Chapter 2

Agriculture

The foremost objective of Agriculture sector in Pakistan is to ensure adequate production and availability of food for the population and provide livelihoods to people directly involved in the sector along with the value adding chain. The attainment of sustainable growth in agriculture sector fulfils macroeconomic objectives through its forward and backward linkages with the other sectors. Pakistan agriculture needs a major transformation if it has to significantly contribute towards the improvement of livelihoods of the population as well as macroeconomic welfare and prosperity. Pakistan agriculture and food security concerns remain high on the policy agenda at national level. Due to concerted actions, the performance of agriculture has been encouraging with growth of 2.1 percent during 2013-14.

Accelerated agricultural growth directly helps in redistribution of poverty and provides the farmers a required level of nutritious food. It is the well intended/focused efforts by the government to exploit maximum benefit from this sector. Food security requires achieving self-sufficient quantity of nutritious grains/staple food. The prosperity of a large fragment of community revolves around agriculture that requires timely and adequate inputs, ensures better environment for sustainable economic growth. Government is trying to modernize agriculture sector to increase production which in turn can help in achieving sustainable economic growth.

Pakistan's agriculture sector involves 43.7 percent of labour force that produces their own food needs and ensures availability of food for the rest of nation and value-added activities. The potential role for agriculture in development is to reduce poverty and drive growth for countries whose economies are agriculture-based. Growing population size requires agriculture growth compatible to meet required level of food. The change in consumption pattern with a change in per capita income level requires more proteins containing diet. The transition of agriculture from traditional to modern farming techniques is based on adequate availability of inputs like certified seeds, balanced use of fertilizers, mechanization, agricultural credit and opportunities of investment in agricultural research. The achievement of better productivity requires efficient utilization of water resources while the static cropping pattern requires serious attention as well. The adverse impact of climatic change on productivity needs to be countered through adaptation and mitigating measures based on innovations and diversifications by inculcating farming community to adopt advanced techniques. The way forward is to raise the yield of crops along with livestock and fisheries production, and improve the agro-based industrial value addition. The improved road and communication infrastructure in rural areas has facilitated the farmers to tap more income from production cycle of crops, livestock and perishable items (vegetables and fruits) through improved supply chain.

Traditional and modern supply chains, now a days are providing consumers in urban and rural areas with available, accessible, diverse and nutritious foods regionally and globally. Efficient supply chains, with better year-round availability of a wide variety of fresh, processed, packaged food according to the requirements as much as economically possible. Agricultural research must continue to enhance productivity, while paying greater attention to nutrient-dense foods such as fruits, vegetables, legumes and animal products and to more sustainable production systems. The increased competitiveness and concept of market economy requires improved supply chains. As the economy grows it direly requires timey availability of important inputs under market based activities. A strong food supply chains ensures availability of perishable food items without destroying its nutrient. A well planned food supply chain (cold chains for perishables vegetable and fruits) helps to overcome wastage and may reduce the rent seeking by timely availability of food items though out the country. Improved infrastructure facilitates and adoption of latest logistic (cold chain model for travel/shelf time for perishable items) within and outside the country. Being agrarian economy advanced and improved freight and logistics facilities may be potential source of import/export through cold chains.

The government is determined to achieve the required production targets through collective actions by focusing on improving agricultural planning and policies, scaling up investment to implement these plans and policies with provincial coordination based on well-crafted National Agriculture and Food Security Policy; a framework guiding policies, strategies and actions for agricultural development and transformation. The policy is instrumental in raising the profile of agriculture at the centre of development agenda at national level. These positive indicators of inclusive growth as advocated by ensuring the timely availability of inputs, requiring sustained and concerted actions and efforts in application of quality policies, strategies, programmes and investments driven by effective implementations. It is therefore, desirable to say next era will build on this momentum to deliver in an accelerated manner, positive changes towards prosperity that directly impact on livelihoods of Pakistani citizens through an inclusive agricultural transformation process.

Recent performance

During fiscal year 2013-14, the overall performance of agriculture sector witnessed a growth of 2.1 percent due to positive growth in agriculture related sub sectors. Crops grew at 1.2 percent, Livestock 2.9 percent, Forestry 1.5 percent and Fishing 1.0 percent. The agriculture's crop subsector component which includes important crops grew by 3.7 percent while other crops and cotton ginning showed a negative growth of 3.5 percent and 1.3 percent, respectively. Important crops accounted for 25.6 percent of agricultural value added and has experienced a growth of 3.7 percent in fiscal year 2013-14 against growth of 1.2 percent during the same period of last year. The important crops performed well on the back of positive growth in production of rice, maize, wheat and sugarcane all these crops witnessed increase in the production by 22.8 percent, 7.3 percent, 4.4 percent and 4.3 percent, respectively, while decline in production of cotton by 2.0 percent .The factors underpinning agriculture growth include better water availability, more fertilizer offtake and timely availability of agriculture credit paved the way for achieving the growth, the impact is vivid by the growth of important crops.

Table 2.1: Agriculture growth percentages (Base=2005-06)

Sector	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Agriculture	**1.8**	**3.5**	**0.2**	**2.0**	**3.6**	**2.9**	**2.1**
Crops	-1.0	5.2	-4.2	1.0	3.2	2.3	1.2
i) Important Crops	-4.1	8.4	-3.7	1.5	7.9	1.2	3.7
ii) Other Crops	6.0	0.5	-7.2	2.3	-7.5	6.1	-3.5
iii) Cotton Ginning	-7.0	1.3	7.3	-8.5	13.8	-2.9	-1.3
Livestock	3.6	2.2	3.8	3.4	4.0	3.5	2.9
Forestry	8.9	2.6	-0.1	4.8	1.8	1.0	1.5
Fishing	8.5	2.6	1.4	-15.2	3.8	0.7	1.0

Source: Pakistan Bureau of Statistics
P: Provisional

Other crops that contribute 11.6 percent value addition in agriculture witnessed a decline of 3.5 percent during 2013-14 against positive growth of 6.1 percent during the same period last year that is due to decrease in production of pulses, vegetables and fruits. The cotton ginning witnessed a decline of 1.3 percent in its growth against the negative growth of 2.9 percent during the same period 2012-13. The Livestock sector which contributes 55.9 percent in the agriculture exhibited a growth of 2.9 percent in 2013-14 based on Livestock Census 2006. The Fishing sector showed a growth of 1.0 percent having a share of 2.0 percent in agriculture value addition as against last year's growth of 0.7 percent. Forestry sector posted a growth of 1.5 percent this year as compared to growth of 1.0 percent last year.

Pakistan has two crop seasons, ″Kharif″ being the first sowing season starting from April-June and harvested during October-December. Rice, sugarcane, cotton, maize, moong, mash, bajra and jowar are "Kharif" crops. ″Rabi″, the second sowing season, begins as on October-December and is harvested in April-May. Wheat, gram, lentil (masoor), tobacco, rapeseed, barley and mustard are "Rabi" crops. The production of agriculture is dependent upon timely availability of irrigation water. During 2013-14, the availability of water for Kharif 2013 remained 13.5 percent more than Kharif 2012 and 2.4 percent less than the normal supplies of 67.1 MAF. The water availability during Rabi season 2013-14 was estimated at 32.5 MAF, which was 1.9 percent higher than last year's Rabi crop but

10.7 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	-
2005-06	70.8	30.1	100.9	- 2.5
2006-07	63.1	31.2	94.3	- 8.9
2007-08	70.8	27.9	98.7	- 4.6
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

Source: Indus River System Authority

I. Crop Situation

Important crops, such as wheat, rice, sugarcane maize and cotton account for 25.6 percent of the value added in overall agriculture and 5.4 percent to GDP. The other crops account for 11.6 percent of the value added in overall agriculture. Livestock contributes 55.9 percent to agricultural value added much more than the combined contribution of important and other crops (37.2 percent). The production performance of important crops is given in Table 2.3.

Table 2.3: Production of Important Crops (in thousands of tonnes)

Year	Cotton (000 bales)	Sugarcane	Rice	Maize	Wheat
2007-08	11,655	63,920	5,563	3,605	20,959
	-	-	-	-	-
2008-09	11,819	50,045	6,952	3,593	24,033
	(1.4)	(-21.7)	(25.0)	(-0.3)	(14.7)
2009-10	12,914	49,373	6,883	3,261	23,311
	(9.3)	(-1.3)	(-1.0)	(-9.2)	(-3.0)
2010-11	11,460	55,309	4,823	3,707	25,214
	(-11.3)	(12.0)	(-29.9)	(13.7)	(8.2)
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 (P)	12,769	66,469	6,798	4,527	25,286
	(-2.0)	(4.3)	(22.8)	(7.3)	(4.4)

Source: Pakistan Bureau of Statistics
P: Provisional (July-March), Figures in parentheses are growth/decline rates

Agriculture sector requires policy formulation, economic coordination and planning in respect of food grain and food security. Ministry of National Food Security & Research includes procurement of food grains, fertilizer, import price stabilization of agriculture produce, international liaison, and economic studies for framing agricultural policies. Being the importance of agriculture Kharif and Rabi crops, their targets/outlook are needed to be reviewed based on federal/provincial coordination. The present government has realized the importance of this important forum and after a gap of three years convened the FCA meeting.

Box-1: Federal Committee on Agriculture (FCA)

The Federal Committee on Agriculture (FCA) was constituted in 1972 under the direction of the then President of Pakistan headed by President's Special Assistant for Agriculture. This committee initially comprised of Deputy Chairman Planning Commission, Secretaries of Ministry of Finance, Industries, Commerce, Economic Affairs and Food and Agriculture. However, overtime changes occurred in agriculture sector and challenges emerged therein necessitated to expand its members and make the Committee more powerful under the Chairmanship of Federal Minister for Food

and Agriculture with active participation of federal/provincial ministries, provincial departments, AJK, IRSA, Meteorological Department, State Bank of Pakistan, ZTBL, Commercial Banks and heads of the attached departments of Ministry of Food and Agriculture.

The FCA meets twice a year before start of Kharif and Rabi Crop season. The comprehensive working paper for each meeting is prepared by the Ministry of Food and Agriculture (Defunct) followed by the minutes of meeting. In these meetings performance of the proceeding season's crops were critically evaluated. Based on this evaluation which provides a transparent picture of availability of agriculture inputs and targets achieved, the Committee fixes the targets for the next season's crops. The most important factors considered as the foundation stones for new targets included availability of irrigation water, agricultural credit, chemical fertilizers particularly phosphatic, improved and certified seed, plant protection measures, etc. The last meeting of FCA was held on November 01, 2010 and since then no meetings were held.

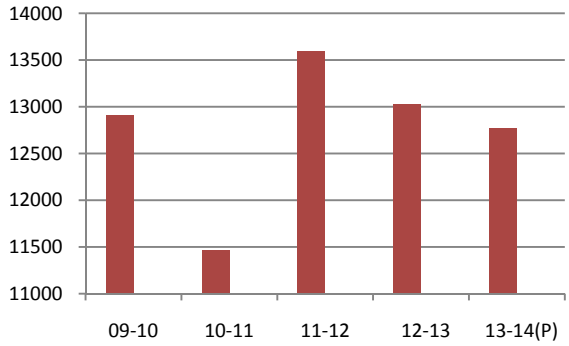
Under the 18th Amendment the Ministry was devolved and new setup with the name Ministry of National Food Security and Research, started work on revival of FCA on new lines of action covering all aspects of National Food Security. In a recent meeting held on 28th March, 2014, the FCA which now stands and has fixed crop target for the provinces for the Kharif season.

a) Important Crops

i) Cotton:

The cotton having a share of 1.4 percent in GDP and 6.7 percent in agriculture value addition is an important source of raw material to the textile industry. During July-March 2013-14, textile industry fetched foreign exchange of US$ 10.385 billion. During 2013-14, the crop was cultivated on an area of 2806 thousand hectares, 2.5 percent less than last year's area of 2879 thousand hectares. The production stood at 12.8 million bales during the period 2013-14 against the target of 14.1 million bales, showing decline of 9.2 percent against the target and decline of 2.0 percent over the last year production of 13.0 million bales. The cotton production is decreased due to fall in the area sown which is due to less rates of cotton nationally and internationally prevailed during last two years that discouraged the growers to put more area under crop and shifting the area to maize and rice crops in some districts of Punjab due to their better market returns. The area, production and yield of cotton for the last five years are shown in Table 2.4 and Figure 2.1.

Figure 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
2009-10	3,106	-	12,914	-	707	-
2010-11	2,689	-13.4	11,460	-11.3	725	2.5
2011-12	2,835	5.4	13,595	18.6	815	12.4
2012-13	2,879	1.6	13,031	-4.1	769	-5.6
2013-14(P)	2,806	-2.5	12,769	-2.0	773	0.5

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

World Cotton Outlook

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

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

	2011-12 E	2012-13 P	2013-14 P
Production			
China	7.40	7.30	6.70
India	6.35	6.09	6.37
USA	3.39	3.77	2.80

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

	2011-12 E	2012-13 P	2013-14 P
Pakistan	2.31	2.20	2.08
Brazil	1.88	1.31	1.64
Uzbekistan	0.88	1.00	0.92
Others	5.83	5.20	5.19
World Total	28.04	26.88	25.70
Consumption			
China	8.63	8.29	7.88
India	4.34	4.84	5.02
Pakistan	2.22	2.41	2.49
East Asia/Australia	1.64	1.86	2.04
Europe & Turkey	1.49	1.53	1.58
Brazil	0.88	0.89	0.93
USA	0.72	0.75	0.78
Others	2.85	2.76	2.85
World Total	22.79	23.34	23.55

Source: Pakistan Central Cotton Committee, M/o Textile Industry
E: Estimated, P: Projected

ii) Sugarcane:

Sugarcane is an important and high value cash crop of Pakistan. It is significantly important for sugar and sugar related production. The sugar industry plays a pivotal role in the national economy of our country. Sugarcane accounts for 3.4 percent in agriculture value addition and 0.7 percent in GDP. During July-March 2013-14, sugar export earned foreign exchange of US$ 236.8 million. Sugarcane was sown on an area of 1173 thousand hectares during 2013-14 against last year's 1129 thousand hectares showing an increase of 3.9 percent. The production of sugarcane for the year 2013-14 stood at 66.5 million tonnes, against the target of 65 million tonnes for 2013-14 shows 2.3 percent more production against targets and to compare last year's production which was 63.8 million tonnes, showing an increase of 4.3 percent. The increase in production is due to more area sown, favourable weather condition as well as improvement in soil fertility due to impact of floods in 2010 and 2011. The area, production and yield of sugarcane for the last five years are given in Table 2.6 and Figure 2.2.

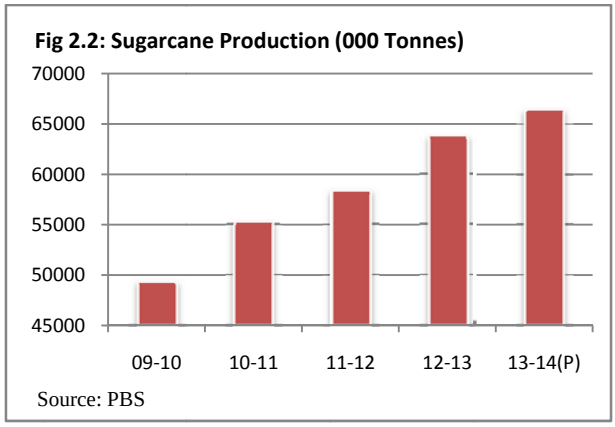


Table 2.6: Area, Production and Yield of Sugarcane

Year	Area		Production		Yield	
	(000 Hectare)	% Change	(000 Tonnes)	% Change	(Kgs/Hec.)	% Change
2009-10	943	-	49,373	-	52,357	-
2010-11	988	4.8	55,309	12.0	55,981	6.9
2011-12	1,058	7.1	58,397	5.6	55,196	-1.4
2012-13	1,129	6.7	63,750	9.2	56,466	2.3
2013-14 (P)	1,173	3.9	66,469	4.3	56,666	0.4

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

iii) Rice:

Rice is an important food and cash crop; second staple food grain crop of Pakistan after wheat and major source of foreign exchange earnings after cotton. Rice accounts 3.1 percent of the value added in agriculture and 0.7 percent of GDP. During July March 2013-14, rice export earned foreign exchange of US$ 1.667 billion. During 2013-14, rice is cultivated on an area of 2789 thousand hectares, 20.8 percent higher than last year's area of 2309 thousand hectares. The production stood at 6798 thousand tonnes, against the target of 6200 thousand

tonnes shows a growth of 9.6 percent against the target if compared to corresponding period of last year production which was 5536 thousand tonnes, a healthy increase of 22.8 percent witnessed. The rice acreage increased due to lucrative market prices received during the last year which induced the growers to bring more area under cultivation. The production increased due to increase in area while improved yield remained not impressive due to flood/excessive rains and attack of leaf roller and blight in some cultivated areas. The area, production and yield of rice for the last five years are shown in Table 2.7 and Figure 2.3.

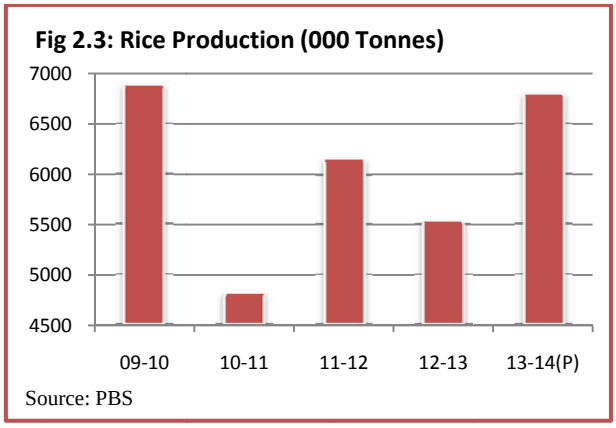


Table 2.7: Area, Production and Yield of Rice

Year	Area		Production		Yield	
	(000 Hectare)	% Change	(000 Tonnes)	% Change	(Kgs/Hec.)	% Change
2009-10	2,883	-	6,883	-	2,387	-
2010-11	2,365	-18.0	4,823	-29.9	2,039	-14.6
2011-12	2,571	8.7	6,160	27.7	2,396	17.5
2012-13	2,309	-10.2	5,536	-10.1	2,398	0.1
2013-14 (P)	2,789	20.8	6,798	22.8	2,437	1.6

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

iv) Wheat:

Wheat is the leading food grain of Pakistan and being the staple diet of the people and occupies a central position in agricultural policies. Wheat contributes 10.3 percent to the value added in agriculture and 2.2 percent to GDP. Wheat area sown increased to 9039 thousand hectares in 2013-14, from 8660 thousand hectares showing an increase of 4.4 percent over last year's area. The production of wheat stood at 25.3 million tonnes during 2013-14, against the revised target (FCA) of 25.0 million tonnes which is 1.2 percent more than the target, compared to last year's production an encouraging growth of 4.4 percent witnessed over production of 24.2 million tonnes. The overall increase in area sown is attributed to the attractive market rates and area was also available due to early maturity of cotton crop. The production increased due to increase in area cultivated and timely rainfall at regular intervals and favourable weather condition suitable for healthy grain. The position is given in Table 2.8 and Figure 2.4.

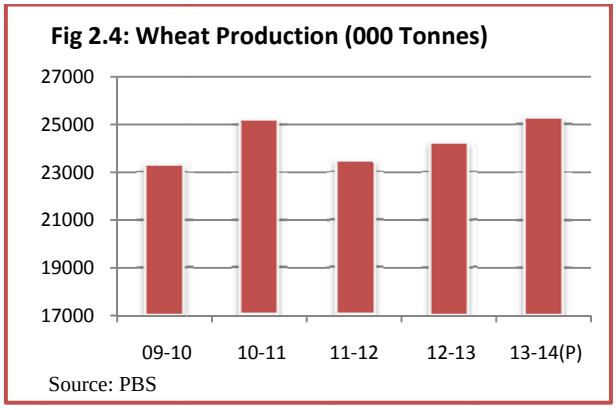


Table 2.8: Area, Production and Yield of Wheat

Year	Area		Production		Yield	
	(000 hectares)	% Change	(000 tonnes)	% Change	(Kgs /Hec.)	% Changes
2009-10	9,132	-	23,311	-	2553	-
2010-11	8,901	-2.5	25,214	8.2	2833	11.0
2011-12	8,650	-2.8	23,473	-6.9	2714	-4.2
2012-13	8,660	0.1	24,211	3.1	2796	3.0
2013-14(P)	9,039	4.4	25,286	4.4	2797	0.0

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

v) Maize:

Maize grain is an enriched food as compared to other food grains. The wet milling of maize produces an array of products, by products and value additions. It contributes 2.1 percent to the value added in agriculture and 0.4 percent to GDP. Maize was cultivated on an area of 1117 thousand hectares in 2013-14 showing an increase of 5.4 percent over last year's area of 1060 thousand hectares. The production of maize stood at 4527 thousand tonnes during 2013-14 showing an increase of 7.3 percent against last year production of 4220 thousand tonnes. The area increased due to shifting of cotton area into maize crop and good economic returns received by the growers from the last year's crop. The increase in production is attributed to increase in area sown and Hybrid varieties have taken more shares in plantation. The position is presented in Table 2.9 and Figure 2.5.

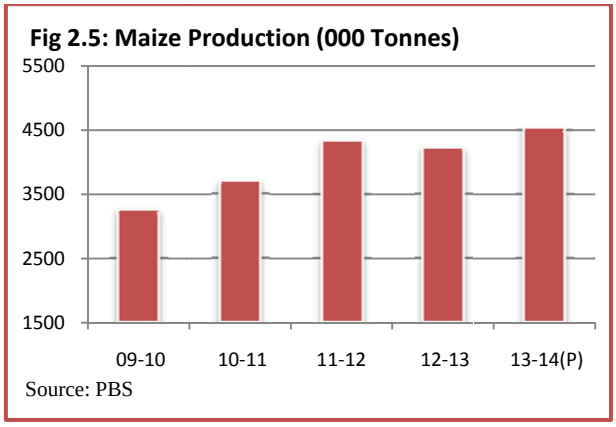


Table 2.9: Area, Production and Yield of Maize

Year	Area		Production		Yield	
	(000 hectares)	% Change	(000 tonnes)	% Change	(Kgs /Hec.)	% Changes
2009-10	935	-	3,261	-	3,487	-
2010-11	974	4.2	3,707	13.7	3,806	9.1
2011-12	1,087	11.6	4,338	17.0	3,991	4.9
2012-13	1,060	-2.5	4,220	-2.7	3,981	-0.3
2013-14(P)	1,117	5.4	4,527	7.3	4,053	1.8

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

b) Other Crops

During 2013-14, the production of Gram, the largest Rabi pulses crop in Pakistan having an estimated consumption of 200 thousand tonnes witnessed production of 475 thousand tonnes against the production of 751 thousand tonnes of last year, showing a decline of 36.8 percent due to unfavorable weather condition. The production of Rapeseed & Mustard, Jowar, Bajra and Barley exhibited decline in its production by 11.7 percent, 3.3 percent, 3.2 percent and 1.5 percent, respectively, in 2013-14 as compared to the corresponding period last year. While the production of Tobacco remained same when compared to the production of corresponding period last year. 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	2012-13		2013-14 (P)		% Change in production over Last year
	Area (000 hectares)	Production (000 tonnes)	Area (000 hectares)	Production (000 tonnes)	
Bajra	461	311	475	301	-3.2
Jowar	198	123	198	119	-3.3
Gram	992	751	975	475	-36.8
Barley	73	67	71	66	-1.5
Rapeseed & Mustard	224	205	198	181	-11.7
Tobacco	50	108	50	108	0.0

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

i) Oilseeds

The major oilseed crops grown in the country include sunflower, canola, rapeseed/mustard and cotton. During the year 2012-13 total availability of edible oil was 3.069 million tonnes. Local production of edible oil contributed 0.567 million tonnes while import of edible oil/oilseeds was 2.502 million tonnes. The edible oil import bill during 2012-13 was Rs.241.936 billion (US$ 2.50 billion).

During July-March 2013-14, 1.719 million tonnes edible oil of value Rs.148.633 billion (US$ 1.425

billion) was imported. Local production of edible oil during 2013-14 (July-March) is estimated at 0.606 million tonnes. Total availability of edible oil from all sources is provisionally estimated at 2.325 million tonnes during 2013-14 (July-March). The area and production of oilseed crops during 2012-13 and 2013-14 is given in Table 2.11.

Table 2.11: Area and Production of Major Oilseed Crops

Crops	2012-13			2013-14 (P)		
	Area	Production		Area	Production	
	(000 Acres)	Seed (000 Tonnes)	Oil (000 Tonnes)	(000 Acres)	Seed (000 Tonnes)	Oil (000 Tonnes)
Cottonseed	7,114	3,324	400	6,700	3,592	431
Rapeseed/ Mustard	578	216	66	586	218	68
Sunflower	485	244	95	523	265	101
Canola	33	16	6	38	16	6
Total	8,210	3,800	567	7,847	4,091	606

Source: Pakistan Oilseed Development Board
P: Provisional/Targets (July-Mar)

The production of moong increased by 3.3 percent during, 2013-14. However, the production of other pulses Mash and Masoor (Lentil) decreased by 6.4 and 5.1 percent respectively. The reason for decrease in production is decrease in area sown comparing to corresponding period last year. The production of onions remained slightly unchanged. While the production of potatoes and chillies witnessed a decline of 7.8 percent and 1.4 percent, respectively. The area and production of other crops are given in Table 2.12.

Table 2.12: Area and Production of Other Crops

Crops	2012-13		2013-14(P)		% Change in Production
	Area (000 hectares)	Production (000 tonnes)	Area (000 hectares)	Production (000 tonnes)	
Masoor	19.0	9.8	17.8	9.3	-5.1
Moong	135.9	89.9	130.9	92.9	3.3
Mash	23.2	10.9	20.9	10.2	-6.4
Potatoes	174.4	3,802.2	161.9	3,507.1	-7.8
Onions	125.9	1,660.8	127.8	1,661.3	0.0
Chillies	63.6	147.2	62.5	145.1	-1.4

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

II. Farm Inputs

i) Fertilizers

Fertilizers are major agricultural input which yield high and quick returns. As an expensive input its balanced use enhances yield from 30 to 50 percent in different crop production. Nutrient wise one kg of fertilizer produces about 8 kg of cereals (wheat, maize and rice), 2.5 kg of cotton and 114 kg of stripped sugarcane. Almost hundred percent soil in Pakistan is deficient in nitrogen; 80-90 percent is deficient in phosphorus and 30 percent in potassium. Widespread deficiencies of micronutrients are also appearing in different areas. Soil fertility is continuously depleting due to mining of the essential plant nutrients from the soils under intensive cultivation.

The domestic production of fertilizers during July-March 2013-14, witnessed increase by 18.2 percent over the corresponding period of last year. The imported supplies of fertilizer depicted an increased of 52.2 percent; hence, the total availability of fertilizer increased by 26.0 percent during July-March 2013-14.Total offtake of fertilizer nutrients also showing an increase of 20.6 percent. The offtake of Nitrogen increased by 20.1 percent and that of phosphate increased by 22.8 percent during

July-March 2013-14. While the offtake of potash increased slightly during July-March 2013-14. Major reason for increase in offtake of phosphate fertilizer is declining trend in its prices. High market prices of agriculture produce especially cotton had positive effect on fertilizer offtake.

Kharif 2013 started with inventory of 220 thousand tonnes of urea. Total availability of urea (including 325 thousand tonnes of imported supplies, 2496 thousand tonnes of domestic production) was about 3041 thousand tonnes against the offtake of 2851 thousand tonnes, leaving an inventory of 175 thousand tonnes for Rabi 2013-14. Total availability of DAP during Kharif 2013 was 921 thousand tonnes comprising 197 thousand tonnes of inventory, 326 thousand tonnes of imported supplies and 398 thousand tonnes of local production. DAP offtake was 616 thousand tonnes leaving closing balance of 307 thousand tonnes for coming Rabi 2013-14.

Rabi 2013-14 started with an opening balance of 175 thousand tonnes of urea. Domestic production during Rabi 2013-14 was 2439 thousand tonnes. Urea offtake during current Rabi 2013-14 was about 3099 thousand tonnes, against 3476 thousand tonnes of total availability, leaving a closing balance of 376 thousand tonnes for next season. DAP availability in current season of Rabi was 1125 thousand tonnes, which included 307 thousand tonnes of inventory, 526 thousand tonnes of imported supplies and domestic production of 292 thousand tonnes. Offtake of DAP during current Rabi season was about 1075 thousand tonnes, leaving a balance of 56 thousand tonnes for next season. Detail of fertilizer situation is given in Table-2.13.

Kharif 2014 started with inventory of 376 thousand tonnes of urea. Total availability of urea will be about 3141 thousand tonnes comprising of 125 thousand tonnes of imported supplied and 2640 thousand tonnes of domestic production. Urea offtake is expected to be around 3000 thousand tonnes, leaving inventory of 141 thousand tonnes for Rabi 2014-15. Total availability of DAP will be 431 thousand tonnes against expected offtake of 600 thousand tonnes. Supply/ Demand gap in DAP will be met by imports through private sector during Kharif 2014.

Table 2.13: Fertilizer Situation (000 Tonnes)

Description	Kharif (Apr-Sep) 2013		Rabi (Oct-Mar) 2013-14		Kharif (Apr-Sep)* 2014	
	Urea	DAP	Urea	DAP	Urea	DAP
Opening stock	220	197	175	307	376	56
Imports	325	326	862	526	125	0
Domestic production	2,496	398	2,439	292	3,141	375
Total availability	3,041	921	3,476	1125	3,116	431
Offtake/Demand	2,851	616	3,099	1075	3,000	600
Write on/off	-15	2	-1	6	0	0
Closing stock	175	307	376	56	141	-169

Source: National Fertilizer Development Center
*: Outlook

ii) Improved Seed

Quality seed is the most desirable input for improving yield. Seed is an important component in agricultural productivity system. Timely availability of seed ensures food security and prosperity of farmers. Seed has the important position to bridge the gap existing in average crop yields and potential of available varieties. Seed is a high technology product and is an innovation most readily adapted. Improving access to good quality seed is a critical requirement for sustainable agricultural growth and food security. Effective use of improved/certified seed can result in higher agricultural production and increases the net incomes of farming families which has a positive impact on rural development. Hence, availability of quality seed of improved varieties is essential to achieve the production targets.

During July-March, 2013-14 about 372.0 thousand tonnes of improved seeds of various Kharif/Rabi crops was procured. The procurement of seeds for various Kharif crops (cotton, paddy, maize, moong bean, etc) is under progress. The detail of this procurement is given in Table 2.14.

Table 2.14: Seed Availability* (Metric Tonnes)

Crop	Local	Imported	Total
Wheat	271,250.00	0.00	271,250.00
Cotton	17,175.25	0.00	17,175.25
Paddy	33,284.94	3,840.69	37,125.63
Maize	2,772.89	11,617.83	14,390.72
Pulses	689.81	0.00	689.81
Oilseeds	42.00	1,320.08	1,362.08
Fodders	10.00	20,921.01	20,931.01
Vegetables	65.00	4,743.72	4,808.72
Potatoes	63.50	4,217.15	4,280.65
Total	325,353.39	46,660.48	372,013.87

Source: Federal Seed Certification & Registration Department
* : Provisional (July-March 2013-14)

The Federal Seed Certification and Registration Department (FSC&RD) is engaged in providing seed certification coverage to public and private sector seed companies of the country. It provides seed quality control services through its 28 seed testing laboratories and monitor seed quality in the market as well. The activities/ achievements of the department during July-March, 2013-14 is briefly given below:

- A total of 349.8 thousand acres of different crops offered by the various seed agencies were inspected for certification purposes.
- A working paper for registration of 22 new seeds companies and for de-registration cases of 52 dormant seed companies has been submitted to the Ministry of National Food Security and Research for the forth coming meeting of its Working Group.
- A total quantity of 322.1 thousand MT seeds of various crops were sampled and tested for purity, germination and seed health purposes.
- Pre and post control trials of all pre-basic, basic seeds lots and 20 percent of certified seeds lots were carried out in the fields to determine the quality of seeds distributed by various seed agencies.
- Under the provision of Seed Act Enforcement, 58 cases were filed in different Courts of Law against the seed dealers found selling substandard seeds.
- Imported seeds of various crops/hybrids to the tune of 46.7 thousand MT with a total value of Rs.11.3 billion was tested under Seed (Truth-in-Labeling) Rules, 1991 during the year so far at the port of entries i.e. Lahore and Karachi.
- Almost 461 samples of seeds and propagating material of various crops/vegetables and fruits were tested at the Central Seed Testing Laboratory, Islamabad for detection of fungal and viral diseases using latest diagnosis techniques and protocols.
- For accreditation of Central Seed Testing Laboratory (CSTL) all the processing requirements has been completed and case is submitted for assessment and approval to Pakistan National Accreditation Council (PNAC). After accreditation CSTL of FSC&RD will be able to issue internationally acceptable certificates of seed analysis. It will be the value addition to Agri-product "seed" in terms of seed exports.
- To strengthen the seed certification services in Gilgit Baltistan a project "Strengthening of Seed Certification Services for Food Security in Gilgit Baltistan" has been approved with objective to strengthen the Seed Testing Laboratory (STL), Gilgit and establishment of STL, Skardu, training of officials of stakeholders involved in activities pertaining to seed/fruit plants production inland marketing and export quality and monitoring of seed quality in the market of Gilgit Baltistan. Registration/introduction of new varieties through Distinctiveness Uniformity and Stability (DUS) studies and adaptability tests in collaboration with Department of Agriculture Research, Gilgit Baltistan.

iii) Mechanization

In consideration of the role of machinery in modern farm operation the use of machinery has been encouraged by increasing credit availability through the banks. The government is desirous to modernize its agriculture. The use of modern and latest farm machinery and equipment play an important role in the timely sowing and harvesting of agriculture crops. During July-March 2013-14 a total number of 25,186 tractors were produced in the country. The production and price of locally manufactured tractors are given in Table 2.15

Table 2.15: Price and Production of Locally Manufactured Tractors 2013-14

Tractors Model - Horse Power (HP)	Price/Unit (Rs)	Production (in Nos.)
M/s Al-Ghazi Tractors		
NH 480-S (55 HP)	642,000	2,825
NH 480-S with power (55 HP)	652,000	1,227
Ghazi (65 HP)	714,000	4,139
640 (75 HP)	908,000	656
640 with disc break (75 HP)	918,000	38
640-S (85 HP)	990,000	29
640-S with disc break (85 HP)	1,014,000	1
NH 55-56 (55 HP)	688,000	2
NH 60-56 (60 HP)	765,000	2
NH 70-56 (85 HP)	1,295,000	17
M/s Millat Tractors Ltd		
MF-240 (50 HP)	650,000	6,751
MF-350 (50 HP)	692,000	52
MF-260 (60 HP)	722,000	2,567
MF-360 (60 HP)	745,000	2,004
MF-375 (75 HP)	945,000	2,271
MF-385 2WD (85 HP)	1,055,000	2,271
MF-384 4WD (85 HP)	1,600,000	334
Total		**25,186**

Source: Tractor Manufacturer Association, Federal Water Management Cell

iv) Irrigation

Water is essential to meet the food need for the country's growing population. Water is also vital to basic ecological functions that support human, fisheries production and the health of rivers, canals and lakes. The efficient use of water is an important requirement for sustainable agriculture growth and agriculture oriented activities to tap more benefits from this sector. Pakistan has been naturally bestowed with good irrigation canal network complemented with suitable temperatures and rainfalls during sowing and harvesting season. Rainfall recorded during the monsoon, post monsoon and winter season is given in Table 2.16.

Table 2.16: Rainfall* Recorded During 2013-14 (in millimeters)

	Monsoon Rainfall (Jul-Sep) 2013	Post Monsoon Rainfall (Oct-Dec) 2013	Winter Rainfall (Jan-Mar) 2014
Normal**	140.8 mm	26.4 mm	74.3 mm
Actual	151.4 mm	19.3 mm	76.7 mm
Shortage (-)/excess (+)	(+) 10.5 mm	(-)7.1 mm	(+) 2.4 mm
% Shortage (-)/excess (+)	(+) 7.5 %	(-) 26.9 %	(+) 3.2 %

Source: Pakistan Meteorological Department
*: Area weighted. **: Long Period Average (1961-2010)

During the monsoon season (July-September) 2013, the normal average rainfall was 140.8 mm, while the actual rainfall received was 151.4 mm, indicating an increase of 7.5 percent. During the post-monsoon season (October-December) 2013, the normal average rainfall was 26.4 mm, while the actual rainfall received was 19.3 mm, indicating a decrease of 26.9 percent. During winter season (January-March) 2014, normal average rainfall was 74.3 mm and the actual rainfall received was 76.7 mm, indicating an increase of 3.2 percent under the normal rainfall average.

Canal head withdrawals during Kharif (April-September) 2013, increased by 14 percent and stood at 65.5 million acre feet (MAF) as compared to 57.7 MAF during the same period last year. During Rabi (October-March) 2013-14, the canal head withdrawals increased by 2.0 percent and stood at 32.5 MAF, compared to 31.9 MAF during the same

period of 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)

Provinces	Kharif (Apr-Sep) 2012	Kharif (Apr-Sep) 2013	% Change in Kharif 2013 over 2012	Rabi (Oct-Mar) 2012-13	Rabi (Oct-Mar) 2013-14	% Change in Rabi 2013-14 Over 2012-13
Punjab	29.75	33.83	14	17.14	17.44	2
Sindh	25.42	29.16	15	13.60	13.55	0
Khyber Pakhtunkhwa	0.95	0.94	-1	0.49	0.46	-5
Balochistan	1.62	1.61	-1	0.64	1.08	68
Total	57.74	65.53	14	31.86	32.54	2

Source: Indus River System Authority

During the year 2013-14, major strategy adopted to address the water sector's issues and investments in the sector was **a)** augmentation of surface water resources by construction of water storage small/medium dams, **b)** conservation measures (lining of irrigation channels, modernization/rehabilitation of irrigation system) and efficiency enhancement by rehabilitation & better operation of existing system, **c)** Protection of infrastructure from onslaught of floods and Water Logging & Salinity. To achieve additional water storages and reorganization for effective and responsive, the challenge is to formulate an effective implementation of a comprehensive set of measures for the development and efficient management of water resources. More than Rs. 57.0 billion financial resources were allocated for the above mentioned water sector's strategies/programmes. The major water sector projects under implementation are shown in Table 2.18.

Table 2.18: Major Water Sector Projects under Implementation

Projects	Location	Total App. cost (Rs. in million)	Live Storage (MAF)	Irrigated Area (Acres)	Latest Status
Gomal Zam Dam	Khyber Pakhtunkhwa	22,480	0.892	163,100	Substantially completed
Rainee Canal	Sindh	17,643	-	412,400 (Phases-I)	More than 98% Physically completed
Kachhi Canal	Balochistan	57,562	-	713,000 (Phases-I)	78 % Physically completed (Phase-I)
Satpara Dam Multipurpose	Skardu	4,480	0.05	15,536 (17.3 MW Power Gen.)	Physically completed
Darwat Dam	Sindh	26,236	89,192 (Ac.Ft)	25,000 (0.45 MW Power Gen.)	About 92 % Physically completed
Nai Gaj Dam	Sindh	26,236	160,000 (Ac.Ft)	28,800 (4.2 MW Power Gen.)	27 % Physically completed
Naulong Dam	Balochistan	18,027	200,000 (Ac.Ft)	47,000	Physical work on main dam at initial stage
Right Bank Outfall Drain (RBOD)					
RBOD-I	Sindh	14,707	-	542,500	89% Physically Completed
RBOD-II	Sindh	29,014	-	3,000,000	67% Physically Completed
RBOD-III	Balochistan	6,535	-	694,796	85 % Physically Completed

Source: Ministry of Planning, Development and Reforms

On-Going Main Programmes during (2013-14)

Out of total allocated budget (Rs. 57.8 billion) for water sector, more than Rs. 31.0 billion has been released & utilized upto Jul-April 2013-14 for achieving the following landmarks:

- Substantial completion (phase-I) of Kachhi Canal in Balochistan & Rainee Canal Sindh for irrigating 2.864 million acres.
- Operational of Mangla Dam Raising Project and completion of Satpara Dam in Gilgit Baltistan.

- Completion of Gomal Zam Dam Project in Tribal/ Khyber Pakhtunkhwa area for irrigation of 163,100 acres of agriculture land and 17.4 MW power generations.
- To overcome water scarcity, utilization of Rs. 3.25 billion for lining of irrigation channels in Punjab and Sindh during 2013-14.
- For the modernization of existing irrigation system, an amount of Rs. 2.10 billion is expected to be utilized during the year 2013-14 on improvement of existing irrigating system in Punjab, Sindh & Khyber Pakhtunkhwa.
- Rs. 17.77 billion has been allocated and expected to be utilized on construction of new Small/medium dams in all over Pakistan (Mangla, Satpara, Gomal, Darwat, Nai Gaj, Kurram Tangi & Naulong dams).
- In Balochistan about Rs. 5.80 billion is expected to be utilized on construction of new small/delay action dams, improvement of existing irrigation system and flood schemes.
- In drainage sector a sum of Rs. 4.901 billion has been allocated for fast track implementation of RBOD-I, II & III projects to protect and reclaim 4.90 million acres of irrigated land remained continue.

iv) Agricultural Credit:

Agriculture sector being a growth stimulant has immense potential for sustainability and viability of overall economy of the country. Agricultural credit is a vital input for leveraging the financial growth and ultimately leads to economic growth on sustainable basis. In line with the government priorities for development of agrarian economy, State Bank of Pakistan (SBP) has been striving for engaging the food security challenges in wake of various initiatives to support the government's objectives and goals. SBP has adopted a multipronged strategy for agriculture where by all out efforts are being made for achieving the annual indicative agriculture disbursement targets which inter alia include; sensitizing banks to adopt agriculture financing as a viable business line and following up on indicative targets and performance with top management of banks and their agriculture credit heads.

At present 31 Commercial, Microfinance Banks and Islamic Banks with around 3,950 agriculture designated branches are facilitating farmers by extending agriculture credit throughout the country. The agriculture lending banks comprising of 19 Commercial banks, 2 specialized banks (ZTBL, PPCBL), 7 Microfinance Banks and 3 Islamic Banks which are engaged in providing development loans to farming community for agriculture activities including growing of crops, livestock, poultry, fisheries, orchards, forestry, nurseries, apiculture and sericulture.

The Agricultural Credit Advisory Committee (ACAC) meeting held on February 17, 2014 where SBP has approved an upward revision in the provisional agriculture disbursement target of Rs. 360.0 billion to Rs. 380.0 billion of 2013-14. The revised target is 13.0 percent higher from Rs. 336.0 billion disbursed in 2012-13. Accordingly, Rs. 188.0 billion (49.5 %) have been allocated to five major commercial banks, similarly, Rs. 90.4 billion (23.8 %) to fourteen Domestic Private Banks, Rs. 69.5 billion (18.3 %) to ZTBL, Rs. 10.0 billion (2.6 %) to Punjab Provincial Cooperative Bank (PPCB), Rs. 21.6 billion (5.7 %) to 7 Microfinance Banks and Rs. 0.5 billion (0.1 %) to newly inducted 3 Islamic banks.

Agricultural Credit Disbursements Recent Trends

During July-March 2013-14, the banks have disbursed Rs. 255.7 billion which is 67.3 percent of the annual target of Rs.380.0 billion. The disbursement is 10.7 percent higher than Rs. 231.0 billion disbursement during the corresponding period last year. The outstanding portfolio of agriculture loans has increased by Rs.39.1 billion (16 %) i.e. from Rs.241.9 billion to Rs.281.0 billion at end March, 2014 as compared to same period last year.

The disbursement data reveals that five major commercial banks as a group disbursed agriculture loans of Rs.133.5 billion or 71.0 percent of the annul target which is higher by 8.0 percent from Rs.123.7 billion during the corresponding period last year. Amongst specialized banks, ZTBL achieved 66.0 percent of its target by disbursing Rs. 45.9 billion against its annual target of Rs. 69.5 billion while PPCBL achieved 54.5 percent of its target of Rs. 10.0 billion by disbursing Rs. 5.4 billion during July-March 2013-14.

The fourteen domestic private banks collectively disbursed Rs. 54.2 billion or 60.0 percent against the annual target of Rs. 90.4 billion contributing 21.2 percent in total disbursement. Further, seven Microfinance Banks as a group disbursed agriculture loans of Rs. 16.2 billion or 75.0 percent of their annual target of Rs. 21.6 billion. Under the category of Islamic Banks, the newly inducted three banks

collectively achieved 94.6 percent of their annual targets by disbursing Rs. 503.3 million against the target of Rs. 532.0 million during July-March 2013-14. The comparative position of Banks' targets viz a viz their achievement for 2013-14 (July-March) is shown in table 2.19

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

Banks	Target 2013-14	2013-14 (July-March)			Target 2012-13	2012-13 (July-March)		
		Flow	% age Achieved	% Share in Total		Flow	% age Achieved	% Share in Total
5 Big Commercial Banks	188.0	133.5	71.0	52.2	153.5	123.67	80.6	53.5
ZTBL	69.5	45.9	66.0	17.9	72.0	37.95	52.7	16.4
PPCBL	10.0	5.4	54.4	2.1	9.0	5.43	60.3	2.4
14 DPBs	90.4	54.2	59.9	21.2	66.7	51.02	76.5	22.1
7 MFBs	21.6	16.2	75.1	6.3	13.8	12.96	93.9	5.6
3 Islamic Banks*	0.5	0.5	94.6	0.2	-	-	-	-
Total	380.0	255.7	67.3	100	315.0	231.0	73.3	100.0

Source: State Bank of Pakistan
*: Newly inducted since July,2013

Box 2: Credit Disbursement to Farm and Non-Farm Sector

The continued increase in non-farm lending may be attributed as an outcome of SBP's successive pilot projects in selected districts across the country to encourage banks to diversify their agriculture credit portfolio. Sector-wise classification reveals that the share of non-farm sector in the overall agriculture credit disbursement has continued to increase by disbursing Rs. 116.7 billion or 45.6 percent from Rs. 99.7 billion or 43.2 percent during corresponding period last year. The share of farm sector in overall disbursement remained slightly lower from 56.8 percent to 54.4 percent; however, in terms of amount Rs. 7.7 billion grew in farm sector from Rs. 131.3 billion to Rs. 139.0 billion during the period under review. The comparison of farm and non-farm sector share is shown in Table 2.20.

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

Sector		2013-14 (July-March)		2012-13 (July-March)	
		Disbursement	% Share in Total	Disbursement	% Share in Total
A	**Farm Credit**	**139.0**	**54.4**	**131.3**	**56.8**
1	Subsistence Holding	80.6	31.5	75.7	32.8
2	Economic Holding	35.5	13.9	35.4	15.3
3	Above Economic Holding	23.0	9.0	20.3	8.8
B	**Non-Farm Credit**	**116.7**	**45.6**	**99.7**	**43.2**
1	Small Farms	39.4	33.7	31.7	31.8
2	Large Farms	77.4	66.3	68.0	68.2
	Total (A+B)	**255.7**	**100.0**	**231.0**	**100.0**

Source: State Bank of Pakistan

III. Livestock and Poultry

a) Livestock

Livestock sector is the mainstay of farming communities and has an exclusive position in the National Agenda of the economic development of the present government. Historically Livestock has been dominated by subsistence small holders to meet their needs of nutrients and proteins, food security and cash income on daily basis. Moreover, livestock is considered a source of livelihood at rural level, helping to reduce disparity in income, and provides security in case of any untoward eventuality of crop failure. It plays an important role in poverty alleviation and can uplift the socioeconomic conditions of our rural masses.

The population growth, urbanization, increase in per capita income and export opportunities are fueling the demand of livestock and livestock products. The rise in production cost has increased the retailer's and consumer's price index for milk, yogurt, meat, eggs etc. The overall livestock development strategy revolves to foster "private sector-led development with public sector providing enabling environment through policy interventions and play capacity building role to improve livestock husbandry practices". The emphasis will be on improving per unit animal productivity and moving from subsistence to market oriented and then commercial livestock farming in the country to meet the domestic demand and surplus for export. The objective is to exploit potentials of our livestock sector and use it as engine for economic growth and food security for the country leading to rural

population empowerment and rural socioeconomic development / uplift.

Livestock contribution to agriculture value added stood at 55.9 percent while it contributes 11.8 percent to the national GDP during 2013-14 compared to 55.5 percent and 11.9 percent during the corresponding period last year, respectively. Gross value addition of livestock has increased from Rs. 756.3 billion (2012-13) to Rs. 776.5 billion (2013-14), showing an increase of 2.7 percent as compared to last year. The livestock population for the last three years is given in Table 2.21.

Table 2.21: Livestock Population (Million Nos.)

Species	2011-12[1]	2012-13[1]	2013-14[1]
Cattle	36.9	38.3	39.7
Buffalo	32.7	33.7	34.6
Sheep	28.4	28.8	29.1
Goat	63.1	64.9	66.6
Camels	1.0	1.0	1.0
Horses	0.4	0.4	0.4
Asses	4.8	4.9	4.9
Mules	0.2	0.2	0.2

Source: Ministry of National Food Security & Research
1: Estimated Figure based on inter census growth rate of Livestock Census 1996 & 2006

The major products of livestock are milk and meat which for the last three years are given in Table 2.22.

Table:2.22 Milk and Meat Production (000 tonnes)

Species	2011-12[1]	2012-13[1]	2013-14[1]
Milk (Gross Production)	**47,859**	**49,400**	**50,990**
Cow	16,741	17,372	18,027
Buffalo	29,473	30,350	31,252
Sheep[2]	37	37	38
Goat	779	801	822
Camel[2]	829	840	851
Milk (Human Consumption)[3]	**38,617**	**39,855**	**41,133**
Cow	13,393	13,897	14,421
Buffalo	23,579	24,280	25,001
Sheep	37	37	38
Goat	779	801	822
Camel	829	840	851
Meat[4]	**3,232**	**3,379**	**3,531**
Beef	1,769	1,829	1,887
Mutton	629	643	657
Poultry meat	834	907	987

Source: Ministry of National Food Security & Research
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.

The milk production increased by 3.2 percent and meat 4.5 percent during 2013-14 as compared to corresponding period last year.

The 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	2011-12[1]	2012-13[1]	2013-14[1]
Eggs	Million Nos.	13,114	13,813	14,556
Hides	000 Nos.	13,938	14,410	14,868
Cattle	000 Nos.	6,995	7,258	7,532
Buffalo	000 Nos.	6,842	7,050	7,232
Camels	000 Nos.	101	102	104
Skins	000 Nos.	49,582	50,713	51,872
Sheep Skin	000 Nos.	10,745	10,873	11,001
Goat Skin	000 Nos.	24,237	24,986	25,664
Fancy Skin	000 Nos.	14,509	14,854	15,207
Lamb skin	000 Nos.	3,192	3,229	3,268
Kid skin	000 Nos.	11,318	11,624	11,939
Wool	000 Tonnes	43.0	43.6	44.1
Hair	000 Tonnes	23.8	24.4	25.1
Edible Offal's	000 Tonnes	353	363	373
Blood	000 Tonnes	59.8	61.3	62.8
Guts	000 Nos.	50,089	51,232	52,403
Casings	000 Nos.	14,832	15,333	15,817
Horns & Hooves	000 Tonnes	50.9	52.5	54.0
Bones	000 Tonnes	757.5	780.5	802.9
Fats	000 Tonnes	241.7	248.8	255.8
Dung	000 Tonnes	1,071	1,104	1,136
Urine	000 Tonnes	329	338	348
Head & Trotters	000 Tonnes	220.1	226.3	232.3
Ducks, Drakes & Ducklings	Million Nos.	0.5	0.5	0.5

Source: Ministry of National Food Security & Research

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

b) Poultry

Poultry sector is one of the important and vibrant segments of agriculture in Pakistan. This sector has contributed 1.3 percent in GDP during 2013-14 while it's contribution in agriculture and livestock value added stood at 6.1% and 10.8 % respectively. Poultry meat contributes 28.0% of the total meat production in the country. The current investment in Poultry Industry is more than Rs. 200.00 billion. Poultry sector has shown a robust growth @ 8-10 percent annually which reflects its inherent potential. The poultry value added at current factor cost has increased from Rs. 121.7 billion (2012-13) to 130.7 billion (2013-14) showing an increase of 7.4% as compared to previous year. The production of commercial and rural poultry and poultry products for the last three years is given in Table 2.24.

Table 2.24: Domestic/Rural & Commercial Poultry

Type	Units	2011-12[1]	2012-13[1]	2013-14[1]
Domestic Poultry	**Million Nos.**	**79.68**	**80.87**	**82.08**
Cocks	Million Nos.	10.10	10.38	10.66
Hens	Million Nos.	38.09	38.78	39.47
Chicken	Million Nos.	31.48	31.72	31.95
Eggs[2]	Million Nos.	3,809	3,878	3,947
Meat	000 Tonnes	106.51	108.62	110.79
Duck, Drake & Duckling	**Million Nos.**	**0.54**	**0.52**	**0.50**
Eggs[2]	Million Nos.	24.13	23.13	22.17
Meat	000 Tonnes	0.73	0.70	0.67
Commercial Poultry	**000 Tonnes**	**44.1**	**47.0**	**50.1**
Layers	Million Nos.	34.82	37.25	39.86
Broilers	Million Nos.	597.02	656.72	722.39
Breeding Stock	Million Nos.	9.25	9.71	10.19
Day Old Chicks	Million Nos.	623.58	685.94	754.54
Eggs[2]	Million No's	9,281	9,912	10,586

Table 2.24: Domestic/Rural & Commercial Poultry

Type	Units	2011-12[1]	2012-13[1]	2013-14[1]
Meat	000 Tonnes	726.66	797.47	875.24
Total Poultry				
Day Old Chicks	Million Nos.	655	718	786
Poultry Birds	Million Nos.	721	785	855
Eggs	Million Nos.	13,114	13,813	14,556
Poultry Meat	000 Tonnes	834	907	987

Source: Ministry of National Food Security & Research

1 : The figures for the indicated year is statistically calculated using the figures of 2005-06.

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

Poultry Development Policy envisions sustainable supply of wholesome poultry meat; eggs and value added products to the local and international markets at competitive prices and aimed at facilitating and support private sector-led development for sustainable poultry production. The strategy revolves around improving regulatory framework; disease control and genetic improvement in rural poultry; hi-tech poultry production under environmentally – controlled housing; processing and value addition; Improving bio-security; need based research and development and framers training & education. It envisages poultry sectors growth of 15-20% per annum.

Government Policy Measure

Livestock wing with its redefined role under 18th Constitutional Amendment continued monitory regulatory measures that included allowing import of high yielding animals, semen and embryos for the genetic improvement of indigenous dairy animals, allowing import of high quality feed stuff/micro ingredients for improving the nutritional quality of animal and poultry feed and allowing duty free import of veterinary, dairy and livestock machinery / equipment in order to encourage establishment of value added industry in the country.

Implementation Status of Government Policy Measures

- Livestock wing provided facilitation for export of live animals and meat. A total of 8,995 buffaloes/cattle and 4,880 sheep/goats were exported for meat purpose during July 2013 to September 30, 2013. ECC of the Cabinet imposed ban on commercial export of live animals with effect from 1st October, 2013.
- Apart from animal exports, 58,730 metric tonnes of meat and meat preparations were exported during 2013-14 (July-March). The export of meat and meat preparations fetched US$ 177.5 million. This meat was exported from 29 private sector slaughterhouses registered with the Animal Quarantine Department. During same period export facilitation was also provided for livestock by- products like animal casing, bones, horns and hooves, gelatin that fetched US$ 50.0 million.
- Livestock Wing regulated import of superior quality semen and high yielding exotic dairy cattle of Holstein-Friesian & Jersey breeds for genetic improvement of indigenous dairy animals. During 2013-14 (July-March), 389.7 thousand doses of semen and 7,186 exotic dairy cows were imported. The exotic dairy cows added approximately 144 thousand tonnes of milk per day 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 2013-14 (July-March), 241 metric tonnes of calf milk replacer & 925 metric tonnes 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 2013-14, the Animal Quarantine Department (AQD) provided quarantine services and issued 32,833 Health Certificates for the export of live animals, mutton, beef, eggs and other livestock products having value of US$ 389.0 million. The AQD generated non-tax revenue of Rs. 45.23 million in 2012-13 as certificate / laboratory examination fee of animal and animal products exported during the year.
- Livestock Wing also collaborated with international (Office International Des Epizooties OIE, Food Agriculture Organization FAO) and regional organizations (South Asian Association of Regional Cooperation SAARC, Economic Cooperation Organization ECO, Animal Production and Health Commission for Asia and the Pacific APHCA, European Union EU) for HRD and capacity building of national and provincial livestock institutions for diagnosis and

control of animal diseases. Inter Provincial Coordination is being done by the Livestock Wing to implement the National Program to Control Foot & Mouth Disease and Peste Des Petitis Ruminant (PPR) disease in Pakistan. This will help to reduce commercial losses in livestock sector due to said diseases.

Future Plans

The Future Plans include Inter – Provincial coordination for shifting from subsistence livestock farming to market-oriented and commercial farming covering entire value chain from farm to fork , coordination to promote value addition livestock industry, diversification of livestock products, entering into global Halal Food Market, controlling Trans-boundary Animal Diseases of trade and economic importance through provincial participation (PPR, Zoonotic diseases) and exploring new markets for export of beef and mutton and poultry meat.

IV. Fisheries

Fisheries contribute directly to food supplies, a source of livelihood for the coastal inhabitants, export earnings and boosting the economy. Fishery products are one of the most traded foods and feed commodities. A part from marine fisheries, inland fisheries (based in rivers, lakes, ponds, dams etc.) is also an important activity throughout the country. Fisheries share in GDP although very little but it adds substantially to the national income through export earnings. Pakistan's major buyers are China, Thailand, Malaysia, Middle East, Sri Lanka, Japan, etc. During the year 2013-14 (July- March), a total of 103,833 metric tonnes of fish and fish preparations were exported earning US$ 253.1 million compared to 103,796 metric tonnes earning US$ 232.5 million corresponding period last year. During 2013-14 (July- March), total marine and inland fish production was estimated 514,500 metric tonnes out of which 349,500 metric tonnes was marine production and the remaining catch came from inland waters. Whereas the production for the period 2012-13 (July- March), was estimated to be 490,560 metric tonnes in which 335,000 metric tonnes was for marine and the remaining was produced by inland fishery sector. The export of fish & fishery products increased by 0.04 percent in quantity and in value term increased by 8.8 percent during 2013-14 (July- March).

Government of Pakistan is taking a number of steps to improve fisheries sector. A number of initiatives is being taken by federal and provincial fisheries departments which includes *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's community. The major initiative/achievements are discussed below:

i) Karachi Fish Harbour

Assistance from donor agency may be solicited to support incompletion of package-II of 2nd phase of Government of Sindh ADP scheme namely "**Rehabilitation and Renovation of Karachi Fish Harbour**". Total cost of package-II comes to Rs. 5155.460 million. Whereas, package-I costing Rs. 1,438.021 million has already been approved by PDWP, Government of Sindh on 26th July, 2013.

ii) Renovation of other Landing Sites / Auction Halls

Renovation of Gadani Fish Harbour is expected to be completed shortly and remaining fish landing sites are required to be made in line with international requirements.

iii) Modernized the Fishing Fleets

In order to meet the requirement of EU and other importing countries, Technical assistance in respect of modification of fishing boats was rendered to provincial governments and relevant stake holders, as a result a total number of 1156 fishing boats had been modified, which is a success story for Pakistan.

iv) Accreditation of Quality Control Laboratories under ISO / IEC – 17025 International Standards

Two laboratories (namely Microbiology and Chemical) of MFD achieved international accreditation under ISO / IEC – 17025 international standards. Thus the MFD has fulfilled the requirements of EU and other importing countries and now, the test reports issued by these laboratories are acceptable all over the world.

v) The European Union (EU) has lifted the Ban on Import of Pakistani Fish Products

After the period of about six years, with the efforts of Marine Fisheries Department, Ministry of Ports and Shipping and other stakeholders, the EU has allowed resumption of export of Fish & Fishery products from Pakistan to the EU countries. It is recalled that the fish processing plants were delisted by EU in April, 2007. Two fish processing plants have been enlisted by EU and case of enlistment of five plants is in process with EU. The EU has

decided to allow import of Pakistani fish products, which will give a boost to the country's exports. Twelve consignments of cuttle fish, Shrimps and fish sent. Which have also been successfully cleared after 100% laboratory analysis at EU border.

vi) Quality Control Services

Marine Fisheries Department is responsible to regulate quality and promote export of fish and fishery- products and to prevent export of substandard quality of fish and fishery products and for matters connected therewith and ancillary thereto. During (July-March) 2013-14, 12,356 certificates of quality and health for seafood commodities exported from Pakistan were issued. The income generated from issuance of the certificates is Rs. 12.356 million.

vii) Deep Sea Fishing in EEZ of Pakistan

With the declaration of Exclusive Economic Zone (EEZ) in 1976, Pakistan for the purpose of fish exploitation extended its jurisdiction up to 200 nautical miles in the sea from the coastline and added about 250,000 square kilometer of sea area to territory. This gave the country exclusive rights over the living resources of this extended jurisdiction and placed a tremendous responsibility on the country for judicious exploitation of the fishery resources of its EEZ.

To harvest the fishery resources of the EEZ industrial fishing started in 1982. A set of policies have since been tried without achieving the desired objectives. Deep-Sea fishing anywhere in the world is a capital-intensive business and Pakistan is no exception to it. It has not so far helped to motivate private entrepreneurs to establish their own fishing fleet manned by Pakistani crew. It is also observed that terms and conditions were very harsh and did not attracted foreign deep sea operators; therefore, the present government has approved modification in the policy in the year 2009 and now it is made up more rational.

Applications for the grant of fishing licenses were invited through Newspapers received are under process. Hopefully, the deep sea fishing vessels will be in operation shortly.

viii) Marine Fisheries Department is executing a development project named "Stock assessment survey programme in EEZ of Pakistan through chartering of fisheries Research vessel and capacity building of Marine Fisheries Department", is aimed: To conduct stock assessments, including research vessel surveys, in coastal and offshore waters of Pakistan and to strengthen the technical capacity of Marine Fisheries Department in stock assessment and fisheries management.

Conclusion:

Agriculture sector facing certain challenges which required immediate and focused attention both at research and policy level. Sustainable agricultural growth based on paradigm that secure more profitable farming, high productivity of major farming systems, diversification of high value crops and demand based production. Ministry of National Food Security and Research is on forefront to adopt lines yielding higher returns than investment in any other agriculture area. In this regard, the present government is taking various initiatives to accelerate agricultural growth and promote investment in agricultural research.