

## Factors affecting Pulses production in Pakistan during COVID-19 Pandemic: A case study of Sindh-Pakistan

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### Abstract

*This research investigates the Factors affecting Pulses production in Pakistan during COVID-19 Pandemic: A case study of Sindh-Pakistan. Data were collected from primary sources. A survey was conducted from 200 pulses growers i.e. Chickpeas, Lentil and Mung beans from Larkana, Shikarpur, Jacobabad and Sukkur Districts. It was revealed that due to COVID-19 pandemic The reasons for low production and yield of pulses, in Sindh include lack of innovative crop improvement programs and use un certified seed. Currently, about 90% of the pulses are cultivated from the farmers own saved seed. Other major factors responsible for low production and yield are abiotic (drought, heat, salinity) and biotic (weeds, diseases, and insect-pests) stresses, and factors related with soil (marginal lands, alkaline soils with low organic matter and erosion), climate change, lack of crop-specific farm machinery, post-harvest losses and marketing issues. It was further revealed that due to COVID-19 farmers faced many challenges of availability of seed, fertilizer and pesticides in the far areas of these districts. It was further revealed that due to urban shift in the population dietary pattern change and it increase the demand of consumption of pulses in both rural and urban areas. The study suggests various measures for improvement of pulses production as well as consumption level in the state through serious efforts by different stake holders who are involved in production, marketing and price determination of pulses.*

**Keywords:** Pulses production, COVID-19 Pandemic

### Introduction:

Pakistan imported \$311.768 million of beats amid July-Jan 2019-20, down by 4 percent, official figures say Fall in beats consequence presently stands at \$12.625 million amid July-Jan 2019-20, comparing to the commodity's moment of \$324.393 million amid July-Jan 2018-19, Pakistan Bureau of Insights shows. In terms of volume, the country's beats moment be that as it may went up by 7.16 percent or 42,548 metric tons to 637,019 metric tons amid July-Jan 2019-20 from 594,471 metric tons in July-Jan 2018-19.(Business Recorder-2020)

Pulses are savvy crops both for people and the trimming framework as they give protein, minerals, vitamins, and fiber for human eat less and nitrogen to the soil and contribute to the upkeep of biodiversity. Beats, too called grain vegetables, contribute almost 33% of the worldwide dietary protein necessity of the human populace. In Pakistan, the generation of beats is distant less than the necessity and the adjust is met through imports.

Hence, the execution of Horticulture amid 2019-20 remained momentous. On the total, the division recorded solid development of 2.67 percent significantly higher than 0.58 percent development accomplished final year. (Table 2.1)

Sector	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020(P)
Agriculture	2.50	2.13	0.15	2.18	4.00	0.58	2.67

Crops	2.64	0.16	-5.27	1.22	4.69	-4.96	2.98
i) Important Crops	7.22	-1.62	-5.86	2.60	3.56	-7.68	2.90
ii) Other Crops	-5.71	2.51	0.40	-2.51	6.26	2.59	4.57
iii) Cotton Ginning	-1.33	7.24	-22.12	5.58	8.80	-12.74	-4.61
Livestock	2.48	3.99	3.36	2.99	3.70	3.82	2.58
Forestry	1.88	-12.45	14.31	-2.33	2.58	7.87	2.29
Fishing	0.98	5.75	3.25	1.23	1.62	0.80	0.60

P: Provisional Source: Pakistan Bureau of Statistics-2019-20

In the year 2019-20, the generation of Chillies and Moong expanded by 34.5 percent and 12.6 percent, individually compared to generation of final year. Be that as it may, the generation of beat Pound, Potato and Onion diminished by 5.8 percent, 5.3 percent and 1.0 percent, separately compared to final year’s generation. The generation of Masoor remained the same of final year’s generation. The zone and generation of other crops are given in Table 2.10.

Crops	2018-19		2019-20(P)		% Change in production over Last (000 year)
	Area Hectares)	(000 Production Tonnes)	(000 Area Hectares)	(000 Production Tonnes)	
Masoor	12.9	6.0	10.4	6.0	0.0
Moong	163.2	117.8	186.7	132.7	12.6
Mash	14.1	6.9	13.9	6.5	-5.8

P: Provisional (July-March) Source: Pakistan Bureau of Statistics

### Literature Review

Minerals are imperative in human digestion system and mineral lacks are regularly related with a few human infections/ clutters like cardiovascular infection (CVD), diabetes, cancer, and neurodegenerative disarranges (Cabrera et al 2003). Beats are a great source of distinctive minerals. Utilization of 100- 200 mg of vegetables can meet the day by day prerequisite of diverse minerals: e.g. the every day zinc necessity of 3.0mg/day for ladies and 4.2 mg/day for men (FAO 2002) can be met by utilization of 100-200 mg of lentil, cowpea, and chickpea. So also, day by day press necessity (1.46 mg/day for ladies and 1.05 mg/day for men) can be met by devouring 100 g of most of the nourishment legumes. Further, vegetables are great source of distinctive sorts of Vitamin B, folic corrosive, and  $\alpha/\gamma$  tocopherol (Gowda et al 2014). Moreover, vegetables like chickpea and bean too give  $\beta$ -carotene and Vitamin-K.

The fat substance of numerous beats ranges between ~1-6 g/100 g (USDA 2013). Chickpea haste most elevated fat substance (~6.0g/100 g) among the grain vegetables, nearly around 3-4 times higher than others. The run of polyunsaturated, monounsaturated and soaked greasy acids (PUFAs, MUFAs and SFAs) in most of the beats is 40-60%, 20-25% and 15%, respectively (Gowda et al 2014). Vegetables are a great source of wellbeing advancing greasy acids like linoleic, linolenic, oleic and palmitic acids. Also, most of the vegetables are too great source of carbohydrates (30-60%; USDA 2013). Higher oligosaccharide substance in chickpea leads to higher tooting (Jaya et al., 1979; Rao and Belavady, 1978). The most carbon save in grains of vegetables starch and is constituted of amylose and amylopectin (Chibar et,al 2010). Grain vegetables are a great source of fiber

and add up to dietary fiber (TDF) substance in vegetables is ~8-27.5% (Guillen and Champ 2002). A few wellbeing benefits are related with expanded utilization of dietary fiber counting diminished chance of a few maladies (cardiovascular disease/diabetes/cancer/ corpulence) additionally brings down blood cholesterol levels (Tosh and Yada 2010; Marlett et al 2002).

### **Methodology**

Data were collected from primary sources. A survey was conducted from 200 pulses growers i.e. Chickpeas, Lentil and Mung beans from Larkana, Shikarpur, Jacobabad and Sukkur Districts. It was revealed that due to COVID-19 pandemic. A Structural questionnaire were developed for the reliability and Validity of data.

### **Factors affecting pulse production during COVID-19 pandemics.**

1. Pulses trim generation antagonistically influenced due to creepy crawly and bug assault, illnesses assault, etc. at huge degree since within the to begin with stage of lockdown all the shops of Agribusiness inputs and pesticides in major cities were closed so not accessibility of pesticides.
2. Pulses by and large developed beneath rain nourished, unirrigated, and dampness stretch conditions. 3. Rain drop in numerous regions of Sindh exceptionally few showers in final years.
4. Due to tall precipitation in a few portions of the state caused water logging conditions, which were exceedingly damaging to beat crops and influences the generation.
5. Due to climate alter and unforeseen rain and tall temperature moreover influenced beat generation reaction in Sindh province.
6. The utilize of conventional assortment of seed moo level of seed substitution causes moo productivity and generation.
7. non-availability of early development and tall yielding assortments influences the generation level of beats.
8. Late supply of government help of beats did not appear positive affect on beats generation.
9. Lack of soil testing offices, destitute expansion administrations, etc. influences the generation of beats. 10. The deficiency of cash influences the prescribed bundle of hone and utilize of Rhizobium culture at the huge degree.
11. Majority of the agriculturists within the state were not keeping up sowing time, seed rate which influence the preparations.
12. The anti-social components devastated gram, pea, and Khesari edit at each organize of development and this influences the generation level.
13. Minimum sports cost don't empower generation level of beats since showcase cost continuously tall compared to vegetables.

### **Factors affecting Consumption**

Some possible reasons for lower consumption in Sindh province are:

1. In the state a number of beats like Lentil (Masoor), chickpea, Moong, etc. were found utilized by the shopper.
2. During the final one and half decade offering costs of the diverse beats have expanded essentially. As per the offering cost of diverse beats in Rs./Quintal displayed here beneath.

3. Majority of the beats buyer are financially destitute and not able to buy beats as required to them on the tall showcase cost.
4. The slight increment in utilization of beats within the state is due to extend in salary levels of the center course.
5. Around 42 percent of the populace in Bihar are still living below destitution line and they cannot manage to require suggested amount of the beats due to tall costs.
6. Very moo per capita pay eventually driven to decay in utilization of beats in common.
7. The yearly development rate of generation of beats is lower than the yearly development rate of populace so tall request and moo supply increments the cost of beats.
8. Lack of mindfulness with respect to wholesome esteem of beats among poorer areas of the society.
9. Larger moo salamilies discover it troublesome to buy and devour suggested amounts of beats due to tall taken a toll included.
10. The moving conduct of taste and inclinations with respect to non-vegetarian count calories within the state decreases the consumption level of beats within the state.

Table 5: Selling Price of Some Popular Pulses in Larkana

Pulses	2001-02	2015-16
Gram	1442-1500	6700-7200
Arhar	2205-2300	11400-12900
Masoor	1390-1400	6400-7200
Moong	2325-2400	8000-9400
Urd	1131-1200	13500-14500
Khesari	915-1000	4500-5500
Pea	2100-2200	5000-6000

Source: Collected by Authors from Local market prices published in newspapers of Bihar

The information appears more than six-time increment in beats cost amid the alluded period of 2001-02 to 2015-16.

### Conclusions

Within the state of Bihar there's tremendous potential for increment in generation as well as utilization of beats. In terms of generation the beats have appeared either stagnant or slight changes in generation during the final one and half decade. Typically, basically due to variety in efficiency of diverse beats. The susceptibility of beats trim, moo efficiency, need of extension services social and individual are the most components which influence the beats generation within the state. The climate alters, moo utilize of water system, least utilize of fertilizers, less-use of plant security measures, non-adoption of tall yielding assortments, etc. are moreover influences the generation level at the large degree within the state. Be that as it may the climatic variables, soils, workers, accessibility etc. are great for the generation of beats crops within the state. The by and large generation will be expanded through efficiency advancement and development of beats range in add up to trimmed region.

### Suggestions

1. There is having to be bridge the hole between request and supply of beats within the state.
2. With a see to combat the misfortunes happened due to normal calamities, in generation should be compensating through propelling edit protections plot for beats.
3. In the state beats producers ought to be propelled for receiving bundle of hones of pulses.
4. Soil testing offices, expansion reinforcement, etc. ought to be reinforced.
5. Government ought to take legitimate care in checking the expanding costs of beats so that customer manage this trim at huge degree and progress the utilization level.

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