Available Online
Journal of Education and Social Studies
ISSN: 2789-8075 (Online), 2789-8067 (Print)
http://www.scienceimpactpub.com/jess

# IMPACT OF PROCUREMENT POLICY OF WHEAT ON FARMERS IN DISTRICT KHAIRPUR MIR'S, SINDH, PAKISTAN

**Abdul Nasir Nangraj [1], Tahmeena Solangi [1,*], Bushra Manzoor [2], Naila Mehmood Khan [3], Basit Ali Talpur [4] and Ghulam Nabi Dahri [5]**

[1] *Department of Agricultural Economics, Sindh Agriculture University, Tandojam , Sindh, Pakistan*
[2] *Department of Agronomy, Sindh Agriculture University, Tandojam, Sindh, Pakistan*
[3] *Department of Plant Breeding and Genetics, Sindh Agriculture University, Tandojam, Sindh, Pakistan*
[4] *Land Resource Management, Nanjing Agricultural University, China*
[5] *College of Economics and Management, Northwest A & F University China*

## ABSTRACT

Wheat crop is the main source of food and is cultivated on the largest area of land, while Punjab and Sindh province are the major contributors. It donates 9.7 percent to agriculture and 1.7 percent to GDP. The objectives of the study are to analyze the impact of procurement policy on the farming community who have been beneficiaries of the policy, and it means observing whether the procurement policy is getting sufficient support to the farmers' community or not. Primary data were collected through a multistage random sampling technique; in the first stage district was selected; in the second stage, taluka was selected; while in the third stage, two union councils (UC) were randomly selected; and in the final stage six villages were randomly selected, and the sample size was 10 respondents from each village. The total sample size was 120. At the same time, Respondents were distributed in two categories: i. beneficiaries of Procurement policy and ii. None beneficiaries of procurement policy. Results show that the cost of production for V-2 and V-3 among Procurement center (PC Growers) and Open Market (OM Growers) growers was almost the same, whereas for variety 1 (V-1), OM growers cost was higher (Rs.56227) than PC growers (Rs.52712). In comparison, the yield for all varieties grown by PC and OM farmers was almost the same, where the PC growers Rs.1400 for wheat grain for all varieties, the OM grower received Rs.1318, Rs.1311, and Rs.1318 for Variety 1(V-1), Variety 2(V-2), and variety 3 (V-3) respectively. The benefit-cost ratio of PC growers for V-1, V-2 and V-3 were Rs.0.54, Rs.0.27 and Rs.0.20, respectively, and the benefit-cost ratio of OM growers for V-1, V-2 and V-3 were Rs.0.40, Rs.0.20 and Rs.0.19, respectively. The procurement center may increase the number of centers, and the quantity of gunny bags should be increased. Before harvesting wheat crop procurements, the center should be announced for purchasing.

*Keywords: Procurement center; Open market; Policy; Wheat; Sindh.*
** Email: tahmeenasolangi12@gmail.com*

*https://doi.org/10.52223/jess.2023.4325*
*Received: July 14, 2023; Revised: September 22, 2023; Accepted: October 4, 2023*


## INTRODUCTION

Pakistan's agriculture contributes almost 18.9 percent of the GDP of the country. Population increases at a 2.4 percent yearly rate. Wheat crop is the main source of food and is cultivated on the largest area of land, while Punjab and Sindh province are the major contributors. It donates 9.7 percent to agriculture and 1.7 percent to GDP (GoP, 2022; Khan et al., 2003). Internationally, 764.4 million tons of wheat were produced during the year 2019-20. Globally, wheat exports are greater than 1.3 million tons. The United States probably yielded 52.3 million tons of wheat, not changeable last month. The EU is predicted to harvest 154.0 million tons of wheat, up 500 thousand ten tons from last month (Cook, 2019). Government wheat

policy in Pakistan efforts to equilibrium and interest creators and customers (Anwar et al., 2005). Nationally obtaining value and obtaining amount boards are set at the centralized level, in discussion with regional administrations, though the application of gaining policy is the accountability of regional administrations and PASSCO (Pakistan Agricultural Storage and Supplies Corporation) (Rind et al., 2014). The Government of Pakistan has been complicated in interferences within the wheat subdivision via provision values, obtaining, storing, transportation and delivery of wheat to flour millers since individuality. Two chief objects of this involvement are, first, to defend customers from developed introduction fees, and 2nd, to defend creators via obtaining and supporting prices in an exertion to lessen price instability (Sahito, 2015). It is full-grown over 17.25 million acres (76%) provincial share of Punjab in whole production is 77 percent (19.28 million tons) (Shahzad et al., 2019). Wheat in Pakistan has a relative benefit at transfer equivalence value. Advanced cost of manufacture and advanced advertising prices due to tall transport result in the incapability of agriculturalists to contest in the biosphere marketplace (Rehman et al., 2018; Joyo & Ram, 2016). The administration policy of procurement of wheat has the extensive-reaching matters of protection MSP (least support price) to the farmers and agreements actual market interference (Rajinder et al., 2016). Closely 0.9 million hectares of wheat are cultivated in Sindh province, with a regular yearly influence of about 3 million tons (Malkani & Mahmood, 2016).

Kumar et al. (2013) recommended that the agrarian price strategy is difficult because of the diversity of meanings that value achieves. The shove and gadgets of farming worth rule in India have experienced visible changes through the past fifty years, and so has the part and efficiency of value strategy as an instrument to affect the agrarian budget. Thompson et al. (2016) recommended that Indian management plays a key part in the Indian wheat marketplace, obtaining wheat at a lowermost provision fee for delivery to customers at a sponsored rate finished good value workshops. Khan et al. (2003). The charges of this package have been increasing afresh in actual footing. Education counsel, numerous picks for lecturing these growing prices, finished income such as lessening per-unit working expenditures, varying the amount of the database, varying assessing systems, or preventive gaining processes. This work reflects the result of cautionary administration findings on the national marketplace and management expenditures (Malik, 2015; Shaheen & Shah, 2017). A half-symmetry model is industrialized to help estimate the influence of this rule alteration. The model demonstrates the Indian wheat marketplace and the appropriate government rule altering essential to an approximation of the difference in administration prices from this rule. Another Consequence is that there are attendances of redeemable from warning government findings of wheat. The national marketplace would predictably see inferior values because of these dense government interferences (Rind et al., 2014). Compassion examination directs that a warning introduction could aid in dismissing the weight on national fees caused by the strategy alteration (Cornelisse & Naqvi, 1989; Rana, 2020: Abbas et a., 2007).

The objective of the Study is to analyze the impact of the procurement policy on the farming community who have been beneficiaries of the policy. The study is conducted to explore and compare the impact of Procurement Policy on beneficiaries and non-beneficiaries and examine the factors that determine the participation of farmers in Procurement policy.

## METHODOLOGY

This research is based on primary data, while Khairpur Mir's purposively selected for this study. In the first stage, the district was selected; in the second stage taluka/sub-district level was selected, while in the third stage, two union councils (UC) randomly selected each union council; six villages were randomly selected, and 10 respondents were taken from each village. The total sample size was 120. At the same time, respondents are distributed in two categories: i. beneficiaries of Procurement policy and ii. None beneficiaries of the Procurement Policy (Nagarajan, 2005; Chandio et al., 2017).

**Data analysis**

The data was collected, tabulated, and analyzed to have desired descriptive statics with the help of the statistical package for social sciences (SPSS) and Excel.

***Percentage***

The percentage was calculated under this formula:

$$P = \frac{g}{n} * 100 \quad (1)$$

g = obtain amount of sample

n = total amount of sample

***Average or mean***

Sum up all observations, then divide into given numbers:

It was calculated as:

$$\bar{X} = \frac{\sum xi}{n} \quad (2)$$

$\bar{X}$ = sample means

$\sum xi$ = sum of all observation
n = number of observations

***Standard deviation***

Expressing the quantity of members of a group different from the average value of groups.

$$SD = \sqrt{\frac{\sum(X - \bar{X})^2}{n-1}} \quad (3)$$

Were,

SD = sample standard deviation
$\sum$ = sum of...x
$\bar{X}$ = sample mean
n = number of observations

***Net benefit returns***

Net return means overall income minus expenditure, then some saving amount said that net return or net amount. The formulas are given below:

NBR = TR -TE

NBR: return on per unit.

TR: total income per acre

TE: Total expenditures on per acre

***Input-output ratio***

Input-output ratio calculated per unit of output:

IOR: GI-GE

IOR: per unit

GI: per acre gross income

GE: per acre gross expenditure

***Benefit-cost ratio***

The benefit-cost ratio was calculated per unit of cost and how much income from per unit.

BCR = NR/ GE

BCR: explain benefit-cost ratio on per acre.

NR: per acre net return or net income

GE: per acre gross income

## RESULTS AND DISCUSSION

### Education Level and Farming Experience

Education is the power to make people aware that without education, people do not know their rights. When people were educated and then fought for their rights, those were related to social life or other life. Farming experiences play a significant role in decision-making for adopting innovative farming methods. Educated and experienced farmers are not confused about adopting new technologies for crop production. Table 1 shows the farming experiences of growers who sell wheat in procurement centers and growers who sell wheat in open markets (Dorosh & Salam, 2008).

Table 1. Educational level and farming experience of PC and OM growers.

| Educational level | PC Growers | OM Growers |
|---|---|---|
| Illiterate | 20.00 | 28.00 |
| Primary | 28.00 | 25.00 |
| Middle | 10.00 | 19.00 |
| Matriculation | 24.00 | 11.00 |
| Intermediate | 10.00 | 13.00 |
| Graduate | 8.00 | 4.00 |
| Total | 100.00 | 100.00 |
| *Farming experience* | | |
| up to 10 | 16.00 | 18.00 |
| 11-20 | 36.00 | 40.00 |
| 21-30 | 29.00 | 25.00 |
| 31 & above | 19.00 | 17.00 |
| Total | 100.00 | 100.00 |

Table 1 indicates that most of the respondents (28%) in procurement growers (PC Growers) were educated in the study area. Although 24-11% of the households are educated in both categories up to the matriculation level, 10-13% of the households in both categories are educated up to the intermediate level. At the same time, only 20-28% of wheat farmers are illiterate in both categories of Procurement center (PC Growers) and Open Market (OM Growers); however, 18-19% and 8-4% of the respondents in both categories is educated up to middle and graduate levels, respectively.

Distribution of farming experience in two categories of growers shows that the majority is 40% in 11-20 years (OM growers) of wheat farmers while 36% in 11-20 years (PC growers).

### Sources of Earning Member

The number of earning members in both categories earn in different ways. Two or three members earn in both categories. Table 2 highlights the earnings in both categories (PC growers and OM growers). Sources of earning members of growers are different; some members are related to farming in both categories (PC growers and OM growers), and others are related to different occupations. But they support growers in wheat season and are a source of earning family members in both categories.

Table 2. Sources of earning members of PC and OM growers.

| Number of Earning Members | PC Growers | OM Growers |
|---|---|---|
| Only 1 | 48.00 | 44.00 |
| 2-3 | 35.00 | 38.00 |
| 4-5 | 10.00 | 12.00 |
| 6 & above | 7.00 | 6.00 |
| *Total* | *100.00* | *100.00* |
| *Sources* | | |
| Farming | 48.00 | 49.00 |
| Private | 28.00 | 26.00 |
| Government | 24.00 | 25.00 |
| *Total* | *100.00* | *100.00* |

Table 2 portrays that the majority of growers earning members is 48 to 44 percent in both categories in the study area, while 2-3 earning members are 35 to 38 percent in both categories and 4 & above earning members 6 to 7 percent in both categories. The majority (48 to 49%) of respondents had a source of earning members in both categories, while the government percentage is 24 to 25 in both categories. Furthermore, the private sector contains 28 to 26 percent of the respondents in both categories in the study area.

**Monthly Income and Expenditure**

Wheat grower's monthly income of household depends on different sources of income, for example, daily wages through business private job farming.

Table 3. Monthly income and expenditure of PC and OM growers.

| Monthly Income & Expenditure of Household | PC Growers | OM Growers |
|---|---|---|
| *Income* | | |
| 1k- 25k | 35.00 | 38.00 |
| 26k-50k | 24.00 | 29.00 |
| 51k-75k | 20.00 | 18.00 |
| 76k-100k | 12.00 | 9.00 |
| 100k & above | 9.00 | 6.00 |
| Total | 100.00 | 100.00 |
| *Expenditures* | | |
| 1K to 20K | 25.00 | 29.00 |
| 21K-50k | 38.00 | 34.00 |
| 51k-80k | 23.00 | 24.00 |
| 81k-100k | 9.00 | 7.00 |
| 100k&above | 5.00 | 6.00 |
| Total | 100.00 | 100.00 |

Table 3 indicates that the majority of the respondents (35 to 38 percent) have a monthly income (1k-25k ) of a household of PC Growers and OM Growers, while 26-50 is 24-29 percent in both categories and 51-75k is 20-18 percent in both categories while,76-100 is 12-9 percent, 100 & above 9-6 percent at study area in both categories. The majority of monthly expenditure was 38-34 percent in both categories of the respondent, 1k to 20k is 25-29 percent in both categories (PC Growers) and (OM Growers), 51k-80k were 23-24 percent in both categories, although 81k-100k were 9-7 percent and 100 & above had 5-6 percent of both categories.

**Nearest Market and Procurement Center Kilometer**

There are two categories of wheat growers; some growers' wheat is sold at procurement centers, and others sell the nearest market open market.

Table 4. Distribution of growers regarding the nearest market of PC and OM growers on per acre (Avg).

| Distance in (Km) | PC Growers | OM Growers |
|---|---|---|
| Upton 1 | 0.00 | 0.00 |
| 2-3 | 36. 00 | 40.00 |
| 4-5 | 19.00 | 37.00 |
| 6-7 | 36.00 | 15.00 |
| 8 & above | 9.00 | 8.00 |
| Total | 100.00 | 100.00 |

Table 4 portrays that 40 percent of the nearest market distance in km 2-3 respondents where 36 percent of growers were wheat sell procurement centers while 19-37 percent had 4-5 km 19 percent of growers. However, 37 percent of growers had wheat sold in the open market, 6-7 respondents, 36 -15 percent 9 & above 9-8 percent of respondents, and 36 percent of growers. Wheat sells procurement centers 15 percent of growers.

Table 5. Land holding of PC and OM growers on per acre (Avg).

| Farm area in acres | PC Growers | OM Growers |
|---|---|---|
| Small up to 12 acres | 42.00 | 49.00 |
| Medium 13 t0 25 acre | 38.00 | 34.00 |
| Large > 25 acres | 20.00 | 17.00 |
| Total | 100.00 | 100.00 |
| Ownership Status | | |
| Owner | 48.00 | 50.00 |
| Tenant | 38.00 | 34.00 |
| Lease | 14.00 | 16.00 |
| Total | 100.00 | 100.00 |

Table 5 shows that of holding farmers, 48 percent was the owner in the procurement center and 50 percent were open market growers, while 34-38 percent was tenant, and 14-16 percent was on lease in both categories. The farm area of small farmers is 42-49 percent in both categories and medium 34-38 percent of both categories of (PC Growers and OM Growers), while large 17-20 percent in the study area.

**Land Preparation Cost**

Preparation of land is very important for the field to prepare for planting. A well-prepared field controls weeds, recycles plant nutrients and provides a soft soil mass for transplanting and a suitable soil surface for direct seeding. Land preparation covers a wide range of practices from zero-tillage or minimum tillage, which minimizes soil disturbance to a totally 'puddled' soil, which destroys soil structure. It involved ploughing used for "till" or dig-up the soil, harrowing used for breaking the soil, and leveling use for the field.

Table 6. Land preparation cost of PC and OM growers on per acre (Avg).

| Particulars | Unit | PC | | | OM | | |
|---|---|---|---|---|---|---|---|
| | | V-1 Avg. | V-2 Avg. | V-3 Avg. | V-1 Avg. | V-2 Avg. | V-3 Avg. |
| Plough | No | 4 | 3.7 | 3.8 | 4 | 3.7 | 3.8 |
| Leveler | No. | 1.60 | 8.71 | 1.85 | 1.60 | 1.71 | 1.85 |
| Seed rate | Kg | 53.75 | 51.25 | 53.75 | 53.75 | 51.25 | 53.75 |
| Plough | Rs | 4990 | 4345 | 4990 | 4990 | 4345 | 4990 |
| Leveler | Rs. | 1885 | 1870 | 1885 | 1885 | 1870 | 1885 |
| Seed | Rs. | 3808 | 3641.25 | 3808 | 3808 | 3641.25 | 3808 |

Table 6 indicates that the average land preparation per acre cost of the plough is Rs 4990.00 as the cost of land preparation in both categories of (PC Growers) and (OM Growers) an average cost of leveller is 1885.00 of both categories growers, seed rate cost on per acre RS.3808.00 is both categories of growers.

Table 7. Fertilizer and pesticide cost of PC and OM growers on per acre (Avg).

| Particulars | Unit | PC | | | OM | | |
|---|---|---|---|---|---|---|---|
| | | V-1 Avg. | V-2 Avg. | V-3 Avg. | V-1 Avg. | V-2 Avg. | V-3 Avg. |
| Urea | Kg bags | 4.35 | 4.45 | 4.40 | 4.35 | 4.45 | 4.40 |
| DAP | Kg bags | 1.12 | 1.225 | 1.2 | 1.12 | 1.225 | 1.2 |
| FYM | Trolly | 3.95 | 2.933 | 2.72 | 3.95 | 2.933 | 2.72 |
| Urea | Rs | 8120.48 | 8535 | 7675 | 8120.48 | 8535 | 7675 |
| DAP | Rs. | 4245 | 4767.5 | 4772.5 | 4245 | 4767.5 | 4772.5 |
| FYM | Rs. | 958.33 | 3400 | 3172.7 | 958.33 | 3400 | 3172.7 |
| Weedicide | No. bottle | 1.3 | 1.5 | 1.67 | 1.3 | 1.5 | 1.67 |
| Weedicide | Rs. | 1115 | 1350 | 1528 | 1115 | 1350 | 1528 |

Table 7 shows that fertilizer costs on per acre follow their trends; the average cost on per acre urea is Rs 8120.00 for both categories of growers, DAP costs Rs.4245.00, FYM average costs Rs.958.33, while weedicide costs Rs.1115 for both categories of growers for wheat cultivation.

Table 8. Irrigation, labor & harvesting cost of PC and OM growers on per acre (Avg).

| Particulars | Unit | PC | | | OM | | |
|---|---|---|---|---|---|---|---|
| | | V-1 Avg. | V-2 Avg. | V-2 Avg. | V-1 Avg. | V-2 Avg. | V-3 Avg. |
| Tube well water | No. of irrigation | 2.20 | 2.3 | 2.3 | 2.20 | 2.3 | 2.3 |
| Surface water | No. of irrigation | 3.55 | 1.7 | 2.15 | 3.55 | 1.7 | 2.15 |
| Tube water | Rs. | 1675 | 2890 | 1685 | 1675 | 2890 | 1685 |
| Surface | Rs. | 325 | 327.5 | 345.0 | 325 | 327.5 | 345.0 |
| Labor | Days | 3.95 | 3.9 | 2.81 | 3.95 | 3.9 | 2.81 |
| Labor | Rs. | 1902.5 | 1902.9 | 1623.81 | 1902.5 | 1902.9 | 1623.81 |
| Harvesting | Rs | 2188.7 | 2198.7 | 2178.5 | 2188.7 | 2198.7 | 2178.5 |
| Threshing | Rs. | 3786.2 | 3049.5 | 3133.0 | 3786.2 | 3049.5 | 3133.0 |

Table 8 shows that the average cost of per acre tube well irrigation is Rs.1675, and surface water is Rs.325 for both categories' growers. At the same time, Labor cost Rs.1902, Harvesting RS.2188.7 and threshing Rs.3786.2 of both categories' growers.

Table 9. Total cost of production of PC and OM growers on per acre (Avg).

| Particulars | V-1 | V-2 | V-3 |
|---|---|---|---|
| Procurement (growers) | 52712.00 | 55738,0 | 53207.0 |
| Open market(growers) | 56227.0 | 52361.7 | 53929.7 |

Table 9 indicates that the total cost of production variety-1 was Rs. 52712.00 (PC Growers) and Rs. 56227.0 (OM Growers), variety-2 Rs. 55738 (PC Growers) and Rs. 52361.7 (PC Growers) and variety-3 Rs. 53207.0 (PC Growers) and Rs. 53929.7 (OM Growers).

Table 10. Yield of PC and OM growers on per acre (Avg.)

| Particulars | | Unit | PC | | | OM | | |
|---|---|---|---|---|---|---|---|---|
| | | | V-1 | V-2 | V-3 | V-1 | V-2 | V-3 |
| Yield | Grain | Md | 47. I | 39.5 | 38.2 | 46.0 | 39.5 | 38.2 |
| | Chaff | Md | 47.1 | 40.2 | 36.9 | 46.0 | 40.2 | 36.9 |
| Market price | Grain | Rs | 1400 | 1400 | 1400 | 1318 | 1311 | 1318 |
| | Chaff | Rs | 312.5 | 287.5 | 307.1 | 292.5 | 287.5 | 307.1 |

Table 10 indicates that the cost on per acre yield, the rate per mds rate was Rs.1400 for procurement center and Rs.1318.0 for open market growers.

Table 11. Marketing Cost of PC and OM growers per acre (Avg).

| Particulars | Unit | PC V-1 Avg. | V-2 Avg. | V-3 Avg. | OM V-1 Avg. | V-2 Avg. | V-3 Avg. |
|---|---|---|---|---|---|---|---|
| Loading/unloading | No. | 17.4 | 16.0 | 17.25 | 16.6 | 15.95 | 15.7 |
| Transportation | No. | 17.4 | 16.0 | 17.25 | 16.6 | 16.95 | 15.7 |
| Packing | No. | 17.4 | 16.1 | 17.25 | 16.6 | 15.9 | 15.7 |
| Loading/unloading | Rs | 1818.8 | 1990 | 2158.5 | 2079.5 | 1671.4 | 1825.5 |
| Transportation | Rs | 955 | 1080 | 1120 | 1030 | 1055 | 1090 |
| Packing | Rs | 644 | 608 | 463 | 534.5 | 633 | 423 |

Table 11 indicates that the average cost per acre marketing cost loading/unloading is Rs.1818.8 for procurement growers and loading/unloading Rs. 2158 for open market growers.

Table 12. Total revenue, net income, benefit-cost ratio of PC and OM growers on per acre (Avg).

| Particulars | PC V-1 Avg. | V-2 Avg. | V-3 Avg. | OM V-1 Avg. | V-2 Avg. | V-3 Avg. |
|---|---|---|---|---|---|---|
| Cost of production/acre | 52712.00 | 55738 | 53207 | 56227.0 | 52361.7 | 53929.7 |
| Revenue/acre | 81215 | 70550 | 63555 | 79110.5 | 62915.00 | 63975.7 |
| Net benefit /acre | 28503 | 14811.2 | 10348 | 22883.5 | 10553.2 | 10045.9 |
| Benefit Cost Ratio/acre | 0.54 | 0.27 | 0.20 | 0.40 | 0.20 | 0.19 |
| Input Output Ratio\acre | 1.54 | 1.27 | 1.20 | 1.40 | 1.20 | 1.19 |

Table 12 indicates that the average cost of production of (PC farmers) was low compared to (OM growers) while the net return of (PC farmers) was high, the input-output ratio of (PC growers) was 1.54, and (OM growers) had a 1.40 return per acre.

## CONCLUSIONS AND RECOMMENDATIONS

The total cost of production per acre of wheat was almost the same on average for both categories. Total revenue per acre of wheat was high for (PC growers) compared to (OM growers). The highest revenue estimated by the first variety is, on average, Rs. 28503.0 as compared to the second and third varieties of both categories. The average cost per acre marketing cost of loading/unloading is Rs.1818.8 for procurement growers and loading/unloading Rs. 2158 for open market growers. The average cost of production of (PC farmers) was low as compared to (OM growers) while the net return of (PC farmers) was high. The input-output ratio of PC growers was 1.54, and OM growers had a 1.40 return per acre.

The procurement center may increase the number of centers, and the quantity of gunny bags should be increased. Before the harvesting of the wheat crop procurements, the center should be announced for purchasing on a large-scale level. A procurement center should be arranged on the union council level because transportation costs may be reduced and easily accessible for farmers.

## REFERENCES

Abbas, M., Sheikh, A. D., Shahbaz, M., & Afzaal, A. (2007). Food security through wheat productivity in Pakistan. Sarhad Journal of Agriculture, 23(4), 1239.

Anwar, S., Hussain, Z., & Javed, M. S. (2005). Comparative advantage and competitiveness of wheat crop in Pakistan. The Lahore Journal of Economics, 10(2), 101-110.

Chandio, A. A., Magsi, H., Rehman, A., & Sahito, J. G. M. (2017). Types, sources and importance of agricultural credits in Pakistan. Journal of Applied Environmental and Biological Sciences, 7(3), 144-149.

Cook, B.R. (2019). Wheat troubles: question management not shortage, Accessed online on .03.01 2020 from: https://www.brecorder.com/authors/69977/br-research.

Cornelisse, P. A., & Naqvi, S. N. H. (1989). An appraisal of wheat market policy in Pakistan. World Development, 17(3), 409-419.

Dorosh, P., & Salam, A. (2008). Wheat markets and price stabilisation in Pakistan: An analysis of policy options. The Pakistan Development Review, 47(1), 71-87.

GOP. (2022). Economic survey of Pakistan 2022-23 Wheat: Ministry of Food, Agriculture and Livestock Division (Economic Wing), Government of Pakistan, Islamabad.

Joyo, M. A., & Ram, N. (2016). Linkages among climate change and productivity of wheat in Sindh province of Pakistan. Grassroots (17260396), 50(1). 102-119.

Khan, N. Z., Ahmad, M., & Rasheed, A. (2003). Wheat production in Pakistan: Saga of policy disincentives. Pakistan Development Review, 42(1), 1-27.

Kumar, K., Parida, M., & Katiyar, V. K. (2013). Short term traffic flow prediction for a non-urban highway using artificial neural network. Procedia-Social and Behavioral Sciences, 104, 755-764.

Malik, S. J. (2015). Agriculture Policy in Pakistan–what it is and what it should be. In Seminar, Pakistan Institute for Development and Economics. http://www.pide.org.pk/pdf/Seminar/AgriculturePolicyPakistan.Pdf.

Malkani, M. S., & Mahmood, Z. A. F. A. R. (2016). Mineral resources of Pakistan: a review. Geological Survey of Pakistan, Record, 128, 1-90.

Nagarajan, S. (2005). Can India produce enough wheat even by 2020?. Current Science, 89(9), 1467-1471.

Rajinder, P., Rakesh, S., Rakesh, N., Sharma, L. K., Raj, K., Sudhakar, D., & Risam, K. S. (2016). Impact of government policy intervention in procurement of wheat in Jammu Region of Jammu and Kashmir State. Indian Journal of Ecology, 43(Special Issue 1), 569-573.

Rana, A. W. (2020). Rationalization of wheat markets in Pakistan: Policy options (No. 4). International Food Policy Research Institute (IFPRI). https://www.ifpri.org/cdmref/p15738coll2/id/133728/filename/133939.pdf .

Rehman, M. A., Mushtaq, K., & Abbas, F. (2018). Welfare implications of alternative policy options: Analysis of wheat market in Pakistan. Pakistan Journal of Applied Economics, 28(1).1-25.

Rind, P. A., Bhutto, A. L., Chandio, R. A., Panhwar, K. N., & Khooharo, A. A. (2014). An assessment of wheat procurement issues in Jafferabad District of Balochistan. Journal of Basic and Applied Sciences, 10, 537-542.

Sahito, J. G. M. (2015). Market integration of wheat in Pakistan (No. 72). Justus Liebig University Giessen, Center for International Development and Environmental Research (ZEU). https://www.econstor.eu/handle/10419/119870.

Shaheen, F., & Shah, F. A. (2017). Climate Change, Economic Growth, and Cooperative Management of Indus River Basin. In 2017 Annual Meeting, July 30-August 1, Chicago, Illinois (No. 258350). Agricultural and Applied Economics Association. https://ageconsearch.umn.edu/record/258350/files/Abstracts_17_05_24_16_49_13_59__137_99_85_24_0.pdf.

Shahzad, M. A., Razzaq, A., & Qing, P. (2019). On the wheat price support policy in Pakistan. Journal of Economic Impact, 1(3), 80-86.

Thompson, A. E., Anisimowicz, Y., Miedema, B., Hogg, W., Wodchis, W. P., & Aubrey-Bassler, K. (2016). The influence of gender and other patient characteristics on health care-seeking behaviour: A QUALICOPC study. BMC Family Practice, 17(1), 1-7.