Global Social Sciences Review (GSSR)
URL: http://dx.doi.org/10.31703/gssr.2021(VI-II).29

A Sociological Study to Investigate the Causes of Low Productivity in Agriculture Sector in Tehsil Jaranwala District Faisalabad

Naubahar Khan [*] Gul Fraz Mahmood [†]

Abstract *This research was conducted at Tehsil Jaranwala, District Faisalabad in 2019 with the aim to explore social and economic hurdles which were responsible for less level of yield productivity in the agriculture sector. The rural areas of Faisalabad containing agricultural land were selected for the selection of the sample. The farmers with a small size of landholding were the target population of the present study. A multistage sampling technique was applied in the study, and a well-structured questionnaire was designed for the collection of data from 300 respondents. At the first stage, Tehsil Jaranwala of District Faisalabad was selected. At the second stage, ten union councils were selected for the selection of the sample. At the third stage, a sample of 300 respondents (30 from each union council) was selected. Chi-Square was applied to test the hypothesis. It is the need of the hour to explore the issues and hurdles which put a hindrance in production so that this sector may play a significant role in the development of Pakistan. The results of the study showed that lack of awareness, illiteracy, low standard of living, poverty and less usage of technology in agriculture, the decline in soil fertility, population pressure, lack of support services, water scarcity, and poor access to fertilizer were the serious issues and factors which were responsible in the way of agricultural development in Pakistan.*

- DOI: 10.31703/gssr.2021(VI-II).29
- Vol. VI, No. II (Spring 2021)
- Pages: 292 – 298
- p- ISSN: 2520-0348
- e-ISSN: 2616-793X
- ISSN-L: 2520-0348

Key Words: Agriculture, Cropped Area, Landholding, Poverty, Jaranwala, Pakistan

Introduction

The economy of Pakistan is based on agriculture, but the agricultural side is facing many challenges as there are various factors that put a hindrance in the way of high productivity, like the prices of fertilizers and pesticides are high in Pakistan due to which poor farmers are unable to use them in order to get maximum production because an average farmer has failed to perform his duties regarding the care of crop due to high prices of fertilizers especially increasing the price of Urea bag which is being used to grow any crop putting pressure on the farmer in the form of low yield for the family as well as for economy of Pakistan (FAO, 2018).

The other main reasons are natural calamities and lack of water facilities. Pakistan is facing the issue of acute shortage of water for irrigation and is considered as a water-shortage country (Kahlon & Majed, 2003). Indus River is to be considered as the major source of irrigation in Pakistan because the mentioned river has provided more than 90 percent of water to Pakistani crops. An increase in population is also a major issue because, by the end of 2025, it will expand to 250 Million. Due to overpopulation availability of per capita water will ultimately be reduced to a dark level (Bhutta, 1999). Baglihar dam is a controversial issue between Pakistan and India that could cause a shortage of seventy million tons of production till 2025 in Pakistan. This is a serious problem for the sector as well as the economy of Pakistan.

Apart from high prices and natural calamities, load shedding is also one of the important factors putting hindrance in the growth of this sector. Agriculture is also affected by unscheduled load shedding. Almost 31 thousand tube wells (Pakistan Government.

[*] Visiting Lecturer, University of Okara, Okara, Punjab, Pakistan.
[†] MPhil Scholar, Department of Sociology, Government College University Faisalabad, Punjab, Pakistan.

Citation: Khan, N., & Mahmood, G. F. (2021). A Sociological Study to Investigate the Causes of Low Productivity in Agriculture Sector in Tehsil Jaranwala District Faisalabad. *Global Social Sciences Review, VI*(II), 292-298. https://doi.org/10.31703/gssr.2021(VI-II).29

2019) are the major source of water provision to the crops. Due to a shortage of electricity and load shedding, these tube wells are not functioning properly. Another source is to run the tube wells is fuel, but the price of high speed diesel is going too high, which created another severe problem for the peasants of Pakistan. The unscheduled load shedding may disturb the growing of any crop. The Agro extension and rural development department play a key role in the advancement and prosperity of the agricultural world. Unfortunately, in Pakistan, these services are not performing a proper and sufficient role for the dissemination of knowledge to the former community and are not based on modern methods (Sadaf et al., 2005). The third world states have failed to diffuse the knowledge of agricultural knowledge, and use of technology in the agriculture sector to the level of peasants (Government of Malawi, 2018) and this situation is worsening with each day (Eicher, 2001).

Because of the lack of the implementation of the rules and regulations for reforms, the incentives provided by the government are availed by landlords in the form of loans enjoyment, tax savings, and the poor, and small farmers with short land holding suffer always and the lack of these facilities also lead to negative and worse changes in the society in the form of poverty, psychological and mental illness for farmer family as well as disorganization and disharmony in the country. Different institutions are working to improve the condition of agriculture in Pakistan; growing and providing quality and pure seeds to farmers are the major objectives of these institutions. Wheat has to be considered as the backbone of the agricultural sector. The production of any crop is based on quality seed. The private sector, as well as Provincial and Federal Corporations of seeds, are unable to provide the pure seed. Owing to the lack of awareness and certified seeds, exploiting by local distributors due to low quality and impure seed, we are curbing low production per acre (Jabbar & Mallick, 2014).

The government is the core responsibility to provide high-quality seeds, but it remained unable to produce and give sufficient seeds to formers. In accordance with the statement of the Pakistan government that harmful and unpurified pesticides or insecticides have been hampered to one percent. In contrast, such kinds of pesticides are used daily, causing low production of agricultural soil and the illusion of the environment. Along with such prohibited pesticides is causing health issues and directly hitting the gross domestic products and agriculture economy of Pakistan. Pakistani agricultural sector-related people are reluctant to use technology in this sector. We are adopting the old cultivation and farming methods which lead to low production as compared to the advanced methods. Less use of modern technology is a big hurdle to replace the old methods with advanced ones, and old methods are common for third world countries, including this country. These methods are mainly applied to small farming, and small level farmers are not able to afford expenses and results in low production per acre. Although the advanced technology in the agriculture sector is deploying in distinct countries to high yield yet, it is unaffordable to third world countries, but governments of the third world must make some policies to enhance agricultural products (Khwaja, 2013).

Due to the lack of infrastructure and transport facilities in rural areas of Pakistan and the role middle man is also one of the big hindrances in improving the social and economic status of peasants and small land farmers (Khan, 2010). Farmers are unable to receive the actual value and price of their working and production, and they are unable to reach the market directly and receive the price that are the real prices of the commodities. So the middle man areas enjoy a better life than farmers by blackmailing and exploiting the farmers. The population of Pakistan is consisted of more than a rural area. Rural society is traditional and rigid. They are not ready to use advanced technology easily. Social workers and experts failed to provide advanced agricultural knowledge to farmers.

Materials and Methods

"The process of collecting and analyzing information to add to our knowledge of any particular topic or problem is called research". The process of research consists of three steps: proposition of the research question, collection of the data for answering the question, and providing an answer to the research question (Creswell, 2008). Social research utilizes scientific methods and logical and systematized techniques in order to discover new facts. The major aims of social research are: (a) discovering of new facts or validation or verification of

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already existing facts and tests, (b)analysis of the interrelationships among existing facts, studying their sequences and casual descriptions which are derived in terms of a particular theoretical frame of reference, and (c) development of new scientific tools and techniques, theories and principles, and concepts which would be helpful in studying the human behavior with reliability and validity (Young, 1960).

This research was conducted in 2019, keeping in mind the objectives to explore social and economic hurdles which are responsible for less level of yield productivity. The rural areas of Tehsil Jaranwala District Faisalabad containing agricultural land were selected for the selection of the sample. The farmers with the small size of landholding were the target population of the present study.

Sampling Techniques

A multistage sampling technique was applied in the study, and a well-structured questionnaire was designed for the collection of data from 300 respondents. At the first stage, Tehsil Jaranwala of District Faisalabad was selected. At the second stage, 10 union councils were selected for the selection of the sample. At the third stage, a sample of 300 respondents (30 from each union council) was selected randomly.

Data Analysis

After the collection of data, it was analyzed with the help of the Statistical Package for Social Sciences. Percentage and Chi-Square were applied to test the hypothesis. Data analysis and its explanation and demonstration are an important steps in the process of research for reaching conclusions. Without this step, generalization and prediction cannot be realized.

Results & Discussion

In the present research, 300 farmers were selected to know about various socio-economic factors responsible for low productivity in the agriculture sector. This research study confirms the findings that there is a relationship between social and economic factors with low field productivity. H0 indicates that there is no relationship between family income and crop yield satisfaction. H1 indicates that there is a relationship between family income and crop yield satisfaction. According to the results, HI is accepted. There is a relationship between family income and crop yield satisfaction. Table 1 shows that 97% of respondents had their own land while 3% of respondents responded No regarding this. On the other hand, 54 percent of respondents said that they had never tested their land, while 46 percent of respondents replied yes to this question. Table 2 indicates that the more the land be cultivated, the lesser yield or productivity will be gained from the land. Table 3 demonstrates irrigation facilities for watering the crops. Table 4 indicates the level of satisfaction per acre productivity. Table 5 indicates the response of respondents regarding seeking guidance from the agriculture department. Table 6 indicates the reasons behind low cultivation.

Table 1. Frequency Distribution Regarding Landholding & Testing of Land

Land Ownership	Frequency	Percentage
Yes	292	97%
No	08	3%
Total	300	100%
Land Testing	**Frequency**	**Percentage**
Yes	17	5%
No	283	95%
Total	300	100%

This table shows respondents' feedback regarding ownership of land and testing of their land. Almost 97% of respondents had their own land, while 3% of respondents responded No regarding this. On the other hand, 95% of respondents said that they had never tested their land, while 5 percent respondents replied yes to this question. Testing of land can contribute a lot to productivity because its fertility can be diagnosed through testing and problems are identified, but the majority of the farmers were not testing their land from the land experts, which causes less productivity in this sector.

Table 2. Frequency Distribution of Respondents Regarding the Cultivation of Land in a Year

Cultivation of Land in a given year	Frequency	Percentage
Once in a year	30	10%
Twice in a year	250	83%
More than twice a year	20	7%
Total	300	100%

This table demonstrates that 83% of respondents were cultivating their land twice in a given year which also causes less productivity due to cultivation twice in a year. 7% of respondents were cultivating their land more than twice a year. It showed that the more the land be cultivated, the lesser yield or productivity will be gained from the land. Kamal's (2012) research shows that there is a big crop yield gap that reflects the potential for increasing crop yield in the future.

Table 3. Level of Awareness of Respondents about Technology and Irrigation Facilities

Level of Awareness	Yes	Percentage	No	Percentage	Percentage
Enough irrigation facilities for agriculture	117	39%	183	61%	100%
Technological awareness in the agriculture sector	102	34%	198	66%	100%

The above table explained the response of respondents about the irrigation facilities for watering the crops and the level of awareness regarding the use and importance of modern technology in the agriculture sector. Almost 61% of respondents replied negatively, reading enough availability of irrigation facilities which was also a major factor for low productivity in the agriculture sector in rural areas of Jaranwala, while 39% of respondents answered positively to this question. 66% of respondents were not aware of the importance of the usage of modern technology in the field of agriculture sector in Pakistan, so they were not getting help from technology which was a major factor responsible for low productivity in this sector, while 34 percent of respondents were aware of its importance and usage in this sector. The developed countries use modern technology in order to improve their agriculture sector and get maximum production through it. In India per acre, production is almost 75 Mann because the farmers were using technology to get this yield from their agricultural sector.

Table 4. Level of Satisfaction Regarding Current Productivity from Per Acre

Level of Satisfaction	Frequency	Percentage
Yes	141	47%
No	159	53%
Total	300	100%

Satisfaction level matters a lot in human life. The above table describes the response of respondents regarding their level of satisfaction about per acre productivity from the agriculture sector. Almost 53% of respondents replied negatively as they were not satisfied with the current obtained yield from their crops. It is also a factor causing low productivity. However, 47% of respondents answered positively to this question as they were satisfied.

Table 5. Seeking Guidance from the Agriculture Department

Seeking Guidance	Frequency	Percentage
Yes	99	33%
No	201	67%
Total	300	100%

Agriculture Department is playing a vital role in the development of the agriculture sector in Pakistan by providing various facilities in the form of new varieties of modern seeds,

pesticides, and chemical fertilizers because all these factors contribute a lot to agricultural growth per acre. The department also creates awareness among farmers regarding new innovations in this sector. The above table describes the response of respondents regarding seeking guidance from the agriculture department. 67% of respondents replied negatively because they were not seeking guidance from this department which was also a major factor responsible for low production. 33% of respondents answered positively to this question as they were seeking guidance from the agriculture department.

Table 6. Main Reasons behind the Low Productivity in the Agriculture Sector in Rural Areas

Main Factors	Frequency	Percentage
Low-quality seeds	127	42
Costly fertilizers	57	19
Less usage of pesticides	45	15
Less usage of Technology	32	10
Lack of awareness	39	14
Total	300	100

The above table describes the main factors and causes of low yield in the agriculture sector. 42% of respondents said that the low quality of seeds is the main factor of low production because seeds play a vital role in the growth of any crop, so if the quality of seeds is low, then automatically the crop will also grow fewer yields.19% of respondents answered that due to the high cost of fertilizers, farmers were unable to use it. No doubt fertilizers help in growing the crops, resulting in high productivity. Less of use of pesticides also leads to less productivity because pesticides remove all kinds of insects that harm the crops. 15% of respondents argued that less use of pesticides was also the main factor behind low yield. The importance of Modern technology cannot be denied in any sector as science and technology revolutionized almost every segment of society, including agriculture. 10% of respondents said that less use of modern technology was a major factor of low productivity. About 14% of respondents said that lack of awareness was a main hurdle in the growth of per acre production. Ayalneh and Hagedorn, (2002), Phillip (2009) and Sattar (2012) argued that the major obstacles in the development of the agricultural sector are the lack of awareness among farmers and poverty. Furthermore, the farmers are aware of only the traditional techniques of agriculture and they are unfamiliar with modern agricultural technology that could either decrease or increase the productivity of the land. Poverty and lack of resources become an obstacle for the farmers to use modern technology in agriculture. Hamid and Ahmad (2001) conducted a study and reported that in Pakistan the use of low-quality fertilizers decreases the fertility of the soil which causes a decrease in land productivity. There exists an imbalanced use of fertilizers as more nutrients are depleted at the end of each harvest, and lower nutrients are added to the soil to bring the nutrient level at balance.

Table 7. Association between the income of the Family and Crop Yield Satisfaction

Income of family	Satisfaction Level Yes	Satisfaction Level No	Total
Up to 10000	10	74	42 84
10001-15000	16	48	32 64
15001-20000	24	30	27 54
20001-25000	26	24	25 50
25001 +	30	18	24 48
Total	106	97 194	150

X2 =25.8 D.F=4 P. value=0.05

H0: There is no association between family income and crop yield satisfaction.
H1: There is an association between family income and crop yield satisfaction.

The highly significant value of X2 shows that there is an association between the income of the family and crop yield satisfaction of respondents. Therefore, the hypothesis Association between the income of the family and crop yield satisfaction is accepted.

Conclusion

There were many socio-economic factors which were responsible for low production per acre in the agriculture sector of Tehsil Jaranwala District Faisalabad. In this study the contributed and causative factors towards low productivity are lack of certified varieties of seeds, costly fertilizers, lack of awareness, illiteracy, less use of pesticides, low standard of living, poverty and less usage of technology in the agriculture sector, lack of irrigation facilities, and a long period of load shedding and absence of land reforms. Government must take action to create awareness among rural farmers for education and knowledge about the development of the agriculture sector. There is also a need to improve the socio-economic status of the study area by promoting income-generating activities and the participation of women in this sector.

Recommendations

Based on the results of the study, the following recommendations are prepared for the policymakers of the Agriculture Department in Punjab Pakistan:

1. Farming community should be provided updated information for improvement in the agriculture sector.
2. The Government should create awareness about agriculture methods.
3. Irrigation system should be improved so that shortage of water may not affect the crops.
4. Availability of seeds, pesticides, spray and fertilizers should be accessed to the farmers.
5. Government should provide loans to small land-holding farmers.

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