

## Chapter 3

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# MATERIALS AND METHODS

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, MINFAL (Ministry of food, Agriculture and livestock) launched an enthusiastic programme Crop Maximization Project Phase II in 2007. The project was implemented in 10 districts in the Balochistan, Punjab, Sindh and North-West Frontier provinces with a long-term goal of eventually reaching approximately every farmer across the country. Crop Maximization Project Phase-II is for the betterment of livelihood of farmer community. The goal of the project was to contribute to food security and poverty reduction by enhancing the productivity of smallholder farmers and other poor rural families. This study aims at evaluating the extension work conducted under crop maximization project Phase-II in Sahiwal District. This chapter describes the methodology of the research adopted by the researcher.

### 3.1 Universe of the study

Pakistan came into being on 14<sup>th</sup> August 1947 on the map of world as Islamic Republic of Pakistan. It lies between 25°-30 and 36°-45 north latitude and 61° and 75°-30 east latitude, located in Northwest of the Indo-Pak subcontinent. The mountains of Himalaya and Karakoram bound it at the Northwest and North side. On the Northwest and West side its boundary touches Afghanistan and Iran. On its North and Northeast side, Kashmir and Indian states of Haryana and Rajasthan are located. On its South long coast of Arabian Sea lies. Total geographical area of Pakistan is 796.1 thousand sq. Kms (Ahmad, 1999)

According to Pakistani map Sahiwal is a district and it is located in central Punjab and lies between 30-39 north latitude and 73-06 longitude. The population is 207,388 (Govt of Pakistan, 1998). The city lies in the densely populated region between the Sutlej and Ravi rivers. Irrigation in the region is provided by the Bari Doab Canal system. The principal crops include wheat, maize, potato, cotton, tobacco, legumes, and oilseeds. Its boundaries touch with Faisalabad Khanewal Pakpattan and Okara districts in north, west, south and east

respectively



**Fig 3.1: Map of Pakistan, highlighting Punjab, the universe of the study**

The climate of Sahiwal district is extreme, reaching 52 °C in summer and down to 5°C in winter. The soil of the district is very fertile. The average rainfall is about 2000 mm.

### **3.2 The selection of study area**

There are two Tehsils of this District Sahiwal itself and other is Chichawani. Sahiwal is a major multi-crop area of Pakistan, and its main crops are wheat, cotton, sugarcane, maize

and rice. Main fruits are citrus, mangoes and guava. Sahiwal is a green and fertile town with 11,522 forested acres. For project, only Tehsil Sahiwal was preferred.



**Fig 3.2: Map showing Sahiwal - Universe of the study**

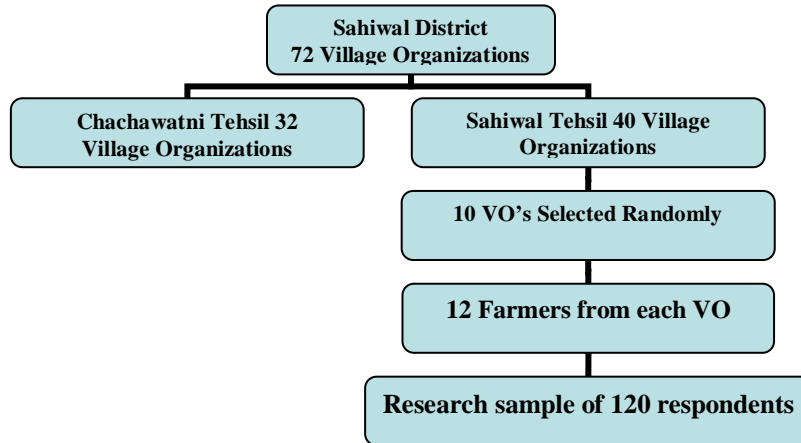
### 3.3 The study population

There are 40 village organizations (VOs) formed by the project personnel for carrying out extension activities in Tehsil Sahiwal. Ten VO were selected on random basis, so every VO had the equal chances to be a part of research sample. These VO served as population of the study

### 3.4 Selection of sample

A complete list of each selected Village Organization was obtained from respective Agriculture Officer,. From each selected VO, twelve members (farmers) were selected by using simple random sampling technique, so every farmer had the equal chances to be a part of this study. Thus sample for this study will consist of 120 respondents.

## LAYOUT OF METHODOLOGY



### 3.5 Sampling procedure

The data were collected with the help of validated interview schedule. The data, thus collected was analyzed by using SPSS (Statistical package for Social Sciences) for drawing appropriate conclusions.

### 3.6 Preparation of Interview schedule

Keeping in view the type and nature of the respondents, interview schedule was developed by the researcher, having close ended questions for member farmers (Acharya *et al.*, 2005; and Tucker *et al.*, 2005). This interview schedule was based on the literature reviewed, personal experience, and close study of Village Organization.

#### 3.6.1 Biographical Information

Important aspects of biographical information of the respondents like age, education, field of specialization, size of land holding, type of tenure, etc were included in interview schedules.

### **3.6.2 General Information about the Working Efficiency of VO**

The other section of interview schedule was related with the general information about the working efficiency of Crop Maximization Project. Respondents were asked questions about the responsibilities of project personnel, cooperation of the line departments, facilities provided to farmers, and utilization of different sources of information by farmers and response were provided in ‘yes’ or ‘no’.

### **3.7 Reliability**

Researcher used test-retest method for reliability of the research instrument. For this purpose twenty five farmers, similar to the study population were interviewed. After interval of fifteen days, the same personnel were re-interviewed. The responses of both the interviews were compared with one another and generally found consistent in most of the cases. Researcher discussed the reliability results with his supervisor and senior teachers of the Department of Statistics, UAF. All were of the view that the instrument proved reliable enough to go for data collection in the field. Research instruments were finalized after making necessary deletions and additions according to valuable suggestions given by the experts (Dlamini *et al.*, 2004).

### **3.8 Data Collection**

Data were collected with the help of —survey method (Wickramasigh, 1997; Mirani *et al.*, 2003; Siddiqui *et al.*, 2005 and Hassan *et al.*, 2005). All the respondents were interviewed by researcher personally at their homes, farms and offices.

### **3.9 Analysis of data**

The data collected through quantitative research were coded and entered into computer for analysis SPSS version 13 was utilized for data analysis (Ogunjuyigbe *et al.*, 2005 and Panchanadaswarm and Koverola, 2005). Simple Statistics i.e. frequency and means were computed for different variables.

### **3.10 Problems faced during data collection**

- ❖ All the expenses during research period incurred by the researcher himself.
- ❖ Respondents were busy due to their seasonal field activities; therefore, they showed somewhat reluctance in providing information.
- ❖ Due to large distance between the study place and study area, researcher faced

problems to be in contact with his supervisor. The study place was in Faisalabad province (University of Agriculture, Faisalabad) while research was conducted in Sahiwal

- ❖ During data collection, mostly the conditions of roads were not good and researcher encountered many problems in traveling.
- ❖ While collecting the list of farmers who were the members of village organizations, the researcher had to visit the office of Agricultural Officer 3-4 times, because the concerned staff members were not available at the first visit.
- ❖ To confirm the names of member farmers for the preparation of final list, the researcher visited most of villages himself. It happened 4-5 times in the study area that concerned farmers were not available, therefore next visit became compulsory.
- ❖ Most of the farmers were suspicious about the purpose of research. Therefore, a great deal of time was spent on introductory discussion to remove their suspicions. Some of the respondents were not available during the first visit for data collection. Therefore the researcher had to pay many visits in such cases.