% have mentioned about slightly benefiting from the linkage. A number of farmers, 75% have shown ignorance about any type of linkage with different centres, institutions, departments etc. The number of farmers showing satisfaction is basically, due to two factors; (a) those who are progressive farmers (b) farmers in Naseerabad who were more or less linked under a project.

### **References**

- Ahmad, N. and Haq, M. Ul (1994). "Evaluation Study of Punjab Agricultural Extension and Adaptive Research Project-II", Lahore: Punjab Economic Research Institute
- Ahmad et al., 2000; Sofranko et al., 1988. Insights into farmer-extension contacts: Evidence from Pakistan. *Agricultural Administration and Extension* 30:293-307.
- Antholt, C.H. (1994). "Getting Ready for the Twenty-first Century: technical change and institutional modernization in agriculture", World Bank Technical Paper No.217. Washington D.C. World Bank
- Axinn, G.H. and Thorat, S. (1972). "Modernizing World Agriculture: A comparative study of agricultural extension education systems". New York: Praeger
- Faruquee, R. (1995b). "Government's Role in Pakistan's Agriculture: major reforms are needed" World Bank Policy Research Working Paper No. 1468
- Government of Punjab, Agriculture Department. (n.d.) Future Agricultural Extension Strategy. Lahore, Pakistan.

- Khan, M., Sharif, M., and Sarwar, M. (1984). "Monitoring and Evaluation of Training and Visit System of Agricultural Extension in Punjab, Pakistan", Lahore: Punjab Economic Research Institute
- Umali, D.L. and Schwartz, L. (1994). "Public and Private Agricultural Services: beyond traditional frontiers", World Bank Discussion