Chapter 2

Agriculture

Sustainable growth of the agriculture sector stands vital for food security and rural development in Pakistan. It is a major contributor to the employment and foreign exchange earnings. In addition to that it provides industrial raw material, hence growth in this sector has multiple linkages with the overall economy. It contributes 22.7 percent to the GDP and provides employment to around 37.4 percent of the labour force, manager of rural landscape and environmental shield in protecting and upgrading the climate-resilient production and ecosystem. The improvement in agriculture production systems will increase farm income, reduce consumer prices and enhance diverse food supplies besides generating an exportable surplus. During the post COVID-19 period, the steep rise in the price of various commodities has further enhanced the importance of this sector, especially for the countries who are net importers of food items.

Realizing the importance of agriculture sector, the Government encourage financial inclusion activities in the agriculture sector to adopt new approaches in order to boost the productivity and exports, thus enhancing a rural development-driven economic growth.

Agriculture Performance during 2021-22

During 2021-22, agriculture sector recorded a remarkable growth of 4.40 percent and surpassed the target of 3.5 percent and last year's growth of 3.48 percent. This growth is mainly driven by high yields, attractive output prices and supportive government policies, better availability of certified seeds, pesticides and agriculture credit. The crops sector outperformed and posted a growth of 6.58 percent during 2021-22 against 5.96 percent last year. At sub sectors level, important crops, other crops and cotton ginning depicted a significant growth of 7.24 percent, 5.44 percent and 9.19 percent, respectively, against last year's growth of 5.83 percent, 8.27 percent and -13.08 percent. The growth in production of important crops namely cotton, rice, sugarcane and maize are estimated at 17.9 percent, 10.7 percent, 9.4 percent and 19.0 percent respectively. The cotton crop increased from 7.1 million bales reported last year to 8.3 million bales during 2021-22; rice production increased from 8.4 million tonnes to 9.3 million tonnes; sugarcane production increased from 81.0 million tonnes to 88.7 million tonnes; maize production increased from 8.9 million tonnes to 10.6 million tonnes respectively, while wheat production decreased from 27.5 million tonnes to 26.4 million tonnes. Other crops having share of 13.86 percent in agriculture value addition and 3.14 percent in GDP, grew by 5.44 percent on the back of increase in the production of pulses (29.82

percent), oilseeds (24.75 percent), vegetables (11.52 percent), fruits (1.53 percent) and fodders (0.36 percent).

Livestock having share of 61.89 percent in agriculture and 14.04 percent in GDP, recorded a growth of 3.26 percent in 2021-22 compared to 2.38 percent during same period last year. The fishing sector having share of 1.39 percent in agriculture value addition and 0.32 percent in GDP, grew at 0.35 percent compared to growth of 0.73 percent in same period last year. Forestry sector having share of 2.14 percent in agriculture value addition and 0.49 percent in GDP posted a positive growth of 6.13 percent against the negative growth of 0.45 percent last year (Table 2.1).

Table 2.1: Agriculture Growth (Base=2015-16) (%)

Sector	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22 P
Agriculture	**2.22**	**3.88**	**0.94**	**3.91**	**3.48**	**4.40**
1. Crops (i+ii+iii)	1.37	4.61	-4.38	6.32	5.96	6.58
i) Important Crops	2.68	4.27	-8.59	5.24	5.83	7.24
ii) Other Crops	-1.24	4.65	3.62	9.21	8.27	5.44
iii) Cotton Ginning	5.24	8.27	-11.23	-4.06	-13.08	9.19
2. Livestock	2.89	3.59	3.65	2.80	2.38	3.26
3. Forestry	-2.92	2.24	7.22	3.36	-0.45	6.13
4. Fishing	1.22	1.57	0.78	0.63	0.73	0.35

P: Provisional
Source: Pakistan Bureau of Statistics

Water availability during Kharif 2021 recorded at 65.1 million acre feet (MAF) compared to 65.1 MAF of Kharif 2020. Rabi season 2021-22 stood at 27.4 MAF, showing a decrease of 12 percent over Rabi 2020-21. (Table 2.2).

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

Period	Kharif	Rabi	Total	% increase/decrease over the average system usage (103.5 MAF)
Average system usage	67.1	36.4	103.5	-
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
2019-20	65.2	29.2	94.4	-8.8
2020-21	65.1	31.2	96.3	-7.0
2021-22	65.1	27.4	92.5	-10.6

Source: Indus River System Authority

I. Crop Situation

The important crops contribute 19.44 percent to value addition in agriculture sector and 4.41 percent to GDP. Other crops account for 13.86 percent in value addition of agriculture sector and 3.14 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
2015-16	9,917	65,482	6,801	5,271	25,633
	-	-	-	-	-
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	9,861	67,174	7,202	6,826	24,349
	(-17.5)	(-19.4)	(-3.3)	(15.7)	(-2.9)
2019-20	9,148	66,380	7,414	7,883	25,248
	(-7.2)	(-1.2)	(2.9)	(15.5)	(3.7)
2020-21	7,064	81,009	8,420	8,940	27,464
	(-22.8)	(22.0)	(13.6)	(13.4)	(8.8)
2021-22(P)	8,329	88,651	9,323	10,635	26,394
	(17.9)	(9.4)	(10.7)	(19.0)	(-3.9)

P: Provisional Note: Figures in parentheses are growth/decline rates
Source: Pakistan Bureau of Statistics

a) Important Crops

i) Cotton

Pakistan is 5th largest producer of cotton in the world. Export of cotton and textile products have a share of around 60 percent in overall exports of the country. It contributes around 0.6 percent to GDP and 2.4 percent of the value added in agriculture. Over the last decade or so, area under cotton cultivation has been declined and replaced by its competing crops like sugarcane, maize, potato and rice. During 2021-22, the cropped area declined to 1,937 thousand hectares (6.8 percent) against last year's 2,079 thousand hectares. Cotton production increased to 8.329 million bales (17.9 percent) against last year's 7.064 million bales. (Table 2.4 and Figure 2.1). Despite decline in area sown, cotton production increased due to improved yield. The improvement in cotton yield was attributed to conducive weather conditions, smooth input supplies, better crop management practices and favorable cotton prices in international and domestic market.

Fig-2.1: Cotton Production

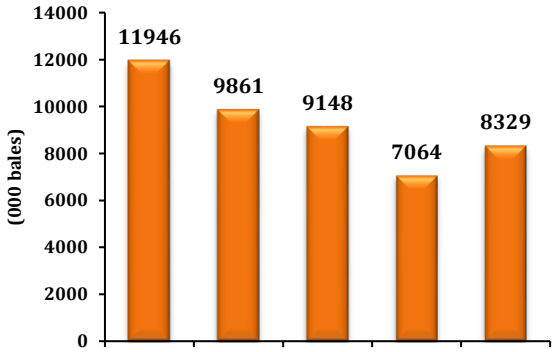
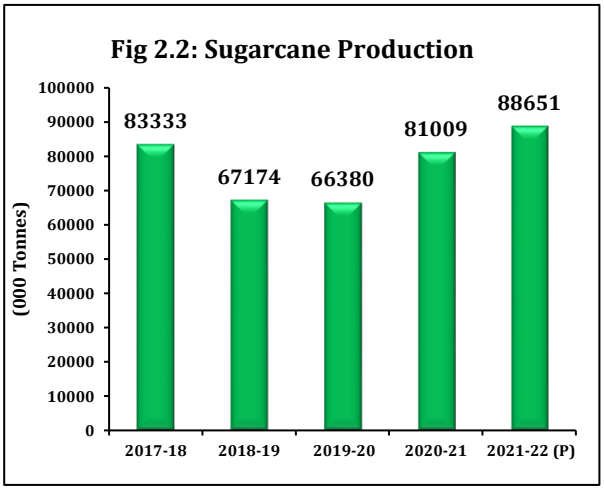


Table 2.4: Area, Production and Yield of Cotton

Year	Area		Production		Yield	
	(000 Hectare)	% Change	(000 Bales)	% Change	(Kgs/Hec)	% Change
2017-18	2,700	-	11,946	-	753	-
2018-19	2,373	-12.1	9,861	-17.5	707	-6.1
2019-20	2,517	6.1	9,148	-7.2	618	-12.6
2020-21	2,079	-17.4	7,064	-22.8	578	-6.5
2021-22(P)	1,937	-6.8	8,329	17.9	731	26.5

P: Provisional
Source: Pakistan Bureau of Statistics

ii) Sugarcane



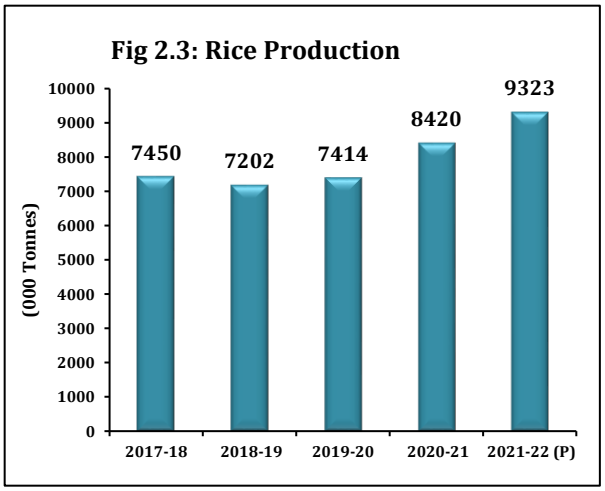
Sugarcane is of great significance for sugar related industries and 2nd largest agro-based industry after textile. Its production accounts for 3.7 percent in agriculture's value addition and 0.8 percent in GDP. During 2021-22, sugarcane was cropped on 1,260 thousand hectares recorded an increase of 8.2 percent compared to last year's sown area of 1,165 thousand hectares. A bumper sugarcane crop production recorded at 88.651 million tonnes during 2021-22, up by 9.4 percent over last year (81.009 million tonnes). The higher domestic sugar price and better sugarcane procurement price incentivized growers to dedicate more area to sugarcane, favourable weather conditions, better management and timely availability of quality inputs. The area, production, and yield of sugarcane during the last five years are given in Table 2.5 and Figure 2.2.

Table 2.5: Area, Production and Yield of Sugarcane

Year	Area		Production		Yield	
	(000 Hectare)	% Change	(000 Tonnes)	% Change	(Kgs/Hec.)	% Change
2017-18	1,342	-	83,333	-	62,096	-
2018-19	1,102	-17.9	67,174	-19.4	60,956	-1.8
2019-20	1,040	-5.6	66,380	-1.2	63,841	4.7
2020-21	1,165	12.0	81,009	22.0	69,534	8.9
2021-22(P)	1,260	8.2	88,651	9.4	70,341	1.2

P: Provisional
Source: Pakistan Bureau of Statistics

iii) Rice



Rice is an important cash crop and after wheat and it is 2nd major staple food item consumed in the country. Its production comprises of 34 percent of basmati (fine) types and 66 percent of coarse types. During the last few years, production of coarse types is increasing as the farmers are bringing more areas under coarse hybrid types. It contributes 2.4 percent of value added in agriculture and 0.5 percent in GDP. During 2021-22, the crop was sown on 3,537 thousand hectares, showing an increase of 6.1 percent as against 3,335 thousand hectares last year. The record high output of rice stood at 9.323 million tonnes during 2021-22, higher by 10.7 percent than last year's production of 8.420 million tonnes. From the last couple of years, area under rice cultivation is

witnessing rising trend. As domestic rice production exceeds domestic annual requirement, the country often has exportable surplus. The area, production, and yield of rice during the last five years are shown in Table 2.6 and Figure 2.3.

Table 2.6: Area, Production and Yield of Rice

Year	Area		Production		Yield	
	(000 Hectare)	% Change	(000 Tonnes)	% Change	(Kgs/Hec.)	% Change
2017-18	2,901	-	7,450	-	2,568	-
2018-19	2,810	-3.1	7,202	-3.3	2,563	-0.2
2019-20	3,034	8.0	7,414	2.9	2,444	-4.6
2020-21	3,335	9.9	8,420	13.6	2,525	3.3
2020-22(P)	3,537	6.1	9,323	10.7	2,635	4.4

P: Provisional
Source: Pakistan Bureau of Statistics

iv) Wheat

Wheat is the staple crop and it ensures food security of the country. Wheat is cultivated over 22 million acres and accounts for 7.8 percent of the value added in agriculture and 1.8 percent of GDP. Self-sufficiency in wheat has been an objective of every Government and thus always challenges for the agriculture experts and policy makers. Wheat is a strategic crop and any shortfall in its production can create an awkward situation leading to political uncertainty, significant drainage of foreign reserves, rise in prices of wheat flour and pocket shortages in vulnerable areas. During 2021-22, area sown decreased to 8,976 thousand hectares (2.1 percent) against last year's of 9,168 thousand hectares. The production of wheat declined to 26.394 million tonnes (3.9 percent) compared to 27.464 million tonnes production of last year. Wheat production declined due to decline in area sown, shortfall in irrigation water and drought conditions at sowing, less fertilizers offtake and heat wave in March/April, though the government has increased Minimum Support Price to Rs 2200/40 kg this year is aligned to the cost of production. The wheat production position over the last five years is given in Table 2.7 and Figure 2.4.

Fig 2.4: Wheat Production

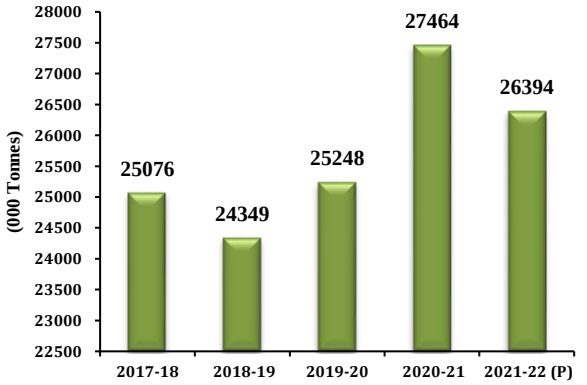


Table 2.7: Area, Production and Yield of Wheat

Year	Area		Production		Yield	
	(000 Hectares)	% Change	(000 Tonnes)	% Change	(Kgs /Hec.)	% Change
2017-18	8,797	-	25,076	-	2,851	-
2018-19	8,678	-1.4	24,349	-2.9	2,806	-1.6
2019-20	8,805	1.5	25,248	3.7	2,868	2.2
2020-21	9,168	4.1	27,464	8.8	2,996	4.5
2021-22(P)	8,976	-2.1	26,394	-3.9	2,940	-1.9

P: Provisional
Source: Pakistan Bureau of Statistics

Box-I: Impacts of the Conflict between the Russia-Ukraine on Food and Agriculture Markets in Pakistan

Pakistan imports significant amounts of wheat, pulses, and oilseeds from the Russia and Ukraine. Last year, imports from Russia and Ukraine contributed for 77.3 percent of total wheat imports, 19.3 percent of total pulses imports, and 10.4 percent of total oilseed imports into the country. Moreover, although Pakistan is not primarily dependent on these two countries for fertilizers and fossil fuels, it is likely to bear the brunt of rising international prices for fertilizers and energy.

Due to high fertilizer prices and drought in some parts of the country, Pakistan has missed its wheat production target of 28.90 million metric tons (MMT) for 2021-22 season. Therefore, Pakistan will most likely need to import 3.0 MMT of wheat in the next few months. Wheat prices were already rising to historic levels, but with the ongoing conflict between the Russia and Ukraine, international wheat prices are now at their highest level in the last few decades. The increased cost of production domestically, due to increased fertilizer and energy prices, are expected to raise the price of wheat in the Pakistani market.

Cooking oil and ghee are also essential food commodities in Pakistan. The country's annual requirement for edible oil is around 4.1 MMT. In 2021, Pakistan produced only 11 percent of edible oil required for domestic consumption, and the rest of 89 percent was imported. Since the beginning of the conflict, the price of cooking oil in Pakistan has increased by 14.2 percent, and that of vegetable ghee has risen by 15.8 percent in just six weeks. This increasing trend is likely to persist as the international edible oils market may experience a considerable shortfall due to the conflict.

Source: Food and Agriculture Organization of the United Nations, Pakistan

v) Maize

During 2021-22, maize crop was sown on area of 1,653 thousand hectares and recorded increase of 16.6 percent over last year's cultivated area of 1,418 thousand hectares. Maize crop output recorded at 10.635 million tonnes witnessing significant growth of 19.0 percent over 8.940 million tonnes last year Maize contributes 3.2 percent value added in agriculture and 0.7 percent to GDP. The increase in production was mainly due to increased sown area, availability of improved high yield seed varieties, favourable weather conditions and better economic returns. Last five years production position maize is presented in Table 2.8 and Figure 2.5.

Fig 2.5: Maize Production

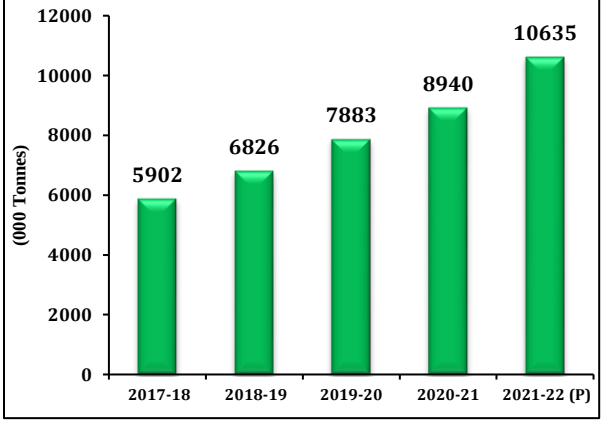


Table 2.8: Area, Production and Yield of Maize

Year	Area		Production		Yield	
	(000 Hectares)	% Change	(000 Tonnes)	% Change	(Kgs /Hec.)	% Change
2017-18	1,251	-	5,902	-	4,718	-
2018-19	1,374	9.8	6,826	15.7	4,968	5.3
2019-20	1,404	2.2	7,883	15.5	5,614	13.0
2020-21	1,418	1.0	8,940	13.4	6,305	12.3
2021-22 (P)	1,653	16.6	10,635	19.0	6,436	2.1

P: Provisional
Source: Pakistan Bureau of Statistics

b) Other Crops

During 2021-22, gram production grew by 36.3 percent and reached to 319 thousand tonnes on account of availability of certified seeds and favourable weather conditions compared to last year. The production of rapeseed & mustard increased by 26.7 percent while production of Jowar and Bajra witnessed a decrease of 33.3 percent and 15.0 percent, respectively, due to decline in area under cultivation. The production of Barley and Tobacco remained at the last year's production level. The area and production of other crops is given in Table 2.9.

Table 2.9: Area and Production of Other Kharif and Rabi Crops

Crops	2020-21		2021-22(P)		% Change in production over Last year
	Area (000 Hectares)	Production (000 Tonnes)	Area (000 Hectares)	Production (000 Tonnes)	
Bajra	350	266	227	226	-15.0
Jowar	126	96	77	64	-33.3
Gram	883	234	867	319	36.3
Barley	42	42	39	42	-
Rapeseed & Mustard	224	296	277	375	26.7
Tobacco	55	168	55	168	-

P: Provisional
Source: Pakistan Bureau of Statistics

During 2021-22, the production of chillies, potato and moong increased by 36.6 percent, 35.1 percent and 29.0 percent, respectively, as compared to same period of last year. However, the production of mash and onion declined by 11.6 percent and 8.5 percent, respectively, while production of masoor remained same over last year. The area and production of other crops is given in Table 2.10.

Table 2.10: Area and Production of Other Crops

Crops	2020-21		2021-22(P)		% Change in production over Last year
	Area (000 Hectares)	Production (000 Tonnes)	Area (000 Hectares)	Production (000 Tonnes)	
Masoor	6.9	4.1	5.8	4.1	-
Moong	231.1	204.5	301.8	263.8	29.0
Mash	11.0	6.9	8.0	6.1	-11.6
Potato	234.3	5,873.0	313.8	7,937.1	35.1
Onion	153.8	2,305.7	141.0	2,108.8	-8.5
Chillies	46.8	105.4	58.1	144.0	36.6

P: Provisional
Source: Pakistan Bureau of Statistics

i) Oilseeds

During FY2022 (July-March), 2.754 million tonnes of edible oil/oil from oilseed for crushing total value Rs 662.657 billion (US$ 3.681 billion) was imported. Local production of edible oil during this period is provisionally estimated at 0.460 million tonnes. Total availability of edible oil during this period is estimated at 3.214 million tonnes. The area and production of oilseed crops is given in Table 2.11.

Table 2.11: Area and Production of Major Oilseed Crops (000 Tonnes)

Crops	2020-21			2021-22 (July-March) (P)		
	Area (000 Acres)	Production		Area (000 Acres)	Production	
		Seed	Oil		Seed	Oil
Cottonseed	5,137	1,782	214	4,740	2,126	255
Rapeseed & Mustard	608	338	108	692	377	121
Sunflower	151	87	33	253	141	54
Canola	77	49	19	124	79	30
Total	**5,073**	**2,256**	**374**	**5,809**	**2,723**	**460**

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

For promotion of oilseed crops, Ministry of National Food Security & Research (M/o NFS&R) is executing a mega project "National Oilseed Enhancement Programme" with a total cost of Rs 10.964 billion under the National Agriculture Emergency Programme. Subsidy of Rs 5,000 per acre for seed/inputs for canola, sunflower and sesame and 50 percent on purchase of oilseed machineries is being provided to oilseed growers.

II. Farm Inputs

i) Fertilizer

Pakistan meets around 86 percent of its fertilizer requirement through domestic production while remaining 14 percent through imports.

The domestic production of fertilizers during FY2022 (July-March) increased by 1.9 percent over the same period of last year. This increase in domestic production of fertilizer is mainly due to running of two LNG based plants FatimaFert and Agritech Limited from September 2021 to March 2022. Although the import of fertilizer decreased by 6.2 percent, however the total availability of fertilizer slightly increased by 0.5 percent. There was decrease in total offtake of fertilizer nutrients by 3.6 percent. Nitrogen offtake witnessed slightly upward movement by 0.02 percent while Phosphate offtake decreased by 14.3 percent. However, Potash offtake increased by 10.7 percent during FY2022 (July-March). Major reasons for negative growth in Phosphate use is its high prices in international market and accordingly in domestic market. Price of urea increased by 10.4 percent, while that of DAP increased by 88.7 percent. Federal Government announced subsidy of Rs 1,000 per bag of DAP to compensate farming community.

Total availability of urea during Kharif 2021 was 3,404 thousand tonnes, comprising of 298 thousand tonnes of opening inventory and 3,106 thousand tonnes of domestic production (Table 2.12). Urea offtake was about 3,258 thousand tonnes, leaving inventory of 116 thousand tonnes for Rabi 2021-22. Availability of DAP was 1,232 thousand tonnes, comprising of 55 thousand tonnes of opening inventory, 733 thousand tonnes of imported supplies and 444 thousand tonnes of local production. DAP offtake was 889 thousand tonnes leaving an inventory of 353 thousand tonnes for the upcoming Rabi 2021-22.

Rabi 2021-22 started with an opening balance of 116 thousand tonnes of urea (Table 2.12). Domestic production during Rabi 2021-22 was estimated at 3,272 thousand

tonnes. A quantity of 100 thousand tonnes arrived through import from China. Urea offtake during Rabi 2021-22 is projected around 3,195 thousand tonnes, against 3,489 thousand tonnes of total availability, leaving a closing balance of 294 thousand tonnes for upcoming season. DAP availability during Rabi 2021-22 is estimated about 1,181 thousand tonnes, which includes 353 thousand tonnes of opening inventory, 385 thousand tonnes of imported supplies and domestic production of 443 thousand tonnes. Offtake of DAP during Rabi season stood at 933 thousand tonnes, leaving a balance of 255 thousand tonnes for next season.

The total availability of urea during Kharif 2022 will be about 3,508 thousand tonnes, comprising of 294 thousand tonnes of opening balance and 3,214 thousand tonnes of domestic production (Table 2.12). Urea offtake is expected to be around 3,364 thousand tonnes, leaving a balance of 144 thousand tonnes. The total availability of DAP will be 705 thousand tonnes against expected offtake of 907 thousand tonnes. Supply and demand gap will be filled through imported supplies by the private sector.

Table 2.12: Fertilizer Supply Demand Situation (000 Tonnes)

Description	Kharif (Apr-Sep) 2021		Rabi (Oct-Mar) 2021-22		Kharif (Apr-Sep) 2022	
	Urea	DAP	Urea	DAP	Urea	DAP
Opening Stock	298	55	116	353	294	255
Imported Supplies	0	733	100	385	0	30
Domestic Production	3,106	444	3,272	443	3,214	420
Total Availability	3,404	1,232	3,489	1,181	3,508	705
Offtake/Demand	3,258	889	3,195	933	3,364*	907
Write on/off	-29.8	9	0	7	0	0
Closing Stock	116	353	294	255	144	-202

*: Offtake projections are based on demand received from Punjab province and three-year average offtake for rest of the provinces.
Source: National Fertilizer Development Centre

ii) Improved Seed

Seed is basic input for agriculture sector and has imperative role in enhancing agriculture productivity, food security and poverty alleviation. Certified seed is the starting point to a successful crop as well as an important risk management tool. Production of certified seed is carefully controlled under a quality assurance and regulation system right from the very beginning. Seed certification is a legally sanctioned system for quality control of seed multiplication and production. The purpose of seed certification is to maintain and make available to the public, through certification, high quality seeds and propagating materials of notified and registered varieties. It has been reckoned that countries round the world have focused on use of certified seed for enhancing agriculture productivity owning to its better profitability coupled with application of internationally acceptable quality parameters.

Seed Sector Achievements

1. International Collaboration

For seed sector development in Pakistan, Federal Seed Certification & Research Department (FSC&RD) International Cooperation section was in the process of deliberations during 2021-22 (July-March) through different cooperation proposals

with the following countries and international organizations; D-8, SAARC, FAO, ECO, Turkey, Netherlands, Germany, UK, Middle east, Azerbaijan, USA, Japan, Russia, Korea, China and Turkmenistan.

2. Distinctness, Uniformity and Stability (DUS) Examination

A total of about 149 new candidate lines of Oilseeds, Vegetables, Pulses, Fruits, Paddy, Fodder & Forage, Medicinal plant, Maize, Wheat & Cotton have been examined for DUS trials during the subject period. DUS examination is under progress.

3. Track and Traceability of Certified Seed

FSC&RD collected traceability data from majority of seed companies which revealed that total wheat seed availability was 638,000 MT (before processing out of which companies processed 520,000 MT and 947,855 certified seed tags were issued for 474,000 MT after testing by FSC&RD. A total of 338,464 MT of certified seed was supplied by the seed companies to seed dealers depending on market demand and 206,680 MT of certified seed was sold to farmers i.e., 31 percent of total seed availability and 19 percent of total seed requirement (1,075,562 MT). This showed that certified seed replacement was 19 percent out of which 160,715 MT of new rust tolerant varieties have been given to farmers (i.e., 15 percent certified seed replacement of new varieties).

The area, seed requirement and seed availability during FY2022 (July-March), are given in Table 2.13.

Table 2.13: Area, Seed Requirement and Seed Availability (Metric Tonnes)

Crop	Sowing Area* (000 Ha)	Total Seed Requirement	Seed Availability			
			Public	Private	Imported	Total **
Wheat	9,210	1,137,435	76,309	561,300	0	637,609
Cotton	2,330	39,940	425	28,712	0	29,137
Paddy	3,070	44,148	965	40,037	4,145	45,167
Maize	1,331	32,868	88	2,494	15,615	18,198
Pulses	1,185	42,674	379	3,980	0	4,359
Oilseeds	830	10,790	2	1,031	467	1,500
Vegetables	280	8,400	0	1,058	2,828	3,886
Fodders	2,038	61,140	0	5,961	19,028	24,999
Potato	166	415,000	0	0	13,400	13,400
Total	**20,440**	**1,792,396**	**78,169**	**644,572**	**55,483**	**778,225**

*: Targeted area has been decided by the Federal Committee on Agriculture (FCA), M/o NFS&R.
**: The seed availability figures (excluding wheat) are provisional
Source: Federal Seed Certification & Registration Department, M/o NFS&R

iii) Farm Mechanization

Farm mechanization is an important element to accelerate agriculture productivity. Main constraint in increasing agriculture productivity includes non-availability of quality tractors and agricultural machinery in the appropriate time of need at affordable prices. The Federal Government continued the relief package that allowed on supply of imported farm machinery and equipment at reduced tariff (Custom Duty 0-2 percent and GST 05 percent) to encourage mechanized farming in the country.

The domestic tractor industry has played a significant role in fulfilling the requirements of tractors. The number of operational tractors in the country is around 670,000 resulting in availability of around 0.09 horsepower (HP) per acre against the required power of 1.4 HP per acre. During 2021-22 (July-March), total tractor production reached to 41,871 compared to 36,900 produced last year, a 13.5 percent higher than same period last year. The prices and production of locally manufactured tractors are given in Table 2.14.

Table 2.14: Prices and Production of Locally Manufactured Tractors 2021-22 (July-March)

Tractors Model – Horse Power (HP)	Base Price Excluding GST (Rs)	Total Price Including GST@ 5% (Rs)	Actual Production (in Nos.)	Actual Sale (in Nos.)
M/s Al-Ghazi Tractors Limited				
NH-480-S (55 HP)	1,170,000	1,228,500	3,720	3,725
NH-480 Power Plus (55 HP)	1,221,500	1,282,575	2,160	2,164
Ghazi (65 HP)	1,352,000	1,4,19,600	6,495	6,303
640 (75 HP)	1,733,000	1,819,650	3,208	3,078
Dabung (85 HP)	1,790,000	1,879,500	486	432
NH-70-56 4WD (85 HP)	2,355,000	2,472,750	36	35
Total			**16,105**	**15,737**
M/s Millat Tractors Limited				
MF-240 (50 HP)	1,192,000	1,251,600	5,318	5,346
MF-350 P.S (50 HP)	1,380,000	1,449,000	08	0
MF-260 (60 HP)	1,378,000	1,446,900	4,389	4,387
MF-360 P.S (60 HP)	1,455,000	1,527,750	307	329
MF-375 (85 HP)	1,787,000	1,876,350	1,259	1,279
MF-385 (85 HP)	1,860,000	1,953,000	13,692	13,739
MF-375 4WD (75 HP)	2,320,000	2,436,000	153	142
MF-385 4WD (85 HP)	2,410,000	2,530,000	625	644
Total			**25,766**	**25,866**
Grand Total			**41,871**	**41,603**

Source: Tractor Manufacturers, Federal Water Management Cell

iv) Irrigation

During the monsoon season (July-September) 2021, rainfall recorded at 125.0 mm showing a decline of 11.3 percent against the normal average rainfall of 140.9 mm. During post-monsoon season (October-December) 2021, rainfall stood at 23.5 mm against the normal average rainfall of 26.4, showing a decrease of 11.2 percent. During winter season (January-March) 2022, rainfall recorded at 72.7 mm against the normal average rainfall of 74.3 mm, showing a decrease of 2.2 percent. Rainfall recorded during the reference period is given in Table 2.15.

Table 2.15: Pakistan's Rainfall* Recorded During 2021-22 (in Millimetres)

	Monsoon Rainfall (Jul-Sep) 2021	Post Monsoon Rainfall (Oct-Dec) 2021	Winter Rainfall (Jan-Mar) 2022
Normal**	140.9	26.4	74.3
Actual	125.0	23.5	72.7
Shortage (-)/excess (+)	-15.9	-2.9	-1.6
% Shortage (-)/excess (+)	-11.3	-11.2	-2.2

*: Area Weighted **: Normal/Long Period Average of 1961-2010

Source: Pakistan Meteorological Department

Canal head withdrawals decreased by 0.05 percent during Kharif (April-September) 2021 and reached to 65.08 MAF compared to 65.11 MAF during the same season last year. During Rabi (October-March) 2021-22, it recorded a decline of 12 percent to 27.42 MAF compared to 31.21 MAF during the same season last year. The province-wise details are shown in Table 2.16.

Table 2.16: Canal Head Withdrawals (Below Rim Stations) (Million Acre Feet)

Province	Kharif (Apr-Sep) 2020	Kharif (Apr-Sep) 2021	% Change in Kharif 2021 Over 2020	Rabi (Oct-Mar) 2020-21	Rabi (Oct-Mar) 2021-22	% Change in Rabi 2021-22 Over 2020-21
Punjab	33.44	33.13	-1	17.42	14.65	-16
Sindh	28.80	28.96	1	12.01	11.08	-8
Balochistan	2.02	1.94	-4	1.22	1.00	-18
Khyber Pakhtunkhwa	0.85	1.05	23	0.57	0.70	23
Total	**65.11**	**65.08**	**-0.05**	**31.21**	**27.42**	**-12**

Source: Indus River System Authority

Pakistan has been blessed with a bounty of water resources. During its course, the Indus River and its Tributaries irrigates 48 million acres of land through one of the world largest contiguous Indus Basin Irrigation System having average annual withdrawal of 101 MAF water. It is estimated that approximately 50 MAF groundwater is pumped through 1.2 million tubewells. Water is essential to meet the food need for country's growing population. Rising population, reservoir sedimentation, dwindling river supplies and climate change impacts have put Pakistan's limited water resources under immense stress. The country is facing severe water stress gradually morphing into water scarcity.

The Government's existing strategy of "Integrated Water Resources Management" recognizes the need to introduce appropriate policy measures, institutional reforms, and knowledge-based interventions to make water infrastructure and management system more efficient and sustainable. Main targets for 2018-30 under National Water Policy (2018) are; 33 percent reduction in the 46 MAF river flows lost in conveyance through watercourses lining, live storage capacity enhancement of 10 MAF, 20 percent increase in water use efficiency through modern irrigation techniques, refurbishment of irrigation infrastructure, real-time monitoring of water distribution for transparent water accounting and development of unified authentic database to have reliable water resources assessment.

During FY2022, an amount of Rs 90.312 billion (10 percent of total PSDP) were allocated for 91 water sector's development projects/studies (including Mohmand Dam Rs 15 billion, Diamer Basha Dam Rs 8 billion, Diamer Basha Land acquisition Rs 7 billion and Kachhi Canal 12 billion). Out of this, Rs 57.544 billion have been released till 31st March, 2022 against which utilization is Rs 47.618 billion.

Key Achievement during FY2022

- Despite the continuing impacts of COVID-19, construction activities remained in progress on both national importance mega projects i.e., Diamer-Basha Dam and

Mohmand Dam projects. On completion, these dams will greatly mitigate water and power shortages in the country.

- Kachhi Canal (Phase-I) with 72,000 CCA in Balochistan remained operational. 55,000 of this command area has been developed.
- Work on Kachhi Canal Phase-I (Remaining works) having additional 30,000 acres CCA remained in full swing.
- Rainee Canal Phase-I has been completed and handed over to Irrigation Department, Government of Sindh.
- Initiation of about 30 new schemes of small dams/recharge/check having cost about Rs 28.60 billion with an allocation of Rs 2.74 billion in Balochistan.
- Works on Kurram Tangi Dam Phase-I (Kaitu Weir Diversion and allied works) remained in progress in North Waziristan. The project is planned to be completed in next financial year.
- Detailed engineering design of Chashma Right Bank Canal (Lift-cum-Gravity) Project completed, and PC-I submitted by MoWR is under approval process.
- Upon approval of PC-II, Expression of Interests were published for hiring of Consultants for Detailed engineering design of Kurram Tangi Dam Phase-II.
- Under **Karachi Transformation Plan** (Storm Water Drain Projects), Restoration & Revamping of Mehmoodabad Nullah was completed, while Restoration & Revamping of Gujjar Nullah & Orangi Nullah remained in progress.
- PC-I for Greater Karachi Bulk Water Supply Scheme K-IV approved by ECNEC on 31.01.2022.
- Under **Southern Balochistan Package**, approval of 17 water sector projects including Sunni Gar, Panjgur, Gish Kaur, Awaran & Shehznek dams and one umbrella PC-II covering 10 feasibility studies has been accorded.
- Under **Sindh Package** Feasibility study, detailed engineering design, Tender documents & PC-I of Jacobabad, Shikarpur & Kashmore drainage projects, Feasibility for construction of Drainage network in Taulka Ubauro, Daharki, Khangar, Mirpur Mathelo of District Ghotki and construction of small Storage Dams, Delay Action Dams, Recharge Weirs and I.S.S.O barriers have been initiated.
- Revised PC-I of Naulong Multipurpose Dam Project (Jhal Magsi, Balochistan) amounting to Rs 39.9 billion recommended to ECNEC by CDWP.
- Consultants for detailed engineering design of Hingol Dam Project having 65,000 acres CCA in Lasbela, Balochistan under finalization.
- Contractor re-mobilized at Nai Gaj Dam site and re-commenced the suspended works.
- Due to gradual decrease in the surface water inflow at Rim stations, water availability at canal head for Kharif season 2021-22 remained 67.14 MAF compared to 68.04 MAF in Kharif season 2020-21.
- In Balochistan, Sindh, Punjab and Khyber Pakhtunkhwa construction of medium/small/delay action dams and recharge dams remained in progress in FY2022. Province-wise detail is as under:

a) Punjab — Ghabir & Papin dams.

b) Sindh — Darawat & Nai Gaj Dams, Small dams in Kohistan, Thar & Nagarparkar.

c) KP — Kurram Tangi, Kundal, Sanam, Baran dams & 20 small dams in Nowshera, Karak, Swabi, Hangu, Haripur & Kohat districts.

d) Balochistan — Naulong, Garuk, Basool, Batozai, Mangi, Mara Tangi Dams and construction of 100 small dams (Package-II, III and IV).

Physical progress of major on-going projects is given Table 2.17.

Table 2.17: Major Water Sector Projects under Implementation

Project	Location	App. cost (Rs million)	Live Storage	Irrigated Area	Status
Basha Dam (Dam Part only)	Khyber Pakhtunkhwa & Gilgit Baltistan	479,686	6.40 MAF	1.23 Million Acres	ECNEC approved Dam part of the project on 14-11-2018 (out of Rs 479 billion Rs 237 billion will be federal grant, Rs 144 billion commercial financing, Rs 98 billion WAPDA equity). Physical progress is 7.47 percent. Financial progress is 12 percent.
Kachhi Canal (Phase-I)	Balochistan	80,352	-	72,000 Acres	Phase-I completed. Out of 102,000 acres CCA about 55,000 acres developed in Dera Bugti, Balochistan.
Nai Gaj Dam	Dadu, Sindh	46,980	160,000 (Acre Feet)	28,800 Acres (4.2 MW Power Gen.)	52 percent physical works completed
Kurram Tangi Dam (Phase-I,Kaitu Weir)	Khyber Pakhtunkhwa	21,059	0.90 MAF	16,400 Acre (18.9 MW Power Gen.)	70 percent physical works completed.
Naulong Dam	Jhal Magsi, Balochistan	39,900	0.20 MAF	47,000 Acres (4.4 MW Power Gen.)	Feasibility & Detailed engineering design completed. Updated 2nd revised PC-I under approval from ECNEC.
Mohmand Dam Hydropower Project (800 MW)	Mohmand District of Khyber Pakhtunkhwa	114,285 (dam part) cost	0.676 MAF	16,737 Acres	Phase-I ECNEC approved on 30-06-2018 at a Total cost of Rs 309.558 billion (dam part+ power generation cost). Physical progress is 16.73 percent. Financial progress is 16 percent.
Darawat Dam	Jamshoro, Sindh	9,300	89,192 (Acre Feet)	25,000 Acres	Physically completed. CAD to be expedited by Govt of Sindh.
Hingol Dam	Lasbela, Balochistan	-	0.816 (MAF)	65,000 Acres (1.37 MW Powe Gen.	Feasibility study completed. Detailed engineering design commenced.
Murunj Dam	Rajanpur, Punjab.	-	0.60 (MAF)	120,000 Acres (12 MW Power Gen.	Feasibility study, detailed engineering design in progress.
Sindh Barrage	Thatta, Sindh.	-	1.80 (MAF)	-	Feasibility study near completion by WAPDA.

Source: Ministry of Planning, Development & Special Initiatives

Packages Announced by Federal Government

Key Initiative	Activity/action conducted	Results Achieved	Financial Expenditure
Karachi Transformation Plan (Storm Water Drain Projects)	Approval and releases of Rs 34,505.738 million to 4 projects namely i) Restoration & revamping of Mehmoodabad Nullah and its Tributaries ii) Restoration & revamping of Gujjar Nullah iii) Restoration & revamping of Orangi Nullah iv) Restoration & revamping of Liyari & Malir Rivers with associated Tributaries	➢ Restoration & revamping of Mehmoodabad Nullah and its Tributaries have been completed ➢ Restoration & revamping of Gujjar Nullah & Orangi Nullah are being implemented	Rs 8 billion have been expended till 28th Feb. as reported by Sponsors.
Karachi Transformation Plan (K-4 Greater Water Supply Scheme)	Approval of Revised PC-I	Projects is under implementation	3 percent funds released till 2nd quarter as reported by sponsors
Southern Balochistan Package	Approval of 17 water sector projects including Sunni Gar, Panjgur, Gish Kaur, Awaran & Shehzenic dams and one umbrella PC-II covering 10 feasibility studies. Total approved projects under SBDP: 27 New Projects: 10 On-going projects: 7 Feasibility studies: 10	New Projects are at tendering phase	-
Sindh Package (i) Nai Gaj Dam project, ii) Feasibility Study, Detailed Engineering Design, Tender Documents & PC-I of Jacobabad, Shikarpur & Kashmore Drainage projects, iii) Feasibility for construction of Drainage network in Taulka Ubauro, Daharki, Khangar, Mirpur Mathelo of District Ghotki iv) Construction of Small Storage Dams, Delay Action Dams, Recharge Weirs and I.S.S.O barriers in Sindh	Approval of projects under Sindh Package	Projects are under implementation	-

Source: Ministry of Planning, Development & Special Initiatives

iv) Agricultural Credit

SBP has allocated the indicative agriculture credit disbursement targets of Rs 1,700 billion for FY2022 which is 24.5 percent higher than last year's disbursement of Rs 1,366.0 billion. Currently, 50 formal financial institutions are providing agriculture loans to the farming community, which include 5 major commercial banks, 14 medium-sized domestic private banks, 5 Islamic banks, 2 specialized banks (ZTBL & PPCBL), 11 microfinance banks besides 13 Microfinance Institutions/Rural Support Programmes (MFIs/RSPs).

During FY2022 (July-March), banks have disbursed Rs 958.3 billion which is 56.4 percent of the overall annual target and 0.5 percent higher than the disbursement of Rs 953.7 billion made during the same period last year. Further, the outstanding portfolio of agricultural loans has increased by Rs 30.9 billion i.e., from Rs 601.8 billion to Rs 632.7 billion at end March 2022 as compared to same period last year. In terms of outreach, the number of outstanding borrowers has reached to 3.2 million in March 2022. The comparative disbursements of agriculture lending banks/institutions against their annual indicative targets during FY2022 (July-March) are given in Table 2.18

Table 2.18: Supply of Agriculture Credit by Institutions (Rs billion)

Banks	Target FY2021	FY2021 (July-March)		Target FY2022	FY2022 (July-March)		% Change over the Period
		Disbursed	Achieved (%)		Disbursed	Achieved (%)	
Major Commercial Banks (5)	800	554.2	69.3	900	525.7	58.4	-5.1
ZTBL	105	56.5	53.8	105	47.0	44.8	-16.8
PPCBL	13	5.2	39.8	13	4.8	36.9	-7.3
DPBs (14)	296	192.5	65.0	367	202.2	55.1	5.0
Islamic Banks (5)	63	35.9	57.0	80	47.9	59.8	33.3
MFBs (11)	182	92.8	51.0	195	112.1	57.5	20.8
MFIs/RSPs	41	16.6	40.5	40	18.6	46.6	12.1
Total	**1,500**	**953.7**	**63.6**	**1,700**	**958.3**	**56.4**	**0.5**

Source: State Bank of Pakistan

Analysis of the sector-wise disbursement reveals that out of the total disbursement of Rs 958.3 billion, the farm sector has received Rs 474 billion (49.5 percent) and Rs 484.3 billion (50.5 percent) has been disbursed to non-farm sector during FY2022 (July-March). However, the data of farm credit by land holdings reveals that Rs 170.5 billion has been disbursed to the subsistence farm size which witnessed 13.7 percent growth during the period. Moreover, Rs 66.2 billion has been disbursed to economic farm size and Rs 237.3 billion to the above economic farm size witnessing a decline of 21.3 percent. Under non-farm sector, agriculture lending institutions disbursed Rs 128.2 billion to small farms with positive growth mainly due to credit off take in non-farm sector activities especially in livestock/dairy and meat sector. Moreover, Rs 356.0 billion has been disbursed to large farms showing a growth of 3.6 percent during FY2022 (July-March). The sector-wise comparative details of credit disbursements are given below in Table 2.19.

Table 2.19: Credit Disbursement to Farm & Non-Farm Sectors (Rs billion)

Sector (Land Holding/Farm size)		FY2021 (July-March)		FY2022 (July-March)		% Growth over the Period
		Disbursement	% Share in Total	Disbursement	% Share in Total	
A	**Farm Sector**	**507.9**	**53.3**	**474.0**	**49.5**	**-6.7**
1	Subsistence Holding[1]	150	15.7	170.5	17.8	13.7
2	Economic Holding[2]	56.2	5.9	66.2	6.9	17.8

[1] Landholding in acres (Punjab and KP up to 12.5, Sindh up to 16.0 and Balochistan up to 32.0)
[2] Landholding in acres (Punjab and KP 12.5-50.0, Sindh 16.0-64.0 and Balochistan 32.0-64.0)

Table 2.19: Credit Disbursement to Farm & Non-Farm Sectors (Rs billion)

Sector (Land Holding/Farm size)		FY2021 (July-March)		FY2022 (July-March)		% Growth over the Period
		Disbursement	% Share in Total	Disbursement	% Share in Total	
3	Above Economic Holding[3]	301.7	31.6	237.3	24.8	-21.3
B	**Non-Farm Sector**	**445.8**	**46.7**	**484.3**	**50.5**	**8.6**
1	Small Farms	102.1	10.7	128.2	13.4	25.6
2	Large Farms	343.7	36	356	37.2	3.6
Total (A+B)		**953.7**	**100**	**958.3**	**100**	**0.5**

Source: State Bank of Pakistan

In terms of sectoral and purpose-wise performance of agriculture credit, the production loans of farm sector declined by 8.0 percent, whereas development loans increased by 15.5 percent during the period FY2022 (July-March). Further, under non-farm sector, the livestock/dairy & meat sector witnessed 7.8 percent growth and poultry sector recorded 6.9 percent growth during the period under review. The sector wise/purpose wise agricultural credit disbursements are shown in Table 2.20:

Table 2.20: Credit Disbursements by Sector & Purpose (Rs billion)

Sector& Purpose		FY2021 (July-March)		FY2022 (July-March)		% Growth over the Period
		Amount Disbursed	% Share within Sector	Amount Disbursed	% Share within Sector	
A	**Farm Sector**	**507.9**	**53.3**	**474.0**	**49.5**	**-6.7**
1	Production Loans	452.4	89.1	441.3	93.1	-8.0
2	Development Loans	55.6	10.9	32.7	6.9	15.5
B	**Non-Farm Sector**	**445.8**	**46.7**	**484.3**	**50.5**	**8.6**
1	Livestock/Dairy & Meat	250.1	56.1	269.7	55.7	7.8
2	Poultry	158.0	35.4	168.9	34.9	6.9
3	Fisheries	5.3	1.2	9.6	2.0	81.0
4	Forestry	0.011	0.003	0.0	0.0	33.1
5	Others	32.4	7.3	36.1	7.5	11.4
Total (A+B)		**953.7**	**100**	**958.3**	**100**	**0.5**

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:

i. **Crop Loan Insurance Scheme (CLIS) & Livestock Insurance Scheme for Borrowers (LISB):** CLIS has enabled financial access for farmers, with premium for small farmers being borne by the government.

ii. **Credit Guarantee Scheme for Small & Marginalized Farmers (CGSMF):** With support from Federal Government, SBP is offering a CGSMF. This scheme can be availed by banks for providing loans to small farmers, with default protection of up to 50 percent. Under this scheme, loans of Rs 2.56 billion are outstanding as of 28th

[3] Landholding in acres (Punjab and KP above 50.0, Sindh and Balochistan above 64.0)

February, 2022. Since its inception, more than 131,000 farmers have benefitted through this scheme against Rs 1.1 billion funds released by the Federal Government.

iii. **Adoption of Electronic Land Record Management Information System (LRMIS) by banks for Agriculture Financing:** SBP is working in collaboration with Provincial Governments and financial institutions for implementing and mainstreaming electronic land verification records and charge creation for availing bank loans.

iv. **Promoting Electronic Warehouse Receipt Financing (EWRF):** EWRF is a form of credit, extended by banks to farmers, traders and processors against commodities/agricultural produce stored in accredited warehouses. In order to allow banks to start EWRF in line with Collateral Management Company (CMC) Regulations 2019, SBP has issued the necessary amendments in Prudential Regulations while allowing EWR as acceptable collateral for bank financing. Further, to sensitize banking industry and kick start of EWRF in Pakistan, SBP has formally launched EWRF in February, 2022 wherein 25 banks signed the System Usage Agreements (SUA) with CMC.

v. **Introduction of Scoring Model for Agriculture Credit Performance of Banks:** SBP has introduced the scoring model to promote fairness and transparency in gauging the individual performances of agriculture lending banks. The scoring model utilizes a multi-dimensional criteria based on various indicators, which are used to calculate an aggregate statistic reflective of each bank's agriculture credit performance.

vi. **Introduction of Champion Bank Concept:** To address the bottlenecks in agriculture credit outreach in underserved areas by introducing the concept of provincial/regional champion banks in underserved areas. The six regional champion banks will spearhead the efforts in their respective assigned province/region (Southern Punjab, Sindh, Khyber Pakhtunkhwa, Balochistan, AJK and GB) to enhance flow of credit and bring more borrowers into the fold of formal credit network.

III. Forestry

According to the latest findings of National Forest Reference Emissions Level (FREL), the country is maintaining 4.786 million hectare (5.45 percent) area under forest cover. Within the forest cover area, dry temperate forests hold the largest share (36 percent), followed by sub-tropical broadleaved shrub (19 percent), moist temperate (15 percent), Chir Pine (13 percent), Riverine (4 percent), irrigated plantation (4 percent), thorn (3 percent), mangrove (3 percent) and subalpine forests (2 percent). The inadequate forest cover area due to growing population and dependence on the natural resources coupled with deforestation have rendered the country one of the most vulnerable to climate change effects. As a result, natural resources are under tremendous pressure owing to change of land use and habitat destruction and consumption of fuel wood and timber extraction. Such pressures have rendered most of the forests of poor and medium density in need of drastic restocking on war footing.

IV. Livestock and Poultry

a) Livestock

Livestock is contributing approximately 61.9 percent of agriculture value added and 14.0 percent to the national GDP during 2021-22. Animal husbandry is the most significant economic activity of the dwellers of rural areas of Pakistan. More than 8 million rural families are engaged in livestock production and are deriving around 35-40 percent of their income from this sector. Gross value addition of livestock has increased from Rs 5,269 billion (2020-21) to Rs 5,441 billion (2021-22), showing an increase of 3.26 percent. (Base Year 2015-16)

The Government has renewed its focus on this sector for economic growth, food security, and poverty alleviation in the country. The overall livestock development strategy resolves to foster "private sector-led development with public sector providing enabling environment through policy interventions". The regulatory measures are aimed at enhancing per unit animal productivity by improving veterinary health coverage, husbandry practices, animal breeding practices, artificial insemination services, use of balanced ration for animal feeding, and controlling livestock diseases.

To address investment related issues in the value-added livestock export sector, Government is considering to develop this sector in the shape of export meat processing zones, disease free zones (for Foot & Mouth Disease (FMD), Peste des Petitis Ruminants (PPR), Highly Pathogenic Avian Influenza (HPAI), facilitate setting up of modern slaughter houses after assessing industry's requirements and provide various schemes through the financial sector support. The focus of present Government is on breed improvement for enhanced productivity, establishment of nucleus herd and identification of breeds that are well adapted to various agro ecological zone of Pakistan. The national herd population of livestock for the last three years is given in Table 2.21.

Table 2.21: Estimated Livestock Population (Million Nos.)

Species	2019-20[1]	2020-21[1]	2021-22[1]
Cattle	49.6	51.5	53.4
Buffalo	41.2	42.4	43.7
Sheep	31.2	31.6	31.9
Goat	78.2	80.3	82.5
Camels	1.1	1.1	1.1
Horses	0.4	0.4	0.4
Asses	5.5	5.6	5.7
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 position of milk and meat production for the last three years is given in Table 2.22.

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

Species	2019-20[1]	2020-21[1]	2021-22[1]
Milk (Gross Production)	**61,690**	**63,684**	**65,745**
Cow	22,508	23,357	24,238
Buffalo	37,256	38,363	39,503

Table 2.22: Estimated Milk and Meat Production			(000 Tonnes)
Species	**2019-20[1]**	**2020-21[1]**	**2021-22[1]**
Sheep[2]	41	41	42
Goat	965	991	1,018
Camel[2]	920	932	944
Milk (Human Consumption)[3]	**49,737**	**51,340**	**52,996**
Cow	18,007	18,686	19,390
Buffalo	29,805	30,691	31,603
Sheep	41	41	42
Goat	965	991	1,018
Camel	920	932	944
Meat[4]	**4,708**	**4,955**	**5,219**
Beef	2,303	2,380	2,461
Mutton	748	765	782
Poultry meat	1,657	1,809	1,977

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 percent wastage (15 percent faulty transportation and lack of chilling facilities and 5 percent in suckling calf nourishment) 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				
Products	**Units**	**2019-20[1]**	**2020-21[1]**	**2021-22[1]**
Eggs	Million Nos.	20,133	21,285	22,512
Hides	**000 Nos.**	**18,139**	**18,751**	**19,384**
Cattle	000 Nos.	9,405	9,759	10,127
Buffalo	000 Nos.	8,622	8,878	9,142
Camels	000 Nos.	112	114	115
Skins	**000 Nos.**	**59,460**	**60,837**	**62,250**
Sheep Skin	000 Nos.	11,807	11,947	12,088
Goat Skin	000 Nos.	30,129	30,946	31,784
Fancy Skin	000 Nos.	17,524	17,945	18,377
Lamb Skin	000 Nos.	3,507	3,548	3,590
Kid Skin	000 Nos.	14,017	14,397	14,787
Wool	000 Tonnes	47.3	47.9	48.4
Hair	000 Tonnes	29.4	30.2	31.0
Edible Offal's	000 Tonnes	440	452	465
Blood	000 Tonnes	73.1	75.0	77.0
Casings	000 Nos.	60,069	61,461	62,888
Guts	000 Nos.	19,280	19,929	20,599
Horns & Hooves	000 Tonnes	64.3	66.2	68.2
Bones	000 Tonnes	961.0	990.3	1,020.7
Fats	000 Tonnes	304.5	313.6	322.9
Dung	000 Tonnes	1,362	1,405	1,448
Urine	000 Tonnes	413	425	437
Head & Trotters	000 Tonnes	274.6	282.4	290.4
Ducks, Drakes & Ducklings	Million Nos.	0.38	0.37	0.35

[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

b) Poultry

Poultry sector is one of the most important segments of livestock that provides employment to more than 1.5 million people in the country. With an investment of more than Rs 750 billion, this industry is growing at an impressive growth rate of approximately 7.5 percent per annum over the last decade that has enabled Pakistan to occupy 11th position among the largest poultry producer of the world and has ample space for further improvement.

Through farmer friendly policies/interventions, the Government has been encouraging rural as well as commercial poultry production. The estimated production of commercial and rural poultry products for the last three years is given in Table 2.24.

Table 2.24: Estimated Domestic/Rural & Commercial Poultry

Type	Units	2019-20[1]	2020-21[1]	2021-22[1]
Domestic Poultry	**Million Nos.**	**89.84**	**91.22**	**92.62**
Cocks	Million Nos.	12.51	12.85	13.20
Hens	Million Nos.	43.93	44.72	45.52
Chicken	Million Nos.	33.40	33.65	33.90
Eggs[2]	Million Nos.	4,393	4,472	4,552
Meat	000 Tonnes	124.72	127.22	129.76
Duck, Drake & Duckling	**Million Nos.**	**0.38**	**0.37**	**0.35**
Eggs[2]	Million Nos.	17.18	16.47	15.78
Meat	000 Tonnes	0.52	0.50	0.48
Commercial Poultry	**Million Nos.**	**1,353.24**	**1,486.09**	**1,632.06**
Layers	Million Nos.	59.82	64.01	68.49
Broilers	Million Nos.	1,279.76	1,407.73	1,548.51
Breeding Stock	Million Nos.	13.66	14.34	15.06
Day Old Chicks	Million Nos.	1,336.71	1,470.38	1,617.41
Eggs[2]	Million Nos.	15,723	16,797	17,944
Meat	000 Tonnes	1,531.60	1,681.64	1,846.48
Total Poultry				
Day Old Chicks	Million Nos.	1,370	1,504	1,651
Poultry Birds	Million Nos.	1,443	1,578	1,725
Eggs	Million Nos.	20,133	21,285	22,512
Poultry Meat	000 Tonnes	1,657	1,809	1,977

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

Ongoing Projects

The Federal Government has launched following programmes under the "Prime Minister's National Agriculture Emergency Programme":

Prime Minister Initiative for Backyard Poultry Projects: Under this project, five million pre-vaccinated high laying backyard birds will be distributed among public across the country at subsidized rates. The total cost of the project is Rs 1.6 billion, where 30 percent contribution by federal and provincial governments, while rest of the cost to be borne by the beneficiary. Since 2019, 2.927 million backyard poultry birds will be distributed by the 30th June 2022 in all over the Pakistan except Sindh.

Prime Minister Initiative for Safe the Calf Project: Under this project, 380,000 male calves are projected to be saved from early slaughter in 4 years period through financial incentive of Rs 6,500 per calf to farmers besides reducing mortality with improved nutrition and husbandry practices. This intervention is providing stock for feedlot fattening for enhanced productivity and quality beef which ultimately result in high profit margins for the farmers and reduced rural poverty. The total cost of the project is Rs 3.4 billion. The Federal Government is contributing 20 percent of total cost, while the remaining will be shared by provincial governments. Since 2019, 167175 calves would be saved by the 30th June 2022 in all over the Pakistan except Sindh and Balochistan.

Prime Minister Initiative for Calf Feedlot Fattening in Pakistan: Under this programme, Rs 4,000 for each calf has been allocated as financial incentive to persuade farmers to produce healthy and nutritious beef in the country. In Balochistan, Rs 1500 cash incentive is given for each fattened sheep/goat. The intervention is promoting feedlot fattening business in the country. The total cost of the project is Rs 2.4 billion. Since 2019, 191757 calves fattened in all over Pakistan except Sindh and Balochistan and 240,000 kid/lamb will be fattened in Balochistan by the 30th June 2022.

The following projects are also being launched by Federal Government:

i. **Antimicrobial Resistance (AMR).** The Fleming Fund Country Grant with the support of U.K. Department of Health and Social Care Programme to help low-and middle-income countries fight AMR has initiated a programme in collaboration of Government of Pakistan with the following objectives:

- Improved policy environment for managing AMR-Data review and analysis
- Enhance quality and quantity of sites reporting on AMR
- Strengthening reference laboratories to strengthen AMR surveillance networks
- Improve AMC and antimicrobial usage (AMU) data at country level
- Support One Health Approach among human, livestock and environment sectors

In the animal health sector, the Fleming Fund Country Grant is providing support for strengthening AMR surveillance in food animals, diagnostic harmonization, capacity development of animal health laboratories, field surveys for AMU and Knowledge Attitudes Practices (KAP) surveys. To cope up with the scope in animal health sector, Fleming Fund through AHC office, M/o NFS&R has identified

- Two National Reference Points
  - National Veterinary Laboratories (NVL), Islamabad
  - National Reference Laboratory for Poultry Diseases (NRLPD), NARC Islamabad
- 9 Sentinel Labs from all provinces of Pakistan

To better coordinate AMR and AMU activities in the animal health sector alongside Human Health, (M/o NFS&R) has notified the establishment of the AMR Coordination Unit (AMR-CU) at the Animal Husbandry Commissioner (AHC) office.

i. **Support Development and Piloting Pakistan Animal Identification and Traceability System (PAITS).** This project is under execution with the technical and financial support of FAO-Pakistan. Pakistan currently does not have a reliable animal identification and traceability system to manage livestock identification and movements in the country. Lack of such a system poses significant challenges for Pakistan, specifically in export of livestock and their products, in the wake of limited resources and capacity of the animal health services to deliver effective animal health programmes. The project will be used as pilot demonstrations in cattle and buffaloes in limited geographic region in smallholder livestock farming and selected feedlot fattening dairy farms.

ii. **National PPR Eradication Programme**: Under this project, efforts will be made to move Pakistan into stage 3 of the progressive step-wise approach of Office International des Epizooties (OIE) for PPR eradication in next five years. The total cost of the project is Rs 1.8 billion.

Enhancement of FMD Control Programme in Pakistan: This project is under execution in collaboration of Government of Pakistan, JICA and FAO-Pakistan with the following objectives:

- Reporting of FMD outbreaks by stakeholders (veterinarians, veterinary assistants, and dairy farmers)
- Awareness of dairy farmers
- Rapid response of FMD outbreaks

Other Policy Measures

M/o NFS&R with its re-defined role under the 18th Constitutional Amendment undertook the following measures: i) Import of calf milk replacer and cattle fed premix by the corporate dairy/meat sub sectors at concessional tariff, ii) Import of high yielding dairy cattle breeds of Holstein Friesian and Jersey for enhanced milk production, iii) Semen and embryos of high yielding animals for the genetic improvement of indigenous low producing animals, and iv) Import of high quality feed stuff/micro ingredients for improving the nutritional quality of animals & poultry feed.

V. Fisheries

Fisheries sector plays significant role in the economy and food security of the country and it reduces pressure on demand for mutton, beef, and poultry. It is also considered to be an important source of livelihood for the coastal inhabitants. Apart from marine fisheries, inland fisheries (based in rivers, lakes, dams, etc.) are also a 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 FY2022 (July-March), total fish production recorded at 696.0 thousand MT (marine: 468 thousand MT and inland: 228 thousand MT) witnessing an increase of 0.8 percent over same period of last year's fish production of 690.6 thousand MT (marine: 465.2 thousand MT and inland: 225.4 thousand MT).

During FY2022 (July-March), a total of 116.514 thousand MT of fish and fishery preparation amounting US$ 310 million were exported. Pakistan's major buyers are China, Thailand, Malaysia, Middle East, Sri Lanka, and Japan. Several initiatives are being 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, up gradation of socio-economic conditions of the fishermen community and a review of Deep-Sea Fishing Policy of 2018.

Since resumption of exports to the EU countries different consignments of fish, cuttlefish and shrimps have been sent by 02 companies to the EU, after 100 percent laboratory analysis at EU borders. For further enhancement of seafood export to EU countries, six more processing plants are in pipeline and their cases for approval are under process with EU authorities. Export of seafood to EU countries is given in Table 2.25:

Table 2.25: Export of Seafood to EU Countries FY2022 (July-March)

Commodity / Country	Fish		Squids		Shrimp		Crabs		Total	
	Quantity (MT)	Value $ (000)	Quantity (MT)	Value $ (000)	Quantity (MT)	Value $ (000)	Quantity (MT)	Value $ (000)	Quantity (MT)	Value $ (000)
Belgium	318	786	-	-	1,425	6,892	-	-	1,743	7,678
Netherlands	85	206	-	-	45	186	-	-	130	392
Spain	-	-	96	203	-	-	-	-	96	203
UK	999	3,923	-	-	250	856	5	18	1,254	4,797
Total	**1,402**	**4,915**	**96**	**203**	**1,720**	**7,934**	**5**	**18**	**3,223**	**13,070**

Source: Marine Fisheries Department

Way Forward:

The available potential in agriculture sector needs to be exploited to boost economic growth, job creation and encourging country's exports. For this purpose synchronization of programmes, reforming of institutions and encouraging public-private partnership, simplification of laws and investment reforms is the need of the hour. As federal and provincial investment should be based on their mandate/role in agriculture sector and national issues could be co-financed. Effective mechanisation stands vital to enahnce productivity in this sector.