Chapter 2

Agriculture

Pakistan's agriculture sector plays a central role in the economy as it contributes 18.9 percent to GDP and absorbs 42.3 percent of labour force. It is also an important source of foreign exchange earnings and stimulates growth in other sectors. The government is focusing on supporting small and marginalized farmers and promote small scale innovative technologies to promote growth in this sector. According to the 6th Population and Housing Census of Pakistan 2017, the country's population is growing at the rate of 2.4 percent per annum. This rapid increase in population is raising demand for agricultural products. The present government is focused on developing this sector and in this connection initiated a number of measures such as crop diversification, efficient use of water and promotion of high value crops including biotechnology, reducing mark-up rates, agriculture credit enhancement, subsidized fertilizer prices and cheap electricity for agri-tube wells. As a result, this sector's performance increased manifold after witnessing a moderate and subdued growth in last 13 years.

Performance during 2017-18

During 2017-18, agriculture sector recorded a remarkable growth of 3.81 percent and surpassed its targeted growth of 3.5 percent and last year's growth of 2.07 percent. This stemmed from higher yields, attractive output prices and supportive government policies, better availability of certified seeds, pesticides, agriculture credit and intensive fertilizers offtake. The crops sector performed well and witnessed a growth rate of 3.83 percent against the last year's growth of 0.91 percent. The growth in sub sectors, important crops, other crops and cotton ginning registered a significant growth of 3.57 percent, 3.33 percent and 8.72 percent, respectively, against last year's growth of 2.18 percent, -2.66 percent and 5.58 percent respectively. Major Kharif crops such as sugarcane and rice surpassed their production targets during 2017-18 by recording growth of 7.45 percent and 8.65 percent, respectively, while cotton crop production managed to exceed last year's production level by recording growth of 11.85 percent. Wheat and maize crop production remained subdued, as it witnessed decline of 4.43 percent and 7.04 percent, respectively. Other crops having share of 10.80 percent in agriculture value addition and 2.04 percent in GDP, grew by 3.33 percent on the back of increase in the production of fodder, vegetables and fruits.

Livestock having share of 58.92 percent in agriculture and 11.11 percent in GDP, recorded a growth of 3.76 percent compared to 2.99 percent during corresponding period last year. The Fishing sector having share of 2.10 percent in agriculture value addition and 0.40 percent in GDP, grew at 1.63 percent compared to growth of 1.23 percent in same period last year. Forestry sector having share of 2.09 percent in agriculture and 0.39 percent in GDP posted a positive growth of 7.17 percent against the negative growth of 2.37 percent recorded in same period last year due to higher timber production reported by Khyber Pakhtunkhwa. (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 harvested in April-May. Wheat, gram, lentil (masoor), tobacco, rapseed, 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	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (P)
Agriculture	**3.62**	**2.68**	**2.50**	**2.13**	**0.15**	**2.07**	**3.81**
Crops	3.22	1.53	2.64	0.16	-5.27	0.91	3.83
i) Important Crops	7.87	0.17	7.22	-1.62	-5.86	2.18	3.57
ii) Other Crops	-7.52	5.58	-5.71	2.51	0.40	-2.66	3.33
iii) Cotton Ginning	13.83	-2.90	-1.33	7.24	-22.12	5.58	8.72
Livestock	3.99	3.45	2.48	3.99	3.36	2.99	3.76
Forestry	1.79	6.58	1.88	-12.45	14.31	-2.37	7.17
Fishing	3.77	0.65	0.98	5.75	3.25	1.23	1.63

P: Provisional

Source: Pakistan Bureau of Statistics

During 2017-18, the availability of water for Kharif 2017 stood at 70.0 Million Acre Feet (MAF) showing a decrease of 2.0 percent over Kharif 2016 and increase of 4.3 percent over the normal supplies of 67.1 MAF. During Rabi season 2017-18, the water availability stood at 24.2 MAF showing a decrease of 18.5 percent over Rabi 2016-17 and 33.5 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	-
2008-09	66.9	24.9	91.8	-11.3
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

Source: Indus River System Authority

I. Crop Situation

The important crops (wheat, rice, sugarcane maize and cotton) account 23.60 percent in the value addition of agriculture sector and 4.45 percent in GDP. The other crops account 10.80 percent in the value addition of agriculture sector and 2.04 percent in GDP. The production of important crops is given in Table 2.3.

Table 2.3: Production of Important Crops (000 Tonnes)

Year	Cotton (000 bales)	Sugarcane	Rice	Maize	Wheat
2011-12	13,595	58,397	6,160	4,338	23,473
	(18.6)	(5.6)	(27.7)	(17.0)	(-6.9)
2012-13	13,031	63,750	5,536	4,220	24,211
	(-4.1)	(9.2)	(-10.1)	(-2.7)	(3.1)
2013-14	12,769	67,460	6,798	4,944	25,979
	(-2.0)	(5.8)	(22.8)	(17.2)	(7.3)

Table 2.3: Production of Important Crops (000 Tonnes)

Year	Cotton (000 bales)	Sugarcane	Rice	Maize	Wheat
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(P)	11,935	81,102	7,442	5,702	25,492
Growth percent	(11.8)	(7.4)	(8.7)	(-7.0)	(-4.4)

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

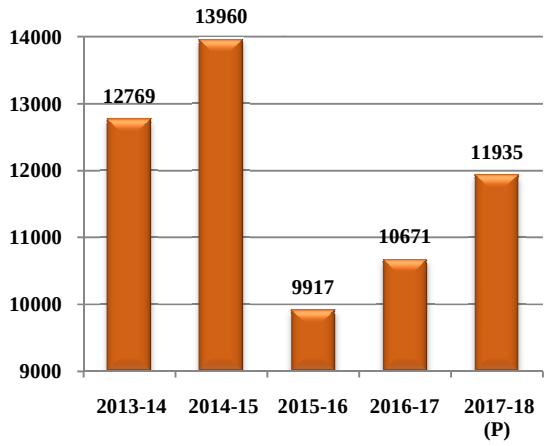
Source: Pakistan Bureau of Statistics

a) Important Crops

i) Cotton

During 2017-18, cotton production stood at 11.935 million bales and recorded growth of 11.8 percent over the production of 10.671 million bales during same period last year. Cotton crop has 1.0 percent share in GDP and contributes 5.5 percent in agriculture value addition. Cotton crop was cultivated on an area of 2,699 thousand hectares compared to last year's area of 2,489 thousand hectares, showing an increase of 8.4 percent. The production increased due to better economic returns received during last year, promotion campaign of cotton by the government, appropriate interval of rains produced wholesome affect on cotton yield and availability of inputs on subsidised rate. The area, production and cotton yield during last five years are shown in Table 2.4 and Figure 2.1.

Fig-2.1: Cotton Production (000 bales)



Source: PBS

Table 2.4: Area, Production and Yield of Cotton

Year	Area		Production		Yield	
	(000 Hectare)	% Change	(000 Bales)	% Change	(Kgs/Hec)	% Change
2013-14	2,806	-	12,769	-	774	-
2014-15	2,961	5.5	13,960	9.3	802	3.6
2015-16	2,902	-2.0	9,917	-29.0	582	-27.4
2016-17	2,489	-14.2	10,671	7.6	730	25.4
2017-18(P)	2,699	8.4	11,935	11.8	752	3.0

P: Provisional (July-February)

Source: Pakistan Bureau of Statistics

World Cotton Outlook

The production and consumption of major cotton growing countries is given in Table 2.5.

Table 2.5: Production and Consumption of Major Cotton Growing Countries (Million Tonnes)

	2015-16 E	2016-17 P	2017-18 P
Production			
India	5.75	5.73	6.30
China	5.20	4.90	5.25
USA	2.81	3.74	4.62
Pakistan	1.54	1.66	1.82
Brazil	1.29	1.53	1.57
Uzbekistan	0.83	0.79	0.80
Others	4.07	4.65	5.16
World Total	21.49	23.00	25.55
Consumption			
China	7.60	8.00	8.12
India	5.30	5.15	5.30
Pakistan	2.15	2.15	2.35
Europe & Turkey	1.69	1.61	1.63
Vietnam	1.01	1.17	1.31
Bangladesh	1.32	1.41	1.44
USA	0.75	0.75	0.73
Brazil	0.70	0.73	0.76
Others	3.68	3.60	3.74
World Total	24.20	24.57	25.38
E: Estimated, P: Projected			

Source: Pakistan Central Cotton Committee, Ministry of Textile Industry (February, 2018)

ii) Sugarcane

Sugarcane is high value cash crop of Pakistan and is significantly important for sugar and sugar related industries in the national economy. It provides raw material for sugar industry which is the country's second largest agro-industry sector after textiles. The year 2017-18, witnessed another record season for the sugarcane crop production at 81.102 million tonnes showing an increase of 7.4 percent over the last year's production of 75.482 million tonnes which comfortably exceeded the target of 70.3 million tonnes by a considerable margin of 15.4 percent. Its production accounts 3.6 percent in agriculture's value addition and 0.7 percent in overall GDP. Sugarcane crop was cultivated on an area of 1,313 thousand hectares compared to last year's area of 1,218 thousand hectares witnessed an increase of 7.8 percent. The sugarcane production increased due to increase in area sown as good economic return encouraged the growers to bring more area under cultivation and comparatively timely payments from sugar mills last year. The area, production and yield of sugarcane during last five years are given in Table 2.6 and Figure 2.2.

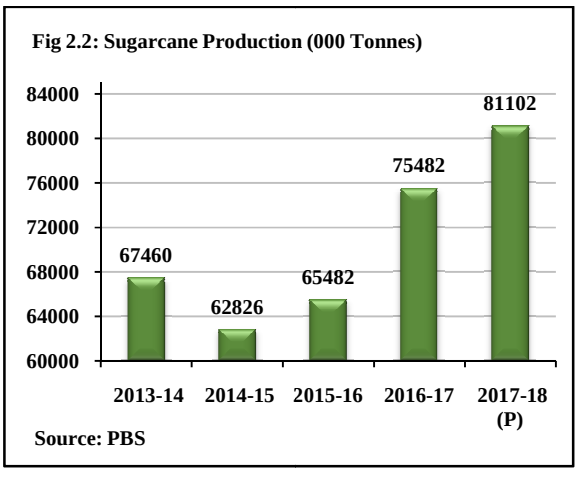


Table 2.6: Area, Production and Yield of Sugarcane

Year	Area		Production		Yield	
	(000 Hectare)	% Change	(000 Tonnes)	% Change	(Kgs/Hec.)	% Change
2013-14	1,173	-	67,460	-	57,511	-
2014-15	1,141	-2.7	62,826	-6.9	55,062	-4.3
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 (P)	1,313	7.8	81,102	7.4	61,768	-0.3

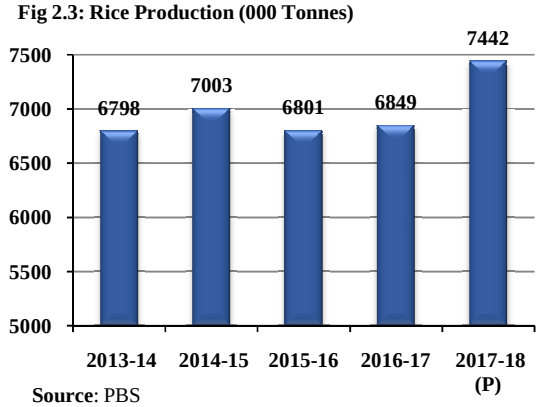
P: Provisional (July-February)

Source: Pakistan Bureau of Statistics

iii) Rice

In Pakistan, rice is an important food as well as cash crop. After wheat, it is the second main staple food crop and second major exportable commodity after cotton. During 2017-18, area cultivated under rice crop has increased by 6.4 percent to 2,899 thousand hectares compared to 2,724 thousand hectares of the corresponding period of last year. The production of rice reached historically high level of 7,442 thousand tonnes against the production of 6,849 thousand tonnes and recorded an increase of 8.7 percent over production of last year. Rice accounts for 3.1 percent in the value added in agriculture and 0.6 percent of GDP. Rice area increased due to higher domestic prices and availability of inputs on subsidised rates, good advisory along with increase in export, which made rice cultivation attractive for growers. The area, production and yield of rice in last five years are shown in Table 2.7 and Figure 2.3.

Fig 2.3: Rice Production (000 Tonnes)



Source: PBS

Table 2.7: Area, Production and Yield of Rice

Year	Area		Production		Yield	
	(000 Hectare)	% Change	(000 Tonnes)	% Change	(Kgs/Hec.)	% Change
2013-14	2,789	-	6,798	-	2,437	-
2014-15	2,891	3.7	7,003	3.0	2,422	-0.6
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(P)	2,899	6.4	7,442	8.7	2,567	2.1

P: Provisional (July-February)

Source: Pakistan Bureau of Statistics

iv) Wheat

During 2017-18, wheat crop was cultivated on an area of 8,734 thousand hectares showing a decrease of 2.6 percent compared to 8,972 thousand hectares during the corresponding period last year. Wheat production stood at 25.492 million tonnes during 2017-18, recording a decline of 4.4 percent over the production of 26.674 million tonnes last year. Wheat accounts for 9.1 percent of the value added in agriculture and 1.7 percent of GDP of Pakistan. The shortfall in production is attributed to decline in area sown, delayed and prolonged sugarcane crushing season, acute water shortages and fog and smog in the country. The position over the last five years is given in Table 2.8 and Figure 2.4.

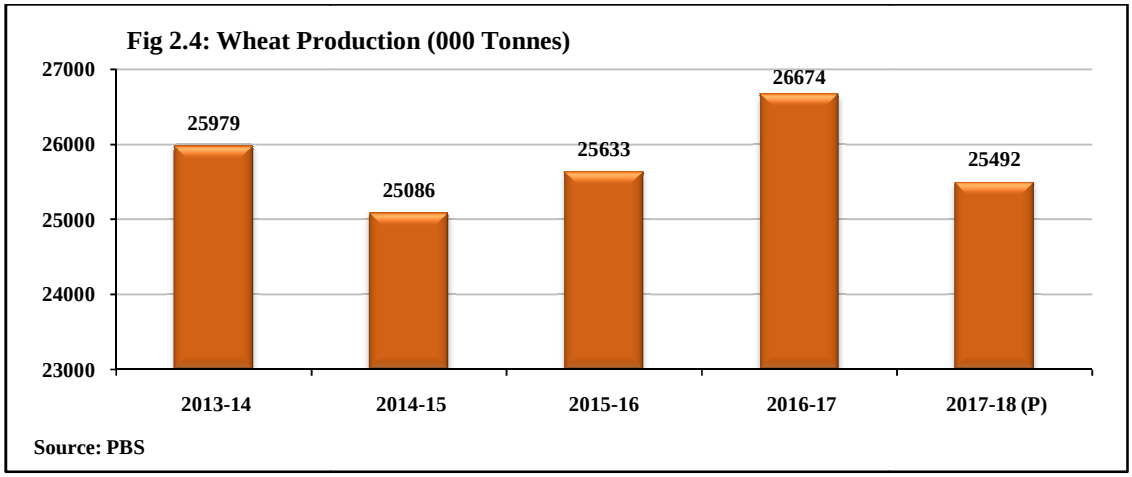


Table 2.8: Area, Production and Yield of Wheat

Year	Area		Production		Yield	
	(000 Hectares)	% Change	(000 Tonnes)	% Change	(Kgs /Hec.)	% Change
2013-14	9,199	-	25,979	-	2824	-
2014-15	9,204	0.1	25,086	-3.4	2726	-3.5
2015-16	9,224	0.2	25,633	2.2	2779	1.9
2016-17	8,972	-2.7	26,674	4.1	2973	7.0
2017-18 (P)	8,734	-2.6	25,492	-4.4	2919	-1.8

P: Provisional (July-February)

Source: Pakistan Bureau of Statistics

v) Maize

During 2017-18, maize crop was cultivated on an area of 1,229 thousand hectares and witnessed decline of 8.8 percent over last year's cultivated area of 1,348 thousand hectares. Maize crop production recorded a decline of 7.0 percent as its production stood at 5.702 million tonnes compared to the last year's production of 6.134 million tonnes. Maize contributes 2.4 percent value added in agriculture and 0.5 percent to GDP. The decline in production occurred due to decrease in area cultivated as maize growers switched over to cotton, sugarcane and rice crops .The position is presented in Table 2.9 and Figure 2.5.

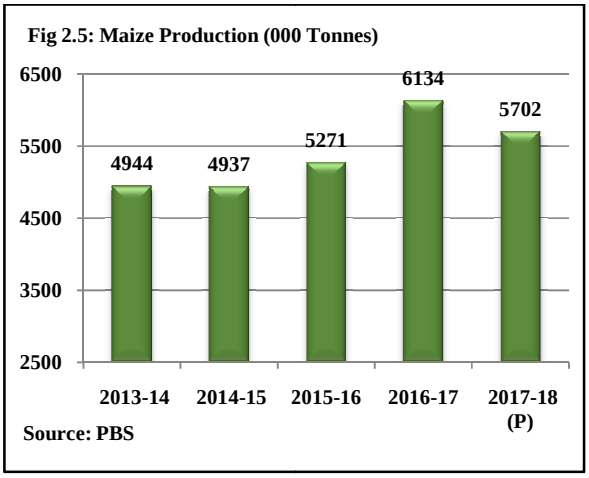


Table 2.9: Area, Production and Yield of Maize

Year	Area		Production		Yield	
	(000 Hectares)	% Change	(000 Tonnes)	% Change	(Kgs /Hec.)	% Change
2013-14	1,168	-	4,944	-	4,233	-
2014-15	1,142	-2.2	4,937	-0.1	4,323	2.1
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(P)	1,229	-8.8	5,702	-7.0	4,640	2.0

P:Provisional (July-February)

Source: Pakistan Bureau of Statistics

b) Other Crops

Gram is the largest Rabi pulse crop, accounting for 76 percent of total production of pulses in the country and occupies about 5 percent of cropped area. During 2017-18, gram production witnessed an increase of 3 percent on account of increase in area sown and favourable weather condition prevalent at the time of sowing. The production of Bajra, Jowar and Rapeseed & Mustard witnessed increase of 9.8 percent, 4.1 percent and 0.1 percent, respectively. The production of Barley has recorded a decline of 0.3 percent in production during 2017-18. The area and production of other crops are given in Table 2.10.

Table 2.10: Area and Production of other Kharif and Rabi Crops

Crops	2016-17		2017-18 (P)		% Change in production over Last year
	Area (000 Hectares)	Production (000 Tonnes)	Area (000 Hectares)	Production (000 Tonnes)	
Bajra	469	305	489	335	9.8
Jowar	256	148	255	154	4.1
Gram	971	330	978	340	3.0
Barley	61	58.1	60	57.9	-0.3
Rapeseed & Mustard	190	180.5	198	180.7	0.1
Tobacco	47	100	47	100	0.0

P: Provisional (July-February)

Source: Pakistan Bureau of Statistics

During 2017-18, the production of Onion, Mash, and chillies posted a positive growth of 8.1 percent 4.2 percent and 3.8 percent, respectively, compared to their production last year. However, the production of pulse Masoor (Lentil) and Potato remained the same as last year's production, while the production of Moong remained 8.7 percent lower than last year's production .The area and production of other crops are given in Table 2.11.

Table 2.11: Area and Production of Other Crops

Crops	2016-17		2017-18(P)		% Change in production over Last year
	Area (000 Hectares)	Production (000 Tonnes)	Area (000 Hectares)	Production (000 Tonnes)	
Masoor	14.6	6.7	13.8	6.7	0.0
Moong	178.8	130.1	161.8	118.8	-8.7
Mash	17.1	7.2	15.2	7.5	4.2
Potato	179.6	3,852.9	187.2	3,853.9	0.0
Onion	137.9	1,833.2	147.2	1,981.7	8.1
Chillies	63.6	142.7	65.1	148.1	3.8

P: Provisional (July-February)

Source: Pakistan Bureau of Statistics

i) Oilseeds

The major oilseed crops grown in the country include Sunflower, Canola, Rapeseed/Mustard and Cotton. Total availability of edible oils during 2016-17 remained at 3.623 million tonnes of which local production contributed 0.431 million tonnes (12 percent) and the import share of edible oil/oilseeds was 3.191 million tonnes (88 percent). The import bill of edible oil during 2016-17 was Rs 320.893 billion (US$ 3.063 billion).

During 2017-18 (July-February), 1.944 million tonnes of edible oil worth Rs 155.278 billion (US$ 1.453 billion) has been imported. Local production of edible oil during 2017-18 (July-February) is provisionally estimated at 0.503 million tonnes. Total availability of edible oil from all sources is provisionally estimated at 2.447 million tonnes during 2017-18 (July-February).The area and production of oilseed crops during 2016-17 and 2017-18 is given in Table 2.12.

Table 2.12: Area and Production of Major Oilseed Crops

Crops	2016-17 (Jul-Feb)			2017-18 (Jul-Feb) (P)		
	Area	Production		Area	Production	
	(000 Acres)	Seed (000 Tonnes)	Oil (000 Tonnes)	(000 Acres)	Seed (000 Tonnes)	Oil (000 Tonnes)
Cottonseed	5,955	2,704	324	6,852	3,215	386
Rapeseed/ Mustard	487	190	61	522	206	66
Sunflower	215	105	40	203	104	40
Canola	35	16	6	61	30	11
Total	**6,692**	**3,015**	**431**	**7,638**	**3,555**	**503**

P: Provisional

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

II. Farm Inputs

i) Fertilizers

Fertilizer is the most important and expensive input contributing 30 to 50 percent, on average, to the crop yield. The domestic production of fertilizers during 2017-18 (July-March) decreased slightly by 5.4 percent over the corresponding period last year due to diversion of domestic piped natural gas from small scale urea producers, while imported fertilizer increased by 21.1 percent. Total offtake of fertilizer nutrients witnessed a decline by 3.6 percent. Nitrogen offtake decreased by 5.0 percent and phosphate by 1.4 percent. Potash offtake recorded a significant increase of 31.5 percent during 2017-18 (July-March). The government in order to enhance productivity in agriculture sector provided the following subsidies:

- Tax relief on phosphate fertilizer equivalent to Rs. 300 per 50 kg bag of DAP
- Reduction in GST on urea from 17 to 5 percent/voluntary price reduction by the fertilizers manufactures
- Cash subsidy of Rs. 100 per 50 kg bag of urea
- Subsidy of Rs. 800 and Rs. 500 per bag of SOP and MOP respectively, by the Government of Punjab in order to promote the use of Potash

Total availability of urea during Kharif 2017 was 4,445 thousand tonnes comprising of 1,489 thousand tonnes of opening inventory and 2,956 thousand tonnes of domestic production (Table 2.13). Urea offtake was about 3,234 thousand tonnes, leaving inventory of 796 thousand tonnes for Rabi 2017-18. Availability of DAP was 1,360 thousand tonnes comprising of 59 thousand tonnes of opening inventory, 867 thousand tonnes of imported supplies and 434 thousand tonnes of local production. DAP offtake was 992 thousand tonnes leaving an inventory of 367 thousand tonnes for upcoming Rabi 2017-18. About 422 thousand tonnes of urea was exported during Kharif 2017.

Rabi 2017-18 started with an opening balance of 796 thousand tonnes of urea (Table 2.13). Domestic production during Rabi 2017-18 was estimated around 2,698 thousand tonnes. Urea offtake during current Rabi 2017-18 is projected around 3,003 thousand tonnes, against 3,494 thousand tonnes of total availability, leaving a closing balance of 307 thousand tonnes for next season. DAP availability during Rabi 2017-18 will be around 1,531 thousand tonnes, which include 367 thousand tonnes of opening inventory, 787 thousand tonnes of imported supplies and domestic production of 377 thousand tonnes. Offtake of DAP during Rabi season is estimated at 1,403 thousand tonnes, leaving a balance of 135 thousand tonnes for next season.

Total availability of urea during Kharif 2018 will be around 3,229 thousand tonnes comprising of 307 thousand tonnes of opening balance and 2,922 thousand tonnes of domestic production (Table 2.13). Urea offtake is expected to be around 2,959 thousand tonnes, reflecting a closing balance of 270 thousand tonnes. Total availability of DAP will be 557 thousand tonnes against the expected offtake of 782 thousand tonnes. Thus, there is a gap of 225 thousand tonnes of DAP which will be met through imports by private sector.

Table 2.13: Fertilizer Supply Demand Situation **(000 Tonnes)**

Description	Kharif (Apr-Sep) 2017		Rabi (Oct-Mar) 2017-18		Kharif (Apr-Sep) 2018	
	Urea	DAP	Urea	DAP	Urea	DAP
Opening stock	1489	59	796	367	307	135
Imported supplies	0	867	0	787	0	0
Domestic Production	2956	434	2698	377	2922	422
Total Availability	4445	1360	3494	1531	3229	557
Offtake/Demand	3234	992	3003	1403	2959	782
Export	422	0	184	0	0	0
Write on/off	7	-0.6	0	7	0	0
Closing stock	796	367	307	135	270	-225

Source: National Fertilizer Development Center

ii) Improved Seed

Better seed quality is important for sustainable agricultural production and ensuring national food security. Federal Seed Certification & Registration Department (FSC&RD) is an attached department of Ministry of National Food Security & Research, with the mandate to regulate quality of seeds of various crops. During 2017-18 (July-February) brief activities performed by department are as followed:

1. Achievements

a) Registration of Seed Companies:

i. **Seed companies applied for grant of registration as local seed producer**

A total number of 84 seed companies applied for grant of registration as Local Seed Producer and each deposited fee of Rs. 50,000/-

ii. **Seed companies applied for grant of registration as seed importer**

A total of 14 seed companies applied for grant of registration as Seed Importer and each deposited fee of Rs. 75,000/-.

iii. **Seed company applied for grant of registration as seed exporter**

Only one Seed Company applied for grant of registration as Seed Exporter with no requirement for submission for fee as per Seed (Business Regulation) Rules, 2016.

iv. **Renewal of seed companies as local seed producer**

A total of 25 seed companies applied for grant of renewal as Local Seed Producer and each deposited fee of Rs. 25,000/-.

v. **Registration of Seed Processing Units**

A total of twenty seven (27) cases of seed processing units received for registration during the period under report. The fee for registration of a seed processing unit is Rs. 10, 000/-.

b) Registration of new Varieties of Various Crops: 40 new candidate varieties of wheat, cotton, sugarcane, mungbean, barley, tomato, berseem, cucumber, bitter gourd, ground nut and mango have been approved for multiplication (Punjab 17, Sindh 13 and Khyber Pakhtunkhwa 10). A number of 295 new candidate varieties were considered in 1st meeting of VEC-Sub Committee on enlisting which includes vegetables, maize, paddy, potato, fodder and tobacco varieties.

c) Field Crop Inspection: During the period under report, a total of 60,032 acres of different crops (wheat, cotton, paddy, maize, pulses, oilseeds, vegetables, fodders, barley and potato) offered by the public and private seed agencies were inspected for certification purposes.

d) Seed Sampling & Testing: A quantity of 582,113 MT locally produced seed (BNS, pre-basic, basic, certified and approved categories) of major and minor crops was sampled and tested for purity, germination and seed health purposes.

e) Imported seed consignments: A total quantity of 35,634 MT of imported seed of various crops/hybrids (maize, paddy, sunflower, canola, fodders, potato, vegetables

etc.) valuing Rs. 10,108.81 million was tested under Seed (Truth-in-Labeling) Rules, 1991 at the port of entries i.e. Karachi and Lahore.

f) Seed Quality Monitoring in the Markets: Under the provision of amended Seed Act, 1976, a total number of 58 cases were filed in the concerned Courts of Law against the seed dealers found selling substandard seeds and a quantity of 14.42 MT seed of different crops was seized.

g) Central Seed Testing Lab: Central Seed Testing Laboratory (CSTL) Islamabad received approximately 1,200 seed samples from FSC&RD field stations through Quality Manager/Director. A total of 1,170 seed samples of different crops were tested for seed purity, seed moisture and other components.

h) Seed Health Testing: A total of 1,014 seed samples of wheat, cotton and paddy were tested. Seed Health Testing Laboratory also extended its training services to more than 60 officials belongs to different sectors of the country i.e. public/private sectors, research, academia and FSC&RD Field Offices.

i) Seed Germination Laboratory: A total number of 1,742 samples tested during 2017-18 (July-February). It comprises local as well as imported seed samples.

During the above mentioned period 3 samples of International Seed Testing Associate (ISTA) for Proficiency Testing (PT) samples were tested and seed germination laboratory got 1 A-Grade, 1 B-Grade and 1 C-Grade.

2. DUS Examination: A total of 167 new candidate lines of Vegetables, Pulses, Fruits, Potato, Sugarcane, Forage, Maize and Wheat have been studied for Distinctness, Uniformity and Stability (DUS) trails during the subject period. Work is still in progress.

3. Registration/Renewal of Fruit Plant Nurseries

During the period under review, five fruit plant nursery owners have deposited fee for registration while 3 nursery owners have deposited fee for renewal of their nurseries. The detail is given in Table 2.14.

Table 2.14: Area ,Seed Requirements and Seed Availability*

Crop	Sowing Area (000 Ha)	Total Seed Requirement (MT)	Targeted Seed Requirement (MT)	Seed Availability (Metric Tonnes)			
				Public	Private	Imported	Total (Loc+Imp)
Wheat	9,045	1,085,400	217,080	67,237	409,057	-	476,294
Cotton	3,200	55,328	40,000	1,039	26,402	-	27,441
Paddy	2,830	56,600	12,744	294	26,504	2,066	28,864
Maize	1,109	38,815	11,645	41	8,080	9,196	17,317
Pulses	1,337	48,132	9,499	1,197	4,200	-	5,397
Oilseeds	830	10,790	2,116	12	390	86	488
Vegetables	280	8,400	5,070	21	61	8,472	8,554
Fodders	2,038	61,140	40,138	27	1,916	13,400	15,343
Potato	149	372,725	74,545	-	-	2,415	2,415
Total	**20,818**	**1,737,330**	**412,837**	**69,868**	**476,610**	**35,635**	**582,113**

* : Provisional 2017-18 (July-February)

Source: Federal Seed Certification & Registration Department

iii) Mechanization

The production of tractors has seen a remarkable growth of 37.6 percent during FY 2018 (July-February) compared to the production of same period last year. The demand of tractors has increased due to government's supportive policies as the GST on tractors has been reduced to 5 percent, and going forward the demand is expected to increase which will further stimulate the tractor

industry. The production and price of locally manufactured tractors is given in Table 2.15.

Table 2.15: Prices and Production of Locally Manufactured Tractors 2017-18 (July-February)

Tractors Model – Horse Power (HP)	Price/Unit Excluding GST (Rs)	Price/Unit Including GST (Rs)	Production (in Nos.)	Actual Sale (in Nos.)
M/s Al-Ghazi Tractors				
NH 480-S (55 HP)	704,000	739,200	4,707	4,695
NH 480-S-W.P (55 HP)	720,000	756,000	2,357	2,353
NH-Ghazi (65 HP)	791,000	830,550	7,251	7,226
NH-Ghazi WDB (65 HP)	800,000	840,000	177	177
NH- 640 (75 HP)	1,024,000	1,075,200	2,615	2,604
NH -640 WDB (75 HP)	1,030,000	1,081,500	158	156
NH -640-S (85 HP)	1,041,000	1,093,050	65	64
NH -640-S WDB (85 HP)	1,055,000	1,107,750	29	28
NH-70-56 (85 HP)	1,540,000	1,617,000	4	5
Dabung- (85-HP)	1,055,000	1,107,750	384	378
M/s Millat Tractors				
MF-240 (50 HP)	703,000	738,150	7,221	7,210
MF-350 Plus (50 HP)	720,500	756,525	37	26
MF-260 (60 HP)	792,300	831,915	7,368	7,107
MF-360 (60 HP)	822,500	863,625	433	409
MF-375-S (75 HP)	1,047,000	1,099,350	3,333	2,766
MF-385 2WD (85 HP)	1,108,500	1,163,925	8,989	9,032
MF-385 4WD (85 HP)	1,645,800	1,728,090	197	223
Grand Total			**45,325**	**44,459**

Note: GST @ 5 percent

Source: Tractor Manufacturer Association, Federal Water Management Cell

iv) Irrigation

The country faced water shortages during monsoon, post monsoon and winter seasons. During the monsoon season (July-September) 2017, actual rainfall was 22.8 percent lower at 108.8 mm against normal rainfall of 140.9 mm. During the post-monsoon season (October-December) 2017, the actual rainfall remained 39.0 percent below the normal rainfall of 26.4 mm. During the winter season (January-March) 2018, actual rainfall remained 56.7 percent below the normal rainfall of 74.3 mm. Rainfall recorded during the monsoon, post monsoon and winter is given in Table 2.16.

Table 2.16: Rainfall* Recorded During 2017-18 (in Millimeters)

	Monsoon Rainfall (Jul-Sep) 2017	Post Monsoon Rainfall (Oct-Dec) 2017	Winter Rainfall (Jan-Mar) 2018
Normal**	140.9	26.4	74.3
Actual	108.8	16.1	32.2
Shortage (-)/excess (+)	- 32.1	-10.3	-42.1
% Shortage (-)/excess (+)	-22.8	- 39.0	-56.7

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

Source: Pakistan Meteorological Department

During Kharif (April-September) 2017, canal head withdrawals stood at 69.97 Million Acre Feet (MAF) showing a decrease of 2 percent as compared to 71.37 MAF during the same period last year. During Rabi (October-March) 2017-18, the canal head withdrawals witnessed a decline of 19 percent and stood at 24.16 MAF, compared to 29.66 MAF during the same period last year. The province-wise detail is shown in Table 2.17.

Table 2.17: Canal Head Withdrawals (Below Rim Station) **Million Acre Feet (MAF)**

Province	Kharif (Apr-Sep) 2016	Kharif (Apr-Sep) 2017	% Change in Kharif 2017 Over 2016	Rabi (Oct-Mar) 2016-17	Rabi (Oct-Mar) 2017-18	% Change in Rabi 2017-18 Over 2016-17
Punjab	36.39	35.51	-2	15.93	12.76	-20
Sindh	32.13	31.37	-2	12.04	9.75	-19
Balochistan	1.93	2.07	7	1.10	1.12	2
Khyber Pakhtunkhwa	0.92	1.02	11	0.59	0.53	-10
Total	**71.37**	**69.97**	**-2**	**29.66**	**24.16**	**-19**

Source: Indus River System Authority

Water Sector strategy centers around five important elements i.e. water augmentation, water conservation, protection of infrastructure from water logging and salinity and floods, groundwater management and institutional reforms. The existing strategy entails augmentation of surface resources to be done by construction of water storage dams, conservation of water to be undertaken through lining of canals and water courses and efficiency enhancement to be done by rehabilitation and better operation of existing system. The extended strategy will involve groundwater recharge, use of saline water, water cost/price as a mechanism of efficiency, sustainable use of resources (land, water and environment), climate change implications and trans- boundary water implications.

An amount of Rs 36.750 billion were allocated for water sector's development projects/ programs during the year 2017-18. The major water sector projects under implementation are shown in Table 2.18.

Table 2.18: Major Water Sector Projects under Implementation

Project	Location	App. cost (Rs. in million)	Live Storage	Irrigated Area (Acres)	Status
Basha Dam (Dam Part)	Khyber Pakhtunkhwa & Gilgit Baltistan	510,000	6.40	-	At initial stage
Gomal Zam Dam	Khyber Pakhtunkhwa	20,626	0.892 MAF	191,139 (17.4 MW Power Gen.)	Completed & Operational
Kachhi Canal (Phase-I)	Balochistan	80,352	-	72,000	Physically completed. (Phase-I)
Darawat Dam	Sindh	9,300	89,192 (Ac.Ft)	25,000 (0.30 MW Power Gen.)	Physically completed
NaiGaj Dam	Sindh	26,236	160,000 (Ac.Ft)	28,800 (4.2 MW Power Gen.)	50 % 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.)	17% works completed. Works at initial stage
Naulong Dam	Balochistan	18,027	0.20 MAF	47,000 (4.4 MW Power Gen.)	Feasibility & Detailed Engn. Design completed Works on dam not yet started.
Mohmand Dam	FATA Mohmand Agency	114,285	0.676 MAF	16,737 (800 MW Power Gen.)	Feasibility & Detailed Engn. Design completed Formulation of PC-I & Financial mechanism are in progress
Right Bank Outfall Drain (RBOD)				ROBD-II will help to dispose 3,520 cusecs of drainage effluent into Sea received from RBOD-I & III	
RBOD-I	Sindh	17,505	-		82% completed
RBOD-II	Sindh	61,985	-		63% completed
RBOD-III	Balochistan	10,804	-		74 % completed

Source: Ministry of Planning, Development and Reform

iv) Agricultural Credit

In the backdrop of the government's budgetary initiatives for promotion of agriculture sector, SBP has assigned the indicative agriculture credit disbursement targets of Rs 1,001 billion to 52 participating institutions including 19 Commercial banks, 2 Specialized Banks, 5 Islamic Banks and 11 Microfinance banks and 15 Microfinance Institutions/Rural Support Programmes (MFIs/RSPs).

This indicative agriculture target is 43 percent higher than the last year's target of Rs 700 billion and 42 percent higher than the actual disbursement of Rs 704.5 billion in 2016-17. Out of the total target, Rs 516 billion have been assigned to five major commercial banks, Rs 125 billion to ZTBL, Rs 200 billion to 14 Domestic Private banks, Rs 15 billion to Punjab Provincial Cooperative Bank Limited (PPBCL), Rs 100 billion to 11 Microfinance banks, Rs 20 billion to five Islamic banks and Rs 25 billion to 15 MFIs/RSPs for FY 2017-18.

Agricultural Credit Disbursements Recent Trends

Agriculture credit disbursement increased by 39.4 percent to Rs 570 billion (57 percent of annual target) during FY 2018 (July-February) compared to same period last year, which shows commitment of the government to support agriculture sector.

This amount has 39.4 percent higher than the disbursement of Rs 409 billion during the same period of last year. Similarly, outstanding portfolio of agriculture loans has increased by Rs 79.5 billion i.e. from Rs 373.1 billion to Rs 452.6 billion or 21.3 percent at end February 2018 as compared to the same period last year.

The performance review of 2017-18 (July-February), shows that five major banks as a group have disbursed Rs 292 billion and witnessed 42.9 percent growth as compared with the same period last year. Under the specialized banks category, ZTBL disbursed Rs 51.9 billion or 41.5 percent against its target of Rs 125 billion, while PPCBL disbursed Rs 6.1 billion, i.e, 40.5 percent against its annual target of Rs 15 billion during the period under review.

In addition, 14 Domestic Private Banks collectively disbursed Rs 112.9 billion with growth of 44.6 percent as compared with corresponding period last year. The 5 Islamic banks collectively disbursed Rs 9.3 billion with 46.7 percent growth against their targets of Rs 20 billion to farmers. The Microfinance banks as a group disbursed Rs 79.6 billion against their annual target of Rs 100 billion and 15 MFIs/RSPs collectively disbursed Rs 18.2 billion against the annual target of Rs 25 billion during July-February FY 2017-18. The Agriculture Credit disbursement institution-wise is given in Table 2.19 below.

Table 2.19: Supply of Agricultural Credit by Institutions **(Rs billion)**

Banks	Target 2017-18	2017-18 (July-February)		Target 2016-17	2016-17 (July-February)		% Change over the Period
		Disbursement	Achieved (%)		Disbursement	Achieved (%)	
5 Major Commercial Banks	516.0	292.0	56.6	342.0	204.4	59.8	42.9
ZTBL	125.0	51.9	41.5	102.5	46.7	45.5	11.2
PPCBL	15.0	6.1	40.5	12.5	5.9	47.3	2.7
DPBs (14)	200.0	112.9	56.5	137.6	78.1	56.8	44.6
Islamic Banks (5)	20.0	9.3	46.7	11.0	7.8	71.2	19.2
MFBs (11)	100.0	79.6	79.6	60.1	55.2	91.9	44.3
MFIs/RSPs	25.0	18.2	72.6	34.3	10.9	31.7	66.8
Total	**1,001.0**	**570.0**	**57.0**	**700.0**	**409.0**	**58.4**	**39.4**

Source: State Bank of Pakistan

Box-1: Credit Disbursement to Farm and Non-Farm Sector

While reviewing the sector wise agriculture disbursement in detail, out of disbursements of Rs 570.0 billion, Rs 260.8 billion or 45.8 percent were disbursed to farm-sector and Rs 309.1 billion or 54.2 percent to non-farm sector. However, during corresponding period last year, a total amount of Rs 409.0 billion was disbursed out of which Rs 196.1 billion or 47.9 percent was disbursed to farm sector and non-farm sector received Rs 212.9 billion or 52.1 percent of total disbursements by banks. During last couple of years, the focus of agriculture lending institutions has been shifting more towards non-farm activities mainly due to new financing avenues and opportunities in livestock/dairy and poultry sectors. Table 2.20.

Table 2.20 : Credit Disbursement to Farm & Non-Farm Sectors **(Rs billion)**

Sector		2016-17 (July-February)		2017-18 (July-February)	
		Disbursement	% Share within sector	Disbursement	% Share within sector
A	**Farm Credit**	**196.1**	**47.9**	**260.8**	**45.8**
1	Subsistence Holding	88.6	45.2	116.4	44.6
2	Economic Holding	39.0	19.9	46.4	17.8
3	Above Economic Holding	68.5	34.9	98.0	37.6
B	**Non-Farm Credit**	**212.9**	**52.1**	**309.1**	**54.2**
1	Small Farms	74.7	35.1	92.1	29.8
2	Large Farms	138.2	64.9	217.0	70.2
	Total (A+B)	**409.0**	**100**	**570.0**	**100**

Source: State Bank of Pakistan

SBP's Initiatives for the Promotion of Agriculture Financing

SBP in line with government's priority has taken various policy and developmental initiatives for the promotion of financial outreach in the rural areas. Some of the recent initiatives are as follow:

1. **Implementation of Credit Guarantee Scheme for Small and Marginalized Farmers (CGSMF):** CGSMF was in line with the government's budgetary announcement. The scheme aims to encourage financial institutions to lend to small farmers across Pakistan who do not have adequate collateral (acceptable to banks) in order to meet their working capital requirements. Under the scheme, PFIs have been assigned credit disbursement targets of Rs 2 billion. More than 50,000 borrowers have been financed under the scheme.
2. **Crop Loan Insurance Scheme:** To mitigate the risk of default risk of farmers, in case of natural calamities and provide repayment assurance to banks, the government introduced mandatory crop loan insurance scheme for five major crops, i.e., wheat, cotton, rice, sugarcane and maize in 2008. Under the scheme, which is mandatory for small farmers having land holding up to 25 acres, the government is bearing the cost of premium on account of small farmer's up to 2 percent per crop per season. More than 3.8 million borrowers have benefitted from this scheme since its inception.
3. **Livestock Loan Insurance Scheme:** To improve access to finance to Livestock & dairy sector and to mitigate risk of loss of livestock due to disease, natural calamities and accidents, SBP, in collaboration with SECP, banks, insurance companies and provincial livestock & dairy department has developed Livestock Insurance Scheme or borrowers. Livestock Loan Insurance Scheme (LLIS) was launched on November 1, 2013 and covers all livestock loans up to Rs 5 million for purchase of animals. Under LLIS, the borrowers are covered against death of animal due to disease/natural death, due to flood, heavy rains, windstorm and accidental death. Under this scheme, the government is bearing the cost of premium (upto 4 percent per annum) of small farmers who has obtained loan upto 10 animals.

4. **Workshops / Trainings / Capacity & Awareness Building:** SBP regularly organizes various training programs and awareness sessions in order to meet demand and supply side capacity building requirements of agri-finance stakeholders including banks and farmers. These programs include Farmers Financial Literacy Programs, which are educational sessions designed to teach farmers about basic banking services and financial managements. Over 150,000 farmers have benefited from these programs in 35 agri-intensive districts across Pakistan. Other programs include awareness sessions on latest financial innovations including Agricultural Value Chain Financing, Warehouse Receipt Financing, Shariah Based Agriculture Financing etc.

III. Livestock and Poultry

a) Livestock

Livestock has an important role in promoting socio-economic development in rural areas. Nearly 8 million families are involved in livestock raising and deriving more than 35 percent income from livestock production activities. It is a source of cash income, providing a vital and often the only source of income for the rural and playing an important role in poverty alleviation and foreign exchange earnings.

During 2017-18, livestock contributed 58.9 percent to the agriculture value added and 11.1 percent to the overall GDP compared to 58.9 percent and 11.3 percent during the corresponding period last year, respectively. Gross value addition of livestock at constant cost factor of 2005-06 has increased from Rs. 1,327 billion (2016-17) to Rs. 1,377 billion (2017-18), showing an increase of 3.8 percent over the same period last year.

The livestock population for the last three years is given in Table 2.21.

Table 2.21: Estimated Livestock Population **(Million Nos.)**

Species	2015-16[1]	2016-17[1]	2017-18[1]
Cattle	42.8	44.4	46.1
Buffalo	36.6	37.7	38.8
Sheep	29.8	30.1	30.5
Goat	70.3	72.2	74.1
Camels	1.0	1.1	1.1
Horses	0.4	0.4	0.4
Asses	5.1	5.2	5.3
Mules	0.2	0.2	0.2

[1]: 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 2.22.

Table:2.22 Estimated Milk and Meat Production **(000 Tonnes)**

Species	2015-16[1]	2016-17[1]	2017-18[1]
Milk (Gross Production)	**54,328**	**56,080**	**57,890**
Cow	19,412	20,143	20,903
Buffalo	33,137	34,122	35,136
Sheep[2]	39	39	40
Goat	867	891	915
Camel[2]	873	885	896
Milk (Human Consumption)[3]	**43,818**	**45,227**	**46,682**
Cow	15,529	16,115	16,722
Buffalo	26,510	27,298	28,109
Sheep	39	39	40

Table:2.22 Estimated Milk and Meat Production **(000 Tonnes)**

Species	2015-16[1]	2016-17[1]	2017-18[1]
Goat	867	891	915
Camel	873	885	896
Meat[4]	**3,873**	**4,061**	**4,262**
Beef	2,017	2,085	2,155
Mutton	686	701	717
Poultry meat	1,170	1,276	1,391

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 2.23.

Table: 2.23 Estimated Livestock Products Production

Species	Units	2015-16[1]	2016-17[1]	2017-18[1]
Eggs	Million Nos.	16,188	17,083	18,037
Hides	**000 Nos.**	**15,886**	**16,421**	**16,974**
Cattle	000 Nos.	8,111	8,416	8,734
Buffalo	000 Nos.	7,669	7,897	8,131
Camels	000 Nos.	106	108	109
Skins	**000 Nos.**	**54,278**	**55,526**	**56,805**
Sheep Skin	000 Nos.	11,264	11,397	11,532
Goat Skin	000 Nos.	27,073	27,807	28,560
Fancy Skin	000 Nos.	15,941	16,322	16,712
Lamb skin	000 Nos.	3,345	3,385	3,425
Kid skin	000 Nos.	12,595	12,937	13,287
Wool	000 Tonnes	45.1	45.7	46.2
Hair	000 Tonnes	26.5	27.2	27.9
Edible Offal's	000 Tonnes	394	405	416
Blood	000 Tonnes	66.1	67.8	69.5
Guts	000 Nos.	54,833	56,094	57,387
Casings	000 Nos.	16,895	17,461	18,048
Horns & Hooves	000 Tonnes	57.2	58.9	60.6
Bones	000 Tonnes	852.3	878.2	904.9
Fats	000 Tonnes	271.0	279.0	287.3
Dung	000 Tonnes	1,207	1,244	1,282
Urine	000 Tonnes	368	379	390
Head & Trotters	000 Tonnes	245.6	252.5	259.6
Ducks, Drakes & Ducklings	Million Nos.	0.46	0.44	0.42

[1]: 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

The population growth, increases in per capita income and export opportunities are fueling the demand of livestock and livestock products in the country. The overall livestock development strategy revolves around fostering "private sector-led development with public sector providing an enabling environment through policy interventions". The regulatory measures

are aimed at improving per unit animal productivity by improving health coverage, management practices, animal breeding practices, artificial insemination services, use of balanced ration for animal feeding, and controlling livestock diseases. The objective is to exploit the livestock sector and its potential to cater to domestic need, for economic growth, food security and rural socio-economic uplift.

b) Poultry

Poultry sector is one of the most vibrant segments of livestock sector in Pakistan. 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. The current investment in Poultry Industry is more than Rs. 700 billion. Poultry meat production for the year 2017-18 was to the tune of 1.39 million tons, which contributed 32.7 percent of the total meat (4.3 million tons) production in the country. During 2017-18, the poultry has contributed 1.4 percent in GDP, while its contribution in agriculture and livestock value added stood at 7.5 percent and 12.7 percent, respectively. The poultry value added at current factor cost has reached to Rs. 175.5 billion (2017-18) from Rs.162.8 billion (2016-17) showing an increase of 7.8 percent compared to the same period last year. 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 2016-17. The estimated production of and rural poultry and poultry products for the last three years is given in Table 2.24.

Table 2.24: Estimated Domestic/Rural & Commercial Poultry

Type	Units	2015-16[1]	2016-17[1]	2017-18[1]
Domestic Poultry	**Million Nos.**	**84.58**	**85.86**	**87.16**
Cocks	Million Nos.	11.24	11.55	11.86
Hens	Million Nos.	40.90	41.64	42.39
Chicken	Million Nos.	32.43	32.67	32.91
Eggs[2]	Million Nos.	4,090	4,164	4,239
Meat	000 Tonnes	115.24	117.54	119.89
Duck, Drake & Duckling	**Million Nos.**	**0.46**	**0.44**	**0.42**
Eggs[2]	Million Nos.	20.36	19.52	18.70
Meat	000 Tonnes	0.62	0.59	0.57
Commercial Poultry	**Million Nos.**	**56.9**	**60.6**	**64.6**
Layers	Million Nos.	45.64	48.83	52.25
Broilers	Million Nos.	874.09	961.50	1,057.65
Breeding Stock	Million Nos.	11.24	11.80	12.39
Day Old Chicks	Million Nos.	912.99	1,004.29	1,104.72
Eggs[2]	Million Nos.	12,077	12,900	13,779
Meat	000 Tonnes	1,054.46	1,157.51	1,270.69
Total Poultry				
Day Old Chicks	Million Nos.	945	1,037	1,138
Poultry Birds	Million Nos.	1,016	1,108	1,210
Eggs	Million Nos.	16,188	17,083	18,037
Poultry Meat	000 Tonnes	1,170	1,276	1,391

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

Government Policy Measures

Livestock Wing under Ministry of National Food Security & Research with its redefined role under 18th Constitutional Amendment allowed import of high yielding animals, semen and embryos for the genetic improvement of indigenous dairy animals, import of high quality feed stuff/micro ingredients for improving the nutritional quality of animal & poultry feed and import of veterinary, dairy and livestock machinery / equipment at reduced

duty rates to encourage value added industry in the country

Livestock Wing also provided facilitation for the export of red meat. A total of 30.450 thousand tons of red meat was exported during FY 2017-18 (July-February). The export of meat fetched US $ 105.541 million. This meat was exported from private sector slaughterhouses. During the same period export facilitation was also provided for livestock by-products like animal casing, bones, horns & hooves and gelatin. The efforts continued for market access with the concerned authorities of China, South Africa, Jordan and Indonesia through diplomatic channel for export of our meat and meat products.

Livestock Wing regulated the import of superior quality semen and high yielding exotic dairy cattle of Holstein-Friesian & Jersey breeds for genetic improvement of indigenous dairy animals. During FY 2017-18 (July-February), 767.504 thousand doses of semen and 9,423 exotic dairy cows were imported. The exotic dairy cows added approximately 61 million tons of milk per annum in the commercial milk chain/system.

In order to facilitate dairy farmer, duty free import of calf milk replacer & cattle feed premix was allowed. During FY 2017-18 (July-February), 336.4 metric tons of calf milk replacer & 100.6 metric tons of cattle feed premix was imported. Similarly, to promote and encourage value added livestock processing industry in the country, duty free import of machinery for milk, beef, mutton & poultry processing was allowed.

During FY 2017-18 (July-February), the Animal Quarantine Department (AQD) provided quarantine services and issued 22,145 Health Certificates for the export of live animals, mutton, beef, eggs and other livestock products having value of US$ 232.001 million. The AQD generated non-tax revenue of Rs. 77.026 million during 2017-18 (July-February) as certificate / laboratory examination fee of animal and animal products exported during the year.

The National Veterinary Laboratory (NVL), Islamabad is a national institution for service and regulatory support to national livestock wealth with mission to promote greater productivity and profitability of livestock industries in Pakistan. 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 FY 2017-18 (July-March), 9,163 samples were analyzed for disease diagnosis surveillance, veterinary vaccines and residue testing.

Moreover, to attract further investment in dairy sector, protect the small dairy farmers and the corporate dairy sector, beside discouraging import and mitigate use of synthetic milk and recipe products, regulatory duties to the tune of 45 percent has been imposed on import of Skimmed Milk Powder (SMP) and Whey Powder (WP).

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. Controlling Trans-boundary Animal Diseases (FMD, PPR, Zoonotic diseases) of trade and economic importance through provincial participation,

iv. Bringing more investments in livestock sectors and

v. Exploring new markets for export of meat and dairy products with focus on Global Halal Food Trade Market.

IV. Fisheries

Fishery plays an important role in Pakistan's economy and is considered to be a source of livelihood for the coastal population. Apart from marine fisheries, inland fisheries (based in rivers, lakes, ponds, dams etc.) is also an important activity throughout the country. Fisheries' share in GDP is 0.4 percent but has a greater value addition in export earnings.

During FY 2017-18 (July-February), total marine and inland fish production was estimated at 482,000 m. tons out of which 338,000 m. tons was from marine waters and the remaining catch came from inland waters. Whereas the fish production for the period FY 2016-17 (July-February), was estimated to be 477,000 m. tons in which 332,000 m. tons was from marine and the remaining was produced by inland fishery sector.

During FY 2017-18 (July-February), a total of 108,262 m.tons of fish and fishery products were exported. Pakistan's major buyers are China, Thailand, Malaysia, Middle East, Sri Lanka and Japan etc. Pakistan earned US $ 264 million, while the export for FY 2016-17 (July-February) of fish and fishery products was 89,032 m. tons which earned US $ 239 million. The export of fish and fishery products has increased by 21.6 percent in quantity and 10.5 percent in value during FY 2017-18 (July-February) comparing same period last year.

Government of Pakistan is taking a number of steps to improve fisheries sector. Further a number of initiatives have been taken by federal and provincial fisheries departments which include *inter alia* strengthening of extension services, introduction of new fishing methodologies, development of value added products, enhancement of per capita consumption of fish, and up-gradation of socio-economic conditions of the fishermen's community.

i) Biological and Hydrological Research

During FY 2017-18 (July-February) samples of seawater collected from coastal areas were analyzed to determine parameters which affect fish distribution. Fish samples of different species were examined for study of length-weight relationship, sex ratio, maturity, food and feeding habit and fecundity etc. Monitoring for fish landing to determine stock position was also carried out at Karachi Fish Harbour.

ii) Quality Control Services

Marine Fisheries Department (MFD) is responsible to regulate quality and promote export of fish and fishery products and to prevent export of substandard quality of seafood products. In this connection, during FY 2017-18 (July-February), the Quality Control Section of MFD has issued 19,848 certificates of Health, Quality & Origin for seafood commodities exported from Pakistan.

iii) Turtle Excluder Device (TED) and Trials of TED by Local Fishermen

MFD is conducting training programme for fisherman about the use of Turtle Excluder Device (TED) in which 91 fisherman, including representatives of the other organizations participated. 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 fisherman.

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.

iv) Modernized Fishing Fleets

As a result of introduction of modular boats by MFD in January, 2008 the boat owners have started modification of their boats at their own expenses. This is a success story which shows that the fisherman community has accepted the technology of lining of fish holds of fishing boat with fibreglass coating.

- 1,368 fishing boats including Trawler, Gillnetters and Horas and Doondas has been modified and upgraded
- For the monitoring of boat modification, inspection is conducted by MFD and new/fresh wooden/fibreglass fishing boats for fish holds and other areas were modified with fibreglass work/coating, as per EU standard and MFD issued Boat Approval Certificate for one year expiry

v) Deep Sea Fishing

During FY 2017-18 (July-February), no deep sea fishing vessel was in operation. Now deep sea fishing policy has been revised in consultation with all stakeholders which is under process for approval.

Table 2.25: Export of Fish and Fishery Products to European Union (EU) 2017-18 (P)

Commodity / Country	Fish		Cuttlefish		Shrimp		Total	
	Quantity (MT)	Value US$ (000)	Quantity (MT)	Value US$ (000)	Quantity (MT)	Value US$ (000)	Quantity (MT)	Value US$ (000)
Belgium	72	201	27	99	25	139	124	439
Cyprus	15	49	63	259	-	-	78	308
Spain	16	73	210	1,023	-	-	226	1,096
Italy	27	69	-	-	-	-	27	69
UK	145	811	-	-	24	149	169	960
Total	**275**	**1,203**	**300**	**1,381**	**49**	**288**	**624**	**2,872**

P: July-February

Source: Marine Fisheries Department

vi) Export of Fish and Fishery Products to the European Union (EU) Countries

Since resumption of export to the EU countries different consignment of fish, cuttlefish and Shrimps have been exported to the EU which has successfully cleared after 100 percent laboratory analysis at EU border. Export of seafood to EU countries during FY 2017-18 (July-February) is given in Table 2.25.

For further enhancement of seafood export to EU countries, six more processing plants are in pipeline, their cases for approval is under process with EU authorities. In order to meet the requirement of EU and other importing countries, two (02) laboratories of MFD (i.e. microbiology & Chemical) have got accreditation from Pakistan National Accreditation Council.

Conclusion

The agriculture sector continued to show improved performance and recorded the highest growth in last 13 years on account of government's supportive policies. The improvement in this sector is contingent upon continuity of the policies, which will not only help the agriculture sector to grow but will support other sectors of the economy. However, there is a need to improve the yield in a number of crops which are still low compared to peer countries. Pakistan being an agriculture country faces water scarcity problem due to increase in climate variability and extreme weather events which are negatively impacting water resources. To mitigate this challenge, National Water Policy should be formulated for water security on the basis of which the provincial governments can formulate their respective master plans and projects for water conservation, water developments and water management.