# 2

# Agriculture

Agriculture has remained the mainstay of the Pakistan economy as it provides employment to 45 percent population and provides input for agrobased industry. Agriculture income has created demand for industrial products. Agriculture provided main impetus to economic growth by creating additional demand of goods and services as a result of higher prices of agricultural produce. As a result of inordinate spike in prices of major crops, an additional amount of Rs. 342 billion was transferred to the rural areas in 2010-11 alone. Contrary to this only Rs.329 billion were

transferred to the rural areas on account of higher prices of major crops during the eight years (2001-2008). The highest ever wheat crop provided strength to the attainment of the objective of food security this year. Agriculture sector recorded modest growth of 1.2 percent in 2010-11 but provided much needed support to boost exports, revival of manufacturing sector and responsible for upbeat in the consumption. Given the enormous price inducement, the agriculture sector is likely to spearhead economic growth in the next fiscal year as well.

**Table 2.1: Agriculture Growth** 

(	in	%2	ige)

						( ,
Year	Agriculture	Major Crops	Minor Crops	Livestock	Fishery	Forestry
2004-05	6.5	17.7	1.5	2.3	0.6	-32.4
2005-06	6.3	-3.9	0.4	15.8	20.8	-1.1
2006-07	4.1	7.7	- 1.0	2.8	15.4	-5.1
2007-08	1.0	-6.4	10.9	4.2	9.2	-13.0
2008-09	4.0	7.8	-1.2	3.1	2.3	-3.0
2009-10	0.6	-2.4	-7.8	4.3	1.4	2.2
2010-11(P)	1.2	-4.0	4.8	3.7	1.9	-0.4

P: Provisional

Source: Federal Bureau of Statistics

#### **Recent performance**

The agriculture has lost significant growth momentum as its growth slowed down to 2.7 percent in the decade of 2000s as against 4.4 percent in 1990s and 5.4 percent in the 1980s. The structural problems and lack of mechanisation remained main impediment to growth. Major crops remained the victim of natural calamities during the last few years and three out of last four years witnessed negative growth in the major crop sector. The trend in agriculture growth since 2004-05 is given in Table 2.1.

The unprecedented floods in July 2010 destroyed two major crops, i.e. rice and cotton. As reported by SUPARCO, an area of 2.364 million hectares under Kharif Crops 2010 was damaged (See Box Item Table 1). During the outgoing year 2010-11, the overall performance of agriculture sector

exhibited a weaker growth mainly due to negative growth of major crops and forestry. Against the growth target of 3.8 percent, and previous year's performance of 0.6 percent, agriculture is estimated to grow by 1.2 percent. *Major crops*, accounting for 31.1 percent of agricultural value added, registered a negative growth of 4.0 percent for second year in a row mainly because of decrease in production of rice and cotton by 29.9 and 11.3 percent, respectively. *Minor crops* accounting for 10.9 percent of overall agriculture value addition, grew by 4.8 percent as against negative growth of last two years.

The *Livestock* sector having 55.1 percent stake in the agriculture sector was also impacted by the massive floods and witnessed marked slowdown recorded growth at 3.7 percent in 2010-11 as against 4.3 percent last year. The sector is immune from weather related problems and thus offers

prospects for consistent growth. Fishery sector grew by 1.9 percent as against last year's growth of 1.4 percent. Forestry has experienced negative growth of 0.4 percent this year as compared to last year's positive growth of 2.2 percent.

Pakistan's agricultural performance is dependent upon availability of irrigation water. As shown in Table 2.2, against the normal surface water availability at canal heads of 103.5 Million Acre Feet (MAF), the overall (both for Kharif as well as Rabi) water availability has been less in the range of 2.5 percent (2005-06) to 20.6 percent (2004-05). Relatively speaking, Kharif season 2010 faced more shortage of water than any other Kharif season since 2003-04.

During the current fiscal year (2010-11), the availability of water as a basic input for Kharif 2010 (for the crops such as rice, sugarcane and cotton) has been 20 percent less than the normal supplies and 21 percent less than last year's Kharif season. The water availability during Rabi season (for major crop such as wheat), is, however, estimated at 34.6 MAF, which is 5.0 percent less than the normal availability, and 38 percent more than last year's Rabi crop See Table 2.2.

Table 2.2: Actual Surface Wa	(Million Acre Feet)			
Period	Kharif Rabi		Total	%age incr/decr. Over the Avg.
Average system usage	67.1	36.4	103.5	-
2003-04	65.9	31.5	97.4	- 5.9
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

Source: Indus River System Authority

#### I. Crop Situation

Pakistan has two principle crops seasons, namely the "Kharif", the sowing season of which begins in April-June and harvested during October-December; while "Rabi", begins in October-December and harvested in April-May. Rice, sugarcane, cotton, maize, mung, mash, bajra and jowar are "Kharif" crops while wheat, gram, lentil (masoor), tobacco, rapeseed, barley and mustard are "Rabi" crops. Major crops, such as, wheat, rice, cotton and sugarcane account for 90 percent of the value added in the major crops. The value

added in major crops accounts for 31 percent of the value added in the agriculture. Thus, four major crops (wheat, rice, cotton, and sugarcane) on average, contribute 28 percent to the value added in overall agriculture and 5.9 percent to GDP. The minor crops account for 10.9 percent of the value added in overall agriculture. Livestock contributes 55.1 percent to agricultural value added - much more than the combined contribution of major and minor crops (41.9%). The production performance of major crops is documented in Table 2.3.

Table 2.3: Pro	(000 Tons)				
Year	Cotton (000 bales)	Sugarcane	Rice	Maize	Wheat
2004-05	14,265	47,244	5,025	2,797	21,612
	(42.0)	(-11.6)	(3.6)	(47.4)	(10.8)
2005-06	13,019	44,666	5,547	3,110	21,277
	(-8.7)	(-5.5)	(10.4)	(11.2)	(-1.6)
2006-07	12,856	54,742	5,438	3,088	23,295
	(-1.2)	(22.6)	(-2.0)	(-0.7)	(9.5)
2007-08	11,655	63,920	5,563	3,605	20,959

Year	Cotton (000 bales)	Sugarcane	Rice	Maize	Wheat
	(-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	12,913	49,373	6,883	3,262	23,311
	(9.2)	(-1.3)	(-1.0)	(-9.2)	(-3.0)
2010-11(P)	11,460	55,309	4,823	3,341	24,214
	(-11.3)	(12.0)	(-29.9)	(2.4)	(3.9)

P:Provisional (July-March)

Source: Ministry of Food and Agriculture

Figures in parentheses are growth/decline rates

#### a) Major Crops:

#### i) Cotton:

Cotton is the main cash crop which contributes significantly to the national economy. It accounts for 6.9 percent of value added in agriculture and 1.4 percent of GDP. In addition to providing raw material to the local textile industry, the lint cotton is an export item. During 2010-11, the crop was cultivated on an area of 2689 thousand hectares, 13.4 percent less than last year (3106 thousand hectares). The production is estimated at

11.5 million bales, lower by 11.3 percent over the last year's production of 12.9 million bales and 17.9 percent less than the target of 14 million bales. The decrease in cultivated area and production is attributed to loss in area under cultivation due to floods, widespread attack of Cotton Leaf Curl Virus (CLCV) and sucking pest/insect in core and non-core area, excessive rain, shortage of water due to canal closure during flood caused fruit shedding in certain areas. The area, production and yield of cotton for the last five years are given in Table 2.4 and Fig. 2.1.

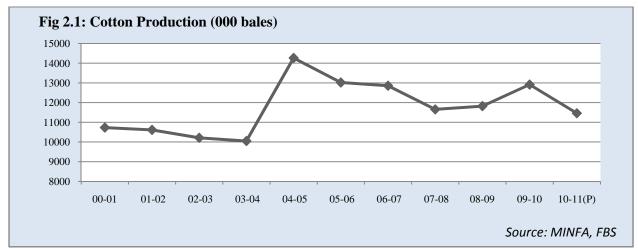


Table 2.4: Area, Production and Yield of Cotton

Year	Area		Production		Yield	
	(000 Hectare)	% Change	(000 Bales)	% Change	(Kgs/Hec)	% Change
2006-07	3075	-0.9	12856	-1.2	711	-0.4
2007-08	3054	- 0.7	11655	- 9.3	649	-8.7
2008-09	2820	-7.7	11819	1.4	713	9.9
2009-10	3106	10.1	12913	9.2	707	-0.8
2010-11(P)	2689	-13.4	11460	-11.3	725	2.5

P: Provisional (July-March)

Source: Ministry of Food and Agriculture, Federal Bureau of Statistics.

#### **World Cotton Outlook**

The world cotton production is projected at 24.8 million tons, during 2010-11 as against 22.01 million tons recorded in 2009-10, estimating an increase of 12.6 percent, this is mainly due to

expansion in planting by the cotton producing countries. Production is expected to continue to increase by 11% to a record of 27.6 million tons in 2011-12. The production and consumption of major cotton growing countries are given in Table 2.5

Table 2.5 Major Cotton	(Million Tons)		
	2008-09	2009-10	2010-11

	2008-09	2009-10	2010-11
Production			
China	8.02	6.92	6.40
India	4.93	5.05	5.30
USA	2.79	2.65	3.94
Pakistan	1.93	2.07	1.91
Brazil	1.21	1.19	2.03
Uzbekistan	1.0	0.85	1.00
Others	3.56	3.27	4.21
World Total	23.44	22.00	24.79
Consumption			
China	9.26	10.10	10.00
India	3.87	4.29	4.61
Pakistan	2.52	2.31	2.22
East Asia/Australia	1.67	1.83	1.78
Europe & Turkey	1.41	1.55	1.48
Brazil	0.99	1.00	1.04
USA	0.78	0.75	0.81
Others	3.17	3.18	3.11
World Total	23.67	25.03	25.05

Source: Pakistan Central Cotton Committee, MINFA

### ii) Sugarcane:

Sugarcane crop is a major raw material source for the production of white sugar and gur and is also a cash crop. Its share in value added in agriculture and GDP is 3.6 and 0.8 percent, respectively. Sugarcane was cultivated on an area of 988 thousand hectares, 4.8 percent higher than last year's level of 943 thousand hectares. Sugarcane production for the year 2010-11 is estimated at

55.3 million tons as against actual production of 49.3 million tons last year. This indicates a rise of 12.0 percent over the production of last year. Main factors contributing for more production are lucrative market prices of last year's produce and timely availability of inputs encouraging the farmers to grow more sugarcane crop. The area, production and yield of sugarcane for the last five years are given in Table 2.6 (see also Fig. 2.2)

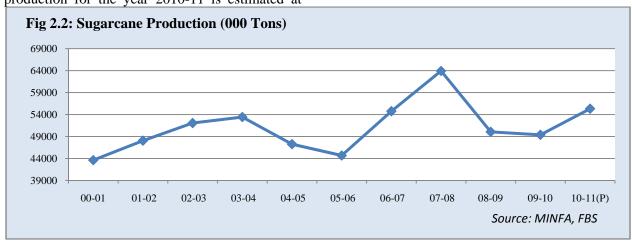


Table 2.6: Area, Production and Yield of Sugarcane

	Ar	Area		Production		eld
Year	(000 Hectare)	% Change	(000 Tons)	% Change	(Kgs/Hec.)	% Change
2006-07	1029	13.5	54742	22.6	53199	8.0
2007-08	1241	20.6	63920	16.8	51507	-3.2
2008-09	1029	-17.1	50045	-21.7	48635	-5.6
2009-10	943	-8.4	49373	-1.3	52357	7.7
2010-11(P)	988	4.8	55309	12.0	55981	6.9

P: Provisional (July-March)

Source: Ministry of Food and Agriculture, Federal Bureau of Statistics

#### iii) Rice:

Rice is the second largest staple food crop in Pakistan and is a major source of export earnings in recent years. It accounts for 4.4 percent of value added in agriculture and 0.9 percent in GDP. Pakistan grow high quality rice to meet both domestic demand and exports. Area sown for rice is estimated at 2365 thousand hectares, 17.9 percent less than last year (2883 thousand hectares). The production of the crop is estimated

at 4823 thousand tons, 29.9 percent less than last year. This is mainly attributed to devastating floods of July, 2010 coupled with breaches of protective bunds of river Indus which badly affected the main paddy growing districts and low market returns during last year. While decrease in production is due to decrease in area, attack of pests and disease and logging of early sown crops. The area, production and yield of rice for the last five years are given in Table 2.7 and Fig 2.3.

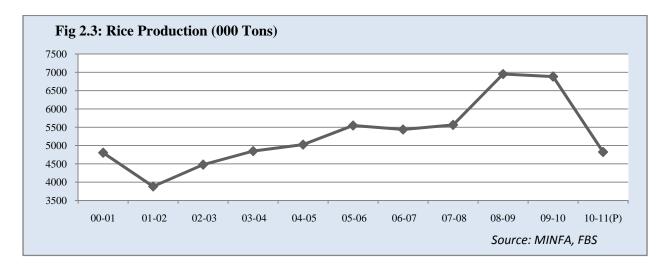


Table 2.7: Area, Production and Yield of Rice

Year	Area		Produ	Production		eld
	(000 Hectare)	% Change	(000 Tons)	% Change	(Kgs/Hec.)	% Change
2006-07	2581	-1.5	5438	-2.0	2107	-0.4
2007-08	2515	-2.6	5563	2.3	2212	5.0
2008-09	2963	17.8	6952	25.0	2346	6.1
2009-10	2883	-2.7	6883	-1.0	2387	1.7
2010-11(P)	2365	-17.9	4823	-29.9	2039	-14.6

P: Provisional (July-March)

Source: Ministry of Food and Agriculture, Federal Bureau of Statistics

#### iv) Wheat:

Wheat is the main staple food for most of the population and largest grain source of the country. It occupies the central position in formulating agricultural policies. It contributes 13.1 percent to the value added in agriculture and 2.7 percent to GDP. Area and production target of wheat for the year 2010-11 had been set at 9045 thousand hectares and 25 million tons, respectively. Wheat was cultivated on an area of 8805 thousand

hectares, showing a decrease of 3.6 percent over last year's area of 9132 thousand hectares. However, a bumper wheat crop of 24.2 million tons has been estimated with 3.9 percent increase over the last year's crop of 23.3 million tons. The prospects for wheat harvest improved with healthy fertilizer off-take and reasonable rainfall during pre-harvesting period. The area, production and yield of wheat for the last five years are given in Fig 2.4 and Table 2.8.

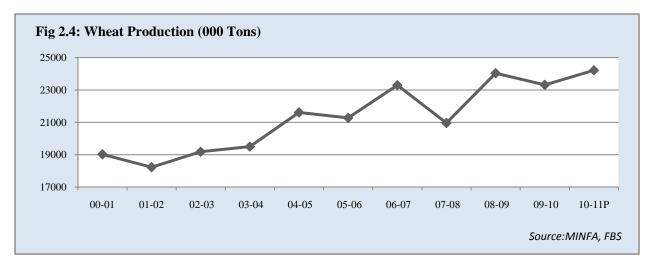


Table 2.8: Area, Production and Yield of Wheat

Year	Area		Produ	Production		eld
	(000 hectares)	% Change	(000 tons)	% Change	(Kgs /Hec.)	% Changes
2006-07	8578	1.5	23295	9.5	2716	7.8
2007-08	8550	-0.3	20959	-10.0	2451	-9.8
2008-09	9046	5.8	24033	14.7	2657	8.4
2009-10	9132	1.0	23311	-3.0	2553	-3.9
2010-11(P)	8805	-3.6	24214	3.9	2750	7.7

P:Provisional(July-March)

Source: Ministry of Food and Agriculture, Federal Bureau of Statistics

#### v) Other Major Crops

During 2010-11, the production of only bajra, tobacco, rapeseed & mustard, maize and barley increased by 18.1 percent, 16 percent, 11.3 percent, 2.4 percent and 2.8 percent, respectively. Gram, the largest Rabi pulses crop in Pakistan, stood at 5.2 million tons against 5.6 million tons of last year, showing a reduction of 6.9 percent during 2010-11 mainly because of unfavourable climate. The production of *jawar* witnessed a

decrease of 9.7 percent in 2010-11. The area and production of major crops are given in Table 2.9.

#### b) Minor Crops

#### i) Oilseeds

The major oilseed crops include sunflower, canola, rapeseed & mustard and cottonseed. The total availability of edible oil in 2009-10 was 2.9 million tons. Local production of edible oil was 662 thousand tons which accounted for 23 percent of total availability in the country, while the

remaining 77 percent availability was ensured through imports. During the year 2010-11 (July-March), a quantity of 1.7 million tons edible oil/oilseeds worth US\$ 1.65 billion has been imported. The local production in 2010-11 is

provisionally estimated at 696 thousand tons. Total availability from all sources is thus reduced to 2.35 million tons so far. The area and production of oilseed crops during 2009-10 and 2010-11 is given in Table 2.10.

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

		2009	<b>)-10</b>	2010-1	11(P)	% Change In
Crops		Area (000 hectares)	Production (000 tons)	Area (000 hectares)	Production (000 tons)	production over Last year
KHARIF						
Maize		935	3262	939	3341	2.4
Bajra		476	293	548	346	18.1
Jawar		248	154	221	139	-9.7
RABI						
Gram		1067	562	1068	523	-6.9
Barley		84	71	83	73	2.8
Rapeseed	&	178	151	194	168	11.3
Mustard						
Tobacco		56	119	64	138	16.0

P: Provisional (July-March)

Source: Ministry of Food and Agriculture, Federal Bureau of Statistics

Table 2.10: Area and Production of Major Oilseed Crops

Crops	2009-10			2010-11 (P)			
	Area	Production		Area	Produ	ıction	
(0	(000 Acres)	Seed (000 Tons)	Oil (000 Tons)	(000 Acres)	Seed (000 Tons)	Oil (000 Tons)	
Cottonseed	7,591	3,240	389	6,450	2,934	352	
Rapeseed/ Mustard	486	160	51	439	157	50	
Sunflower	872	513	195	1,108	643	244	
Canola	142	70	27	233	131	50	
Total	9,091	3,983	662	8,230	3,865	696	

P: Provisional (July-Mar)

Source: Pakistan Oilseed Development Board

#### ii) Other Minor Crops:

The production of potato, onion and mash has increased by 18.6 percent, 11.2 percent and 1.0 percent, respectively. Timely rain supplemented to some extent for increasing production of onion, potato and mash. However, the production of *mung*, chillies and *masoor* (lentil) decreased by 35.0 percent, 8.6 percent and 2.7 percent, respectively. The area sown for *mung*, *mash* and chillies and potato decreased by 25.2 percent, 1.2 percent,11.7 percent and 7.8 percent, respectively whereas, there is an increase of area sown for onion by 15.2 percent. The area and production of minor crops are given in Table 2.11.

#### **II. Farm Inputs**

#### i) Fertilizer:

Fertilizer is the most important input for enhancing productivity. As per National Fertilizer Development Centre (NFDC), "Contribution of balanced fertilization towards increased yield ranges 30 to 60 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. All of our soils are deficient in nitrogen (N), 80-90 percent are deficient in phosphorus (P) and 30 percent in

potassium (K). Wide spread deficiency 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".

**Table 2.11: Area and Production of Minor Crops** 

	2009	2009-10		2010-11(P)		
Crops	Area (000 hectares)	Production (000 tons)	Area (000 hectares)	Production (000 tons)	%Change In Production	
Masoor	24.0	10.9	24.0	10.6	-2.7	
Mung	183.3	118.7	137	77.1	-35.0	
Mash	24.1	10.7	23.8	11.2	1.0	
Potato	138.5	3141.5	127.7	3726.5	18.6	
Onion	124.7	1701	143.7	1892	11.2	
Chillies	57.4	188.9	50.7	172.7	-8.6	

P: Provisional (July-March)

Source: Ministry of Food and Agriculture. Federal Bureau of Statistics

The domestic production of fertilizers during the first nine months (July-March) of the current fiscal year was up by 2.7 percent over the same period last year. The import of fertilizer decreased by 50 percent; hence, the total availability of fertilizer also decreased by 15 percent over the same period last year. Total off-take of fertilizer has also reduced by 11.3 percent. Nitrogen offtake decreased by 11.1 percent while that of phosphate by 13.8 percent. However, potash off-take surged by 59.7 percent. Detail is given in Table 2.12.

Major reason for reduced fertilizer offtake is occurrence of devastating flood in the country during monsoon season of 2010 which affected one third of the cropped area. As a result major crops especially cotton was seriously affected. Another reason for reduced off-take of fertilizer is high price of phosphatic fertilizers especially DAP which went up by 46 percent during the first nine months of current fiscal years as compared to previous year.

Table 2.12: Production and Off-take of Fertilizer

('000' N/Tons) % % **Domestic** Year **Import** Total Off-take Change Change **Production** Change Change 2006-07 2747 -3.0 796 -37.2 3543 -13.6 3672 -3.5 3698 2007-08 2822 2.7 876 10.1 4.4 3581 -2.5 2008-09 2907 3.0 568 -35.1 3475 -6.0 3711 3.6 2009-10 30.3 3082 6.0 1444 154.2 4526 4360 17.5 2009-10 (Jul-Mar) 3391 3445 2255 1136 2.7 2010-11 (Jul-Mar) P 2315 563 -50.4 2878 -15.13054 -11.3

P: Provisional Source: National Fertilizer Development Centre

#### ii) Improved Seed:

For achieving sustained growth in agricultural sector, seed is a critical basic factor. The use of quality and improved seed is imperative for increasing the production and yield of the crop. During (July-Mar), 2010-11 about 406.462 thousand tons of improved seeds of various Kharif/Rabi/Spring/Winter season crops was procured and made available. The procurement and distribution of seeds of various Kharif crops

(cotton, paddy, maize, mungbean etc) is under progress (Table 2.13).

The Federal Seed Certification and Registration Department (FSC&RD) is engaged in providing seed certification coverage to public and private sector seed companies of Pakistan along with seed quality control services through its 28 seed testing laboratories and monitoring of seed quality in the market as well. The activities/achievements of the department during 2010-11 are briefly given as under:

- During the year 2010-11, sixty six (66) new seed companies were registered raising the total number of registered seed companies to 729 in the country including four public sector seed companies and five multinationals.
- Twenty crop varieties were approved (wheat-3, Paddy-1, Maize-4, Oilseed-1, Pulses-2, Fooder-5, Sugarcane-1 and Vegetables-3).

 Pre and Post Control Trials of all pre-basic, basic seed lots and 20% of certified seed lots were carried out in the field to determine the quality of seeds distributed by various seed agencies.

 Imported seeds of various crops/hybrids at the tune of 22.6 thousand MT with a total value of Rs. 4608.8 million was tested under Seed (Truth-in-Labeling) Rules, 1991 during the year, at the port of entries i.e. Lahore and Karachi.

Table 2.13: Seed Availability

Table 2.13: Seed Availa	ability		(000 Tons)
Crop	Local	Imported	Total
Wheat	347,878.2	0	347,878.2
Cotton	7,207.6	0	7,207.6
Paddy	25,613.5	3,913.7	29,527.1
Maize	1,512.4	4,614.2	6,126.7
Pulses	1,058.8	0	1,058.8
Oilseeds	95.0	604.8	699.8
Fodders	9.2	4,024.2	4,033.4
Vegetables	348.3	5,166.9	5,515.2
Potato	132.2	4,283.2	4,415.4
Total	383,855.2	22,606.9	406,462.1
		Carrier E. Land Carle Carrier	with a R. D. a internalism Description

Source: Federal Seeds Certification & Registration Department

#### iii) Mechanization:

Accelerated farm mechanization is one of the important ingredient to accelerate growth rate in the agriculture sector. In consideration of role of precision in farm operations, Federal Water Management Cell (FWMC) is encouraging the use of farm machinery for which credit facilities are being provided by the commercial banks. At present, available farm power is inadequate. The number of tractors in operation is around 464,000 resulting in per hectare horse power (hp) availability of 0.90 against the required power of 1.4 hp per hectare. As per FAO recommendations for hp/ha, 649,000 operational tractors are required. The additional tractors required to achieve this ratio is 185,000. To achieve 1.4 hp per hectare farm power availability, government has launched Benazir Tractor Scheme to deliver 20,000 tractors to the farmers all over the country at subsidized rate of Rs. 200,000/- per beneficiary/ tractor.

During first year of the scheme, 10,000 tractors have been delivered among the farmers. To

promote use of efficient and quality machinery & equipment etc, the government has also allowed import of agricultural machinery, not being manufactured locally at zero tariffs. Other interventions such as use of laser land levelers, ridge and broad bed farming are being encouraged in the country through provision of farm machinery to the farmers/services providers at subsidized rates. The prices of locally manufactured tractors are given in Table 2.14:

#### iv) Irrigation

Pakistan is faced with increasing water scarcity and depending on assumptions of various future demand scenarios, annual water requirements at canal head could be in 135-170 MAF range in the coming years. Existing irrigation mechanism has reportedly working on 40-45 percent efficiency. The historic average surface water availability is only 104 MAF per annum, and is persistently reducing due to siltation in reservoirs. The National Water Strategy envisages raising irrigation efficiency to 50 percent from the current level of 40 percent. In order to improve the

existing system, various steps such as On-Farm Water Management Programme (OFWM) projects have been started in all provinces, in Gilgit-Baltistan, Azad Jamu & Kashmir and Islamabad Capital Territory areas. The projects undertaken are:- National Programme for Improvement of

Watercourses in Pakistan, Chaghai Water Management and Agriculture Development Project (IDB Assisted), National Project to stimulate the Adaptation of Permanent Raised Beds in Maize-Wheat and Cotton-Wheat Farming System in Pakistan.

**Table 2.14 Prices of Locally Manufactured Tractors 2011** 

Tractors Model (Horse Power)	Price/Unit (Rs)
NH/FIAT- 480S (55 HP)	579,735
NH/FIAT-GHAZI (65 HP)	655,200
NH/FIAT 640 (75 HP)	840,060
NH/FIAT 640S (85 HP)	930,150
NH 55-56 (55 HP)	661,050
NH 60-56 (60 HP)	725,400
MF240 (50 HP)	630,630
MF 260 (60 HP)	700,830
MF 350 (50 HP)	665,730
MF 375S (75 HP)	958,230
MF 385 (85 HP)	1,058,850
MF 385 (4WD) (85 HP)	1,550,250
Universal- 530 (55 HP)	607,230
Universal- 530 (55 HP) Plus	654,030
Universal-533 (55 HP) Plus	654,030
Universal 640 (65 HP)	829,530
Universal 683 (83 HP)	923,130
JD-5055 B (55 HP)	643,500
JD-720 (72 HP)	789,750

Source: Tractor Manufacturers Association

Efficient irrigation system is a pre-requisite for higher agricultural production as it helps in increasing the crop intensity. Despite the existence of a good irrigation canal network in Pakistan, it suffers from wastage of a large amount of water in the irrigation process. Position of rainfall during monsoon and winter season is given in Table 2.15.

Table 2.15: Rainfall* Recorded Durin	g 2010-11	(In Millimeter)
	Monsoon Rainfall	Winter Rainfall
	(Jul-Sep) 2010	(Jan-Mar) 2011
Normal	137.5mm	70.5mm
Actual	249.8mm	77.2mm
Shortage (-)/excess (+)	+112.3mm	+6.7mm
% Shortage (-)/excess (+)	+81.6%	+10.2%
*·Area weighted		Source: Pakistan Meteorological Department

During the monsoon season (July-September, 2010) the normal rainfall is 137.5 mm while the actual rainfall received stood at 249.8 mm, indicating an increase of 81.6 percent. Likewise, during the winter (January-March, 2011), the actual rainfall received was 77.2 mm while the normal rainfall during this period has been 70.5

mm, indicating an increase of 10.2 percent over the normal rainfall.

The canal head withdrawals in *Kharif* 2010 (April-September) decreased by 21 percent and stood at 53.4 Million Acre Feet (MAF) as compared to 67.3 MAF during the same period last year. During the Rabi season 2010-11

(October-March), the canal head withdrawals shows a significant change, as it remained at 34.6 MAF compared to 25.0 MAF during the same

period last year. Province-wise details are given in Table 2.16.

<b>Table 2.16: Ca</b>	able 2.16: Canal Head Withdrawals (Below Rim Station)				Million A	cre Feet (MAF)
Provinces	Kharif (Apr -Sep) 2009	Kharif (Apr -Sep) 2010	% Change in Kharif 2010 over 2009	Rabi (Oct-Mar) 2009-10	Rabi (Oct –Mar) 2000-11	% Change in Rabi 2010-11 Over 2009-10
Punjab	34.57	29.00	-16	13.36	18.73	40
Sindh	29.58	22.61	-24	10.25	14.51	42
Baluchistan	2.11	1.21	-43	0.79	0.88	10
KPK	1.04	0.60	-43	0.62	0.48	-23
Total	67.30	53.41	-21	25.02	34.59	38

Source: Indus River System Authority.

Water is key input for agriculture, industry & urban development, as well achieving MDG's goals and targets and reducing poverty; therefore, the water sector gained major focus throughout the last decade in the development programs, since water availability is persistently decreasing, the challenge is to formulate an effective and comprehensive efficient system of water resource management. The focus areas of investments in water sector are:

- a. Augmentation of surface water resources by construction of small/medium dams.
- b. Conservation measures (lining of irrigation channels, modernization/ rehabilitation of irrigation system, lining of watercourses and efficiency enhancement by rehabilitation & better operation of existing system.
- c. Protection of infrastructure from onslaught of floods and water logging & salinity.

These water sector's programs are estimated to utilize Rs. 19 billion (Rs. 17 billion are to be contributed by Ministry of Water & Power and Rs. 2 billion under water management program).

**Table 2.17: Major Water Sector Projects under Implementation** 

Projects	Location	Total App.cost (Rs. In million)	Live Storage (MAF)	Area Under Irrigation (Acres)	Latest Status
Gomal Zam Dam	Khyber	12,829	1.14	163,086	70 % Physically completed
	Pakhtunkhwa				
Greater Thal Canal *	Punjab	30,467	-	355,000	Phase-I, completed
Rainee Canal *	Sindh	18,862	-	113,690	91 % Physically comp. Phase-I
Kachhi Canal *	Balochistan	31,204	-	102,000	60 % physically comp. Phase-I
Raising of	AJ&K	62,553	2.90	713,000	93 % physically completed
Mangla Dam				All over	
				Pakistan	
Satpara Dam	Skardu	4,397	0.05	15,536	93% physically completed
Multi- purpose					
Right Bank Outfall					
Drain (RBOD)					
RBOD-I	Sindh	14,707			87% Physically Completed
RBOD-II	Sindh	29,014			62% Physically Completed
RBOD-III	Balochistan	6,535			72% Physically Completed
Greater Thal Canal * Rainee Canal * Kachhi Canal * Raising of Mangla Dam  Satpara Dam Multi- purpose Right Bank Outfall Drain (RBOD) RBOD-I RBOD-II	Pakhtunkhwa Punjab Sindh Balochistan AJ&K Skardu Sindh Sindh	30,467 18,862 31,204 62,553 4,397	2.90	355,000 113,690 102,000 713,000 All over Pakistan	Phase-I, completed 91 % Physically comp. Phase 60 % physically comp. Phase 93 % physically completed  93% physically completed  87% Physically Completed 62% Physically Completed

Source: Planning & Development Division, Planning Commission

<sup>\*</sup> Date of completion for all three canals is for Phase-I, whereas cost is reflected for total project

#### **Water Sector Programmes During (2010-11)**

- Completion of phase-I of Greater Thal Canal, substantial completion (80 to 95 percent) of *Kachhi* Canal in Balochistan & *Rainee* Canal in Sindh for irrigation of 2.9 million acres.
- Completion of Mangla Dam Raising Project for additional storage of 2.9 MAF and additional power generation of 120 MW.
- Completion of Satpara Dam in Gilgat Biltistan for irrigation of 15,536 acres of agriculture land and 15.8 MW power generations.
- Substantial completion of Gomal Zam Dam Project in Tribal/ Khyber Pakhtunkhwa area.
- Lining of irrigation channels in Punjab, Sindh and Khyber Pakhtunkhwa.
- Work on improvement of existing irrigating system in Punjab, Sindh, K.P.K & Balochistan at a cost of Rs.3.5 billion.
- Construction of new Small/medium dams throughout Pakistan (Winder, Darwat, Ghabir & Naulong dams) at a cost of Rs.3.1 billion.
- Construction of new small/delay action dams and improvement of existing irrigation system in Balochistan at a cost of Rs. 2.9 billion.
- A sum of Rs. 2.8 billion is being utilized for the completion of remaining improvement of watercourses all over Pakistan under "National Program for watercourses Improvement" and Water Conservation through High Efficiency Irrigation System (drip & sprinkler) in Pakistan to upgrade irrigation in 291,000 acres.
- In drainage sector fast track implementation of RBOD-I, II & III Projects to protect and reclaim 4.9 million acres of irrigated land continued.

#### v) Agricultural Credit:

Availability of credit to meet financial requirements of the farming sector is one of the key factors that play a pivotal role in the

development of agriculture sector of a country. This fact has remained a central force in devising of agri. Finance policies by the Government and SBP in Pakistan. Every effort is being made to provide the direly needed credit to the farming community through a well established infrastructure of banks. Currently 20 banks with around 3,700 agriculture designated branches are facilitating farmers by extending agriculture credit throughout the country. These include five scheduled banks, (ABL, HBL, MCB, NBP, UBL), two specialized banks (ZTBL and PPCBL), and 13 private domestic banks. These banks provide credit to the farming community for all types of farming activities viz. Growing Crops, Livestock, Poultry, Fisheries, Orchards, Forestry, Nurseries, Apiculture, Sericulture, etc.

Keeping in view the increasing demand of credit due to recent unprecedented floods and torrential rains in the country, the Agricultural Credit Advisor Committee (ACAC) has allocated agriculture credit disbursement target of Rs.270 billion for 2010-11 as compared to Rs.260 billion fixed for last year. Out of the total target, Rs. 181.3 billion were allocated to commercial banks, Rs. 81.8 billion to ZTBL and Rs. 6.9 billion to Punjab Provincial Cooperative Bank Limited(PPCBL).

During the period (July-March ,2010-11), all the banks have disbursed Rs. 168.7 billion or 62.5 % of the target compared with disbursement of Rs. 166.3 billion during corresponding period last year See Table 2.18.

During July-March, 2010-11, the specialized Bank for agriculture credit Zarai Taraqiati Bank Limited (ZTBL) disbursed Rs. 37.4 billion as compared to Rs.49 billion during the same period of last year. This decline in disbursement is mainly due to the recent devastating floods in the country which badly affected the cultivable land. The Bank served 295,941 borrowers as compared to 362,050 borrowers during corresponding period of last year.

**Table 2.18: Supply of Agricultural Credit by Institutions** 

(Rs. ir	n Billion)
---------	------------

Voor	ZTDI	Commercial	DDCDI	Domestic	Total	
Year	ZTBL	Banks	PPCBL	Private Banks	Rs. Million	%Change
2005-06	47.6	68.0	5.9	16.0	137.5	26.4
2006-07	56. 5	80.4	8.0	24.0	168.8	22.8
2007-08	66.9	94.7	5.9	43.9	211.6	25.3
2008-09	75.1	110.7	5.6	41.6	233.1	10.1
2009-10	79.0	119.6	5.7	43.8	248.1	6.5
2009-10 P	49.0	85.2	3.5	28.6	166.3	-
2010-11 P	37.4	93.3	4.4	33.6	168.7	1.4
P: (July - Mar)					Source: State B	ank of Pakistan.

#### III. Forestry

Pakistan is a forest deficient country, mainly due to arid and semi-arid climate in large parts of the country. According to the Forestry Sector Master Plan (FSMP) 1992, natural forests accounted for 4.2 million ha (4.8 percent) irrigated plantations

occupied 103,000 ha (0.12 percent) and rangelands covered 28.5 million ha (32.4 percent) out of the total land area of 88 million ha (879,800 km<sup>2</sup>). The area of natural forests and state-owned plantations declined at a rate of 27,000 ha/year but there was a 67 percent increase in the area of tree over farmlands See Table-2.19.

Table 2.19: Forest Area Controlled by Provincial/Regional

Forest Departm	(000 Hectares)					
Legal Category	Khyber Pakhtunkhwa	Punjab	Sindh	Balochistan	Gilgit- Baltistan	AJK
State	-	-	-	684.07	-	566.74
Reserved	93.95	311.23	323.40	-	-	-
Protected	470.80	2736.43	802.39	403.45	0.06	-
Un-classed	105.20	102.78	13.52	-	-	-
Resumed Lands	36.53	8.69	2.39	-	-	-
Guzara	278.47	=	-	-	-	-
Communal	49.75	-	-	-	0.22	-
Section 38	7.76	19.21	-	-	-	-
Chos Act	-	1.24	-	-	-	-
Miscellaneous	839.58	21.09	-	-	0.38	-
Total	1843.48	3200.67	1141.70	1087.52	0.67	566.74

During the year 2010-11 forests have contributed 91 thousand cubic meters of timber and 261 thousand cubic meters of firewood as compared to 93 thousand cubic meters timber and 263 thousand cubic meters firewood in 2009-10.

#### IV. Livestock and Poultry

#### A. Livestock

Livestock sector has emerged as a priority sector only recently on policy formulation. Historically, Livestock has been subsistence sector dominated by small holders to meet their needs of milk, food and cash income on daily basis. In the rural areas, livestock is considered as a more secure source of income for the small farmer's and landless poor's. It has become important source of employment generation in rural areas. The sector is mitigating income variability in the rural areas as crop sector is more dependent on uncertain vagaries of mother-nature. The poverty incidence in Pakistan is determined by income variability and thus livestock is the best hope for poverty alleviation as it can uplift the socioeconomic conditions of our rural masses. The livestock accounts for approximately 55.1 percent of the agriculture value added and 11.5 percent to GDP during 2010-11. The livestock population for the last three years is given in Table 2.20.

Source: Ministry of Environment

Table 2.20 Livestock Population

(Million Nos.)

Table 2.20 Livestock I	Tuble 2:20 Elvestock I optimion					
Species	2008-09 <sup>1</sup>	$2009-10^1$	2010-11 <sup>1</sup>			
Cattle	33.0	34.3	35.6			
Buffalo	29.9	30.8	31.7			
Sheep	27.4	27.8	28.1			
Goat	58.3	59.9	61.5			
Camels	1.0	1.0	1.0			
Horses	0.4	0.4	0.4			
Asses	4.5	4.6	4.7			
Mules	0.2	0.2	0.2			

Source: Ministry of Livestock and Dairy development

1: Estimated Figure based on inter census growth rate of Livestock Census 1996 & 2006

The major products of livestock are milk and meat, the production of which for last three

years are given in Table 2.21.

**Table 2.21 Milk and Meat Production** 

Species	Units	2008-09 <sup>1</sup>	2009-10 <sup>1</sup>	2010-11 <sup>1</sup>
Milk (Gross Production)	000 Tons	43,562	44,978	46,440
Cow	"	14,982	15,546	16,133
Buffalo	"	27,028	27,848	28,694
Sheep <sup>2</sup>	"	36	36	36
Goat	"	719	739	759
Camel <sup>2</sup>	"	798	808	818
Milk (Human Consumption) <sup>3</sup>	000 Tons	35,160	36,299	37,475
Cow	"	11,985	12,437	12,906
Buffalo	"	21,622	22,279	22,955
Sheep	"	36	36	36
Goat	"	719	739	759
Camel	"	798	808	818
Meat <sup>4</sup>	000 Tons	2,843	2,965	3,095
Beef	"	1,601	1,655	1,711
Mutton	"	590	603	616
Poultry meat	"	652	707	767

Source: Ministry of Livestock and Dairy development

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

**Table 2.22 Estimated Livestock Products Production** 

Species	Units 2008-09 <sup>1</sup>		2009-10 <sup>1</sup>	2010-11 <sup>1</sup>	
Eggs	Million No's	11,258	11,839	12,457	
Hides	000 No's	12,612	13,040	13,481	
Cattle	"	6,260	6,496	6,741	
Buffalo	"	6,255	6,445	6,640	
Camels	"	97	99	100	
Skins	000 No's	46,351	47,402	48,478	
Sheep Skin	"	10,373	10,495	10,620	

<sup>1:</sup> The figures for milk and meat production for the years 2008-09, 2009-10 and 2010-11 are calculated by applying milk production parameters to the projected population of 2008-09, 2009-10 and 2010-11 based on the inter census growth rate of livestock census 1996 & 2006
2: The figures for the Milk production for the year 2008-09, 2009-10 and 2010-11 are calculated after adding the production of milk from camel and sheep to the

figures reported in the livestock census 2006.

<sup>3:</sup> 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.

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

Species	Units	$2008-09^{1}$	2009-10 <sup>1</sup>	2010-11 <sup>1</sup>	
Goat Skin	"	22,452	23,061	23,685	
Fancy Skin	"	<u>13,526</u>	<u>13,846</u>	<u>14,173</u>	
Lamb skin	"	3,081	3,117	3,154	
Kid skin	"	10,445	10,728	11,019	
Wool	000 Tons	41.5	42.0	42.5	
Hair	"	22.0	22.6	23.2	
Edible Offal's	"	325	334	344	
Blood	"	55.4	56.8	58.3	
Guts	000 No's	46,824	47,886	48,974	
Casings	"	13,426	13,879	14,347	
Horns & Hooves	000 Tons	46.7	48.1	49.5	
Bones	"	692.4	713.4	735.1	
Fats	"	221.6	228.1	234.8	
Dung	"	977.8	1,008	1,039	
Urine	II .	301.9	311	320	
Head & Trotters	"	202.5	208.2	214.0	
Ducks, Drakes & Ducklings	Million No's	0.6	0.6	0.6	

Source: Ministry of Livestock and Dairy development

1; The figures for livestock product for the years 2008-09, 2009-10 and 2010-11 were calculated by applying production parameters to the projected population of 2008-09, 2009-10 and 2010-11.

The population growth, increase in per capita income, remittances and export proceeds is fueling the demand for livestock products. In order to speedup the pace of development in livestock sector, the overall thrust government's livestock policy is to foster "private sector-led development with public sector providing enabling environment through policy interventions and capacity building for improved 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 the 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 sector's prospective role towards rural economic development may well be recognized from the fact that 35-40 million rural populations are dependent on livestock.

The production of commercial and rural poultry and products for last three years is given in Table 2.23:

Table 2.23 Domestic/Rural & Commercial Poultry

Type	Units	2008-09 <sup>1</sup>	2009-10 <sup>1</sup>	2010-11 <sup>1</sup>
Domestic Poultry	Million No's	76.22	77.35	78.51
Cocks	"	9.32	9.58	9.84
Hens	"	36.11	36.76	37.42
Chicken	"	30.79	31.02	31.25
$Eggs^2$	"	3611	3676	3742
Meat	000 Tons	100.41	102.40	104.43
Duck, Drake & Duckling	Million No's	0.61	0.59	0.56
$Eggs^2$	"	27.42	26.28	25.18
Meat	000 Tons	0.83	0.80	0.77
Commercial Poultry				
Layers	Million No's	28.42	30.41	32.54
Broilers	"	448.55	493.40	542.74
Breeding Stock	"	7.99	8.39	8.81
Day Old Chicks	"	468.51	515.36	566.89
$Eggs^2$	Million No's	7620	8137	8690
Meat	000 Tons	550.00	603.47	662.18

Туре	Units	2008-09 <sup>1</sup>	2009-10 <sup>1</sup>	2010-11 <sup>1</sup>
Total Poultry				
Day Old Chicks	Million No's	499	546	598
Poultry Birds	"	562	610	663
Eggs	II.	11,258	11,839	12,857
Poultry Meat	000 Tons	651	707	767

Source: Ministry of Livestock and Dairy development

#### **POULTRY**

Poultry sector generates employment (direct/indirect) and income for about 1.5 million people. Its contribution in agriculture value addition is 4.8 percent and livestock value addition is 9.8 percent. Poultry meat contributes 24.8 percent of the total meat production in the country. The current investment in poultry industry is about Rs. 200 billion. Poultry sector has shown a robust growth of 8-10 percent annually which reflects its inherent potential.

Poultry Development Policy 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 percent per annum.

#### **Livestock Development Projects**

The government is presently executing seven (07) projects in livestock sector at an estimated cost of Rs. 8.8 billion. These projects have focused on promoting milk and meat production/ marketing; strengthening of extension services, delivery mechanism system to livestock farmers; prevention and control of livestock and poultry diseases; up-gradation of animal quarantine services and provision of veterinary services at farmer's door step. During 2009-10, technical and financial assistance was provided to private farmers, total 13,171 fattening operations for 163,977 beef and 217,701 mutton totaling 381,678 animals were completed under the Meat Development Project. Under the Milk Collection and Dairy Development Program, 207 MPGs have been formed, 150 milk cooling tanks have been installed and 566 progressive dairy farmers have

been registered for production of quality breeding cattle and buffaloes. The project entitled "Improving Reproduction Efficiency of Cattle & Buffaloes in small holder's production system" has completed construction of Semen Production Centre at Renala and Embryo Transfer Technology Centre at Okara Military Dairy Farms. Both institutions have become functional where 502,996 superior quality semen doses, 2,031 embryos were collected and 178,318 AI were carried out during 2009-10.

During 2009-10, the European Union funded "Strengthening of Livestock Services Project" (SLSP) has expanded the Disease Reporting & Epidemiology Network from 36 to 64 districts of Pakistan. The SLSP has provided sero-surveillance material and IT equipment to disease reporting offices and selected veterinary hospitals in these districts. Epidemiology Units have been established at the Federal, Provincial and District level. The project has been under preparation to establish National Disease Reporting & Epidemiology system in the country.

The National Program for the Prevention and Control of Avian Influenza (Bird Flu) has been executed by the Ministry since July 2007. During 2009-10, functional status of 40 Regional Surveillance Units (RSU) and 66 Rapid Response Teams (RRT) was maintained throughout the country. The RSUs and RRTs were equipped with diagnostic equipment and mobility for sero-surveilliance of Avian Influenza. The project collected and analyzed 2,50,521 swab, tissue and blood samples. During the period from July 2009 to June 2010, none of these samples was found positive for H5NI (Bird Flu) virus and Pakistan remained free from Avian Influenza during 2009-10.

<sup>1;</sup> The figures for the year 2008-09, 2009-10 and 2010-11 are statistically calculated using the figures of 2005-06.

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

The project on "Upgradation and Establishment of Animal Quarantine Stations (AOS) in Pakistan" entered into third year of its execution. Under the 18<sup>th</sup> Constitutional amendment, livestock subject stands transferred to provinces. Similarly four Livestock Production & projects namely Development for Meat Production; Milk Collection Processing and Dairy Production & Development Program; Strengthening Livestock Services Project (SLSP) and Improving Reproductive Efficiency of Cattle and Buffaloes in smallholder's production system stand devolved and its assets have been transferred to provinces. Now provinces have key role in development of livestock sector and federal Government role will be of facilitating nature in key areas of interest.

#### **New Initiatives**

In the current scenario of devolution under 18<sup>th</sup> Amendment, the responsibility of livestock development has been shifted to provinces and federal Government will play facilitating role and may support projects of national interest. The future plan for livestock sector is to meet MTDF targets for meat (5.0%) and milk (8.0%) production through shifting from subsistence livestock farming to market-oriented and commercial farming with a focus on entire market chain. The future road map has the milestones in the shape of entering into global Halal Food Trade Market. The government has initiated new projects worth of Rs. 5.5 billion during 2009-10.

The government has initiated regulatory measures livestock infrastructure development programs and allocations in the PSDP are enhanced manifold for the sector. Other measures include; allowing import of high yielding animals, semen and embryos for crossbreeding; expansion / improvement and modernization of laboratory facilities to diagnose and treat livestock diseases; expanding animal health service, duty free import of veterinary dairy and livestock machinery / equipment, allowing import of feed inputs, vaccines at zero rate etc. The Animal Quarantine Department (AOD) issued 18,729 Health Certificates for the import of live animals, mutton, beef, eggs and other livestock products having a value of more than US\$ 201.7 million.

The export of meat (beef, mutton & camel meat) & live animals have increased from \$ 74.4 million in 2008-09 to \$ 137.5 million 2009-10 showing an increase of 85 percent. During July-March 2010-11, exports of meat (mutton, beef, camel meat) is increased by 44.4 % in quantitative and 53.4 % in value terms and stood at \$108.7 million

## Flood Damage Assessment Report Regarding Livestock:

The preliminary rapid damage assessment received from the provinces showed that over 1.31 million hectares of cultivated area have been destroyed in the four provinces, AJK and Gilgit-Baltistan. An estimated 187,000 large ruminants. 253,380 small ruminants (Total 440,380 animals) and 9.94 million poultry have been lost in the floods. The total livestock (large & small animals) and poultry losses accounted 0.3 percent and 1.6 percent, respectively of the total population. The steps taken included establishment of emergency relief camps, treatment, vaccination of animals and supply of fodder / vanda in the flood affected areas. In these camps 7.2 million animals were treated and 7.9 million animals were vaccinated against various livestock diseases.

#### V. Fisheries

Fisheries sector is 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 through out the country. Notwithstanding its low share in GDP, it adds substantially to the export earnings. During the year 2010-11 (July-March), a total of 86,680 MT of fish and fishery products were exported to earn \$ 197.3 million. Pakistan's major buyers are China, Thailand, Malaysia, Middle East, Sri Lanka, Japan, etc.

Various initiatives are being taken by federal and provincial fisheries departments including; *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.

Marine Fishing vessel Census -2010 was started July 2010 in Sindh and Balochistan with the collaboration with WWF, FAO. About 80 percent of fishing boats in Balochistan has been covered and now census work in Sindh is under way, which was delayed due to flood in Sindh coastal areas.

A hatchery complex was established through a development project entitled "Establishment of hatchery complex for production of seeds of fish and shrimps." The renovation work has been completed and handed over to Pak PWD in March, 2011. During the period (July-March 2010-11) total marine and inland fish production was estimated 936,882 MT out of which 672,602 MT was marine production and the remaining catch came from inland waters. The production for the period (July-March 2010-11) is estimated to be 925,755 MT in which 667,782 MT was for marine and the remaining was produced by inland fishery sector.

#### Box Item Flood & Food Security

In the first week of August, 2010 MINFA established a Flood Cell to assess crop damages due to flood 2010. SUPARCO was also approached for similar information. According to the flood damage data provided by SUPARCO, out of 9.688 million hectares land planted in Kharif season, 2.364 million hectares was reported as damaged. Details are reported in Table 1.

Table-1: Crop-Wise Damage Report

Crops	Area Sown (Mil Hectare)	Area	Initial Estimates of Production (Mil tons)	Production @ losses during flood (Mil tons)	Remainder @ Production (Mil tons)	Losses @ (Rs. Billion)
Sugarcane	1.047	0.195	54.834	10.418	44.416	26.045
Paddy	2.642	0.876	5.949	2.395	3.564	61.073
Cotton*	3.199	0.598	14.010	2.599	11.411	79.270
Other crops	2.800	0.695	0.000	0.000	0.000	115.245
Grand Total	9.688	2.364	74.793	15.412	59.38	281.633

\*: Million bales Source: SUPARCO

- @: Post flood initial estimates
- It was recommended by the Council of Common Interests (CCI) on 6<sup>th</sup> September 2010, that free of cost of wheat seed and fertilizer be provided to the farming community of flood affected areas with land holdings below 25 acres.
- Economic Coordination Committee (ECC) of the Cabinet in its meeting held on 15-10-2010 decided that:
  - i. "Land owners upto 25 acres or equivalent holding shall be eligible for the Assistance Package.
  - ii. The financial package will be up to Rs. 2400/- per acre, to be paid on 50:50 ratio by the Federal and Provincial Governments.
  - iii. All farmers would be entitled to obtain a concessionary loan, to be provided by State Bank of Pakistan through commercial banks at 8% interest.
- An amount of Rs. 4.1 billion was given as Supplementary Grant for the flood affectees as an assistance for Rabi Crop as 50 percent share of Federal Government. (see Table-2:)

#### Steps Taken for the Enhancement of Productivity of Major Crops for Ensuring Food Security:

The government has been striving hard to make agriculture competitive and profitable through higher crop production on sustainable basis. The major initiatives taken to boost the production of major crops are summarized

Amount released

(Rs. Million)

1440.0

1680.0

240.0

638.4

76.8

26.2

4101.4

as under:-

The attractive support price resulted in record production of about 24 million tons of wheat during 2008-09, 23.3 million tons during 2009-10, and 24.2 million tons in 2010-11.

The government has started to introduce hi-tech seeds (hybrid and BT cotton seeds) in the country in collaboration with the multinational seed companies. Transfer of this technology in the country was also ensured through signing an MOU with Monsanto. During the year 2010-11, BT cotton varieties (10 varieties) and one cotton hybrid were released.

About 729,000 MT certified/tested seed of wheat, 22,253 MT certified seed of paddy and 12,400 MT

Balochistan 215
AJK 26
Gilgit Baltistan 9

Table-2: Rabi Flood Assistance Package

Area damaged

(000 hectare)

486

567

81

1383

Source :MINFA

of certified cotton seed was made available for planting during the season (2010-11).

Adequate availability of quality insecticides, weedicides and other agricultural chemical were ensured for timely and efficient plant protection practices for higher production. Duty free import of pesticides and waiver of 15 percent sales tax was also allowed to facilitate the farmers.

Province

Punjab

Sindh

**KPK** 

Total

The government has launched a mega project "Crop Maximization Project-II" with initial coverage to 1,012 villages in 26 districts of all provinces and will be extended to more villages in the years to come. The main purpose of this programme is to enhance crop productivity and to improve farmer's empowerment through village organizations.

To improve water conveyance 9,633 watercourses have been constructed/improved since the last two years.

For judicious use of irrigation water, a programme for providing sprinkler and Drip Irrigation system on an area of 235,000 acres has been launched. The cost of this programme is Rs. 3.1 billion and it will be completed by June, 2014.

To achieve the adoption of balanced/recommended fertilizer use among the growers, Government during the last two years provided financial support to the tune of Rs.58.3 billion on Urea, DAP and potassic fertilizers.

State Bank of Pakistan has introduced Agriculture Credit Guarantee Scheme (ACGS) for facilitation of the farmer's agriculture lending at the rate of 8 percent.

Rabi Flood Assistance Plan of Rs. 4.1 billion was approved by the ECC to facilitate the farmers of the flood affected areas for the provision of free seed and fertilizer for Rabi Crops (2010-11). As a result, 97 percent of the targeted area was brought under wheat.

Pakistan Oilseed Development Board (PODB) identified 800 thousand hectares suitable areas for olive cultivation through Italian assistance. Olive orchards established on 1,130 acres (430 acres in Public Sector and 700 acres in Privates Sector), 228,000 olive saplings were distributed among growers.

In collaboration with various donors i.e. FAO, European Union brought cultivation of canola on an area of 30 thousand acres and USAID through RSPN has done cultivation of sunflower on one lakh acres by providing free seed and fertilizer during 2010-11 in flood affected areas.