

GALLUP BIG DATA ANALYSIS OF PAKISTAN BUREAU OF STATISTICS DATA

AGRICULTURAL PRODUCTION IN PAKISTAN

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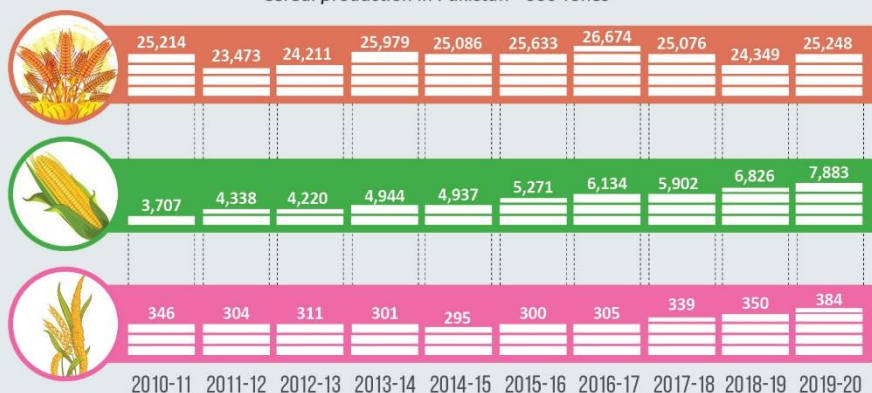


Between 2010 and 2020, wheat production increased less than 1%, Bajra production increased 11%, and Maize production increased 112% – Area, Production, and Yield per Hectare of Agricultural Crops – Pakistan Statistical Yearbook 2020

Cereal production in Pakistan:

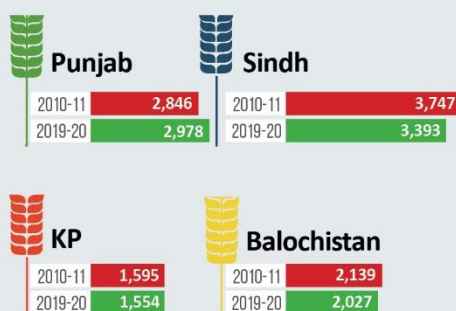
Between 2010 and 2020, wheat production increased by 0.13% with peak production in 2016, and lowest in 2011.

Cereal production in Pakistan - 000 Tones



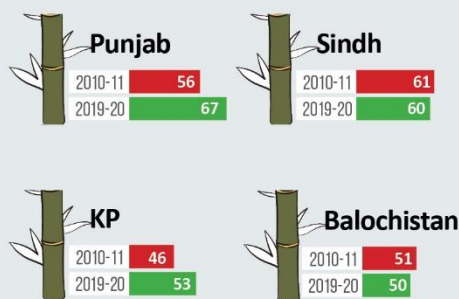
Wheat yield per hectare by province:

2010-11 and 2019-20 comparison (Yield per hectare in KGs)



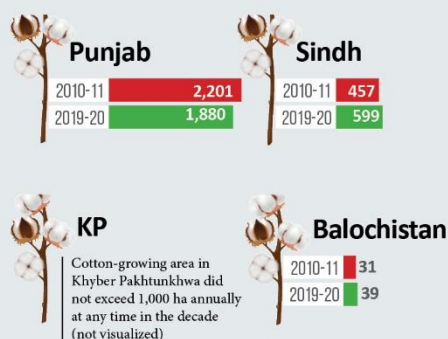
Sugarcane yield per hectare by province:

2010-11 and 2019-20 comparison (Yield per hectare in KGs)



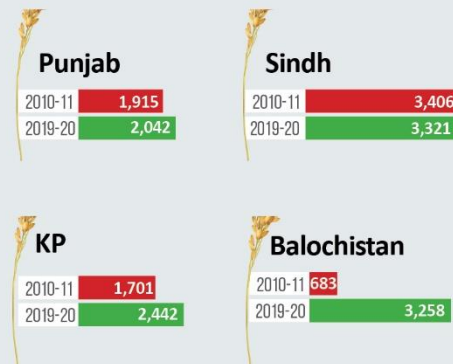
Cotton area by province: 2010-11 and 2019-20 comparison

(area in 000s of Hectares)



Rice yield per hectare by province:

2010-11 and 2019-20 comparison (Yield per hectare in KGs)



PRESS RELEASE

Gallup Pakistan Analysis of Pakistan Bureau of Statistics Data

Between 2010 and 2020, wheat production increased less than 1%, Bajra production increased 11%, and Maize production increased 112% – Area, Production, and Yield per Hectare of Agricultural Crops – Pakistan Statistical Yearbook 2020

Islamabad, January 31, 2023

Gallup Pakistan, as part of its Big Data Analysis initiative, is looking at the Area, Production, and Yield per Hectare of Agricultural Crops. This data is part of a compilation by the Pakistan Bureau of Statistics called the ‘Pakistan Statistical Yearbook.’ The numbers indicate a wealth of data that the PBS collects within the agricultural sector.

The complete Pakistan Statistical Yearbook is available [HERE](#).

What is the Big Data Analysis Series by Gallup:

Gallup Pakistan’s Big Data series was started by Bilal I Gilani, Executive Director of Gallup Pakistan. Bilal explains the rationale of the series, “The usual complaint from academics and policy makers is that Pakistan does not have data availability. Our experience negates that. Pakistan has lots of data, but it is not available in a usable form and it’s not widely accessible. At Gallup we plan to bridge this gap in terms of accessibility and use of data. The Gallup Big Data series has earlier worked with data sets such as PSLM, Labour Force Survey, and Economic Survey reports as well as National Census Reports and Election Commission Data sets.” The current series is using the Pakistan Statistical Yearbook, an annual compilation which seldom has data points not covered in many other reports. We hope that these series are useful, and we welcome both feedback as well as possible collaborations as we create a public good in the form of useful data sets in Pakistan’

What data points this current edition covers:

This series aims to present the important learnings from the Pakistan Statistical Yearbook 2020 for policy makers, the public, as well as for marketers in an easy and understandable way. In particular, this edition looks at the production, yield, and area of agricultural crops. Agricultural area, production, and yield has important implications with respect to productivity of agricultural produce and the trends followed by producers over the years in response to demand and prices, or natural conditions. The series’ main aim is to provide data. Implications of these data points for agriculture sector as well as wider socio-political ramifications is something we would like to trigger in relevant circles.

Today's topic is "Area, Production, and Yield per Hectare of Agricultural Crops."

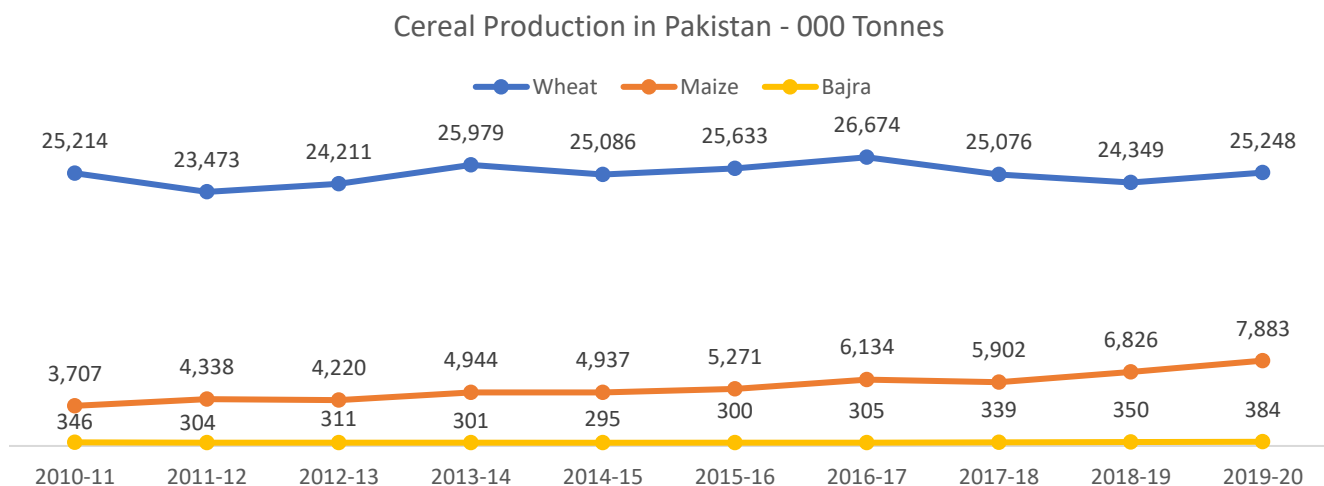
Key Findings:

- 1) **Cereal production in Pakistan:** Between 2010 and 2020, wheat production increased less than 1%, Bajra production increased 11%, and Maize production increased 112%
- 2) **Wheat area and productivity by province:** Wheat yield grew slightly over the course of the decade in Punjab (nearly 5%) but saw a reduction in Sindh (9%), Balochistan (5%) and KP (3%).
- 3) **Rice area and productivity by province:** At the beginning of the decade, Balochistan was producing only 683 KGs of rice per hectare, but by the next year this yield had more than quadrupled. Rice yield in Balochistan grew 377% between 2010 and 2020
- 4) **Cotton area by province:** Punjab had an average of 2.3 million ha dedicated to the cotton crop in the first half of the decade, 2010-15. In the second half, between 2014-15 and 2019-20, this average dropped to 1.9 million ha
- 5) **Sugarcane yield and productivity:** Punjab experienced the greatest growth in yield of sugarcane crop, with 20% increase. KP experienced the second highest growth rate at 15%, while sugarcane crop in Sindh and Balochistan underwent 1-2% reduction in growth

1) Cereal production in Pakistan:

On the supply side, wheat was the most popular cereal crop which implies that it had the widest consumption, and that agricultural conditions in Pakistan suit wheat growing to a considerable extent. Wheat production over the past decade had little year-to-year variation; the highest production was 26.6 million tons in 2016, and the lowest was 23.4 million in 2011. Average production of wheat between 2010-20 was 25,094,340 tonnes.

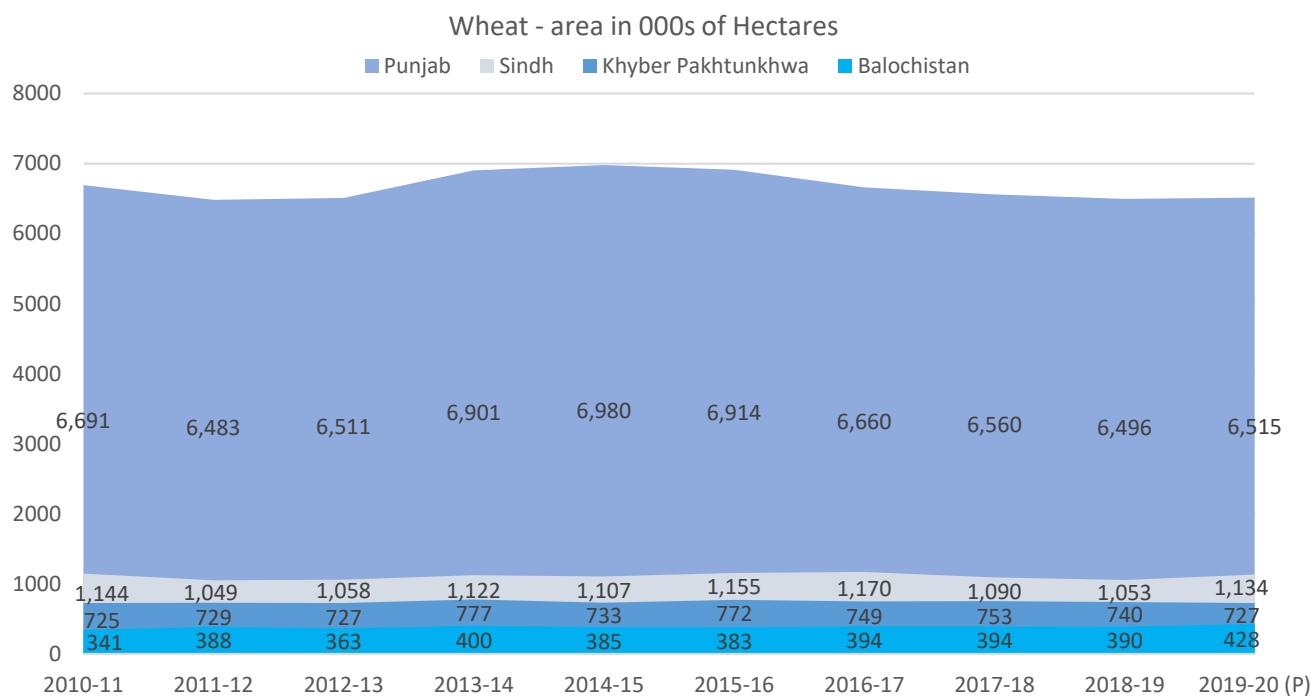
Between 2010 and 2020, wheat production increased by 0.13% with peak production in 2016, and lowest in 2011. Maize production has increased 112%, going from 3.7 million in 2010 to 7.8 million in 2019 (which was the peak production of the decade). Peak Bajra production was at 3.8 lac tonnes in 2019-20, and production of the crop increased 11% from 3.46 lac tonnes since 2010.



Source: Pakistan Statistical Yearbook 2022; analyzed by Gallup Pakistan

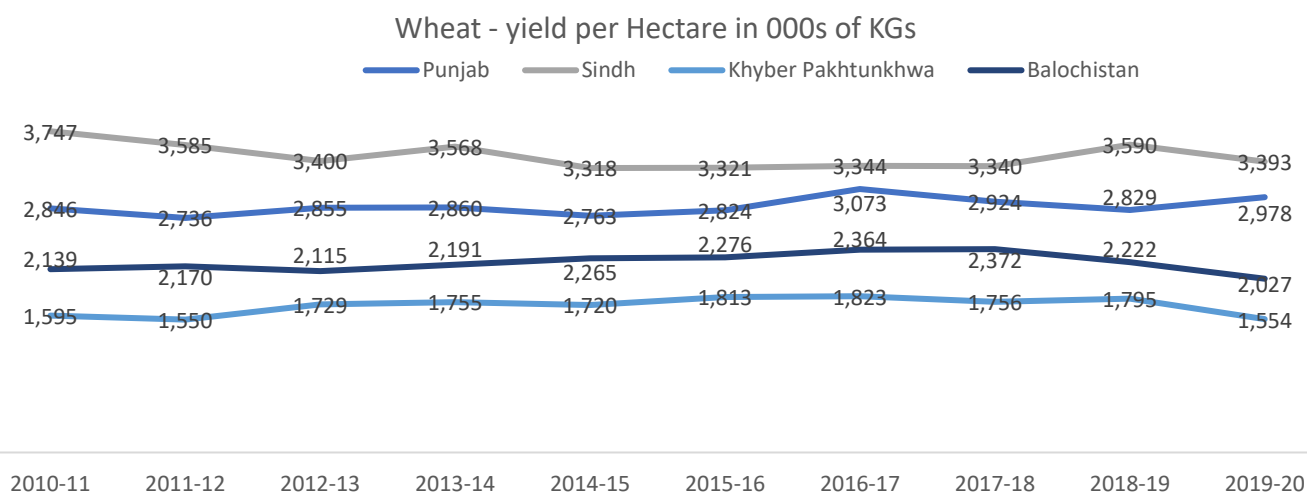
2) Wheat area and productivity by province:

Punjab had the greatest wheat-growing area out of the provinces, because it is the largest province with the most extensive agricultural conditions for this crop. Areas designated for growing wheat grew by the mid-decade, peaking at 6.9 million ha in 2014-15, but steadily reduced over the next 5 years to 6.5 million by 2019.20. The 10-year average for hectares dedicated to wheat in Punjab was 6.6 million ha. Wheat growing area was limited in the other provinces, but still significant in Sindh (at a 10-year average of 1.1 million ha over the decade) and notable in Khyber Pakhtunkhwa (at a 10-year average of 743,170 ha). Apart from Punjab, there has not been significant variation in the land allocated towards wheat growing over the decade.



Source: Pakistan Statistical Yearbook 2020; analyzed by Gallup Pakistan

Despite average wheat growing area in Punjab being nearly 6 times that in Sindh, the wheat yield in the latter province outpaced that of the former. Sindh had the highest yield per hectare out of all the provinces – throughout the decade – followed by Punjab with the second highest wheat yield, Balochistan with the third highest, and Khyber Pakhtunkhwa with the fourth highest.



Source: Pakistan Statistical Yearbook 2020; analyzed by Gallup Pakistan

Wheat yield grew slightly over the course of the decade in Punjab (nearly 5%) but saw a reduction in Sindh (9%), Balochistan (5%) and KP (3%).

Wheat – change in yield per hectare (2010-2020)

	Punjab	Sindh	Khyber Pakhtunkhwa	Balochistan
Wheat	4.6%	-9.4%	-2.6%	-5.3%

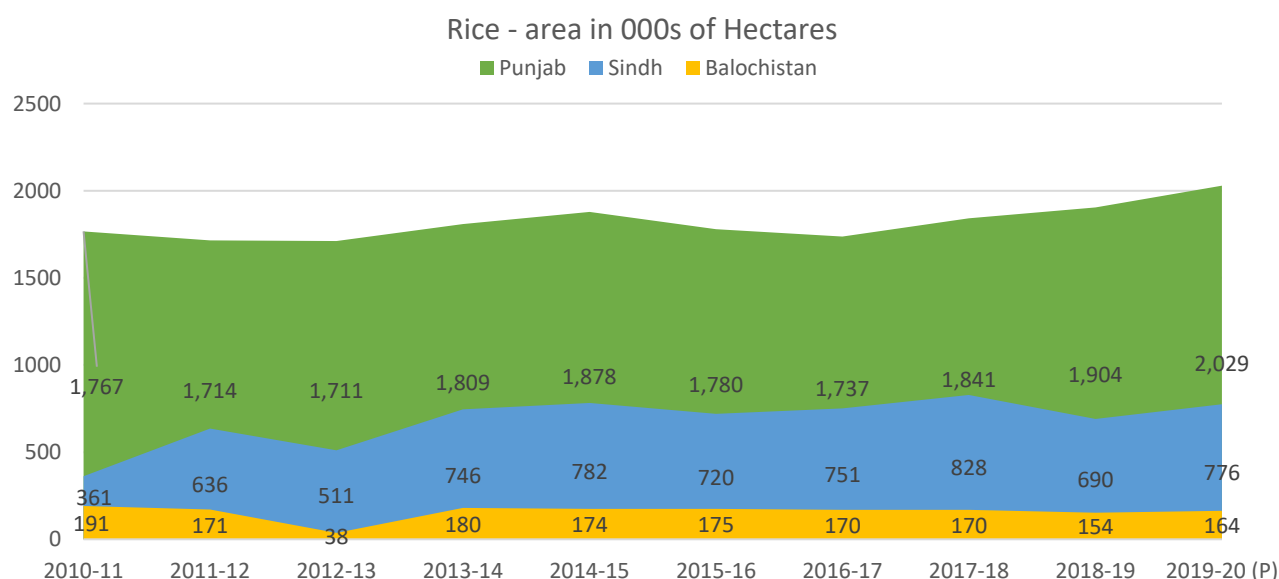
Source: Pakistan Statistical Yearbook 2020; analyzed by Gallup Pakistan

3) Rice area and productivity by province:

Rice was most widely grown in Punjab, where the area dedicated to rice agriculture has varied over the decade, ultimately increasing. Sindh also contained considerable area of land where rice was grown. In 2010 Sindh had rice fields across 361,000 hectares and by the end of the decade rice was being grown over 776,000 hectares. The increase in rice-growing area in Sindh started in 2011, when the area nearly doubled suddenly to 636,000 ha. Apart from a dip in 2012 to 511,000 hectares, rice area did not fall below 690,000 hectares annually throughout the rest of the decade. This may indicate that certain targeted efforts were made to increase rice growing in Sindh around 2010 – it appears that those efforts or other factors led to rice-growing area in Sindh practically doubling after 2010.

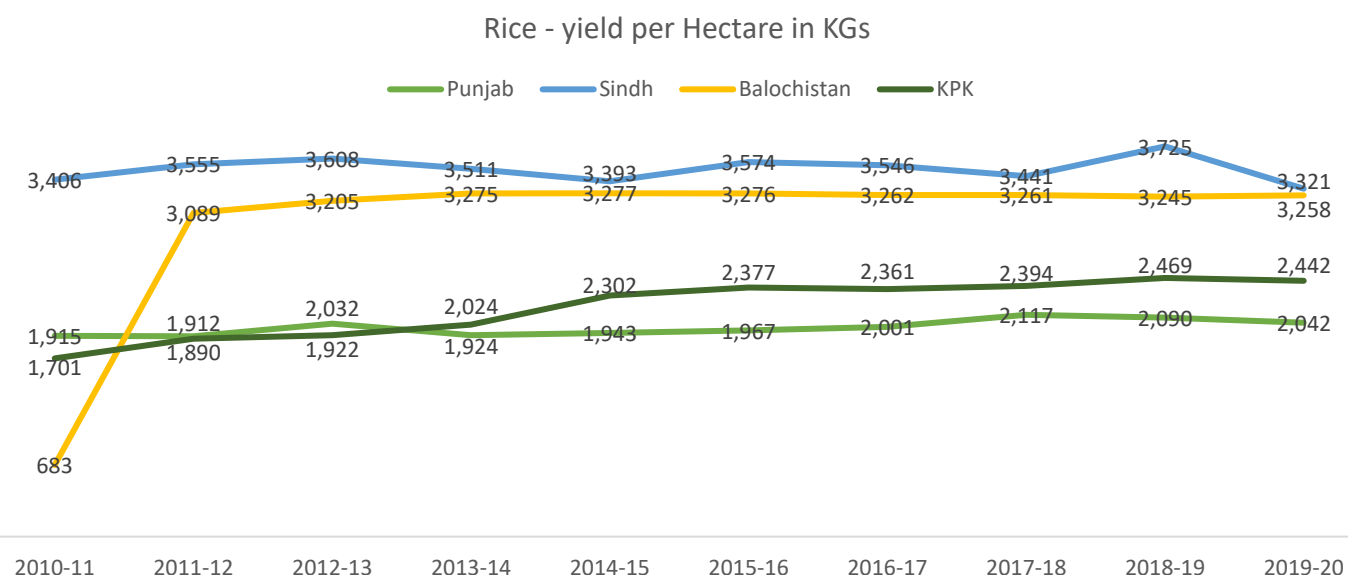
Limited areas in Balochistan also grow rice, but these remain under 200,000 ha every year. In 2012, there was a sharp reduction in rice-growing area which fell by 78% from 171,000 ha to 38 ha, only to be restored to the usual level by next year.

Rice-growing area in Khyber Pakhtunkhwa did not exceed 70,000 ha annually at any time in the decade (not visualized below).



Source: Pakistan Statistical Yearbook 2020; analyzed by Gallup Pakistan

Sindh offered the highest rice yield per hectare out of all the provinces, followed by Balochistan at second highest, Khyber Pakhtunkhwa at third, and Punjab fourth.



Source: Pakistan Statistical Yearbook 2020; analyzed by Gallup Pakistan

At the beginning of the decade, Balochistan was producing only 683 KGs of rice per hectare, but by the next year this yield had more than quadrupled. Rice yield in Balochistan grew 377% between 2010 and 2020. There was significant yield growth in Khyber Pakhtunkhwa (43.5%) and very slight growth in Punjab (6%). There was a reduction in rice yield per hectare in Sindh by 2.5% over the decade.

Rice – change in yield per hectare (2010-2020)

	Punjab	Sindh	Khyber Pakhtunkhwa	Balochistan
Rice	6.6%	-2.5%	43.5%	377%

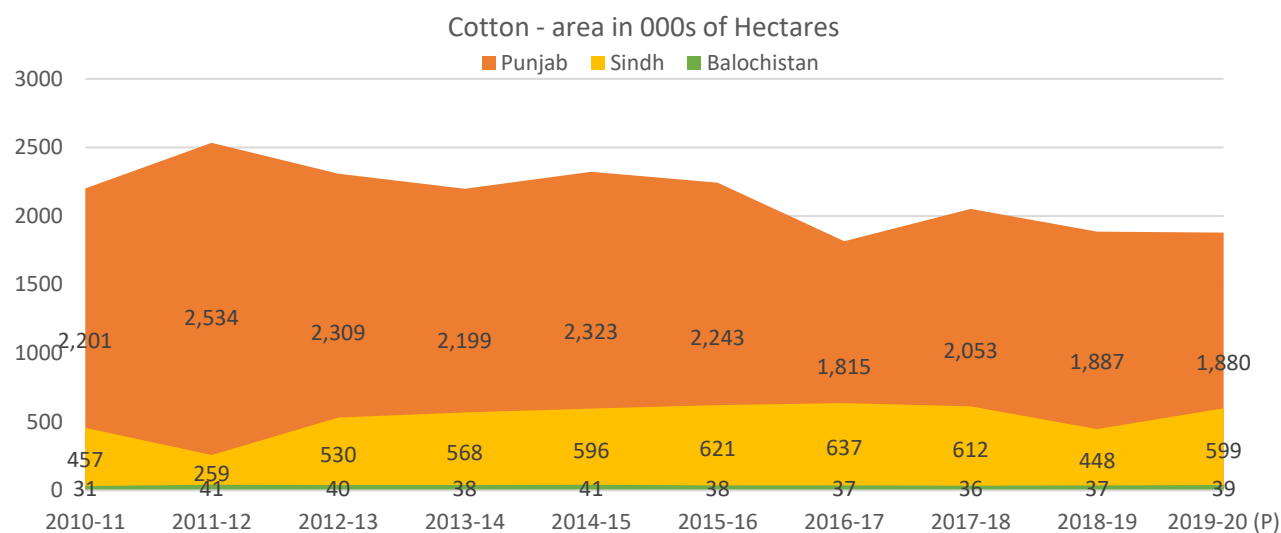
Source: Pakistan Statistical Yearbook 2020; analyzed by Gallup Pakistan

4) Cotton area by province:

Punjab and Sindh dominated the cotton production in Pakistan in terms of area where the crop is grown. Punjab had an average of 2.3 million ha dedicated to the cotton crop in the first half of the decade, 2010-15. In the second half, between 2014-15 and 2019-20, this average dropped to 1.9 million ha.

Cotton crop area in Sindh had remained relatively more consistent, barring a dip during 2011 and another in 2018. The 10-year average for cotton-growing in Sindh was 532,690, which is just a quarter of the 2.1 million 10-year average in Punjab.

Small, but not insignificant, areas of land were also dedicated to the cotton crop in Balochistan. Cotton-growing area in Khyber Pakhtunkhwa did not exceed 1,000 ha annually at any time in the decade (not visualized below).

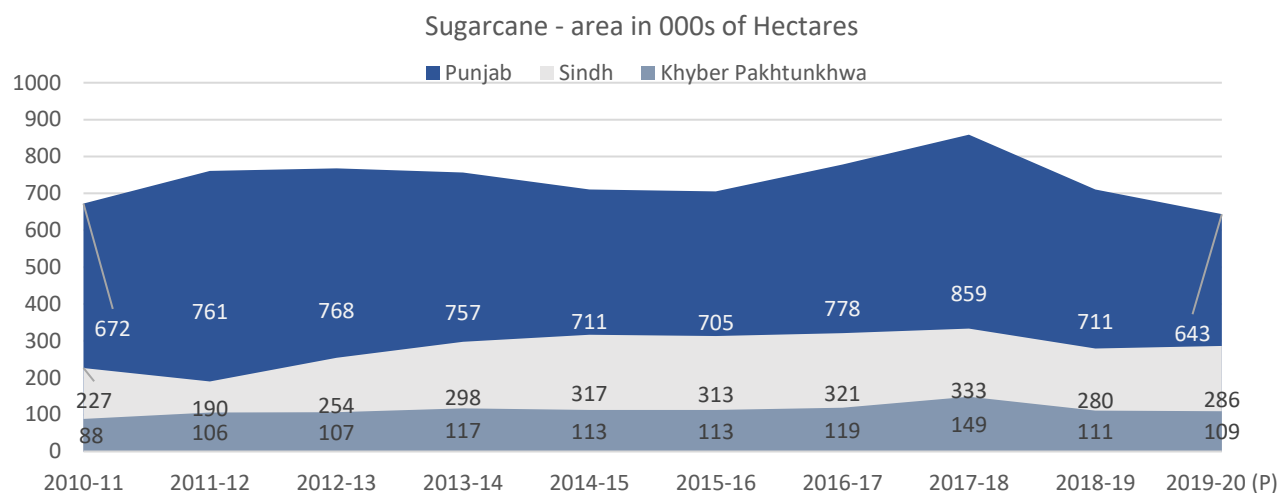


Source: Pakistan Statistical Yearbook 2020; analyzed by Gallup Pakistan

5) Sugarcane area and productivity by province:

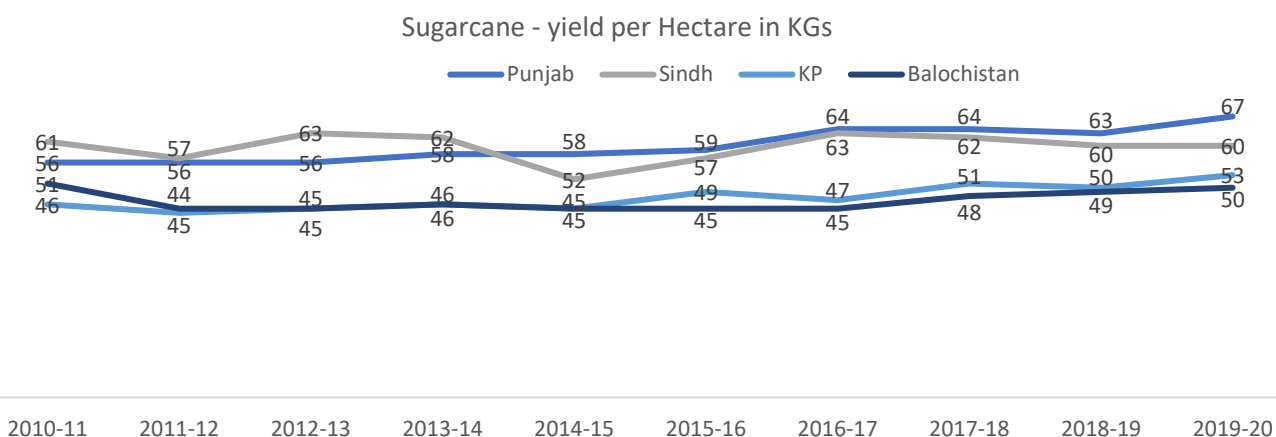
Punjab had the greatest sugarcane growing area, with a 10-year average of 736,480 ha. This area was greatest in 2017-18, at 859,000 ha, however in the next couple of years the area where sugar cane is grown fell to 643,000 ha, below the levels at the start of the decade.

The 10-year average area for sugarcane in Sindh was 282,000 ha, and the same for Khyber Pakhtunkhwa was 113,000 – just under half that of Sindh. Sugar cane was planted in increasing increments of land in Khyber Pakhtunkhwa over the years, although this remains under 150,000 ha overall. Land allocated to sugarcane growing in Sindh increased towards the middle of the decade and partially towards the end but dipped down by 2020. Sugarcane growing regions in Balochistan remain roughly between one-half and one-third of those in Sindh (not visualized below).



Source: Pakistan Statistical Yearbook 2020; analyzed by Gallup Pakistan

Following a trend observed with multiple crops before, it appears that sugarcane crop in Sindh was almost equally as productive as sugarcane in Punjab despite the respective area in Sindh being a fraction of the respective area in Punjab. The yields per hectare from KP and Balochistan were equivalent throughout the decade.



Source: Pakistan Statistical Yearbook 2020; analyzed by Gallup Pakistan

Between 2010 and 2020, Punjab experienced the greatest growth in yield of sugarcane crop, with yield per hectare increasing nearly 20%. KP experienced the second highest growth rate at 15%, while sugarcane crop in Sindh and Balochistan underwent 1-2% reduction in growth.

Sugarcane – change in yield per hectare (2010-2020)

	Punjab	Sindh	Khyber Pakhtunkhwa	Balochistan
Sugarcane	19.6%	-1.6%	15.2%	-1.9%

Source: Pakistan Statistical Yearbook 2020; analyzed by Gallup Pakistan

Wish to Contribute to Gallup Big Data Analysis?

Gallup Pakistan is looking for collaboration with researchers to expand both the Big Data Analysis project as well as this study of Pakistan Statistical Yearbook 2020. If you have any ideas, please write to Bilal I Gilani, Project Director, Big Data Analysis at Gallup Pakistan.

Wish to know more about the Pakistan Statistical Yearbook 2020?

The Pakistan Bureau of Statistics has been publishing the Pakistan Statistical Yearbook as a regular annual feature since 1952. The 2020 issue, released in the financial year 2019-20, contains data for the past decade on population, labor force, education, health, climate, agriculture, manufacturing, energy & mining, transport & communications, public finance, prices, and trade etc. It is aimed at assisting researchers, policy makers, and data users of both public and private sectors.

You can find more information on the Pakistan Statistical Yearbook 2020, and complete tables, on www.pbs.gov.pk

Or visit:

[Pakistan Statistical Yearbook 2020 | Pakistan Bureau of Statistics \(pbs.gov.pk\)](http://Pakistan Statistical Yearbook 2020 | Pakistan Bureau of Statistics (pbs.gov.pk))

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