

## Agriculture

Agriculture is central to economic growth and development in Pakistan. Being the dominant sector it contributes 21.4 percent to GDP, employs 45 percent of the country's labour force and contributes in the growth of other sectors of the economy. The healthy expansion in agriculture stimulates domestic demand for industrial goods and other services and supplying raw material to agro-based industry notably cotton textile industry which is the largest subsector of manufacturing sector. The government under paradigm of the new growth strategy envisioned to enhance growth in agriculture sector by facilitating agriculture productivity sustainable environment, increasing competitiveness in agriculture marketing and trade by providing friendly climate for more investment in the sector. However, draft tenth 5 years plan also envisages improving the productivity, profitability competitiveness and environmental sustainability of agriculture.

Overall agriculture 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 agriculture related practices. The emphasis is on improving productivity and moving from subsistence to market oriented farming in the country to meet the domestic demand and surplus for export. The objective is to exploit potentials of our agriculture sector and use it as engine for economic growth and food security for the country.

Consequent upon the devolution of Ministry of Food & Agriculture and Ministry of Livestock and Dairy Development, their development projects were divided into three categories i.e. devolved to provinces, transferred to other federal ministries and closed down owing to near completion or completion. A new ministry namely Ministry of National Food Security and Research has been established assigning the critical federal level functions of the devolved ministry.

Ministry of National Food Security and Research has been set up by the government realizing the Food Security concerns across the country and coordinating food production and R&D of food and

agriculture related issues in the country. The Ministry's main focus is ensuring food availability through boosting domestic food production in coordination with the provincial agriculture, food and livestock departments. In the face of price spike of food commodities it has been emphasized that additional efforts would be required for supporting marginalized and vulnerable segment of society. There is also greater appreciation that integrated efforts may be taken for improving nutrition and quality of food for ensuring better food utilization. The Ministry of National Food Security and Research plans to focus more on improving productivity of food crops and launching of programme for enhancing food access as envisaged in the Zero Hunger Programme (ZHP). This include:

- ▶ School feeding programme in the most food insecure districts
- ▶ Nutrition programme for children under five years of age
- ▶ Nutrition programme for pregnant women and lactating mothers
- ▶ Targeted and conditional social safety nets

Ministry of National Food Security and Research is also drafting a policy "National Food & Nutritional Security Policy" (2013-15) in line with the recommendations of Task Force on Food Security (2008) which are as under:

- ▶ Evolve a comprehensive National Food Security Strategy
- ▶ Evolving an efficient and equitable system of food procurement, storage and distribution to ensure that food is available at affordable prices
- ▶ Ensuring adequate supply of food
- ▶ Improving the access of poor households to food by adopting a pro-poor growth strategy

### Recent performance

During 2012-13, agriculture sector exhibited a growth of 3.3 percent on the back of positive growth in agriculture related sub sectors, Crops grew at 3.2 percent, Livestock 3.7 percent, Forestry 0.1 percent and Fishing 0.7 percent. The agriculture subsector component which includes important crops, other

crops, grew by 2.3 percent and 6.7 percent, respectively except cotton ginning that declined 2.9 percent. Important crops accounted for 25.2 percent of agricultural value added and has experienced a growth of 2.3 percent in fiscal year 2012-13 against growth of 7.4 percent in 2011-12. The lower growth in important crops is attributed to decline in production of rice and cotton by 10.0 percent and 4.2

percent respectively. As the performance of agriculture sector dependent upon weather condition, timely availability of input (water). During 2012-13 weather condition and water situation has an impact on these Kharif crops that paved the way for decrease in output of rice and cotton crops.

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

Sector	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
<b>Agriculture</b>	<b>3.4</b>	<b>1.8</b>	<b>3.5</b>	<b>0.2</b>	<b>2.0</b>	<b>3.5</b>	<b>3.3</b>
Crops	4.4	-1.0	5.2	-4.2	1.0	2.9	3.2
i) Important Crops	6.5	-4.1	8.4	-3.7	1.5	7.4	2.3
ii) Other Crops	2.1	6.0	0.5	-7.2	2.3	-7.7	6.7
iii) Cotton Ginning	-0.8	-7.0	1.3	7.3	-8.5	13.8	-2.9
Livestock	2.8	3.6	2.2	3.8	3.4	3.9	3.7
Forestry	2.7	8.9	2.6	-0.1	4.8	1.7	0.1
Fishing	0.4	8.5	2.6	1.4	-15.2	3.8	0.7

Source: Pakistan Bureau of Statistics

P:Provisional

Other crops that contributed 12.3 percent value addition in agriculture witnessed a positive growth of 6.7 percent in 2012-13 against negative growth of 7.7 percent during the same period last year. The cotton ginning under new base 2005-06 has been included in agriculture value addition showed a negative growth of 2.9 percent in 2012-13 against the positive growth of 13.8 percent during the same period last year. The Livestock sector which has a 55.4 percent share in the agriculture grew by 3.7 percent in 2012-13. The Fishing sector grew by 0.7 percent as against last year's positive growth of 3.8 percent. Forestry sector posted a nominal growth of 0.1 percent this year as compared to positive growth of 1.7 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 crops performance is dependent upon timely availability of irrigation water. During 2012-13, the availability of water as an essential input for Kharif 2012 was 14 percent less than the normal supplies but to compare with Kharif 2011, it was 4.4 percent less. The water availability during Rabi season 2012-13 was estimated 31.9 MAF, which was 12.4 percent less than the normal availability, but 8.5 percent higher than last year's Rabi crop (Table 2.2).

**Table 2.2: Actual Surface Water Availability**

(Million Acre Feet)

Period	Kharif	Rabi	Total	%age incr/decr. Over the Avg.
Average system usage	67.1	36.4	103.5	-
2004-05	59.1	23.1	82.2	- 20.6
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

Source: Indus River System Authority

## I. Crop Situation

Important crops, such as wheat, rice, maize, cotton and sugarcane account for 25.2 percent of the value added in overall agriculture and 5.4 percent to GDP. The other crops account for 12.3 percent of the value

added in overall agriculture. Livestock contributes 55.4 percent to agricultural value added much more than the combined contribution of important and other crops (37.6 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
2006-07	12,856	54,742	5,438	3,088	23,295
	-	-	-	-	-
2007-08	11,655	63,920	5,563	3,605	20,959
	(-9.3)	(16.8)	(2.3)	(16.7)	(-10.0)
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 (P)	13,026	62,472	5,541	4,631	24,231
	(-4.2)	(7.0)	(-10.0)	(6.8)	(3.2)

Source: Pakistan Bureau of Statistics

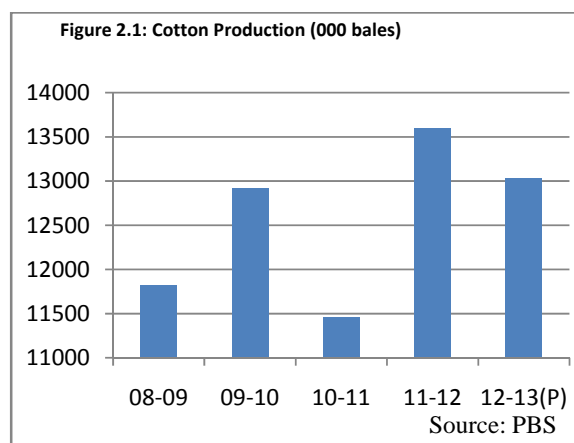
P: Provisional (July-March), Figures in parentheses are growth/decline rates

### a) Important Crops

#### i) Cotton:

Pakistan's economy depends heavily on Cotton crop which significantly contributes by providing raw material to the textile industry, such as cotton lint as an export item. It accounts for 7.0 percent of value added in agriculture and 1.5 percent of GDP. During 2012-13, the crop was sown on an area of 2879 thousand hectares, 1.6 percent more than last year (2835 thousand hectares). The production of 13.0 million bales during the period 2012-13 against the target of 14.5 million bales resulted in decline of 10.3 percent against the target and decrease of 4.2 percent over the preceding year production which was 13.6 million bales. Mild attack of Thrips, white fly and Cotton Leaf Curl Virus (CLCV) adversely affected the production of cotton boll which affected the production and yield per hectare as compared to

last year. In credible time localized monsoon also affected the crops in Punjab and Sindh. The area, production and yield of cotton for the last five years is shown in Table 2.4 and Figure 2.1.



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

Year	Area		Production		Yield	
	(000 Hectare)	% Change	(000 Bales)	% Change	(Kgs/Hec)	% Change
2008-09	2820	-	11819	-	713	-
2009-10	3106	10.1	12914	9.3	707	-0.8
2010-11	2689	-13.4	11460	-11.3	725	2.5
2011-12	2835	5.4	13595	18.6	816	12.6
2012-13(P)	2879	1.6	13026	-4.2	769	-5.8

Source: Pakistan Bureau of Statistics

P: Provisional (July-March)

**World Cotton Outlook**

growing countries are given in Table 2.5.

The production and consumption of major cotton

	2010-11 E	2011-12 E	2012-13 P
<b>Production</b>			
China	6.40	7.40	7.30
India	5.86	6.00	5.61
USA	3.94	3.39	3.70
Pakistan	1.91	2.29	2.09
Brazil	1.96	1.88	1.30
Uzbekistan	0.91	0.88	1.00
Others	4.38	5.60	5.00
World Total	25.36	27.44	26.01
<b>Consumption</b>			
China	10.19	8.63	8.29
India	4.30	4.35	4.70
Pakistan	2.39	2.10	2.44
East Asia/Australia	1.89	1.64	1.83
Europe & Turkey	1.60	1.49	1.51
Brazil	1.02	0.88	0.89
USA	0.77	0.71	0.74
Others	3.34	2.87	2.98
World Total	25.52	22.78	23.41

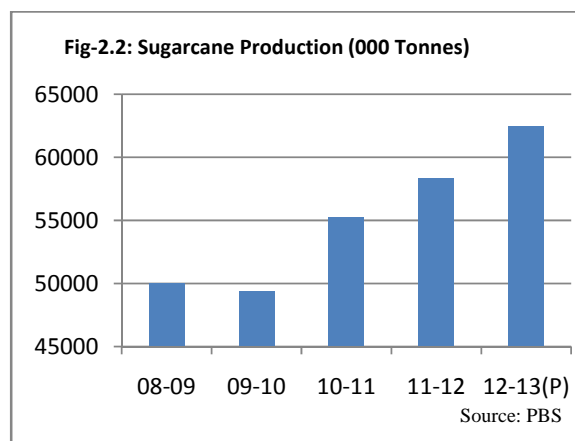
Source: Pakistan Central Cotton Committee, M/o Textile Industry

E: Estimated, P: Provisional

**ii) Sugarcane:**

Sugarcane crop occupies an important position in national economy in order to drive the large sugar industry. It also provides raw materials to clip board, paper and ethanol. Its share in value added in agriculture and GDP is 3.2 and 0.7 percent, respectively. Sugarcane crop was cultivated on an area of 1124 thousand hectares, 6.2 percent more than last year's area of 1058 thousand hectares. The production of sugarcane for the year 2012-13 is reported at 62.5 million tonnes, against the target 59 millions tonnes set for 2012-13 shows a healthy performance of 5.9 percent and to compare last year which was 58.4 million tonnes, depicts an increase of 7.0 percent. The main factors contributed to higher production where more area brought under cultivation due to economic returns received by the growers, good management of crops and application

of balance doze of inputs. The area, production and yield of sugarcane for the last five years is 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
2008-09	1029	-	50045	-	48634	-
2009-10	943	-8.4	49373	-1.3	52357	7.7
2010-11	988	4.8	55309	12.0	55981	6.9
2011-12	1058	7.1	58397	5.6	55196	-1.4
2012-13(P)	1124	6.2	62472	7.0	55580	0.7

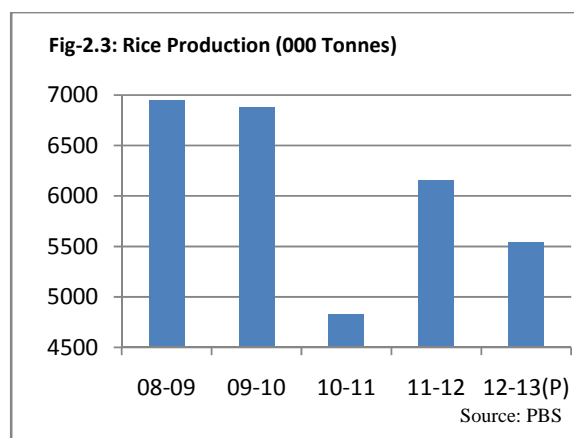
Source: Pakistan Bureau of Statistics

P: Provisional (July-March)

**iii) Rice:**

Rice is an important cash crop of the country. Rice production comprises 40 percent of Basmati (Fine) type and 60 percent of coarse types. Rice ranks as second amongst the staple food grain crop in Pakistan and it has been a major source of foreign exchange earnings in recent years. Pakistan grows a high quality of rice to fulfill the domestic demand and also for exports. Rice accounts 2.7 percent of the value added in agriculture and 0.6 percent of GDP. Rice sowing area is estimated at 2311 thousand hectares, 10.1 percent less than last year's area of 2571 thousand hectares. Production of the crop is estimated at 5541 thousand tonnes, against the target of 6900 thousand tonnes shows a weak performance of 19.7 percent and to compare last year production which was 6160 thousand tonnes shows a decrease of 10.0 percent. The production decreased due to decrease in area and affects of

monsoon rain and late receding of water period in rice fields prolonged the sowing. 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
2008-09	2963	-	6952	-	2346	-
2009-10	2883	-2.7	6883	-1.0	2387	1.7
2010-11	2365	-18.0	4823	-29.9	2039	-14.6
2011-12	2571	8.7	6160	27.7	2396	17.5
2012-13(P)	2311	-10.1	5541	-10.0	2398	0.1

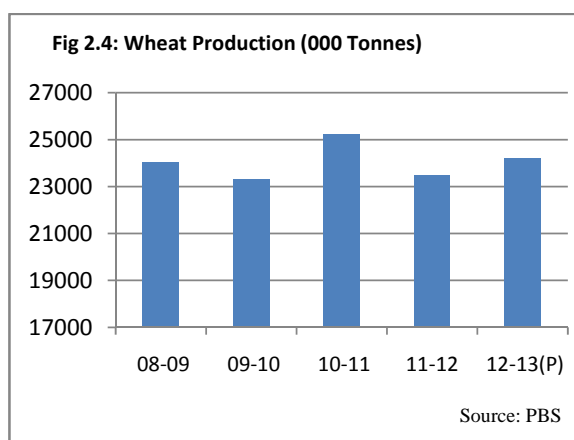
Source: Pakistan Bureau of Statistics

P: Provisional (July-March)

**iv) Wheat:**

Wheat is the essential diet of population and occupies a central position in agricultural policies of the government. The government announced wheat support price of Rs. 1200 which created interest on the part of farming community. Wheat contributes 10.1 percent to the value added in agriculture and 2.2 percent to GDP. Area under wheat increased to 8693 thousand hectares in 2012-13, from 8650 thousand hectares showing an increased of 0.5 percent over last year's area. The production stood at 24.2 million tonnes during 2012-13, against the target of 25.5 millions tonnes which is 5.1 percent decrease while an increase of 3.2 percent over the last year production of 23.5 million tonnes has been witnessed. The yield per hectare in 2012-13 stood at 2787 (Kgs /Hec) posted a positive growth of 2.7 percent as compared to negative 4.2 percent growth last year. The overall increase in area due to

enhancement in support price from Rs 1050 to Rs.1200. This was further supported by favourable temperature and healthy grain formation. 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
2008-09	9046	-	24033	-	2657	-
2009-10	9132	1.0	23311	-3.0	2553	-3.9
2010-11	8901	-2.5	25214	8.2	2833	11.0
2011-12	8650	-2.8	23473	-6.9	2714	-4.2
2012-13(P)	8693	0.5	24231	3.2	2787	2.7

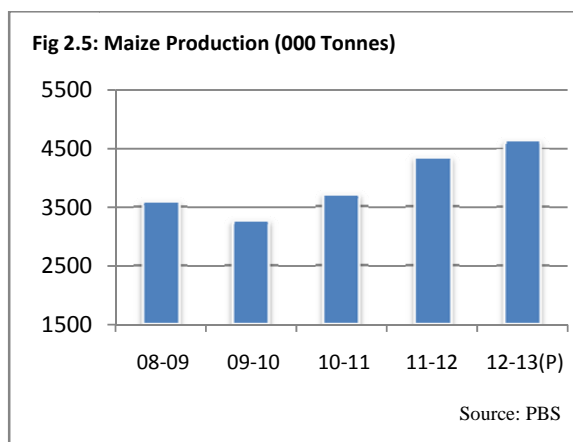
Source: Pakistan Bureau of Statistics

P:Provisional(July-March)

**v) Maize:**

Maize is also one of the important crop. It contributes 2.2 percent to the value added in agriculture and 0.5 percent to GDP. Maize was cultivated on an area of 1085 thousand hectares in 2012-13 less 0.2 percent over last year's area of 1087 thousand hectares, however the production witnessed 4631 thousand tonnes during 2012-13, against last year production of 4338 thousand tonnes suggesting an increase of 6.8 percent over the last year. The yield per hectare in 2012-13 stood at 4268 (Kgs /Hec) posted a positive growth of 6.9 percent as compared to 4.9 percent growth last year. The production increased due to the conversion of more area to Hybrid varieties of seeds and favorable weather condition that has enhanced yield of the

crop. 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
2008-09	1052	-	3593	-	3415	-
2009-10	935	-11.1	3261	-9.2	3487	2.1
2010-11	974	4.2	3707	13.7	3806	9.1
2011-12	1087	11.6	4338	17.0	3991	4.9
2012-13(P)	1085	-0.2	4631	6.8	4268	6.9

Source: Pakistan Bureau of Statistics

P:Provisional(July-March)

**b) Other Crops**

During 2012-13, the production of Gram, the largest Rabi pulses crop in Pakistan, stood at 673 thousand tonnes, against 284 thousand tonnes of last year, showing an increase of about 137.0 percent due to increase in area and favorable weather condition, while production of Bajra increased 2.0 percent.

This is in contrast to other crops like Jawar, Rapeseed & Mustard, Barley and Tobacco showed a decline in production of 10.9 percent, 6.7 percent, 6.1 percent and 1.0 percent, respectively, in 2012-13 as compared to the 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	2011-12		2012-13 (P)		% Change in production over Last year
	Area (000 hectares)	Production (000 tonnes)	Area (000 hectares)	Production (000 tonnes)	
Bajra	458	304	461	310	2.0
Jawar	214	137	197	122	-10.9

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

Crops	2011-12		2012-13 (P)		% Change in production over Last year
	Area (000 hectares)	Production (000 tonnes)	Area (000 hectares)	Production (000 tonnes)	
Gram	1,008	284	985	673	137.0
Barley	72	66	71	62	-6.1
Rapeseed & Mustard	201	164	219	153	-6.7
Tobacco	46	98	45	97	-1.0

Source: Pakistan Bureau of Statistics

P: Provisional (July-March)

**i) Oilseeds**

The major oilseed crops include cottonseed, sunflower, canola and rapeseed / mustard. Although the cotton crop is grown for its lint, cottonseed contributes 50 to 60 percent to local edible oil production. During the year 2011-12, the total availability of edible oil was 2.748 million tonnes. Local production of edible oil is remained 0.636 million tonnes while imports were 2.148 million

tonnes. The import bill during 2011-12 stood at Rs. 216.4 billion (US\$ 2.426 billion).

During the year 2012-13 (July-March), 1.738 million tonnes of edible oil valued at Rs. 153.3 billion (US\$ 1.595 billion) has been imported. The local production during 2012-13 (July-March) was 0.612 million tonnes. Total availability of edible oil from all sources is provisionally estimated at 2.35 million tonnes during 2012-13 (July-March). The area and production of oilseed crops is in Table 2.11.

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

Crops	2011-12			2012-13 (P)		
	Area (000 Acres)	Production		Area (000 Acres)	Production	
		Seed (000 Tonnes)	Oil (000 Tonnes)		Seed (000 Tonnes)	Oil (000 Tonnes)
Cottonseed	6,958	3,212	385	7,143	3,393	407
Rapeseed/ Mustard	575	203	61	452	158	51
Sunflower	877	473	179	700	378	144
Canola	27	30	11	30	18	10
Total	8,437	3,918	636	8,325	3,947	612

Source: Pakistan Oilseed Development Board

P: Provisional (July-Mar)

The production of Chillies and Potatoes increased by 218.4 percent and 11.0 percent, respectively during, 2012-13. However, the production of Masoor (Lentil), Onions, Mung and Mash decreased by 11.8 percent, 9.2 percent 4.0 percent and 2.8 percent, respectively requiring more area to be sown in order to increase production for meeting the local demand as a large segment of the population use it as a source of nutritious diet. There was an increase in area of chillies that increased by 128.8 percent. The area and production of other crops are given in Table 2.12.

**Table: 2.12 Area and Production of Other Crops**

Crops	2011-12		2012-13(P)		% Change In Production
	Area (000 hectares)	Production (000 tonnes)	Area (000 hectares)	Production (000 tonnes)	
Masoor	22.8	11.0	19.6	9.7	-11.8
Mung	140.8	93.0	136.1	89.3	-4.0
Mash	24.5	10.9	23.2	10.6	-2.8
Potatoes	185.0	3393.0	172.0	3767.2	11.0
Onions	129.7	1692.3	124.0	1536.5	-9.2
Chillies	27.4	47.2	62.7	150.3	218.4

Source: Pakistan Bureau of Statistics

P: Provisional (July-March)

## II. Farm Inputs

### i) Fertilizer:

Fertilizer is the most important and expensive input. Contribution of balanced fertilization towards increased yield is from 30 to 50 percent in different crop production regions of the country. One kg of fertilizer nutrient produces about 8 kg of cereals (wheat, maize and rice), 2.5 kg of cotton and 114 kg of stripped sugarcane. Almost hundred percent soils in Pakistan are deficient in nitrogen, 80 to 90 percent are deficient in phosphorus and 30 percent in potassium. Wide spread deficiency of micronutrients are also appearing in different areas. Soil fertility is continuously depleting due to mining of essential plant nutrients from the soils under intensive cultivation.

Kharif 2012 started with inventory of 800 thousand tonnes of urea. Total availability of urea (including 511 thousand tonnes of imported supplies, 2068 thousand tonnes of domestic production) was about 3379 thousand tonnes against the offtake of 2689 thousand tonnes, leaving inventory of 684 thousand tonnes for Rabi 2012-13. Availability of DAP was 773 thousand tonnes comprising 177 thousand tonnes of inventory, 243 thousand tonnes of imported supplies and 353 thousand tonnes of local production. DAP offtake was 544 thousand tonnes leaving an inventory of 227 thousand tonnes. The left over of this season was to meet the requirements of the Rabi 2012-13.

Rabi 2012-13 started with inventory of 684 thousand

tonnes of urea. Total availability of urea (including 288 thousand tonnes of imported supplies, 2114 thousand tonnes of domestic production) was about 3086 thousand tonnes against the offtake of 2855 thousand tonnes, leaving inventory of 220 thousand tonnes of Kharif 2013. Availability of DAP was 903 thousand tonnes comprising of 227 thousand tonnes of inventory, 327 thousand tonnes of imported supplies and 349 thousand tonnes of local production. DAP offtake was 700 thousand tonnes leaving an inventory of 197 thousand tonnes. The left over of this season will be transferred to next season that will help meet the requirements of the coming Kharif 2013.

Kharif 2013 began with 220 thousand tonnes of opening inventory. With 2,600 thousand tonnes of domestic production and 190 thousand tonnes of imported supplies, total available urea would be about 3,010 thousand tonnes. The estimated offtake during Kharif 2013 is expected to be around 2,800 thousand tonnes, leaving behind an inventory of 210 thousand tonnes for next Rabi season. The domestic production of urea is estimated on the assumption that urea plants at SNGPL network will operate on 40 percent of their capacity. As regards DAP, total availability is estimated to be 562 thousand tonnes for the upcoming Kharif 2013, which includes opening inventory of 197 thousand tonnes and domestic production of 365 thousand tonnes. The expected offtake is 600 thousand tonnes. Hence, a deficit of 38 thousand tonnes of DAP will be covered through imported supplies by private sector. Details of fertilizer situation is given in Table 2.13.

Description	Kharif (Apr-Sep) 2012		Rabi ( Oct-Mar) 2012-13		Kharif (Apr-Sep)* 2013	
	Urea	DAP	Urea	DAP	Urea	DAP
Opening stock	800	177	684	227	220	197
Imports	511	243	288	327	190	-
Domestic production	2068	353	2114	349	2600	365
Total availability	3379	773	3086	903	3010	562
Offtake/Demand	2689	544	2855	700	2800	600
Closing stock	684	227	220	197	210	-38

Source: National Fertilizer Development Center

\*: Outlook

### ii) Improved Seed:

Quality seed plays a pivotal role in boosting agricultural production both in market oriented and subsistence farming system. Seed has the unique position among various agricultural inputs because the effectiveness of all other inputs mainly depends

on the potential of the seeds. Seed is a high technology product and is an innovation most readily adapted. Improving access to good quality of 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 income



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, 2012-13 about 319.2 thousand tonnes of improved seeds of various Kharif/Rabi crops were procured. The procurement of seeds for various Kharif crops (cotton, paddy, maize, mungbean, etc) is under progress. The detail of this procurement is given in Table 2.14.

The Federal Seed Certification and Registration Department (FSC&RD) is engaged in providing seed certification to public and private sector companies. 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, 2012-13 is briefly given below:

- ▶ During the year July-March, 2012-13, only three (03) new seed companies were registered raising the total number of registered seed companies in the country to 766 including these private seeds companies four are public sector and five multinationals.

- ▶ During July-March, 2012-13, 496.0 thousand acres of different crops were inspected for certification purposes.
- ▶ A total quantity of 319.2 thousand MT seeds of various crops were sampled and tested for purity, germination and 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, 17 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 22.5 thousand MT with a total value of Rs. 5339.1 million was tested under Seed (Truth-in-Labeling) Rules, 1991 during the year at the port of entry i.e. Lahore and Karachi.
- ▶ Almost 391 samples of seeds and propagating materials 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.

<b>Crop</b>	<b>Local</b>	<b>Imported</b>	<b>Total</b>
Wheat	257812.0	0.0	257812.0
Cotton	679.7	0.0	679.7
Paddy	31765.8	51.0	31816.8
Maize	5210.9	4041.9	9252.8
Pulses	757.8	0.0	757.8
Oilseeds	217.3	1268.1	1485.4
Fodders	12.4	10064.0	10076.3
Vegetables	230.2	2541.4	2771.6
Potato	34.5	4541.7	4576.2
<b>Total</b>	<b>296720.6</b>	<b>22508.0</b>	<b>319228.5</b>

Source: Federal Seed Certification & Registration Department

\* : Provisional ( July-March 2012-13)

### iii) Mechanization

Mechanization of agriculture plays an important role in increasing agricultural production. Mechanization of agriculture is crucial to achieve self sufficiency and surpluses through increasing productivity and reducing pre and post harvest losses. The government is making all efforts to modernize its agriculture and its allied fields more efficiently and productively. The use of efficient and quality farm

machinery and equipment play an important role in the sowing and harvesting of agriculture crops. During July-March 2012-13 a total number of 36121 tractors were produced in the country, showing an increase of 34.6 percent as compared to 26840 tractors produced during the same period last year. The prices of locally manufactured tractors are given in Table 2.15

**Table 2.15 Prices of Locally Manufactured Tractors 2012-13**

Tractors Model - Horse Power (HP)	Price/Unit (Rs)
NH/FIAT- 480S (55 HP)	651,200
NH/FIAT- 480 Power (55 HP)	660,000
NH/FIAT- Ghazi (65 HP)	726,000
NH/FIAT- Ghazi S(65 HP)	737,000
NH/FIAT- 640 (75 HP)	940,500
NH/FIAT- 640S DB(75 HP)	951,500
NH/FIAT- 640 S(85 HP)	1,034,000
NH/FIAT- 640 S DB(85 HP)	1,045,000
NH 55-56(55 HP)	715,000
NH 60-56(60 HP)	797,500
MF 240(50 HP)	671,000
MF 260(60 HP)	737,000
MF 350(50 HP)	726,000
MF 360(60 HP)	779,000
MF 375(75 HP)	968,000
MF 385(85 HP)	1,078,000
MF 385 (4WD) (85 HP)	1,660,000
Universal-530 (55HP)	619,400
Universal-530 (55HP)Plus	665,175
Universal-533 (55HP)Plus	665,175
Universal-640 (65HP)	843,150
Universal-683 (83HP)	889,000
Ursus-2812 (50 HP)	6,34,700
Ursus-3512 (60 HP)	7,20,500

Source: Tractor Manufacturers Association

#### iv) Irrigation

Water is an important input to achieve the agriculture growth and is considered to be the lifeline of agriculture activities. Pakistan has a good

irrigation canal network but temperatures and rainfalls during sowing and harvesting season has its own unique importance. Rainfall recorded during the monsoon and winter season is given in Table 2.16.

**Table 2.16: Rainfall\* Recorded During 2012-13**

(in Millimetres)

	Monsoon Rainfall* (Jul-Sep) 2012	Winter Rainfall* (Jan-Mar) 2013
Normal**	140.9 mm	74.3 mm
Actual	181.4 mm	109.5 mm
Shortage (-)/excess (+)	(+) 40.5 mm	(+) 35.2 mm
% Shortage (-)/excess (+)	(+) 28.7 %	(+) 47.4 %

Source: Pakistan Meteorological Department

\*: Area weighted

\*\* : Revised Long Period Normal (1961-2010)

During the monsoon season (July-September), the normal average rainfall was 140.9 mm, while the actual rainfall received in 2012 was 181.4 mm, indicating an increase of 28.7 percent. During winter (January-March), normal average rainfall was 74.3 mm and the actual rainfall received in 2013 was 109.5 mm, indicating an increase of 47.4 percent under the normal rainfall average.

The canal head withdrawals in Kharif (April-September) 2012, decreased by 4 percent and stood at 57.7 million acre feet (MAF) as compared to 60.4 MAF during the same period last year. During the second planting season, Rabi (October-March) 2012-13, the canal head withdrawals increased by 8 percent and stood at 31.9 MAF, compared to 29.4 MAF during the same period of last year. The province-wise detail is shown in Table 2.17.

Provinces	Kharif (Apr-Sep) 2011	Kharif (Apr-Sep) 2012	% Change in Kharif 2012 over 2011	Rabi (Oct-Mar) 2011-12	Rabi (Oct-Mar) 2012-13	% Change in Rabi 2012-13 Over 2011-12
Punjab	34.29	29.75	-13	17.61	17.14	-3
Sindh	23.29	25.42	9	10.13	13.60	34
KPK	0.96	0.95	-1	0.56	0.49	-13
Balochistan	1.86	1.62	-13	1.12	0.64	-43
Total	60.40	57.74	-4	29.42	31.86	8

Source: Indus River System Authority

During 2012-13, in the light of New Growth Strategy and guiding principles an integrated water resources management approach with equity, efficiency, participatory decision making, sustainability and accountability has been adopted to address the water sector's issues. The strategy was aimed to accord priority to investments in the water sector to achieve additional water storages and reorganization for effective and responsive institutional reforms. Considering water demand for irrigation, domestic and industrial, water availability is continuously diminishing. The challenge is to formulate and effective implementation of a comprehensive set of measures for the development and efficient management of water resources. The main water sector's public and private investments

areas are:

- Augmentation of surface water resources by construction of water storage small/medium dams.
- Conservation measures (lining of irrigation channels, modernizing/rehabilitating of irrigation system, lining of watercourses) and efficiency enhancement through rehabilitation and better operation of existing system.
- Protection of infrastructure from onslaught of floods and water logging and salinity.

It is expected that Rs. 35.0 billion would be utilized on the water sector's programmes. The major water sector projects 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 (2012-13)
Gomal Zam Dam	Khyber Pakhtunkhwa	12,829	0.892	1,63,100	More than 85 % Physically completed
Rainee Canal	Sindh	18,862	-	412,400 (Phases-I)	More than 96 % Physically completed Phase-I
Kachhi Canal	Balochistan	31,204	-	713,000 (Phases-I)	65 % Physically completed Phase-I
Satpara Dam Multipurpose	Skardu	4,480	0.05	15,536 (17.3 MW Power Gen.)	Physically completed
Darwat Dam	Sindh	9,300	121,790 (Ac.Ft)	47,000	About 80 % Physically completed
Nai Gaj Dam	Sindh	26,236	160,000 (Ac.Ft)	28,800 (4.2 MW Power Gen.)	Physical work on main dam not started yet
Naulong Dam	Balochistan	18,028	200,000 (Ac.Ft)	47,000	Physical work on main dam not started yet
Right Bank Outfall Drain (RBOD)					
RBOD-I	Sindh	14,707	-	542,500	88% Physically Completed
RBOD-II	Sindh	29,014	-	-	65% Physically Completed
RBOD-III	Balochistan	6,535	-	694,796	85 % Physically Completed

Source: Planning Commission of Pakistan

**Water Sector Main Programmes during (2012-13)**

- ▶ Substantial completion (Phase-I) of Kachhi Canal in Balochistan & Raine Canal Sindh for irrigating 2.864 million acres.
- ▶ Operational of Mangla Dam Raising Project for additional storage of 2.9 MAF and additional power generation of 644 GWh.
- ▶ Completion of Satpara Dam in Gilgat-Biltistan for irrigation of 15,536 acres of agriculture land and 17.3 MW power generations.
- ▶ Substantial completion of Gomal Zam Dam Project in Tribal/Khyber Pukhtunkhwa area for irrigation of 163,100 acres of agriculture land and 17.4 MW power generations.
- ▶ A sum of Rs. 2,978 million has been allocated against which it is expected that more than Rs. 1.5 billion would be utilized on lining of irrigation channels in Punjab, Sindh and Khyber Pukhtunkhwa during the 2012-13.
- ▶ An amount of Rs. 2.6 billion has been allocated and is expected that more than Rs. 1.0 billion would be utilized during the year 2012-13 on improvement of existing irrigation system in Punjab, Sindh, K.P.K & Balochistan.
- ▶ Rs.15.5 billion is allocated and expected to be utilized on construction of new small/medium dams in all over Pakistan (Mangla, Satpara, Gomal, Darwat, Nai Gaj & Naulong dams).
- ▶ In Balochistan, about Rs. 6.59 billion is expected to be utilized on the construction of new small/ delay action dams and improvement of existing irrigation system and flood schemes.
- ▶ In drainage sector implementation of the RBOD-1, II & III projects to protect and reclaim 4.90 million acres of irrigated land continued on priority basis.

**iv) Agricultural Credit:**

The Government of Pakistan is cognizant of the vitality of agriculture credit and making all efforts for promotion/development of agriculture finance in the country. Resultantly, the flow of credit to agriculture sector is showing improvement and all steps have been taken to the credit availability to the farming community at affordable rates. A well established network of lending institutions is operative to meet the financial requirements of farmers especially in the rural areas.

Currently 27 commercial, Islamic and microfinance banks with around 3,900 agriculture designated branches are facilitating farmers by extending agriculture credit throughout the country. These include 19 commercial banks, 2 specialized banks, one Islamic bank and 5 microfinance banks. These banks provide production and development loans to farming community for agricultural activities including crops production, livestock, poultry, fisheries, orchards, forestry, nurseries, apiculture, sericulture, etc.

State Bank of Pakistan, keeping in view the increasing demand of credit has provisionally set an indicative agriculture credit disbursement target of Rs 315.0 billion during 2012-13 as against Rs. 285.0 billion fixed last year. Out of which Rs. 220.2 billion is allocated to Commercial Banks, Rs. 72.0 billion to Zarai Taraqiati Bank Limited (ZTBL), Rs. 13.8 billion to Microfinance Banks (MFBs), and Rs. 9.0 billion to Punjab Provincial Cooperative Bank Limited (PPCBL).

During (July-March), 2012-13, banks' disbursement to the agriculture sector surged by 17 percent year-on-year basis i.e. Rs 231.0 billion or 73.0 percent of the target, Rs. 315.0 billion as compared with disbursement of Rs 197.4 billion of last year. The detail is presented in Table 2.19.

**Table 2.19: Supply of Agricultural Credit by Institutions**

(Rs. In Billion)

Year	ZTBL	Commercial Banks	PPCBL	Domestic Private Banks	MFBs	Total	
						Rs. Billion	%Change
2007-08	66.9	94.7	5.9	43.9	0.0	211.6	-
2008-09	75.1	110.7	5.6	41.6	0.0	233.0	10.1
2009-10	79.0	119.6	5.7	43.8	0.0	248.1	6.5
2010-11	65.4	140.3	7.2	50.2	0.0	263.0	6.0
2011-12	66.1	146.3	8.5	60.9	12.1	293.8	11.7
2011-12 P	37.8	107.6	6.0	37.3	8.5	197.4	-
2012-13P	38.0	123.7	5.4	51.0	13.0	231.0	17.0

Source: State Bank of Pakistan

P: Provisional (July -Mar)

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

Sector-wise classification revealed that the share of the non-farm sector in the overall agriculture credit disbursement has increased by 7.0 percent during July-March 2012-13. During the period under review Rs 131.3 billion was disbursed to the farm sector while credit disbursement to non-farm sector stood at Rs 99.7 billion. An amount of Rs 125.6 billion or 64.0 percent was extended to farm sector and Rs 71.7 billion or 36.0 percent was disbursed to non-farm sector during corresponding period of last year.

Sector		2012-13	2011-12
		Jul-Mar 2013	Jul-Mar 2012
A	Farm Credit	131.3	125.6
1	Subsistence Holding	75.7	70.8
i	Production	71.2	68.6
ii	Development	4.5	2.2
2	Economic Holding	35.4	33.8
i	Production	33.8	33.0
ii	Development	1.6	0.8
3	Above Economic Holding	20.3	21.0
i	Production	18.3	19.1
ii	Development	1.9	1.9
B	Non-Farm Credit	99.7	71.7
1	Small Farms	31.7	19.0
2	Large Farms	68.0	52.7
Total (A+B)		231.0	197.4

Source: State Bank of Pakistan

**III. Livestock and Poultry****a) Livestock**

The livestock sector occupies a unique position in the National Agenda of economic development. The sector provides net source of foreign earnings. Historically livestock has been dominated by small holders to meet their needs of milk, food security and cash income on daily basis. Moreover, livestock is considered a source of employment generation at rural level, helping to reduce income variability. It is central to the livelihood of the rural poor in the country and can play an important role in poverty

alleviation and keep in uplifting the socio-economic condition of our rural masses.

Livestock contributed approximately 55.4 percent to the agricultural value added and 11.9 percent to national GDP during 2012-13, against 55.3 percent and 11.9 percent during the same period last year. Gross value addition of the livestock sector at constant cost factor has increased from Rs.735 billion (2011-12) to Rs.756 billion (2012-13); showing an increase of 2.9 percent as compared to previous year. The livestock population for the last three years is given in Table 2.20.

**Table 2.20: Livestock Population**

(Million Nos.)

Species	2010-11 <sup>1</sup>	2011-12 <sup>1</sup>	2012-13 <sup>1</sup>
Cattle	35.6	36.9	38.3
Buffalo	31.7	32.7	33.7
Sheep	28.1	28.4	28.8
Goat	61.5	63.1	64.9
Camels	1.0	1.0	1.0
Horses	0.4	0.4	0.4
Asses	4.7	4.8	4.9
Mules	0.2	0.2	0.2

Source: Ministry of National Food Security & Research

<sup>1</sup>: 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 2.21.

Species	2010-11 <sup>1</sup>	2011-12 <sup>1</sup>	2012-13 <sup>1</sup>
<b>Milk (Gross Production)</b>	46,440	47,951	49,512
Cow	16,133	16,741	17,372
Buffalo	28,694	29,565	30,462
Sheep <sup>2</sup>	36	37	37
Goat	759	779	801
Camel <sup>2</sup>	818	829	840
<b>Milk (Human Consumption)<sup>3</sup></b>	37,475	38,690	39,945
Cow	12,906	13,393	13,897
Buffalo	22,955	23,652	24,370
Sheep	36	37	37
Goat	759	779	801
Camel	818	829	840
<b>Meat<sup>4</sup></b>	3,095	3,232	3,379
Beef	1,711	1,769	1,829
Mutton	616	629	643
Poultry meat	767	834	907

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 2012-13 as compared to corresponding period last year.

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

Species	Units	2010-11 <sup>1</sup>	2011-12 <sup>1</sup>	2012-13 <sup>1</sup>
Eggs	Million Nos.	12,457	13,144	13,813
Hides	000 Nos.	13,481	13,938	14,410
Cattle	"	6,741	6,995	7,258
Buffalo	"	6,640	6,842	7,050
Camels	"	100	101	102
Skins	"	48,478	49,582	50,713
Sheep Skin	"	10,620	10,745	10,873
Goat Skin	"	23,685	24,237	24,986
<b>Fancy Skin</b>	"	<b>14,173</b>	<b>14,509</b>	<b>14,854</b>
Lamb skin	"	3,154	3,192	3,229
Kid skin	"	11,019	11,318	11,624
Wool	000 Tonnes	42.5	43.0	43.6
Hair	"	23.2	23.8	24.4
Edible Offal's	"	344	353	363
Blood	"	58.3	59.8	61.3
Guts	000 Nos.	48,974	50,089	51,232
Casings	"	14,347	14,832	15,333
Horns & Hooves	000 Tonnes	49.5	50.9	52.5
Bones	"	735.1	757.5	780.5
Fats	"	234.8	241.7	248.8
Dung	"	1,039	1,071	1,104
Urine	"	320	329	338
Head & Trotters	"	214.0	220.1	226.3
Ducks, Drakes & Ducklings	Million Nos.	0.6	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 most organized and vibrant segments of the agriculture industry of Pakistan. This sector generates employment (direct/indirect) and income for about 1.5 million people. Its contribution in agriculture is 5.76 percent, livestock 10.4 percent and in GDP at constant cost factor 1.2 percent. Poultry meat contributes 26.8 percent of the total meat production

in the country. Poultry sector has shown a robust growth @ 7-8 percent annually which reflects its inherent potential. The poultry value added at constant cost factor has increased from Rs.113465 million (2011-12) to Rs. 121726 million (2012-13) showing an increase of 7.3 percent as compared to previous year. The production of commercial and rural poultry and poultry products for the last three years is given in Table 2.23.

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

Type	Units	2010-11 <sup>1</sup>	2011-12 <sup>1</sup>	2012-13 <sup>1</sup>
Domestic Poultry	Million No's	78.51	79.68	80.87
Cocks	"	9.84	10.10	10.38
Hens	"	37.42	38.09	38.78
Chicken	"	31.25	31.48	31.72
Eggs <sup>2</sup>	"	3742.00	3809.00	3878.00
Meat	000 Tonnes	104.43	106.51	108.62
Duck, Drake & Duckling	Million No's	0.56	0.54	0.54
Eggs <sup>2</sup>	"	25.18	24.13	23.13
Meat	000 Tonnes	0.77	0.73	0.70
Commercial Poultry				
Layers	Million No's	32.54	44.10	47.00
Broilers	"	542.74	34.82	37.25
Breeding Stock	"	8.81	597.02	652.72
Day Old Chicks	"	566.89	9.25	9.71
Eggs <sup>2</sup>	Million No's	8690.00	623.58	685.94
Meat	000 Tonnes	662.18	9281.00	9912.00
Total Poultry				
Day Old Chicks	Million No's	598.00	655.00	718.00
Poultry Birds	"	663.00	721.00	785.00
Eggs	"	12857.00	13114.00	13813.00
Poultry Meat	000 Tonnes	767.00	834.00	907.00

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 (Farming) and Eggs (Desi) 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 also to facilitate and support private sector-led development for sustainable poultry production. The strategy revolves around improving the regulatory framework, disease control and genetic improvement in rural poultry, high tech poultry production under environmentally controlled housing, processing and value addition, improving bio-security, need based research and development and farmers training and education. It envisages poultry sectors growth of 15-20 percent annually.

**Future Plans**

Consequent upon 18<sup>th</sup> Constitutional Amendment, the animal health and production subject have been

devolved to the provinces and now the Livestock Wing, M/o National Food Security and Research is redefining its role under its new mandate to serve as catalyst in the development of livestock in the country. The future plan for livestock sector is to persuade the policies to achieve 5 percent or more growth in meat and 8 percent or more in milk production, which are currently around 3 percent, through shifting from subsistence livestock farming to market-oriented and commercial farming covering entire value chain from farm to plate. The future road map is to assist and 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 and rural socio-economic uplift. The

future policy priorities therefore revolve around the following strategies.

- ▶ Encouraging Public Private Partnership led development with government providing enabling environment.
- ▶ National economic growth.
- ▶ Encouraging livestock sector role and using as tool for poverty alleviation & food security.
- ▶ Enhance foreign exchange earnings through exports of livestock products with focus on halal food market.

#### IV. Fisheries

- i) Fishery plays an important role in Pakistan's economy and is considered to be a source of livelihood for the coastal inhabitants. A part from marine fisheries, inland fisheries (based in rivers, lakes, ponds, dams etc.) is also very important activity throughout the country. Fisheries share in the GDP although very little but it adds substantially to the national income through export earnings. During (July-March), 2012-13 a total of 103,822 m.tonnes of fish and fishery products were exported earning US \$ 232.4 million against a total of 90,087 m.tonnes of fish and fishery products were exported earning US \$ 222.6 million corresponding period last year showing an increase of 15.3 percent and 4.4 percent respectively.
- ii) During (July-March), 2012-13 total marine and inland fish production was estimated 728,815 m. tonnes out of which 467,000 m. tonnes was marine production and the remaining catch came from inland waters, whereas the production for the period July-March, 2011-12 was estimated to be 724,838 m. tonnes in which 465,000 m. tonnes was from marine and the remaining was produced by inland fishery sector.
- iii) The government is taking a number of steps to improve fisheries sector. Further number of initiatives are 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, upgradation of socio-economic conditions of the fishermen's community.
- iv) Modernized Fishing Fleets.

The government during 2008-09 modified four local fishing boats as demonstrational/modular's

boats under a project at a total cost of Rs. 5.0 million, with the aim to assist boat owners to modify their boats on the similar lines to ensure maintenance of quality of catch at sea. As a result of introduction of modular boats by Marine Fisheries Department (MFD), the Government of Sindh has also executed similar project and now boat owners have started modification of their boats on their own expenses. So far 843 fishing boats have been modified that comply with the requirements of EU and national standards. This is a success story for Pakistan.

- v) 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.
- vi) The European Union (EU) has lifted the ban on import of Pakistani fish products.  
  
The EU has decided to allow import of Pakistani fish products, which will give a boost to the country's exports. The companies exporting to EU were delisted in 2007. However, after efforts made by the MFD and Pakistan's Trade Mission in Brussels, the EU has finally agreed to lift the ban from March 12, 2013 and two of the Pakistani fishery-processing establishments have been allowed to export the fish products to the 27-nation block.
- vii) Quality Control Services  
  
MFD 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, 2012-13, 15,550 certificates of quality and health for seafood commodities exported from Pakistan were issued. The income generated from issuance of the certificates was Rs.15.6 million.
- viii) Conservation and Management of Marine Resources

MFD in collaboration with fisheries department of Government of Sindh, Fishermen's



Cooperative Society Ltd, Karachi Fisheries Harbour Authority and other stakeholders undertook research/experimental surveys to test different sizes of the cod-end of trawl-net being used by local fishermen. The optimal mesh size, on the basis of results of the surveys will be selected and notified for implementation by the fishermen to ensure escapement of juveniles/undersized fish from the trawl-net.

ix) Deep Sea Fishing in Exclusive Economic Zone (EEZ) of Pakistan

With the declaration of EEZ in 1976, Pakistan for the purpose of fish exploitation extended its jurisdiction up to 200 nautical miles of 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 attract foreign deep sea operators; therefore, the present government has approved modification in the Policy 2009 and now it is made up more rationale.

**Marine Fisheries Department is executing following development project:-**

“Stock assessment survey programme in EEZ of Pakistan through chartering of fisheries Research vessel and capacity building of Marine Fisheries Department”, is aimed at chartering a suitable research vessel for conducting stock assessment resource surveys in the coastal and offshore waters of Pakistan. The project is also aimed to strengthen MFD through capacity building to conduct resource survey and stock assessment on regular basis and to develop management strategy for the fish exploitation and utilization. After exhaustive efforts and tendering process a survey vessel has been selected.

Marine Fishing vessel Census 2010 was started in July 2010, with the collaboration of WWF is completed in Baluchistan and Sindh coastal areas. Data collected during the census is being computerized for further analysis. Coastal areas of Sindh and Baluchistan vessel census also restarted for the remaining areas in order to update the data. The research vessel “Dr. Fridtjof Nansen” will be chartered during September 2013 to undertake last surveys and to finalize the reports. The results of the surveys will be utilized to develop fishery policy/guidelines for conservation and management of living marine resources.

A hatchery complex was established under the auspices of a development project entitled “Establishment of hatchery complex for production of seeds of fish and shrimps”.

