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Irrigation Reforms and Farmer`S Perception about the Distribution of Canal Water in Rural Areas of District Faisalabad

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ABSTRACT

Successful formation of 84 farmer organizations in Lower Chenab Canal (East) Area Water Board on pilot basis, the Government of Punjab decided to extend the jurisdiction of irrigation sector reforms program. We all know that the Agriculture sector is the major sector of the financial system of Pakistan, which is an agricultural country. Unfortunately, water crises are disturbing the yield of crops. Water crises have direct and as well as indirect social and economic impacts on rural families. The universe of the present study was comprised of only rural areas of Tehsil Jaranwala of District Faisalabad. First of all two rural union councils were selected from Tehsil Jaranwala through simple random sampling technique from six tehsils of District Faisalabad. Two Union Councils were selected randomly and then four villages (two from each Union Council) were selected through the simple random sampling technique. At the last 160 respondents were selected through systematic sampling technique and 40 respondents were selected from each village. The result is found that 38.1 percent of the respondents paid up to Rs. 1000 abiana, 91.9 percent of the respondents had knowledge that water crisis is present in their area. Only (30) respondents were satisfied with current "warabandi" issued by Farmer Organizations. Still reasonable percentage of farmers was not satisfied about institutional reforms (PIDA), Government should take some positive steps and provide improve water channels for farmers community.

KEYWORDS: Participatory irrigation management; institutional reforms; water crisis; socio-economic; equitable water distribution.

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Introduction

We have the marvelous and contiguous irrigation system that currently irrigates over 16.23 million hector of land, out of 36.00 million of cultivate land available. Out of 16.3 million hectors 11.42 million hectors is irrigated by camels and 4.03 by tube well and rest 0.78 hectares by miscellaneous systems. The irrigated land lies within plains formed by rivers Indus and tributaries (WAPDA, 2009).

Pakistan is a purely agricultural country and agriculture is the indispensible for Pakistan's economy but, unfortunately there is not enough water available to the agricultural community moreover they are also facing the severe shortage of electricity as well. The per acre production of crops is low and it is getting lower due to shortage of water, they are facing economical problems in maintaining their agriculture. There is an urgent need to make the facilities accessible to the farmers so that they can participate in the economy of the country without any socio-economic difference (Anees, 2011).

To provide the basic needs of the people. Population of the country is increasing more rapidly than the population and the government is unable to meet out the problems and demand of the people. It is to be realized that population should be controlled because without control we are unable to table the necessary steps which are necessary for the country (Saleem, 2011).

Objective

Thus the main objective of the study is to find out the problems and water crisis after institutional reforms.

MATERIALS AND METHODS

Sample Size:

Sample can be defined as accurate envoy of the population, which has all the characteristics of preferred population. 160 respondents were selected from the study area randomly. 40 respondents from each village were selected randomly.

Study area

Tehsil Jaranwala was selected from six tehsils of Distt. Faisalabad randomly. Two Union Councils were selected from tehsil

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Jaranwala randomly. Four villages (two from each UC) were selected randomly.

Data collection:

Construction of data collection tool

Social science deals with human nature, Feelings, emotions and minds of human being. To study all these factors it was compulsory that data collection tool was very accurate and reliable. Interview schedule was prepared with open and close ended questions to collect the data from respondents. It was structured to get all the required information from the respondents.

Interviewing the respondents:

Interview was conducted from respondents to collect facts. The investigator himself interviewed each respondent to make sure unbiased response and then rechecked each questionnaire for accuracy and uniformity because it was very difficult to approach the same respondent at any subsequent stage.

Analyzing of data:

Collected data was analyzed using the Statistical Package for Social Sciences. Descriptive statistics, including frequencies, percentages, means and standard deviations, were used to summarize different variables. Data was interpreted with the help of a computer software i.e. statistical package for social sciences.

Results and discussion

Table 1

Distribution of the respondents according to their cost of Abiana

Cost of abiana (Rs.)	Frequency	Percentage
Up to 1000	61	38.1
1001-2000	66	41.3
Above 2000	33	20.6
Total	160	100.0

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Table 1 indicates that 38.1 percent of the respondents paid up to Rs. 1000 abiana, while 41.3 percent of them paid Rs. 1001-2000 abiana and 20.6 percent of them paid above Rs. 2000 abiana.

Table 2

Distribution of the respondents according to their average cost of tubewell water on major crops

Major crops	N	%	Minimum	Maximum	Mean	Std. Deviation
Wheat	145	90.6	1600	5000	3116.55	972.97
Cotton	27	16.9	1000	2000	1425.93	980.81
Sugarcane	135	84.4	1500	30000	19499.26	8897.86
Rice	7	4.4	10000	20000	16142.86	4552.36
Maize	138	86.3	1200	15000	3369.57	2459.13
Any other	54	33.8	800	18000	3196.30	4575.16

Table 2 indicates that a huge majority (90.6%) used tubewell water for wheat crop. Minimum cost of tubewell water was Rs. 1600 and maximum cost was Rs. 5000 for wheat crop. Mean cost was Rs. 3116.55 with standard deviation Rs. 972.97.

Only 16.9 percent of the respondents used tubewell water for cotton crop. Minimum cost of tubewell water was Rs. 1000 and maximum cost was Rs. 2000 for cotton crop. Mean cost was Rs. 1425.93 with standard deviation Rs. 980.81.

A vast majority i.e., 84.4 percent of the respondents used tubewell water for sugarcane crop. Minimum cost of tubewell water was Rs. 1500 and maximum co-st was Rs. 30000 for sugarcane crop. Mean cost was Rs. 19499.26 with standard deviation Rs. 8897.86.

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Only 4.4 percent of the respondents were growing rice crop and they used tubewell water for rice crop. Minimum cost of tubewell water was Rs. 10000 and maximum cost was Rs. 20000 for rice crop. Mean cost was Rs. 16142.86 with standard deviation Rs. 4552.36.

A large majority i.e., 86.3 percent of the respondents used tubewell water for maize crop. Minimum cost of tubewell water was Rs. 1200 and maximum cost was Rs. 15000 for maize crop. Mean cost was Rs. 3369.57 with standard deviation Rs. 2459.13.

About one-third i.e., 33.8 percent of the respondents used tubewell water for any other crops. Minimum cost of tubewell water was Rs. 800 and maximum cost was Rs. 18000 for any other crops. Mean cost was Rs. 3196.30 with standard deviation Rs. 4575.16.

Tubewell owners had less expenditure as compare to rented tubewell users. Similar findings were presented by Joshua (2009). He found that the tubewell irrigation is a costly as compare to canal irrigation.

Table 3

Distribution of the respondents according to their knowledge about water crises is present in their area

Respondents' knowledge about water crises present in their area	Frequency	Percentage
Yes	147	91.9
No	13	8.1
Total	160	100.0

Table 3 reveals that a huge majority i.e., 91.9 percent of the respondents had knowledge that water crisis is present in their area, while only 8.1 percent of the respondents were replied negatively.

Table 4

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Farmers' perception about Water Theft Control

Water theft control steps	Satisfaction level			
	No response (0)	Not at all (1)	To some extent (2)	To great extent (3)
Watercousre Warabandi	50	60	20	30
Khal Panchayat reporting of water theft cases to FO	110	30	20	0
Measures taken by FO`s for control of water theft	120	20	20	0

Table 4 the satisfaction level of farmers regarding water theft control is presented. Only (30) respondents were satisfied with current "warabandi" issued by Farmer Organizations. The farmers reported about "Khal Panchayat" of water theft cases that (110) respondents were not satisfied about this step. However, (120) respondents were still not satisfied with KP in reporting water theft cases to FO`s for proper decision. Water turn locally called "Warabandi" is a major issue also after institution reforms in Punjab. Under PIDA act, full authority was given to FO`s for the issue of "Warabandi" but so yet farmers were seeing as helpless. This situation implies that there is need to put more efforts by KP and FO`s to control water theft evil for increasing equitable water distribution among all farmers from head to tail reaches.

Table 5

Distribution of the respondents according to their satisfaction with the present irrigation department performance

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Response	Frequency	Percentage
Yes	46	28.8
No	114	71.3
Total	160	100.0

Table 5 reveals that 28.8 percent of the respondents were satisfied with the performance of present irrigation department, while a large majority i.e., 71.3 percent of the respondents was dissatisfied with the performance of present irrigation department.

Conclusions

The research is showing the results that still reasonable percentage of farmers was not satisfied about institutional reforms (PIDA), Farmer organizations (FO`s) and Khal Panchayat (KP) indicating short comings in the irrigation management process. The government needs to both, provide incentives and educate the farmers, to adopt modern methods of irrigation. Innovative and appropriate technologies should be pioneered to address water crisis and global change effects on water availability and quality. A good water management policy must be initiated to get rid of aphorism in order to start concrete planning for the longer-term future. Water storage capacity should be enhanced drastically through construction of large and small dams, managing the available water resources and using high efficiency irrigation systems e.g. bed and furrow methods of irrigation, zero tillage technology and sprinkler/drip irrigation system. Size of mogha should be increased according to farmers will. Government should improve BAL safai program properly and also display time table of unscheduled canal water distribution. Proper cleaning of canals and water channels can become cause to solve irrigation water crises. Government should take some positive steps and provide improve water channels for farmers community. High cost land leveling technology is also a cause of wastage of water because if land is high and unbalance as compare to water channel level then the land would be deprive to water . So if land leveling technology provide at low cost then this problem can be minimized.

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