

# Agriculture

---

Agriculture contributes 18.5 percent to country's Gross Domestic Product (GDP) and provides 38.5 percent employment to national labour force but it remains backward sector of the economy while high performing agriculture is a key to economic growth and poverty alleviation. Over the last decade, the performance of agriculture sector has fallen short of desirable level, mainly because of stagnant productivity of all important crops. Cropped area of the five traditional crops has also largely remained unchanged. Climate change also poses a serious challenge to Pakistan's agriculture and threatens country's water availability and food security.

The government is trying its best to help the farmers by providing agriculture inputs at affordable prices and ensuring better prices of their produce. To guarantee food security, it is necessary to enhance domestic agricultural production through increased productivity (increasing per acre yield). Although Pakistan has rich production potential in agriculture, livestock and fisheries, yet for sustainable economic growth and prosperity, the development of these sectors on long-term basis is of fundamental importance for country's growth and prosperity. This calls for efficient utilization of production resources by adopting modern technologies and establishment of realistic marketing system.

The Prime Minister's taskforce on agriculture has taken a holistic view of the issues faced by the agriculture sector and has made some sound recommendations for improving productivity of agriculture sector.

## **Prime Minister's Agriculture Emergency Program**

The present government's resolution is to enhance agriculture productivity. In this connection Prime Minister's Agriculture Emergency Program has been initiated which primarily focused on:

- i. Productivity Enhancement of Wheat, Rice & Sugarcane
- ii. Oilseeds Enhancement Program
- iii. Conserving Water Through Lining of Watercourses
- iv. Enhancing Command Area of Small and Mini Dams in Barani Areas
- v. Water Conservation in Barani areas of Khyber Pakhtunkhwa
- vi. Shrimp Farming
- vii. Cage Fish Culture
- viii. Trout Farming in Northern Areas of Pakistan
- ix. Save & Fattening of Calf Program
- x. Backyard Poultry Program

Under this Program a number of projects have been initiated:

**a)** Three specific projects on **“Productivity Enhancement of Wheat, Rice & Sugarcane”** developed under Prime Minister's Agriculture Emergency Program. Cost of Wheat project is Rs.19,301 million, Rice project is Rs.11,433 million and Sugarcane project is Rs.3,912 million over a period of 05 years. The key interventions identified for enhancing productivity and increasing profitability of each crop is as under:

- ▶ Promote mechanizations (crops specific machinery) through 50% subsidy
- ▶ Development of high yielding Hybrid varieties and improve provision of certified/tested seed
- ▶ Set up new and upgrade existing modern research institute by engaging international experts
- ▶ Re-organized extension services at all level, agronomy, plant protection and marketing
- ▶ Upgrade crop processing methods and facilitate

**b) Project “National Oilseeds Enhancement Program”** developed under Prime Minister’s Agriculture Emergency Program. Project cost is Rs.10,176 million over a period of 05 years. The key interventions identified for enhancing productivity and increasing profitability are:

- ▶ Registration of oilseed growers for grant of subsidy
- ▶ Subsidy of Rs. 5,000 per acre, maximum up to 20 acres
- ▶ Fifty percent subsidy on purchase of oilseed Machinery
- ▶ Ensure hybrid seed availability through national and multi-national seed companies
- ▶ Establishment of Procurement Centre in collaboration with All Pakistan Solvent Extractors Association (APSEA) under the monitoring of government representatives
- ▶ Arrangement of demonstration plots in oilseed growing areas

**c) Project “Conserving water through lining of Watercourses”** developed under Prime Minister’s Agriculture Emergency Program for lining up to 50% of total length of 73,078 watercourses (reconstruction & new) inclusive of 13,875 Water Storage Tanks. This also includes **Laser Land Levelers**, on 50% cost sharing basis government’s share to be capped at Rs.250,000 per beneficiary. The total project cost is Rs.179,705 million over a period of 05 years. The key interventions identified are:

- ▶ Social mobilization through capacity building of Water User’s Associations/ Fos
- ▶ Minimization of conveyance and field application losses
- ▶ Reduction in water logging and salinity
- ▶ Equity in water distribution
- ▶ Reduction in water disputes/thefts/litigation
- ▶ Motivation/participation of farmers
- ▶ Poverty reduction through employment generation
- ▶ Increase in crops yield/sufficiency in food

**d) Project “Enhancing Command Area of Small & Mini Dams in Barani Areas”** developed under Prime Minister’s Agriculture Emergency Program. Project cost is Rs.27,700 million over a period of 05 years. The key interventions identified are:

- ▶ Development of command area of small and mini dams
- ▶ Improved land and water productivity
- ▶ Poverty reduction through employment generation
- ▶ Increase area under crops and sufficiency in food
- ▶ Improved economic condition of barani area farmers

e) Project **“Water Conservation in Barani Areas of Khyber Pakhtunkhwa”** developed under Prime Minister’s Agriculture Emergency Program. Project cost is Rs.13,020 million over a period of 05 years. The key interventions identified are:

- ▶ Construction of Water Ponds
- ▶ Construction of Check Dams
- ▶ Inlet Outlet Spillway
- ▶ Water Retaining Facility/Reservoir
- ▶ Terracing
- ▶ Pipe lining/open channel flow watercourses
- ▶ High efficiency-Drip & Sprinkler irrigation System
- ▶ Solarisation of water reservoirs/pond and High efficiency irrigation systems

f) Project **“Shrimp Farming”** developed under Prime Minister’s Agriculture Emergency Program. Project cost is Rs.4,842.78 million over a period of 05 years. The key objectives identified are:

- ▶ Promotion of shrimp aquaculture in the country
- ▶ Development of shrimp value chain, support services and legal framework
- ▶ Livelihood and job creation for rural people
- ▶ Export earnings from aquaculture

g) Project **“Cage Fish Culture”** developed under Prime Minister’s Agriculture Emergency Program. Project cost is Rs.6,856.87 million over a period of 05 years. The key objectives identified are:

- ▶ Optimal Utilization of natural water resources
- ▶ Upscaling cage culture technology across Pakistan
- ▶ Livelihood and job creation for rural people
- ▶ Increase per capita fish consumption
- ▶ Export earnings from cage aquaculture

h) Project **“Trout Farming in Northern Areas of Pakistan”** developed under Prime Minister’s Agriculture Emergency Program. Project cost is Rs. 2,291.97 million over a period of 05 years. The key objectives identified are:

- ▶ Promotion of trout farming in cages and ponds through effective utilization of land and water resources
- ▶ Value chain development for trout fish
- ▶ Promote entrepreneurship through commercial fish production by local communities
- ▶ Contribute towards poverty reduction for rural communities
- ▶ Fish stock replenishment of natural water bodies to promote tourism in the area

i) Project **“Save & Fattening of Calf”** developed under Prime Minister’s Agriculture Emergency Program. Project cost is Rs. 5,344 million for both save and fattening of calf over a period of 04 years. The key objectives identified are:

- ▶ Increase livestock productivity

- ▶ Improve quality and ensure disease free livestock for export of halal meat
- ▶ Fetch meat export markets for export enhancement
- ▶ Enhanced export of livestock products & by-products
- ▶ Farmers able to sell fattened calves at a profit
- ▶ Rear the breeds that international meat market wants

j) Project “**Backyard Poultry Program**” developed under Prime Minister’s Agriculture Emergency Program. Project cost is Rs.329.13 million over a period of 04 years. The key objectives identified are:

- ▶ Opportunity for the landless farmer, mostly women
- ▶ Small flock sizes in traditional sheds
- ▶ Feed on household/organic waste
- ▶ Free range requiring minimal input
- ▶ Source of eggs and meat for the poor; nutritional support
- ▶ Poverty alleviation through supplemental income from poultry products

These initiatives would supplement the efforts of the Government of Pakistan to improve productivity of crops including wheat, rice, sugarcane, oilseeds, will harness untapped potential of fisheries, conserve water and will increase meat export of Pakistan. The projects would be funded from PSDP at the federal level with a major share of the provinces who will fund these projects from their respective Annual Development Program (ADP).

### **Agriculture Performance during 2018-19**

The performance of Agriculture during 2018-19 remained subdued. On the aggregate, the sector grew by 0.85 percent, much lower than the target of 3.8 percent set at the beginning of the year. This under-performance of agriculture sector was mainly due to insufficient availability of water which led to a drop in cultivated area and a drop in fertilizer offtake. The crops sector experienced a negative growth (-4.43 percent against the target of 3.6 percent) on the back of decline in growth of important crops by (-6.55) percent. Sugarcane production declined by (-19.4) percent to 67.174 million tons, Cotton (-17.5 percent) to 9.861 million bales and Rice (-3.3 percent) to 7.202 million tonnes while production of Maize crop increased by 6.9 percent to 6.309 million tonnes and Wheat growth was marginally higher (by 0.5 percent) to reach 25.195 million tonnes. Other crops having a share of 11.21 percent in agriculture value addition and 2.08 percent in GDP, showed growth of 1.95 percent mainly due to increase in production of pulses and oilseeds. Cotton ginning declined by -12.74 percent due to decrease in production of cotton crop.

Livestock having share of 60.54 percent in agriculture and 11.22 percent in GDP, maintained the growth at 4.0 percent against the target of 3.8 percent. The Fishing sector having share of 2.10 percent in agriculture value addition (and 0.39 percent in GDP), grew by 0.79 percent, while Forestry sector having share of 2.10 percent in agriculture (and 0.39 percent in GDP) grew by 6.47 percent due to increase in timber production in Khyber Pakhtunkhwa (by 26.7 percent to 36.1 thousand cubic meters). (Table 2.1).

Pakistan has two cropping seasons, “Kharif” being the first sowing season starting from April-June and is harvested during October-December. Rice, sugarcane, cotton, maize, moong, mash, bajra and jowar are “Kharif” crops. “Rabi”, the second sowing season, begins in October-December and is

## Agriculture

harvested in April-May. Wheat, gram, lentil (masoor), tobacco, rapeseed, barley and mustard are "Rabi" crops. Pakistan's agricultural productivity is dependent upon the timely availability of water.

**Table 2.1: Agriculture Growth Percentages (Base=2005-06)**

Sector	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 (P)
<b>Agriculture</b>	<b>2.68</b>	<b>2.50</b>	<b>2.13</b>	<b>0.15</b>	<b>2.18</b>	<b>3.94</b>	<b>0.85</b>
Crops	1.53	2.64	0.16	-5.27	1.22	4.66	-4.43
i) Important Crops	0.17	7.22	-1.62	-5.86	2.60	3.56	-6.55
ii) Other Crops	5.58	-5.71	2.51	0.40	-2.51	6.15	1.95
iii) Cotton Ginning	-2.90	-1.33	7.24	-22.12	5.58	8.80	-12.74
Livestock	3.45	2.48	3.99	3.36	2.99	3.62	4.00
Forestry	6.58	1.88	-12.45	14.31	-2.33	2.58	6.47
Fishing	0.65	0.98	5.75	3.25	1.23	1.63	0.79

P: Provisional

Source: Pakistan Bureau of Statistics

During 2018-19, the total availability of water for the Kharif crops 2018 was recorded at 59.6 Million Acre Feet (MAF) and remained short by 11.2 percent against the average system usage of 67.1 MAF and 14.9 percent over Kharif 2017. During Rabi season 2018-19, the total water availability was recorded at 24.8 MAF, showing an increase of 2.5 percent over Rabi 2017-18 and 31.9 percent less than the normal availability of 36.4 MAF. (Table 2.2).

**Table 2.2: Actual Surface Water Availability (Million Acre Feet)**

Period	Kharif	Rabi	Total	% age increase/decrease over the Avg.
Average system usage	67.1	36.4	103.5	-
2009-10	67.3	25.0	92.3	-10.8
2010-11	53.4	34.6	88.0	-15.0
2011-12	60.4	29.4	89.8	-13.2
2012-13	57.7	31.9	89.6	-13.4
2013-14	65.5	32.5	98.0	-5.3
2014-15	69.3	33.1	102.4	-1.1
2015-16	65.5	32.9	98.4	-4.9
2016-17	71.4	29.7	101.1	-2.3
2017-18	70.0	24.2	94.2	-9.0
2018-19	59.6	24.8	84.4	-18.5

Source: Indus River System Authority

The Federal Committee on Agriculture (FCA) in its meeting held in April, 2019 observed that water availability for Kharif and Rabi Crops for 2019-20 will remain adequate which auger well for higher productivity of Rabi crops, and corresponding for better agricultural growth in the next fiscal year.

### I. Crop Situation

The important crops (wheat, rice, sugarcane maize and cotton) account 21.90 percent in the value addition of agriculture sector and 4.06 percent in GDP. The other crops account 11.21 percent in the value addition of agriculture sector and 2.08 percent in GDP. The production of important crops is given in Table 2.3.

Year	Cotton (000 bales)	Sugarcane	Rice	Maize	Wheat
2012-13	13,031	63,750	5,536	4,220	24,211
	-	-	-	-	-
2013-14	12,769	67,460	6,798	4,944	25,979
	(-2.0)	(5.8)	(22.8)	(17.2)	(7.3)
2014-15	13,960	62,826	7,003	4,937	25,086
	(9.3)	(-6.9)	(3.0)	(-0.1)	(-3.4)
2015-16	9,917	65,482	6,801	5,271	25,633
	(-29.0)	(4.2)	(-2.9)	(6.8)	(2.2)
2016-17	10,671	75,482	6,849	6,134	26,674
	(7.6)	(15.3)	(0.7)	(16.4)	(4.1)
2017-18	11,946	83,333	7,450	5,902	25,076
	(11.9)	(10.4)	(8.8)	(-3.8)	(-6.0)
2018-19 (P)	9,861	67,174	7,202	6,309	25,195
	(-17.5)	(-19.4)	(-3.3)	(6.9)	(0.5)

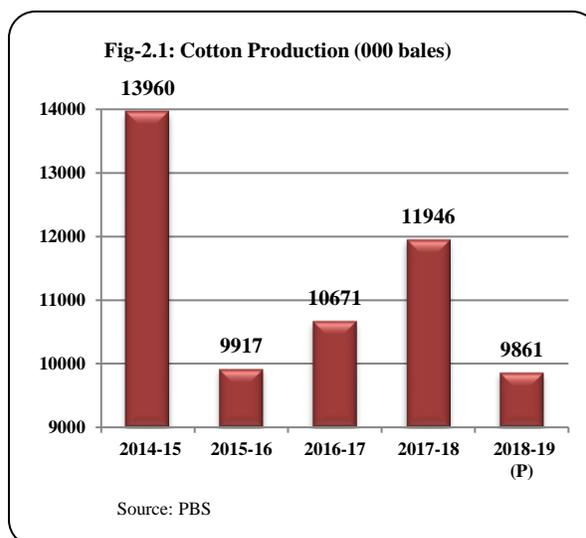
P: Provisional (July-March), Figures in parentheses are growth/decline rates

Source: Pakistan Bureau of Statistics

### a) Important Crops

#### i) Cotton

Cotton is considered as life line of economy of Pakistan. It has a 0.8 percent share in GDP and contributes 4.5 percent in agriculture value addition. Cotton crop faces significant challenges vis-à-vis competing crops especially sugarcane. Most important being unfavourable international prices. During 2018-19, cotton production remained moderate at 9.861 million bales, a decrease of 17.5 percent over the last year's production of 11.946 million bales, and 31.5 percent against the target of 14.4 million bales. This below expectation performance of the cotton crop was largely due to contraction in the cultivated area on account of less economic incentive to the farmers by 12.1 percent to 2,373 thousand hectares compared to last year's area of 2,700 thousand hectares (see Table 2.4 and Figure 2.1). The production was also affected by unfavourable weather conditions, particularly the prolonged hot and dry weather that prevailed in the country. In addition, stunting of crop, attack of whitefly, pink bollworm and other pests/insects also hampered crop output.



**Table 2.4: Area, Production and Yield of Cotton**

Year	Area		Production		Yield	
	(000 Hectare)	% Change	(000 Bales)	% Change	(Kgs/Hec)	% Change
2014-15	2,961	-	13,960	-	802	-
2015-16	2,902	-2.0	9,917	-29.0	582	-27.4
2016-17	2,489	-14.2	10,671	7.6	730	25.3
2017-18	2,700	8.5	11,946	11.9	753	3.1
2018-19(P)	2,373	-12.1	9,861	-17.5	707	-6.1

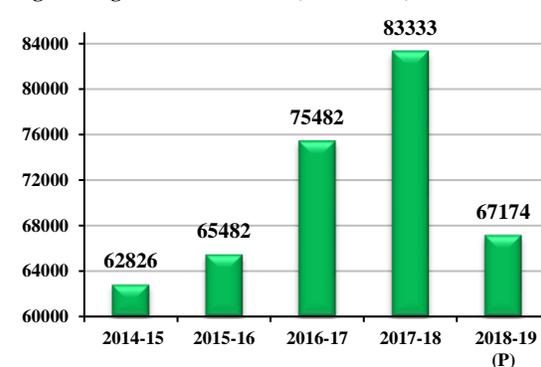
P: Provisional (July-March)

Source: Pakistan Bureau of Statistics

**ii) Sugarcane**

Sugarcane is high value cash crop. Its production accounts for 2.9 percent in agriculture’s value addition and 0.5 percent of overall GDP. During 2018-19, sugarcane crop production was lower by 19.4 percent (to 67.174 million tonnes) compared to 83.333 million tonnes achieved last year. Like cotton, this decline in sugarcane output is due to shrinking of cultivated area (by 17.9 percent from 1,343 thousand of last year to 1,102 thousand hectares) on account of water shortages. Moreover, low economic returns too discouraged the growers to bring more area under the sugarcane crop. Disposal problem of cane and payment difficulties also restricted the acreage of sugarcane. The area, production and yield of sugarcane during last five years are given in Table 2.5 and Figure 2.2.

**Fig 2.2: Sugarcane Production (000 Tonnes)**



Source: PBS

**Table 2.5: Area, Production and Yield of Sugarcane**

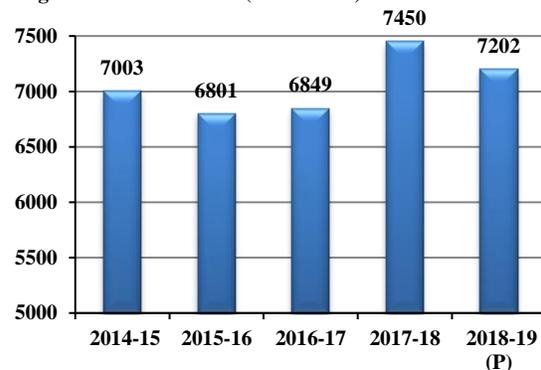
Year	Area		Production		Yield	
	(000 Hectare)	% Change	(000 Tonnes)	% Change	(Kgs/Hec.)	% Change
2014-15	1,141	-	62,826	-	55,062	-
2015-16	1,131	-0.9	65,482	4.2	57,897	5.1
2016-17	1,218	7.7	75,482	15.3	61,972	7.0
2017-18	1,343	10.3	83,333	10.4	62,050	0.1
2018-19 (P)	1,102	-17.9	67,174	-19.4	60,956	-1.8

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

**iii) Rice**

Rice is an important food as well as cash crop in Pakistan. It accounts for 3.0 percent of the value added in agriculture and 0.6 percent of GDP. After wheat, it is the second main staple food crop. During 2018-19, rice crop area decreased by 3.1 percent (to 2,810 thousand hectares compared to 2,901 thousand hectares of last year). The production stood at 7,202 thousand tonnes against the target of 7.0 million tonnes and remained short of 3.3 percent to 7,450 thousand tonnes against last year. The production declined due to decrease in area cultivated, dry weather and shortage of water. The area, production and yield of rice last five years are shown in Table 2.6 and Figure 2.3.

**Fig 2.3: Rice Production (000 Tonnes)**



Source: PBS

**Table 2.6: Area, Production and Yield of Rice**

Year	Area		Production		Yield	
	(000 Hectare)	% Change	(000 Tonnes)	% Change	(Kgs/Hec.)	% Change
2014-15	2,891	-	7,003	-	2,422	-
2015-16	2,739	-5.3	6,801	-2.9	2,483	2.5
2016-17	2,724	-0.5	6,849	0.7	2,514	1.2
2017-18	2,901	6.5	7,450	8.8	2,568	2.1
2018-19(P)	2,810	-3.1	7,202	-3.3	2,562	-0.2

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

iv) Wheat

Wheat accounts 8.9 percent value added in agriculture and 1.6 percent of GDP. Wheat crop showed marginal increase of 0.5 percent to 25.195 million tonnes over last year's production of 25.076 million tonnes but fell short of the target by 4.9 percent. The area under cultivation declined by 0.6 percent (to 8,740 over last year's 8,797 thousand hectares). This nominal decrease in area over previous year was due to shifting of area to oilseed & other competitive crops. However, production increased due to better crop yield and healthy grain formation. The position over the last five years is given in Table 2.7 and Figure 2.4.

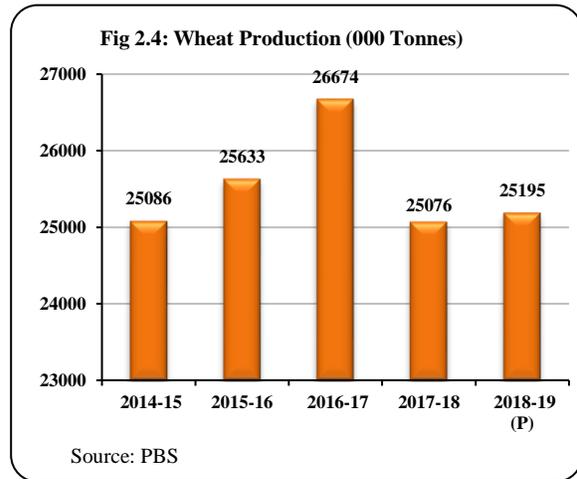


Table 2.7: Area, Production and Yield of Wheat

Year	Area		Production		Yield	
	(000 Hectares)	% Change	(000 Tonnes)	% Change	(Kgs /Hec.)	% Change
2014-15	9,204	-	25,086	-	2,726	-
2015-16	9,224	0.2	25,633	2.2	2,779	1.9
2016-17	8,972	-2.7	26,674	4.1	2,973	7.0
2017-18	8,797	-1.9	25,076	-6.0	2,851	-4.1
2018-19(P)	8,740	-0.6	25,195	0.5	2,883	1.1

P: Provisional (July-March)

Source: Pakistan Bureau of Statistics

v) Maize

In Pakistan, after wheat and rice, Maize is the third important cereal crop. It contributes 2.6 percent to value addition in agriculture and 0.5 percent to GDP. During 2018-19, maize cultivated on 1,318 thousand hectares and witnessed an increase of 5.4 percent over last year's 1,251 thousand hectares. Its production increased by 5.1 percent to 6.309 million tonnes compared to target 6.0 million tonnes and 6.9 percent to the last year's production 5.902 million tonnes. The production increased as farmers shifted from cotton and sugarcane, availability of improved variety of seed as well better economic returns. The position is presented in Table 2.8 and Figure 2.5.

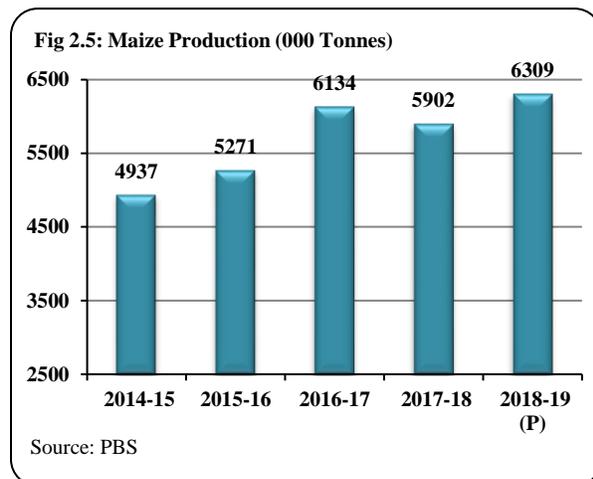


Table 2.8: Area, Production and Yield of Maize

Year	Area		Production		Yield	
	(000 Hectares)	% Change	(000 Tonnes)	% Change	(Kgs /Hec.)	% Change
2014-15	1,142	-	4,937	-	4,323	-
2015-16	1,191	4.3	5,271	6.8	4,426	2.4
2016-17	1,348	13.2	6,134	16.4	4,550	2.8
2017-18	1,251	-7.2	5,902	-3.8	4,718	3.7
2018-19 (P)	1,318	5.4	6,309	6.9	4,787	1.5

P: Provisional (July-March)

Source: Pakistan Bureau of Statistics

**b) Other Crops**

During 2018-19, gram production recorded an increase of 35.6 percent on account of higher yield due to favourable weather condition prevalent at the time of sowing. The production of Bajra increased by 3.2 percent. The production of Barley, Rapeseed & Mustard and Tobacco remained constant. While the production of Jowar witnessed a decline of 2.6 percent. The area and production of other crops are given in Table 2.9.

**Table 2.9: Area and Production of other Kharif and Rabi Crops**

Crops	2017-18		2018-19 (P)		% Change in production over Last year
	Area (000 Hectares)	Production (000 Tonnes)	Area (000 Hectares)	Production (000 Tonnes)	
Bajra	489	339	456	350	3.2
Jowar	255	153	242	149	-2.6
Gram	977	323	944	438	35.6
Barley	58	55	55	55	0.0
Rapeseed & Mustard	199	225	263	225	0.0
Tobacco	46	107	46	107	0.0

P: Provisional (July-March)

Source: Pakistan Bureau of Statistics

During 2018-19, the production of Onion and Chillies witnessed increase of 2.0 percent to 2.12 million tonnes and 0.4 percent to 148.7 thousand tonnes, respectively, compared to production of last year. However, the production of pulse Mash (Lentil), Moong and Potato decreased by 5.5 percent, 3.4 percent and 0.3 percent, respectively compared to last year's production. While the production of Masoor remained same as last year's production. The area and production of other crops are given in Table 2.10.

**Table 2.10: Area and Production of Other Crops**

Crops	2017-18		2018-19(P)		% Change in production over Last year
	Area (000 Hectares)	Production (000 Tonnes)	Area (000 Hectares)	Production (000 Tonnes)	
Masoor	13.6	6.4	12.4	6.4	0.0
Moong	162.4	122.0	163.2	117.8	-3.4
Mash	15.5	7.3	14.1	6.9	-5.5
Potato	194.0	4,591.8	196.2	4,578.9	-0.3
Onion	150.2	2,080.8	151.0	2,122.5	2.0
Chillies	65.3	148.1	65.3	148.7	0.4

P: Provisional (July-March)

Source: Pakistan Bureau of Statistics

**i) Oilseeds**

During 2018-19 (July-March), 2.421 million tons edible oil valued Rs. 192.203 billion (US\$ 1.455 billion) was imported. Local production of edible oil during 2018-19 (July-March) recorded at 0.500 million tons. The area and production of oilseed crops during 2017-18 and 2018-19 is given in Table 2.11.

**Table 2.11: Area and Production of Major Oilseed Crops**

Crops	2017-18 (Jul-Mar)			2018-19 (Jul-Mar) (P)		
	Area (000 Acres)	Production		Area (000 Acres)	Production	
		Seed (000 Tonnes)	Oil (000 Tonnes)		Seed (000 Tonnes)	Oil (000 Tonnes)
Cottonseed	6,672	3,057	367	5,252	2,748	330
Rapeseed-Mustard	492	226	72	643	318	102
Sunflower	259	147	56	264	142	54
Canola	60	35	13	68	38	14
<b>Total</b>	<b>7,483</b>	<b>3,465</b>	<b>508</b>	<b>6,227</b>	<b>3,246</b>	<b>500</b>

P: Provisional/Targets

Source: Pakistan Oilseed Development Board (PODB), Pakistan Bureau of Statistics

## II. Farm Inputs

### i) Fertilizers

Fertilizer is the most important (and an expensive) input contributing 30 to 50 percent to crop yield. Its share in cost of production of major crops is around 10 to 15 percent. The domestic production of fertilizers during 2018-19 (July-March) increased by 2.6 percent over the same period of previous year. This increase is due to functioning of two urea manufacturing plants (Agritech & Fatima Fertilizer) as supply of LNG was available on subsidized rates. The supply of imported fertilizer increased by 4.8 percent. Therefore, total availability of fertilizer increased by 3.2 percent during current fiscal year. Total offtake of fertilizer nutrients decreased by 7.3 percent. Nitrogen offtake also decreased by 2.89 percent and phosphate by 18.2 percent. Potash offtake recorded an increase of 4.55 percent during 2018-19 (July-March). Reduction in fertilizers offtake was mainly due to its high prices, despite receiving subsidy from the government. Following are different type of subsidies provided during current FY 2018-19.

- ▶ Implementation of uniform tax rate of 2% for all type of fertilizers
- ▶ The government ensured adequate supplies of urea in Rabi Season by providing a subsidy of Rs. 1,292 per bag for 105 thousand tonnes of imported urea
- ▶ Local manufacturers have also subsidized Rs.714 per bag of urea as government provided cheaper feed gas
- ▶ The government has recently operationalized two fertilizer plants, located at SNGPL network, by providing Rs. 916 per bag of urea subsidy for using LNG

Total availability of urea during Kharif 2018 was 3.014 million tonnes comprising of 316 thousand tonnes of opening inventory and 2.698 million tonnes of domestic production (Table 2.12). Urea offtake was about 2,887 thousand tonnes, leaving inventory of 115 thousand tonnes for Rabi 2018-19. Availability of DAP was 1.627 million tonnes comprising of 190 thousand tonnes of opening inventory, 1.063 million tonnes of imported supplies and 374 thousand tonnes of local production. DAP offtake was 901 thousand tonnes leaving an inventory of 729 thousand tonnes for Rabi 2018-19.

Rabi 2018-19 started with an opening balance of 115 thousand tonnes of urea (Table 2.12). Domestic production during Rabi 2018-19 was 2.923 million tonnes. Urea offtake during Rabi 2018-19 was 3.033 million tonnes, against 3.143 million tonnes of total availability, leaving a closing balance of 135 thousand tonnes for next season. DAP availability was 1.762 million tonnes, which included 729 thousand tonnes of opening inventory, 679 thousand tonnes of imported supplies and domestic production of 354 thousand tonnes. Offtake of DAP during Rabi season was 1.164 million tonnes, leaving a balance of 599 thousand tonnes for next season.

Description	Kharif (Apr-Sep) 2018		Rabi (Oct-Mar) 2018-19		Kharif (Apr-Sep) 2019	
	Urea	DAP	Urea	DAP	Urea	DAP
Opening stock	316	190	115	729	135	599
Imported supplies	0	1,063	105	679	100	18
Domestic Production	2,698	374	2,923	354	3,217*	360
Total Availability	3,014	1,627	3,143	1,762	3,452	977
Offtake/Demand	2,887	901	3,033	1,164	2,942	865
Write on/off	-12	3	25	1	0	0
Closing stock	115	729	135	599	510	112

\*: This level of production will be achieved if Fatima Fertilizer and Agritech continue production.

Source: National Fertilizer Development Center

Total availability of urea during Kharif 2019 was estimated at 3.452 million tonnes comprising of 135 thousand tonnes of opening balance and 3.217 million tonnes of domestic production and 100 thousand tonnes of imported supplies (Table 2.12). Urea offtake is expected to be around 2.942 million tonnes, reflecting a closing balance of 510 thousand tonnes. Total availability of DAP will be 977 thousand tonnes against expected offtake of 865 thousand tonnes leaving a balance of 112 thousand tonnes for next season.

### ii) Improved Seed

Seed is the basic input for agriculture sector and has an imperative role in enhancing agriculture productivity. Federal Seed Certification & Registration Department (FSC&RD) is an attached department of Ministry of National Food Security & Research which provides seed certification services as and when requested by public and private seed agencies and has annual plan for field crop inspection and seed testing. In order to ensure improved seed certification services, FSC&RD administration is working on various aspects for strengthening of field offices, international collaboration; new initiatives for further development (Gilgit Baltistan Project, Establishment of Plant Breeder's Rights Registry). Currently, FSC&RD is liaising with Federal Board of Revenue (FBR) the leading agency for the inception of National Single Window Program. The prime goal of FSC&RD is to protect the farmer's interest. The area, seed requirements and seed availability during July-March, 2018-19, are given in Table 2.13.

**Table 2.13: Area, Seed Requirements and Seed Availability\***

Crop	Sowing Area (000 Ha)	Total Seed Requirement (MT)	Seed Availability (Metric Tonnes)			
			Public	Private	Imported	Total (Loc+Imp)
Wheat**	8,945	1,073,352	42,934	386,407	-	429,341
Cotton	3,200	63,232	1,197	55,783	-	56,980
Paddy	2,805	41,385	4,312	52,601	2,756	59,669
Maize	1,170	28,892	237	1,222	12,776	14,235
Pulses	1,185	42,674	10	1,391	-	1,401
Oilseeds	830	10,790	-	-	72	72
Vegetables	280	8,400	-	-	2,123	2,123
Fodders	2,038	61,140	-	-	11,659	11,659
Potato	166	415,000	-	-	2,397	2,397
<b>Total</b>	<b>20,619</b>	<b>1,744,865</b>	<b>48,690</b>	<b>497,404</b>	<b>31,783</b>	<b>577,877</b>

\*: Provisional \*\*: The actual wheat seed testing figures are not finalized yet. The expected wheat seed availability is therefore, based on previous years availability trend %age. Actual wheat seed availability figures will be finalized in November, 2019. The actual availability is also subject to change due to heavy rains in the month of April, 2019.

Source: Federal Seed Certification & Registration Department

### iii) Mechanization

Accelerated farm mechanization is an important element to accelerate growth in agriculture sector. Main constraint in increasing agricultural productivity also include non-availability of quality tractors and agricultural machinery at right time and at affordable prices to the farmers' community.

The domestic tractor industry has played a significant role in fulfilling the requirements of tractors to farmers. The number of operational tractors in the country is around 634,000 resulting in per acre horsepower (HP) availability of 0.09 against the required power of 1.4 HP per acre. During 2018-19 (July-March) total tractors production was 37,399 compared to the 52,551 produced last year. The major reasons of decline in the production of tractors are low sales because of filer condition for purchaser and also changing market dynamics/demand. The production and price of locally manufactured tractors is given in Table 2.14.

**Table 2.14: Prices and Production of Locally Manufactured Tractors 2018-19(July-March)**

Tractors Model – Horse Power (HP)	Price/Unit Excluding GST (Rs)	Price/Unit Including GST (Rs)	Production (in Nos.)	Actual Sale (in Nos.)
<b>M/s Al-Ghazi Tractors</b>				
NH 480-S (55 HP)	790,000	829,500	3,247	3,762
NH 480-S W.P (55 HP)	807,000	847,350	2,472	2,387
NH-Ghazi (65 HP)	885,000	929,250	5,112	5,475
NH-Ghazi WDB (65 HP)	894,000	938,700	112	109
NH-640 (75 HP)	1,111,000	1,166,550	1,823	1,702
NH-640 WDB (75 HP)	1,117,000	1,172,850	66	58
NH-640-S (85 HP)	1,126,000	1,182,300	138	129
NH-640-S WDB (85 HP)	1,140,000	1,197,000	36	32
NH-70-56 (85 HP)	1,590,000	1,669,500	15	15
Dabung- (85-HP)	1,140,000	1,197,000	196	196
NHTD-95(98-HP) (Imported)	2,566,667	2,695,000	39	6
<b>Total</b>			<b>13,256</b>	<b>13,871</b>
<b>M/s Millat Tractors</b>				
MF-240 (50 HP)	770,000	808,500	6,210	6,144
MF-350 Plus (50 HP)	788,500	827,925	30	36
MF-260 (60 HP)	872,000	915,600	6,199	6,080
MF-360 (60 HP)	885,500	929,775	270	264
MF-375 (75 HP)	1,119,000	1,174,950	1,686	1,620
MF-385 (85 HP) 2WD	1,200,000	1,260,000	9,348	9,204
MF-385(85 HP) 4WD	1,666,600	1,749,930	196	203
<b>Total</b>			<b>23,939</b>	<b>23,551</b>
<b>M/s Orient Tractors</b>				
Orient	-	-	204	-
<b>Total</b>	-	-	<b>204</b>	-
<b>Grand Total</b>			<b>37,399</b>	<b>37,422</b>

Note: GST @ 5 percent

Source: Tractor Manufacturer Association, Federal Water Management Cell

#### iv) Irrigation

During monsoon season (July-September) 2018, the normal average rainfall was 140.9 mm, while the actual rainfall recorded 96.1 mm showing decline of 31.8 percent. During the post-monsoon season (October-December) 2018, the normal average rainfall was 26.4 mm, while the actual rainfall recorded was 15.6 mm showing decline of 40.9 percent. During winter season (January-March) 2019, the normal average rainfall was 74.3 mm, while the actual rainfall recorded was 107.2 mm showing increase of 44.3 percent. Rainfall recorded during the monsoon, post monsoon and winter is given in Table 2.15.

**Table 2.15: Rainfall\* Recorded During 2018-19** (in Millimetres)

	Monsoon Rainfall (Jul-Sep) 2018	Post Monsoon Rainfall (Oct-Dec) 2018	Winter Rainfall (Jan-Mar) 2019
Normal**	140.9	26.4	74.3
Actual	96.1	15.6	107.2
Shortage (-)/excess (+)	- 44.8	-10.8	+32.9
% Shortage (-)/excess (+)	-31.8	- 40.9	+44.3

\*:Area Weighted, \*\*:Long Period Average (1961-2010)

Source: Pakistan Meteorological Department

During Kharif (April-September) 2018, canal head withdrawals declined to 59.62 Million Acre Feet (MAF) showing a decrease of 15 percent as compared to 69.97 MAF during the same period last year. During Rabi (October-March) 2018-19, the canal head withdrawals recorded an increase of 3

percent and 24.76 MAF, compared to 24.15 MAF during the same period last year. The province-wise details are shown in Table 2.16.

<b>Province</b>	<b>Kharif (Apr-Sep) 2017</b>	<b>Kharif (Apr-Sep) 2018</b>	<b>% Change in Kharif 2018 Over 2017</b>	<b>Rabi (Oct-Mar) 2017-18</b>	<b>Rabi (Oct-Mar) 2018-19</b>	<b>% Change in Rabi 2018-19 Over 2017-18</b>
Punjab	35.51	29.19	-18	12.76	13.25	4
Sindh	31.37	27.75	-12	9.75	10.10	4
Balochistan	2.07	1.69	-18	1.12	0.97	-13
Khyber Pakhtunkhwa	1.02	0.99	-3	0.53	0.45	-15
<b>Total</b>	<b>69.97</b>	<b>59.62</b>	<b>-15</b>	<b>24.15</b>	<b>24.76</b>	<b>3</b>

Source: Indus River System Authority

Pakistan is facing severe water stress due to an extremely inefficient irrigation system and practices, over-exploitation of groundwater, inadequate storage capacity and surface and groundwater pollution have collectively impacted quantity and quality of water. The prime objective of 12<sup>th</sup> Five Year Plan 2018-23 is to develop and line up investments for water sector in new storing facilities and increase system efficiency.

An amount of Rs. 63.717 billion (including Mohmand and Diamer-Basha Dam) has been allocated for the water sector's development projects/Programs during the year 2018-19, out of which Rs. 44.776 billion (70%) has been released so far and it is expected that total water sector's development budget for the FY 2018-19 will be utilized by the end of June, 2019.

### **Achievements during FY 2018-19**

#### **a) Implementation of National Water Policy 2018 (NWP)**

- ▶ Pakistan's first ever National Water Policy was approved by the CCI and Pakistan Water Charter was signed by the Prime Minister and all Chief Ministers, declaring a water emergency in the country
- ▶ National Water Council and National Water Policy Implementation Committees have been established

#### **b) Water Resources Development Program**

- ▶ Appropriate financing options have been explored for the construction of Diamer-Bhasha Dam, Mohmad Dam and other similar projects on fast track basis. Large reservoirs like Diamer-Bhasha Dam will protect against drought and shortage of irrigation water in Pakistan
- ▶ Operationalization of Kachhi Canal (Phase-I, Part A) in Balochistan & Raineer Canal in Sindh
- ▶ Operationalization of Gomal Zam Dam in South Waziristan tribal district (Khyber Pakhtunkhwa) and Darwat Dam in Thatta/Jamshoro district of Sindh
- ▶ Substantial completion of Nai Gaj Dam (Dadu, Sindh) to irrigate 28,800 acres of land
- ▶ More than 32 percent works completed on Kurram Tangi Dam (Phase-I) in North Waziristan Tribal District
- ▶ Initial works started on Mohmand Dam in Mohmand Tribal District
- ▶ To save the water losses of existing irrigation system, an amount of Rs. 2,000 million will be utilized for lining of small & minors canals in Punjab and Sindh during the FY 2018-19
- ▶ For the rehabilitation and improvement of existing irrigation canals in Punjab, Sindh & Khyber Pakhtunkhwa an amount of Rs. 1,200 million is expected to be utilized during 2018-19

## Pakistan Economic Survey 2018-19

- ▶ Formulation of “National Flood Protection Plan-IV” to protect infrastructure, flood embankments, spurs, flood forecasting & warning system in Pakistan
- ▶ In Balochistan, Sindh, Punjab and Khyber Pakhtunkhwa an amount of Rs. 17.317 billion is expected to be utilized during 2018-19 on construction of medium/small/delay action dams and recharge dams. Province-wise detail is as under:
  - a. Punjab Rs. 550 million (Ghabir & Papin dam)
  - b. Sindh Rs. 4,000 million (Darawat & Nai Gaj, Small Dams in Kohistan and Nagarparkar areas of Sindh)
  - c. Khyber Pakhtunkhwa Rs. 2,900 million (Kurram Tangi, Kundal/Sanam Dam, Baran Dam & 20 small Dams in Districts Nowshera, Kharak, Swabi, Haripur & Kohat)
  - d. Balochistan Rs. 7,316 million (Naulong, Shadi Kaur, Bathozai, Construction of 100 small dams (Package-II&III), Basol dam, Mangi dam & many small other small dams)

The major water sector projects are given in Table 2.17.

**Table 2.17: Major Water Sector Projects**

Project	Location	App. cost (Rs. in million)	Live Storage	Irrigated Area(Acres)	Status
Basha Dam (Dam Part only)	Khyber Pakhtunkhwa & Gilgit Baltistan	479,000	6.40	-	ECNEC approved Dam part of the project on 14-11-2018 (out of 479 billion Rs. 232 billion will be federal grant, Rs. 144 billion commercial financing, Rs. 98 billion WAPDA equity)
Gomal Zam Dam	Khyber Pakhtunkhwa	20,626	0.892 MAF	191,139 Acres (17.4 MW Power Gen.)	Completed & Operational. Work on Command Area Development in progress.
Kachhi Canal (Phase-I)	Balochistan	80,352	-	72,000 Acres	Physically completed. (Phase-I). Clearance of remaining liabilities are in progress.
Darawat Dam	Sindh	9,300	89,192 (Ac.Ft)	25,000 Acres (0.30 MW Power Gen.)	Physically completed. Work on Command Area Development in progress.
Nai Gaj Dam	Sindh	26,236	160,000 (Ac.Ft)	28,800 Acres (4.2 MW Power Gen.)	52 % Physical works completed
KurramTangi Dam (Phase- I,Kaitu Weir)	Khyber Pakhtunkhwa	21,059	0.90 MAF	84,380 New 278,000 existing (18.9 MW Power Gen.)	31% works completed.
Naulong Dam	Balochistan	18,027	0.20 MAF	47,000 Acres (4.4 MW Power Gen.)	Feasibility & Detailed Engg. Design completed Works on dam not yet started.
Mohmand Dam Hydropower Project (800 MW)	Mohmand District of Khyber Pakhtunkhwa	114,285(dam part) cost	0.676 MAF	16,737 Acres (800 MW Power Gen.)	ECNEC approved Phase-I on 30-06-2018 at a total cost of Rs. 309.558 billion (Dam part+Power cost). Work not started yet.
Right Bank Outfall Drain				ROBD-II will help to dispose 3,520 cusecs of drainage effluent into Sea received from RBOD-I & III	
RBOD-I	Sindh	17,505	-		85% completed
RBOD-II	Sindh	61,985	-		72% completed
RBOD-III	Balochistan	10,804	-		86 % completed

Source: Ministry of Planning, Development and Reform

**iv) Agricultural Credit**

In line with government’s priority for agriculture sector development, Agricultural Credit Advisory Committee (ACAC) has set the indicative agricultural credit disbursement targets to Rs 1,250 billion for FY 2018-19 to 50 agriculture lending institutions including 19 commercial banks, 2 specialized banks, 5 Islamic banks, 11 microfinance banks and 13 microfinance institutions/rural support Programs (MFIs/RSPs).

This annual indicative agriculture target is 28 percent higher than the last year’s disbursed amount of Rs 972.6 billion. Of the total target of Rs 1,250 billion, Rs 651 billion has been allocated to five major commercial banks, Rs 100 billion to ZTBL, Rs 245 billion to 14 Domestic Private banks and Rs 50 billion to five Islamic banks. For catering the needs of small farmers, Rs 13 billion has been assigned to PPCBL, Rs 156 billion to 11 Microfinance banks and Rs 35 billion to 13 MFIs/RSPs for the current year 2018-19.

**Agricultural Credit Disbursements Recent Trends**

During FY 2018-19 (July- March), the agriculture lending institutions have disbursed Rs. 805 billion which is 64.4 percent of the overall annual target of Rs. 1,250 billion and 20.8 percent higher than the disbursement of Rs. 666.2 billion made during corresponding period of last year. By end-March 2019, the outstanding portfolio of agriculture loans has increased by 15.5 percent (to Rs.70.7 billion), as compared to the same period last year. Further, the agriculture outreach in terms to outstanding borrowers has increased to 4.0 million (or by 8.2 percent) from 3.72 million borrowers as of end June, 2018. Regardless of facing various challenges like volatility in agriculture produce prices, low yield and the impact of climatic change, the overall performance of financial sector remained consistent and witnessed 20.8 percent growth in agricultural disbursement during the period under review.

As a group, five major banks disbursed Rs.450 billion (69 percent of its annual target), under specialized banks category, ZTBL disbursed Rs.45.1 billion against the target of Rs 100 billion while PPCBL disbursed Rs. 5.4 billion or 41.9 percent against its target of Rs. 13 billion during FY 2018-19 (July-March).

Fourteen domestic private banks collectively disbursed Rs.143.2 billion (58.5 percent of their target of Rs. 245 billion). Under microfinance category, microfinance banks disbursed Rs. 114.7 billion against their annual target of Rs.156 billion and MFIs/RSPs as group disbursed Rs. 24.1 billion against the target of Rs. 35.0 billion to small farmers. Further, under Islamic mode of financing, Islamic banks collectively disbursed Rs. 22.4 billion against their targets of Rs. 50.0 billion to agriculture borrowers, Islamic Windows of commercial banks disbursed Rs. 22.2 billion against their target of Rs. 50.0 billion during FY 2018-19 (July- March).The group wise comparative performance of banks during the period 2018-19 (July- March) is summarized in Table 2.18:

Banks	Target 2018-19	2018-19 (July-March)		Target 2017-18	2017-18 (July-March)		% Change over the Period
		Disbursed	Achieved (%)		Disbursed	Achieved (%)	
5 Major Commercial Banks	651.0	450.0	69.1	516.0	353.6	68.5	27.3
ZTBL	100.0	45.1	45.1	125.0	62.8	50.2	-28.2
PPCBL	13.0	5.4	41.9	15.0	6.7	44.5	-18.4
DPBs (14)	245.0	143.2	58.5	200.0	124.9	62.4	14.7
Islamic Banks (5)	50.0	22.4	44.7	20.0	10.3	51.3	118.1
MFBs (11)	156.0	114.7	73.5	100.0	88.4	88.4	29.7
MFIs/RSPs	35.0	24.1	68.8	25.0	19.5	78.0	23.4
<b>Total</b>	<b>1,250.0</b>	<b>804.9</b>	<b>64.4</b>	<b>1,001.0</b>	<b>666.2</b>	<b>66.6</b>	<b>20.8</b>

Source: State Bank of Pakistan

**Box-I: Sector wise and Holding/Size wise Credit Distribution**

Sector-wise classification shows that out of disbursements of Rs. 805 billion, Rs. 392.0 billion or 48.7 percent has been disbursed to farm-sector and Rs. 412.9 billion or 51.3 percent to non-farm sector during 2018-19 (July-March). Under farm sector, Rs. 128.1 billion or 32.7 percent has been disbursed to farmers of subsistence land holding while Rs. 263.9 billion or 67.3 percent disbursed to farmers of economic and above economic land holding. Similarly, under non-farm sector, Rs 118.8 billion or 28.8 percent disbursed to small farms and Rs 294.1 billion or 71.2 percent provided to large farms. During last couple of years, the focus of agriculture lending institutions has been shifting more towards non-farm activities due to new financing avenues and opportunities in livestock/dairy and poultry sectors. The holding wise/size wise details are given in Table 2.19

Sector		2018-19 (July-March)		2017-18 (July-March)	
		Disbursement	% Share within sector	Disbursement	% Share within sector
<b>A</b>	<b>Farm Credit</b>	<b>392.0</b>	<b>48.7</b>	<b>315.6</b>	<b>47.4</b>
1	Subsistence	128.1	32.7	130.4	41.3
2	Economic Holding	52.5	13.4	53.1	16.8
3	Above Economic Holding	211.4	53.9	132.0	41.8
<b>B</b>	<b>Non-Farm Credit</b>	<b>412.9</b>	<b>51.3</b>	<b>350.6</b>	<b>52.6</b>
1	Small Farms	118.8	28.8	104.4	29.8
2	Large Farms	294.1	71.2	246.2	70.2
<b>Total (A+B)</b>		<b>804.9</b>	<b>100</b>	<b>666.2</b>	<b>100</b>

Source: State Bank of Pakistan

**SBP's Initiatives for the Promotion of Agriculture Financing**

For promotion of agricultural financing, some of the major initiatives taken by SBP in collaboration with federal & provincial governments are as under:

- ▶ Crop Loan Insurance Scheme
- ▶ Livestock Loan Insurance Scheme
- ▶ Government of Punjab E-Credit Scheme
- ▶ Adoption of Automation of Land Record for Agriculture Financing
- ▶ Implementation of Credit Guarantee Scheme for Small and Marginalized Farmers
- ▶ Workshops/Trainings/Capacity & Awareness Building

**III. Livestock and Poultry**

**a) Livestock**

Over the years, livestock subsector has surpassed the crop subsector as the biggest contributor to value added in agriculture. Presently it contributes 60.5 percent to the overall agricultural and 11.2 percent to the GDP during 2018-19. Gross value addition of livestock has increased from Rs. 1,384 billion (2017-18) to Rs.1,440 billion (2018-19), showing an increase of 4.0 percent over the same period last year.

The importance of livestock sector can be realized from the fact that it is not only a source of foreign exchange earnings by contributing around 3.1% to the total exports, but also a source of 35-40% of income for over 8 million rural families and providing them food security by supplementing high value protein of animal origin.

Despite the fact that livestock sub sector could not attract large amount of investment due to its inherent subsistence and structural characteristics, this sector has shown a healthy growth of 4.0 % in 2018-19 over the previous year of 2017-18.

## Agriculture

The livestock population for the last three years is given in Table 2.20.

Species	2016-17 <sup>1</sup>	2017-18 <sup>1</sup>	2018-19 <sup>1</sup>
Cattle	44.4	46.1	47.8
Buffalo	37.7	38.8	40.0
Sheep	30.1	30.5	30.9
Goat	72.2	74.1	76.1
Camels	1.1	1.1	1.1
Horses	0.4	0.4	0.4
Asses	5.2	5.3	5.4
Mules	0.2	0.2	0.2

<sup>1</sup>: Estimated figure based on inter census growth rate of Livestock Census 1996 & 2006

Source: Ministry of National Food Security & Research

The major products of livestock are milk and meat for the last three years is given in Table 2.21.

Species	2016-17 <sup>1</sup>	2017-18 <sup>1</sup>	2018-19 <sup>1</sup>
<b>Milk (Gross Production)</b>	<b>56,080</b>	<b>57,890</b>	<b>59,759</b>
Cow	20,143	20,903	21,691
Buffalo	34,122	35,136	36,180
Sheep <sup>2</sup>	39	40	40
Goat	891	915	940
Camel <sup>2</sup>	885	896	908
<b>Milk (Human Consumption)<sup>3</sup></b>	<b>45,227</b>	<b>46,682</b>	<b>48,185</b>
Cow	16,115	16,722	17,353
Buffalo	27,298	28,109	28,944
Sheep	39	40	40
Goat	891	915	940
Camel	885	896	908
<b>Meat<sup>4</sup></b>	<b>4,061</b>	<b>4,262</b>	<b>4,478</b>
Beef	2,085	2,155	2,227
Mutton	701	717	732
Poultry meat	1,276	1,391	1,518

1: The figures for milk and meat production for the indicated years are calculated by applying milk production parameters to the projected population of respective years based on the inter census growth rate of Livestock Census 1996 & 2006.

2: The figures for the milk production for the indicated years are calculated after adding the production of milk from camel and sheep to the figures reported in the Livestock Census 2006.

3: Milk for human consumption is derived by subtracting 20% (15% wastage in transportation and 5% in calving) of the gross milk production of cows and buffalo.

4: The figures for meat production are of red meat and do not include the edible offal's.

Source: Ministry of National Food Security & Research

The estimated production of other livestock products for the last three years is given in Table 2.22.

Species	Units	2016-17 <sup>1</sup>	2017-18 <sup>1</sup>	2018-19 <sup>1</sup>
Eggs	Million Nos.	17,083	18,037	19,052
<b>Hides</b>	<b>000 Nos.</b>	<b>16,421</b>	<b>16,974</b>	<b>17,547</b>
Cattle	000 Nos.	8,416	8,734	9,063
Buffalo	000 Nos.	7,897	8,131	8,373
Camels	000 Nos.	108	109	111
<b>Skins</b>	<b>000 Nos.</b>	<b>55,526</b>	<b>56,805</b>	<b>58,116</b>
Sheep Skin	000 Nos.	11,397	11,532	11,669
Goat Skin	000 Nos.	27,807	28,560	29,334
<u>Fancy Skin</u>	000 Nos.	<u>16,322</u>	<u>16,712</u>	<u>17,113</u>
Lamb skin	000 Nos.	3,385	3,425	3,466
Kid skin	000 Nos.	12,937	13,287	13,647

**Table: 2.22 Estimated Livestock Products Production**

Species	Units	2016-17 <sup>1</sup>	2017-18 <sup>1</sup>	2018-19 <sup>1</sup>
Wool	000 Tonnes	45.7	46.2	46.8
Hair	000 Tonnes	27.2	27.9	28.6
Edible Offal's	000 Tonnes	405	416	428
Blood	000 Tonnes	67.8	69.5	71.3
Guts	000 Nos.	56,094	57,387	58,712
Casings	000 Nos.	17,461	18,048	18,654
Horns & Hooves	000 Tonnes	58.9	60.6	62.4
Bones	000 Tonnes	878.2	904.9	932.5
Fats	000 Tonnes	279.0	287.3	295.8
Dung	000 Tonnes	1,244	1,282	1,322
Urine	000 Tonnes	379	390	401
Head & Trotters	000 Tonnes	252.5	259.6	267.0
Ducks, Drakes & Ducklings	Million Nos.	0.44	0.42	0.40

<sup>1</sup>: The figures for livestock product for the indicated years were calculated by applying production parameters to the projected population of respective years.

Source: Ministry of National Food Security & Research

## b) Poultry

Poultry sector is one of the most vibrant subsectors of livestock sector. The current investment in Poultry Industry is more than Rs. 700 billion. This industry is progressing at an impressive growth rate of 8 to 10 percent per annum over last few years. Pakistan has become the 11<sup>th</sup> largest poultry producer in the world with the production of 1,163 million broilers annually. This sector provides employment (direct/indirect) to over 1.5 million people. Poultry today has been a balancing force to keep check on the prices of mutton and beef.

Poultry meat contributes 34 percent (1,518 thousand tons) of the total meat production (4,478 thousand tons) in the country. Poultry meat production showed a growth rate of 9.1 percent whereas egg production showed a growth of 5.6 percent (19.0 billion Nos.) during 2018-19 as compared to previous year. Transformation of poultry production in controlled shed system is making a tremendous difference of quantity and quality of poultry production. There are now over 6,500 controlled environment poultry sheds in the country which indicates that our poultry sector is moving in the direction of modernization and using advance technology.

The Poultry Development Strategy revolves around Disease control; Hi-tech poultry production in intensive poultry; Processing and value addition; improving poultry husbandry practices and development. The government has always been supportive to poultry industry in providing most enabling environment for its growth and expansion.

The commercial layer, breeders and broiler stocks showed estimated growth of 7.0 percent, 5.0 percent and 10 percent respectively, while rural poultry developed @ 1.5 percent when compared to 2017-18. The estimated production of commercial and rural poultry and products for the last three years is given below:

**Table 2.23: Estimated Domestic/Rural & Commercial Poultry**

Type	Units	2016-17 <sup>1</sup>	2017-18 <sup>1</sup>	2018-19 <sup>1</sup>
<b>Domestic Poultry</b>	<b>Million Nos.</b>	<b>85.86</b>	<b>87.16</b>	<b>88.49</b>
Cocks	Million Nos.	11.55	11.86	12.18
Hens	Million Nos.	41.64	42.39	43.15
Chicken	Million Nos.	32.67	32.91	33.16
Eggs <sup>2</sup>	Million Nos.	4,164	4,239	4,315
Meat	000 Tonnes	117.54	119.89	122.28
<b>Duck, Drake &amp; Duckling</b>	<b>Million Nos.</b>	<b>0.44</b>	<b>0.42</b>	<b>0.40</b>

**Table 2.23: Estimated Domestic/Rural & Commercial Poultry**

Type	Units	2016-17 <sup>1</sup>	2017-18 <sup>1</sup>	2018-19 <sup>1</sup>
Eggs <sup>2</sup>	Million Nos.	19.52	18.70	17.93
Meat	000 Tonnes	0.59	0.57	0.54
<b>Commercial Poultry</b>	<b>Million Nos.</b>	<b>1,022.13</b>	<b>1,122.29</b>	<b>1,232.33</b>
Layers	Million Nos.	48.83	52.25	55.91
Broilers	Million Nos.	961.50	1,057.65	1,163.42
Breeding Stock	Million Nos.	11.80	12.39	13.01
Day Old Chicks	Million Nos.	1,004.29	1,104.72	1,215.19
Eggs <sup>2</sup>	Million Nos.	12,900	13,779	14,719
Meat	000 Tonnes	1,157.51	1,270.69	1,395.02
<b>Total Poultry</b>				
Day Old Chicks	Million Nos.	1,037	1,138	1,248
Poultry Birds	Million Nos.	1,108	1,210	1,321
Eggs	Million Nos.	17,083	18,037	19,052
Poultry Meat	000 Tonnes	1,276	1,391	1,518

1 : The figures for the indicated years are statistically calculated using the figures of 2005-06.

2 : The figures for Eggs (Farming) and Eggs (Desi) are calculated using the poultry parameters for egg production.

Source: Ministry of National Food Security & Research

Poultry Development Policy envisages sustainable supply of wholesome poultry meat; eggs and value added products to the local and international markets and aimed at facilitating private sector development for sustainable poultry production. The strategy revolves around supporting private sector through regulatory measures.

The federal government has given a number of concessions on import of poultry machinery, parent and grandparent stock of chicken and hatching eggs to reduce input cost. During the Budget 2017-18, government reduced the sales tax from 17 percent to 7 percent on import of various types of poultry machinery, reduced custom duty from 11 percent to 3 percent and removal of 5 percent Regulatory duty on import of grandparent and parent stock of chicken and reduced custom duty on the import of hatching eggs from 11 percent to 3 percent. These concessions will help in reducing cost of production of value added poultry products and promote value added poultry industry in the country. Furthermore, federal government is also considering support for waiver of 100 percent cash margin on opening of letter of credit (LC) on import of raw material for poultry value addition to make the Pakistani products more competitive in the export market.

### **Trade of Livestock and Livestock Products**

The development of the livestock sector and its vertical integration to produce value added products is important to enhance trade opportunities for Pakistan in the global market place. The value addition in livestock and poultry sectors are now on the path of achieving further heights and many value adding livestock and poultry businesses have been established in the country that are actively taking part in trade of livestock and livestock products.

To enhance the trade activities of livestock and livestock products, the government has given following incentives;

- ▶ Sales Tax on import of seven types of poultry machinery is reduced to 7 percent. These include poultry incubators, brooders, grain storage silos for poultry and poultry sheds
- ▶ Custom duty on import of on grandparent and parent stock of chicken is reduced to 7 percent
- ▶ Regulatory duty on import of grandparent and parent stock of chicken has been withdrawn
- ▶ Custom duty on import of hatching eggs is reduced to 3 percent
- ▶ Custom duty on import of raw skins & hides has been withdrawn

- ▶ Custom duty on import of ostriches has been withdrawn
- ▶ Custom duty of 3 percent on import of bulls meant for breeding purposes is withdrawn
- ▶ Custom duty on the import of feeds meant for livestock sector is reduced from 10 percent to 5 percent and is also exempted from sales tax
- ▶ Custom duty on import of fans used in dairy sheds is reduced to 3 percent if imported by members of the Corporate Dairy Association and also exempted from sales tax
- ▶ Custom duty on import of growth promoters premix, vitamin premix, vitamin B12 (Feed grade) and vitamin H2 (Feed grade) is reduced to 5 percent for registered manufacturers of poultry feed
- ▶ Custom duty on cattle feed premix is reduced to 5 percent
- ▶ Custom duty on calf milk replacer has been reduced to 10 percent

### **Government Policy Measures**

Livestock Wing under Ministry of National Food Security & Research, with its redefined role under 18<sup>th</sup> Constitutional Amendment, continued to regulate the sector and took several measures in this regard, including: allowing import of high yielding dairy cattle breeds of Holstein Friesian and Jersey, genetic material of these breeds, (semen and embryos) for the genetic improvement of indigenous low producing dairy animals, allowing import of high quality feed stuff/micro ingredients for improving the nutritional quality of animal & poultry feed and allowing import of dairy, meat and poultry processing machinery/equipment at concessional tariff/duty in order to encourage value added industry in the country.

Livestock Wing also provided necessary facilitation for export of meat and meat products. A total of 48.8 thousand tons of meat and meat products were exported during FY 2017-18 that fetched US\$ 198.8 million, from the registered export oriented slaughter houses in the private sector. The export of other livestock by-products such as animal casings, bones, horns & hooves, gelatin etc. was also facilitated. The efforts continued for market access with the relevant concerned authorities in China, South Africa, Jordan and Indonesia using diplomatic channels for export of various meat and meat products.

Livestock Wing allowed the import of 824.9 thousand doses of superior quality semen and 8,811 high yielding exotic dairy cattle of Holstein-Friesian & Jersey breeds during 2018-19 (July-March). The policy objective of these permissions is the genetic improvement of indigenous dairy animals in terms of per unit productivity. The imported dairy cows added approximately 61 million tons of milk per annum in the commercial milk chain/system.

In order to promote corporate dairy sector, import of calf milk replacer & cattle feed premixes have been allowed at concessional tariffs. During 2018-19 (July-March), 364.6 metric tons of calf milk replacer & 297.4 metric tons of cattle feed premix has been imported for feeding to our dairy herd.

During 2018-19 (July-March), the Animal Quarantine Department (AQD) provided quarantine services and issued 27,011 Health Certificates for the export of live animals, mutton, beef, eggs and other livestock products having value of US\$ 268.887 million. The AQD generated non-tax revenue of Rs. 85.787 million during same year as certificate/laboratory examination fee of animal and animal products exported during the year.

The National Veterinary Laboratory (NVL), Islamabad is a national institution reference laboratory to facilitate international trade meeting the WTO's requirements while safeguarding the public health. The NVL conducted surveillance and diagnostics on highly contagious diseases of animals. It also carried out activities on National and Regional Projects regarding prevention and control of Transboundary Animal Diseases in Pakistan. During 2018-19 (July-March), about 11,402 samples

were analyzed for disease diagnosis surveillance, veterinary vaccines and residue testing to guide the animal health certification as well as to promote international trade livestock and livestock products.

Livestock Wing also collaborated with international (Office International des Epizooties OIE, Food and Agriculture Organization FAO) and regional organizations (South Asian Association for Regional Cooperation SAARC, Economic Cooperation Organization ECO, Animal Production & Health Commission for Asia APHCA, European Union EU) for Human Resource Development (HRD) and capacity building of national and provincial livestock institutions for diagnosis and control of animal diseases. Inter Provincial Coordination is being done by the Livestock Wing to implement the National Program to Control Foot & Mouth Disease (FMD) and Peste des Petitis Ruminants (PPR) disease in Pakistan. Pakistan has been following progressive FMD Control Pathway, Pakistan has been placed Stage 02 of the total six (06) Stage Pathways. A National FMD Control Program at a cost of Rs.763.9 million for the period of six years has been approved by the competent forums to sustain and continue project activities related to FMD during subsequent years. FAO Pakistan will implement this project under Unilateral Trust Fund (UTF) Agreement. This will help in improving animal health status of the country regarding Transboundary Animal Diseases (TADs) which are technical barrier in the international trade of our livestock and livestock products.

Moreover, to attract further investment in dairy sector, protect the small dairy farmers and the corporate dairy sector, beside regulating import and mitigate use of synthetic milk and recipe products/tea whiteners, regulatory duty to the tune of 25 percent has been imposed on import of Skimmed Milk Powder (SMP) and Whey Powder (WP). Now the existing duty on import of powdered milk is 45 percent (import duty 20 percent and regulatory duty 25 percent).

### **Future Plans**

The future plans will continue to focus on:

- i. Inter-provincial coordination for development of livestock sector
- ii. Coordination with private sector to promote value addition livestock industry and diversification of livestock products
- iii. Control of Trans-boundary Animal Diseases (FMD, PPR, Zoonotic diseases) of trade and economic importance through provincial participation
- iv. Bringing more investments in livestock sectors
- v. Exploring new markets for export of meat and dairy products with focus on Global Halal Food Trade Market
- vi. Under the “**Prime Minister’s Initiatives on Livestock Sector**”, it has been decided to initiate following Programs in all four provinces, ICT, AJK and Gilgit-Baltistan to alleviate poverty and augment the livelihood of poor in the country:
  - ▶ Save the buffalo calf Program
  - ▶ Calf fattening Program
  - ▶ Backyard poultry Program

### **IV. Fisheries**

Fisheries as a sub-sector of agriculture plays a significant role in the national economy and towards the food security of the country as it reduce the existing pressure on demand for mutton, beef and poultry.

**Major Functions:**

**i) Quality Control and Export of Fish & Fishery Products:**

- ▶ Fishery plays an important role in Pakistan’s economy and is considered to be a source of livelihood for the coastal inhabitants. A part from marine fisheries, inland fisheries (based in rivers, lakes, ponds, dams etc.) is also very important activity throughout the country. Fisheries share in GDP although very little but it adds substantially to the national income through export earnings. During the year 2018-19 (July-March), a total of 130,830 metric tons of fish and fishery products were exported, earning value of US\$ 293.887 million (Rs. 39,245 million).
- ▶ During 2018-19 (July-March), total marine and inland fish production was estimated at 575,000 metric tons out of which 390,000 metric tons was from marine waters and the remaining from catch from inland waters. Whereas the fish production for the period 2017-18 (July-March) was estimated to be 560,000 metric tons in which 380,000 metric tons was from marine and the remaining was produced by inland fishery sector.
- ▶ During 2018-19 (July-March) a total of 130,830 metric tons of fish and fish preparation was exported. Pakistan’s major buyers are China, Thailand, Malaysia, Hong Kong, South Korea, Egypt, Bangladesh, UK, Middle East, Sri Lanka, Japan, etc. and earned US\$ 293.887 million (Rs. 39,245 million). Whereas the export during 2017-18 (July-March) was 137,819 metric tons of fish and fishery products which earned US\$ 315 million (Rs. 34,031 million). The export of fish & fishery products has decreased by 5 percent in quantity term where as in value terms it also decreased by 7 percent but in rupee terms it increased by 15 percent during 2018-19 (July-March).
- ▶ Quality seafood stocks were being depleting in Pakistani waters because of overfishing and use of destructive nets. Pakistan mostly exports to China at lower rates, while EU lifted ban from two factories only.
- ▶ The government is taking a number of steps to improve fisheries sector and its exports. Further numbers of initiatives are being taken by federal and provincial fisheries departments.
- ▶ Export of Fish and Fishery Products to the European Union (EU) countries: Since resumption of export to the EU countries different consignment of fish, cuttle fish and shrimps sent from one company to the EU have been successfully cleared after 100% laboratory analysis at EU border. Export of seafood to EU countries is as under:

**Table 2.24: Export of Fish and Fishery Products to European Union (EU) 2018-19 (P)**

Commodity / Country	Fish		Cuttlefish		Shrimp		Total	
	Quantity (MT)	Value US\$ (000)						
Belgium	74	210	28	102	32	142	134	454
Cyprus	24	61	74	274	-	-	98	335
Spain	21	74	215	1,123	-	-	236	1,197
Italy	38	71	-	-	-	-	38	71
UK	148	901	-	-	29	159	177	1,060
<b>Total</b>	<b>305</b>	<b>1,317</b>	<b>317</b>	<b>1,499</b>	<b>61</b>	<b>301</b>	<b>683</b>	<b>3,117</b>

P: July-March

Source: Marine Fisheries Department

To further enhance seafood export to EU countries, six more processing plants are in pipeline, their cases for approval is under process with EU authorities

- ▶ Quality Control Laboratories of Marine Fisheries Department (MFD) including Microbiology Laboratory, Chemistry laboratory, Hydrology Laboratory, Biological laboratory and Biochemical laboratory are involved in seafood analysis and quality control services since the inception of the Department. Two laboratories Microbiology and Chemistry have got the status

of accreditation under ISO/IEC-17025 from Norwegian Accreditation (NA) body and Pakistan National Accreditation Council (PNAC).

## **ii) Deep Sea Fishing**

During the period under reporting new deep sea fishing licensing policy 2018 has been approved by the Cabinet. Applications for licenses have been invited through print media in May, 2019 which are under process.

### **TED, and trials of TED by local fishermen**

MFD is conducting training Program for fishermen about the use of Turtle Excluder Device (TED). 99 fishermen, including representatives of the other organizations participated in the training for using the TED. The primary purpose of TED is to reduce the mortality of sea turtles in fishing nets, (shrimp trawl net) and safeguarding the livelihood of the local fishermen.

The use of TED is mandatory required for export of shrimp to USA. The federal and provincial governments have assigned the task to the Maritime Security Agency for ensuring compliance of United State regulation about TED on all shrimp trawlers to ensure the export of shrimp to USA.

### **Vision “To Promote Fisheries and Ensure Food Security Through Availability of Quality Products at Competitive Prices”**

The priorities for future development of fisheries sector includes the following strategies:

- ▶ Improving marketing infrastructure for fishermen along coast i.e. providing technical assistance/guidelines to stakeholders/provinces for improvement of landing sites/auction halls at different fish harbours
- ▶ Providing guidelines for up gradation of fishing boats according to international standards
- ▶ Increasing capability for fisheries planning and management based on the sound knowledge of the state of the fishery resources and exploitation of these resources
- ▶ Providing guideline/technical assistance for value addition and to promote aquaculture to boost fish production volume as well as value wise
- ▶ Upgrading, accreditation and strengthening the quality control laboratories of MFD by adding the new testing parameters for monitoring environmental contaminants in fish & fishery products to satisfy the requirements of importing countries

### **Conclusion**

The agriculture growth is not consistent as observed over the decades. The rural transformation pace remained very slow resulted in problems like food insecurity, poverty, unemployment, illiteracy etc. It is very important that focus should remain on raising food production through efficient irrigation and innovative technology, agriculture diversification, agriculture support services, SME development in rural areas and creating small cities in rural areas. The present government’s resolve is to enhance productivity and value change development. More R&D on seed varieties, improving resource use efficiency, promoting modern technologies, starting skill development Program to support rural enterprises is the need of time. Climate Smart Agriculture is an approach used worldwide focusing on enhancing agriculture productivity and incomes while simultaneously building resilience to climate vulnerability and changes.