

Agriculture

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The *Agriculture* sector continues to play a central role in Pakistan’s economy. It is the second largest sector, accounting for over 21 percent of GDP, and remains by far the largest employer, absorbing 45 percent of the country’s total labour force. Nearly 62 percent of the country’s population resides in rural areas, and is directly or indirectly linked with agriculture for their livelihood. The *Agriculture* sector’s strong linkages with the rest of the economy are not fully captured in the statistics. While on the one hand, the sector is a primary supplier of raw materials to downstream industry, contributing substantially to Pakistan’s exports, on the other, it is a large market for industrial products such as fertilizer, pesticides, tractors and agricultural implements.

Despite its critical importance to growth, exports, incomes, and food security, the Agriculture sector has been suffering from secular decline (Table 2.1). Growth in the sector, particularly in the crop sub-sector, has been falling for the past three decades. Productivity remains low, with yield gaps rising (Table 2.2). Critical investments in new seeds, farming technology and techniques, and the water infrastructure are not being made. Without major new investments in Agriculture, it is unclear how prepared Pakistan would be to tackle emerging challenges such as declining water availability, and climate change (for a fuller discussion, see Special Section at end of chapter).

Table 2.1: Historical growth performance

Agriculture Growth	
Years	Percent
1960's	5.1
1970's	2.4
1980's	5.4
1990's	4.4
2000's	3.2

Source: Federal Bureau of Statistics

Table 2.2: Yield Gap (Major Crops)

Country	Wheat	Difference From Best*	Sugarcane	Difference From Best*	Rice (Paddy)	Difference From Best*	Cotton Seed	Difference From Best*
World	3086	65	71510	59	4309	44	2099	54
China	4762	100	73114	60	6556	67	3906	100
India	2802	59	68877	57	3370	35	1206	31
Pakistan	2451	52	51494	43	3520	36	2046	52
USA	3018	63	73765	61	7672	79	2250	58
Brazil	-	-	79709	66	4229	44	3757	96
Egypt	-	-	121136	100	9731	100	2333	60

*Best = 100

Data pertains to 2008

Source: Ministry of Food and Agriculture

Recent performance

Year	Agriculture	Major Crops	Minor Crops	Livestock	Fishery	Forestry
2003-04	2.4	1.7	3.9	2.9	2.0	-3.2
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	7.3	-1.7	3.5	2.3	-3.0
2009-10(P)	2.0	-0.2	-1.2	4.1	1.4	2.2

P= Provisional *Source: Federal Bureau of Statistics*

Over the past six years, Agriculture has grown at an average rate of 3.7 percent per annum. However, volatility in the sector is high, with the range of growth varying between 6.5 percent and 1.0 percent. The fluctuation in overall agriculture has been largely dependent on the contribution of major crops. The trend in agriculture growth since 2003-04 is reported in Table 2.3.

During the outgoing year 2009-10, the overall performance of agriculture sector has been weaker than target. Against a target of 3.8 percent, and previous year's performance of 4.0 percent, agriculture is estimated to have grown by 2.0 percent. *Major crops*, accounting for 32.8 percent of agricultural value added, registered a negative growth of 0.2 percent as against robust growth of 7.3 percent last year. *Minor crops* contributing 11.1 percent to overall agriculture posted negative growth of 1.2 percent. Production of *Minor crops* has declined for the three years since 2004-05, a worrying trend which is partially contributing to food price inflation.

The performance of *Livestock* – the single largest contributor to overall agriculture (53.2 percent) however, grew by 4.1 percent in 2009-10 as against 3.5 percent last year. The *Fishery* sector expanded by 1.4 percent, against its previous year's growth of 2.3 percent. *Forestry* which has experienced negative growth for the last six years, exhibited positive growth of 2.2 percent this year. Nonetheless, over the past several years, the forest sector has contracted, underscoring the scale of the environment challenge facing a country that already has amongst the highest rates of deforestation in the world.

Pakistan's agricultural performance is closely linked with the supply of irrigation water. As shown in Table 2.4, 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). However, it remained less by 2.5 percent in 2005-06 against the normal availability. Relatively speaking, *Rabi* season faced shortage of water during 2009-10.

During the current fiscal year (2009-10), the availability of water as an important input for *Kharif* 2009 (for the crops such as rice, sugarcane and cotton) has been 0.3 percent more than the normal supplies and 0.6 percent more than last year's *Kharif* (see Table 2.4). The water availability during *Rabi* season (for major crop such as wheat), is, however, estimated at 26.0 MAF, which is 28.6 percent less than the normal availability, and 4.4 percent more than last year's *Rabi*.

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	26.0	93.3	-9.9

Source: IRSA

Efficient irrigation system is a pre-requisite for higher agricultural production since it helps increase the crop intensity. Despite the existence of a good irrigation canal network in the Pakistan, it still suffers from wastage of a large amount of water in the irrigation process. Position of rainfall during monsoon and winter season is detailed given in Table 2.5:-

	Monsoon Rainfall (Jul-Sep) 2009	Winter Rainfall (Jan-Mar) 2010
Normal	137.5	70.5
Actual	101.8	49.2
Shortage (-)/excess (+)	-35.7	-21.3
% Shortage (-)/excess (+)	-26.0	-30.2

**:Area weighted* *Source: Pakistan Meteorological Department*

During the monsoon season (July-September, 2009) the normal rainfall is 137.5 mm while the actual rainfall received stood at 101.8 mm, indicating a decrease of 26.0 percent. Likewise, during the winter (January to March 2010), the actual rainfall received was 49.2 mm while the normal rainfall during this period has been 70.5 mm, indicating a decrease of 30.2 percent over the normal rainfall.

I. Crop Situation

There are two principal crop seasons in Pakistan, namely the "Kharif", the sowing season of which begins in April-June and harvesting during October-December; and the "Rabi", which begins in October-December and ends in April-May. Rice, sugarcane, cotton, maize, mong, 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 82.0 percent of the value added in the major crops. The value added in major crops accounts for 32.8 percent of the value added in overall agriculture. Thus, the four major crops (wheat, rice, cotton, and sugarcane), on average, contribute 33.1 percent to the value added in overall agriculture and 7.1 percent to GDP. The minor crops account for 11.1 percent of the value added in overall agriculture. Livestock contributes 53.2 percent to agricultural value added – much more than the combined contribution of major and minor crops (43.9%). See Table-2.6

Year	Cotton (000 bales)	Sugarcane	Rice	Maize	Wheat
2004-05	14265	47244	5025	2797	21612
	(42.0)	(-11.6)	(3.6)	(47.4)	(10.8)
2005-06	13019	44666	5547	3110	21277
	(-8.7)	(-5.5)	(10.4)	(11.2)	(-1.6)
2006-07	12856	54742	5438	3088	23295
	(-1.2)	(22.6)	(-2.0)	(-0.7)	(9.5)
2007-08	11655	63920	5563	3605	20959
	(-9.3)	(16.8)	(2.3)	(16.7)	(-10.0)
2008-09	11819	50045	6952	3593	24033
	(1.4)	(-21.7)	(25.0)	(-0.3)	(14.7)
2009-10(P)	12698	49373	6883	3487	23864
	(7.4)	(-1.3)	(-1.0)	(-3.0)	(-0.7)

P:Provisional (July-March)

*:Figures in parentheses are growth rates

Source: Ministry of Food and Agriculture

a) Major Crops:

i) Cotton:

Cotton being a non-food cash crop contributes significantly in foreign exchange earning. Cotton accounts for 8.6 percent of the value added in agriculture and about 1.8 percent to GDP. The crop was sown on the area of 3106 thousand hectares, 10.1 percent more than last year (2820 thousand hectares). The production is estimated at 12.7 million bales for 2009-10, higher by 7.4 percent over the last year's production of 11.8 million bales. However, the cotton production was 5.0 percent less than the target of 13.36 million bales mainly due to the shortage of irrigation water, high temperatures in the month of August resulting in excessive fruit shedding, flare up of sucking pest complexes and wide spread of Cotton Leaf Curl Virus (CLCV). Area, production and yield of cotton for the last five years are given in Table 2.7 and Fig. 2.1.

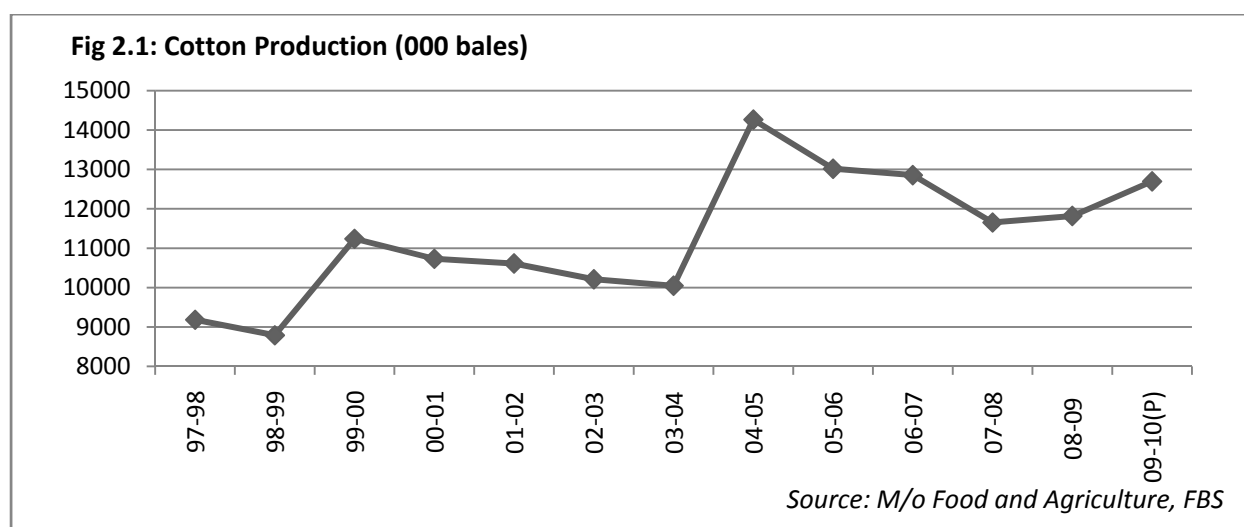


Table 2.7: Area, Production and Yield of Cotton

Year	Area		Production		Yield	
	(000 Hectare)	% Change	(000 Bales)	% Change	(Kgs/Hec)	% Change
2005-06	3103	-2.8	13019	-8.7	714	-6.0
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(P)	3106	10.1	12698	7.4	695	-2.5

P: Provisional (July-March)

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

During this 2009-10 Kharif, an important development was the increasing usage of Bt: Cotton by farmers. In Sindh, it was observed almost 80% of cotton growing area has become under Bt. cotton (Australian Bt) with high incidence (60-100%) of Cotton Leaf Curl Virus (CLCV) infection. In Punjab, Bt cotton is grown on almost 80% areas with different names, i.e. Bt-121 and Bt-131 with a range of segregation (10-20%) in the fields of Bt cotton. MinFA has finalized and got approved from ECC an LOI and MoU with action plan to introduce Bt cotton variety and Bt Hybrid in Pakistan in collaboration with M/s Monsanto.

Bt. Cotton:

- ➔ Bt cotton is developed by Genetic Engineering techniques (Biotechnology). Bt cotton contains Genes from *Bacillus thuringiensis* (Bt.)
- ➔ Eight countries commercially grew Bt cotton (USA, Australia, China, India etc.). Protein of this gene is deadly for the Chewing Pests i.e. American, Army, Pink and Spotted worm but not for sucking pest like Mealy bug etc.
- ➔ There may be 30% increase in cotton yield due to resistance against chewing pest and hence additional income to poor farmers in Pakistan.
- ➔ The Bt. cotton varieties including Bt hybrids currently grown in Pakistan are from exotic sources which are given to farmers for cultivation without validating its performance and without providing production technologies based on research conducted according to local environment.
- ➔ None of these planting materials have been imported legally and have not been tested so far according to rules and regulations set by Government agencies at Federal and Provincial levels.
- ➔ As a rule and principle chalked out by Federal and Provincial Governments all the Bt cotton varieties/Hybrids, it has to pass through the procedures designed for testing and evaluation of these materials by Pakistan Central Cotton Committee (PCCC), Federal Seed Certification and Registration Department (FSC&RD), National Bio-safety Committee (NBC), Department of Plant Protection (DPP) and provincial Seed Councils.
- ➔ Private seed company M/s Aurega Lahore has sold Bt hybrid seed for an area of almost 10 thousand acres with the name as "White Gold" without following prescribed rule.
- ➔ Another private seed company M/s Alseeme Multan has sold non Bt cotton hybrid for almost an area of 10 thousand acres without following prescribed rules.
- ➔ All the Bt. cotton varieties grown are susceptible to Cotton Leaf Curl Virus (CLCV) and sucking pest i.e. mealy bug, Jassid and White fly which are a major threat to cotton crop in Pakistan.
- ➔ Most of the Bt cotton varieties were marketed with wrong notation of resistance to all pest. In some instances Bt. cotton seed was mixed with non-Bt cotton seed and affected the yield.

- ➔ It is worth mentioning that Sitara, ARS-802, ARS-703, CEMB-1, CEMB-2, Neelum-121, FH-113, MG-6 and Hybrid Bt GN-2085 and GN-31 are the only Bt cotton varieties/hybrid which is being introduced in Pakistan during next crop season following the rules and regulations designed by Federal and Provincial governments.
- ➔ It is important to mention that during current year Pakistan Agricultural research Council (PARC) has imported almost 950 kg of five different Bt cotton seed from China under special permission for conducting trials directly on farmer fields without following the rules and regulations designed by NBC, PCCC, FSC & RD.

ii) Sugarcane:

Sugarcane is one of the major crops of Pakistan, grown in Kharif season. It provides raw material to sugar and sugar- related products. It generates income and employment for the farming community of the country. It helps in value addition to essential item for industries like sugar, chipboard and paper. Its share in value added of agriculture and GDP are 3.6 percent and 0.8 percent, respectively. For 2009-10, sugarcane has been sown in the area of 943 thousand hectares, 8.4 percent lower than last year (1029 thousand hectares). Sugarcane production for the year 2009-10 is estimated at 49.4 million tons, against 50.0 million tons last year. This indicates a decline of 1.3 percent over the production of last year. Main factors contributing for lesser production are maximum area under wheat crop during 2008-09 restricted the sugarcane acreage, shortage of canal water, load shedding of electricity, realization of lower prices in the preceding season and high rate of inputs also discouraged the farmers to grow more sugarcane crop. The area, production and yield per hectare for the last five years are given in Table 2.8 (see also Fig. 2.2)

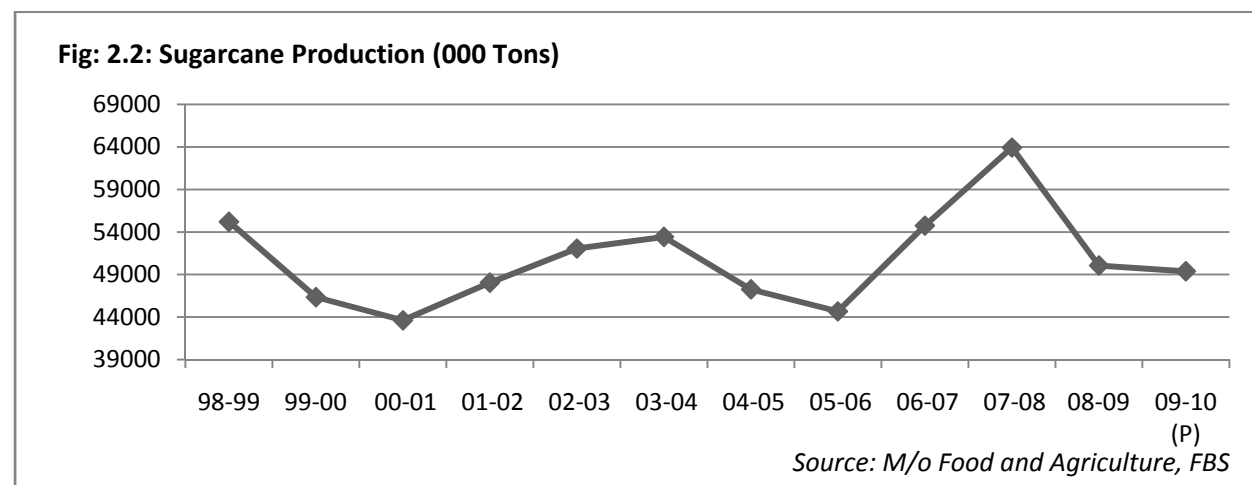


Table 2.8: Area, Production and Yield of Sugarcane

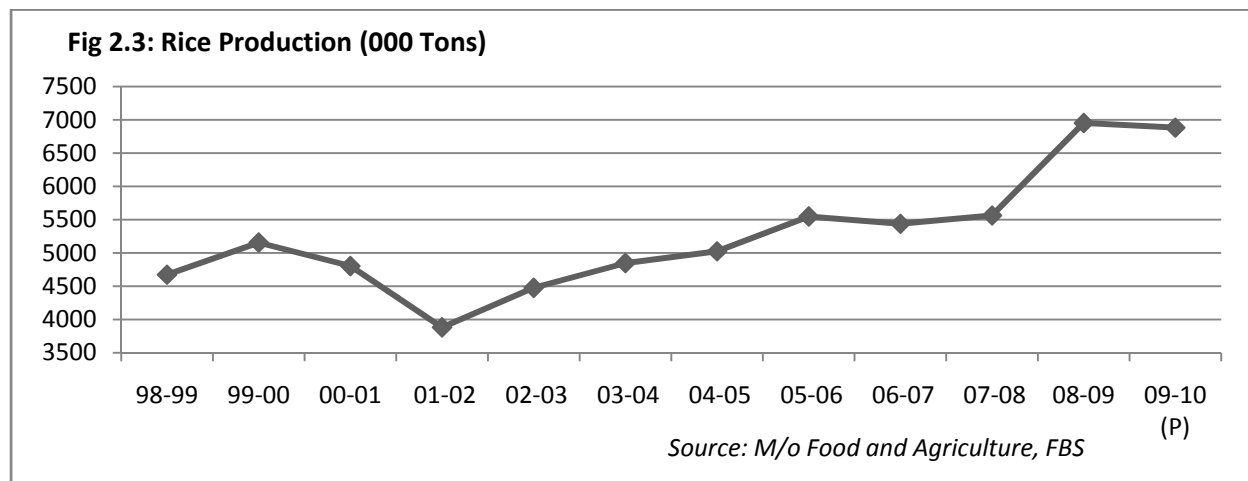
Year	Area		Production		Yield	
	(000 Hectare)	% Change	(000 Tons)	% Change	(Kgs/Hec.)	% Change
2005-06	907	-6.1	44666	-5.5	49246	0.7
2006-07	1029	13.5	54742	22.6	53199	8.0
2007-08	1241	20.6	63920	16.8	51507	-3.2
2008-09	1029	-17.1	50045	-21.7	48635	-5.6
2009-10(P)	943	-8.4	49373	-1.3	52357	7.7

P: Provisional (July-March)

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

iii) Rice:

Rice is an essential cash crop and one of the main export items of the country. It accounts for 6.4 percent of value added in agriculture and 1.4 percent in GDP. Pakistan grows high quality rice to meet both domestic demand and for exports. Area sown for rice is estimated at 2883 thousand hectares, 2.7 percent less than last year. The size of the crop is estimated at 6883 thousand tons 1.0 percent less than last year. In Punjab sugarcane area was also shifted to rice crop, as the growers were discouraged due to non-payment of their dues in time by the sugar mills. The area, production and yield of rice for the last five years are given in Table 2.9 and Fig 2.3.

**Table 2.9: Area, Production and Yield of Rice**

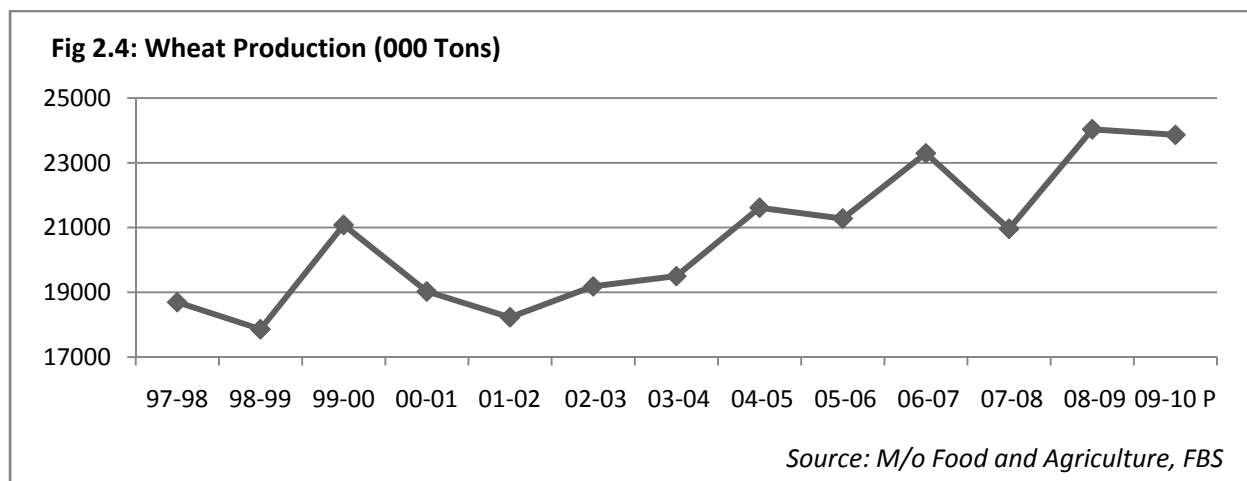
Year	Area		Production		Yield	
	(000 Hectare)	% Change	(000 Tons)	% Change	(Kgs/Hec.)	% Change
2005-06	2621	4.0	5547	10.4	2116	6.1
2006-07	2581	-1.5	5438	-2.0	2107	-0.4
2007-08	2515	-2.6	5563	2.3	2212	5.0
2008-09	2963	17.8	6952	25.0	2346	6.1
2009-10(P)	2883	-2.7	6883	-1.0	2387	1.7

P: Provisional (July-March)

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

iv) Wheat:

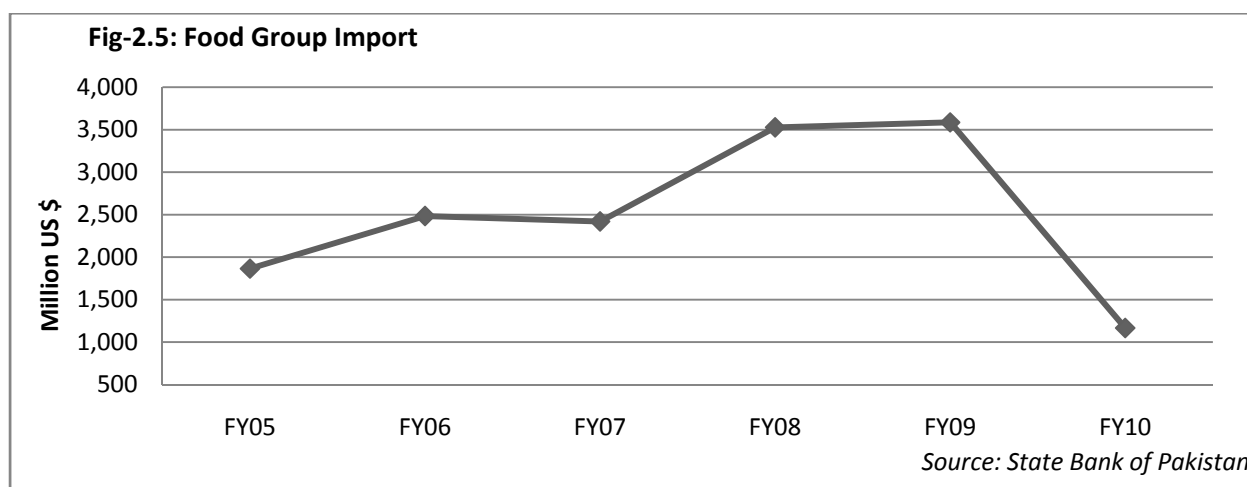
Wheat is the leading food grain of Pakistan and being staple diet of the people, it occupies a central position in formulation of agricultural policies. It contributes 14.4 percent to the value added in agriculture and 3.1 percent to GDP. Area and production target of wheat for the year 2009-10 had been set at 9045 thousand hectares and 25 million tons, respectively. Wheat was cultivated on an area of 9042 thousand hectares, showing a decrease of 0.04 percent over last year's area of 9046 thousand hectares. The impact of water shortages (availability at farm gate) and lower rainfall during the sowing period has been the main reason for lesser acreage under wheat crop. The size of wheat crop is provisionally estimated at 23864 million tons, 0.7 percent less than last year crop. The prospects for wheat harvest improved somewhat with healthy fertilizer off take and reasonable rainfall in pre harvesting period. However, the impact of lower acreage and water shortages is likely take its toll and wheat harvest is estimated to be lower than the 2009-2010 targets of 25.0 million tons. The Area, Production and Yield per hectare of wheat for the last five years are given in Fig 2.4 and Table 2.10.

**Table 2.10: Area, Production and Yield of Wheat**

Year	Area		Production		Yield	
	(000 hectares)	% Change	(000 tons)	% Change	(Kgs /Hec.)	% Changes
2005-06	8448	1.1	21277	-1.6	2519	-1.9
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(P)	9042	-0.04	23864	-0.7	2639	2.1

P:Provisional(July-March)

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



v) Other Major Crops

During 2009-10, the production of only rapeseed and mustard increased by 7.4 percent. Gram, the largest Rabi pulses crop in Pakistan, stood at 5.7 million tons against 7.4 million tons of last year showing a significant decrease of 23.0 percent during 2009-10 due to reduction in area cultivated and unfavourable climatic change. The production of jawar, barley, maize, bajra and tobacco decreased by 6.7, 4.9, 3.0, 1.0 and 1.0 percent respectively during 2009-10. The area and production of major crops are given in Table 2.11.

Table 2.11: Area and Production of Other Major Kharif and Rabi Crops

Crops	2008-09		2009-10(P)		% Change In production
	Area (000 hectares)	Production (000 tons)	Area (000 hectares)	Production (000 tons)	
KHARIF					
Maize	1052	3593	950	3487	-3.0
Bajra	470	296	476	293	-1.0
Jawar	263	165	248	154	-6.7
RABI					
Gram	1081	741	1050	571	-23.0
Barley	86	82	80	78	-4.9
Rapeseed & Mustard	233	188	185	202	7.4
Tobacco	50	105	49	104	-1.0

P: Provisional (July-March)

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

b) Minor Crops**i) Oilseeds**

The major oilseed crops include cottonseed, rapeseed/mustard, sunflower and canola etc. The total availability of edible oil in 2008-09 was 2.821 million tons. Local production of edible oil stood at 684 thousand tons during 2008-09, which is 24 percent of the total availability in the country. While the remaining 76 percent was made available through imports. During 2009-10 (July-March) 1.246 million tons edible oil which amounted to Rs. 77.78 billions has been imported. The local production during 2009-10 (July-March) is estimated at 0.680 million tons. Total availability from all sources is provisionally estimated at 1.749 million tons during 2009-10 (July-March). The area and production of oilseed crops during 2008-09 and 2009-10 is given in Table 2.12.

Table 2.12: Area and Production of Major Oilseed Crops

Crops	2008-09			2009-10 (P)		
	Area	Production		Area	Production	
	(000 Acres)	Seed (000 Tons)	Oil (000 Tons)	(000 Acres)	Seed (000 Tons)	Oil (000 Tons)
Cottonseed	6,969	3,015	362	7,591	3,240	389
Rapeseed/ Mustard	577	188	62	486	160	51
Sunflower	929	598	227	872	554	211
Canola	172	88	33	142	76	29
Total	8,647	3,889	684	9,091	4,030	680

P: Provisional (July-March)

Source: Pakistan Oilseed Development Board

ii) Other Minor Crops:

The production of masoor, onion and potato increased by 1.4%, 9.0% and 15.9% respectively. Timely rain supplemented to some extent for increasing production of masoor, onion and potato. However, the production of mung, mash and chillies decreased by 24.6%, 20.6 % and 0.5% respectively. The decreased in these crops is mainly due to reduction of area under such crops as the area of mung, mash and chillies decreased by 16.6 %, 12.7 % and 22.2 % respectively. The area and production of minor crops are given in Table 2.13.

Table-2.13 : Area and Production of Minor Crops

Crops	2008-09		2009-10 (P)		%Change In Production
	Area (000 hectares)	Production (000 tons)	Area (000 hectares)	Production (000 tons)	
Masoor	30.9	14.4	35.5	14.6	1.4
Mung	219.7	157.4	183.3	118.7	-24.6
Mash	27.6	13.6	24.1	10.8	-20.6
Potato	145.0	2941.3	149.0	3411.6	15.9
Onion	129.6	1704.1	141.9	1858.0	9.0
Chillies	73.8	187.7	57.44	186.7	-0.5

P: Provisional (July-March)

Source: Ministry of Food and Agriculture.
Federal Bureau of Statistics**II. Farm Inputs****i) Fertilizer:**

The Government has taken several significant steps to boost agricultural production over the last five years. The domestic production of fertilizer during the first nine months (July-March, 2009-10) of the current fiscal year was up by 4.5 percent. The import of fertilizer increased by 133 percent; hence, the total availability of fertilizer also increased by 25.3 percent. Total off take of fertilizer surged by 23.8 percent (Table 2.14) due to a subsidy of Rs. 500 per bag of Sulphate of Potash (SOP)/ Muriate of Potash (MOP) has been announced. Nitrogen off-take increased by 15.4 percent while that of phosphate by 66.2 percent. Main reasons for increased off-take of fertilizers were affordable price of DAP and higher support price of wheat. Average retail sale prices of nitrogenous fertilizers increased while that of phosphate decreased considerably.

Table 2.14: Production and Off-take of Fertilizer ('000' N/tons)

Year	Domestic Production	% Change	Import	% Change	Total	% Change	Off-take	% Change
2004-05	2718	7.1	785	2.7	3503	6.1	3694	14.6
2005-06	2832	4.2	1268	61.5	4100	17.0	3804	3.0
2006-07	2747	-3.0	796	-37.2	3543	-13.6	3672	-3.5
2007-08	2822	2.7	876	10.1	3698	4.4	3581	-2.5
2008-09	2907	3.0	568	-35.2	3475	-6.0	3711	3.6
2008-09 (Jul-Mar)	2141	-	416	-	2557	-	2767	-
2009-10 (Jul-Mar) P	2237	4.5	968	132.7	3205	25.3	3426	23.8

P : Provisional

Source: National Fertilizer Development Centre

ii) Improved Seed:

Improved high-quality seed or planting material is the most desirable input for improving crop yield. Seed is an important component in agriculture productivity system. Seed has the basic position among various agricultural inputs because the effectiveness of all other inputs mainly depends on the potential of seeds. Seed is a high technology product and is an innovation most readily adapted. Improving access to good quality seed is a critical requirement for sustainable agricultural growth and food security. Effective use of improved seed can result in higher agricultural production and increase net incomes of farming families, which has a positive impact on rural poverty. Hence, availability of quality seed of improved varieties is essential to achieve the production target.

During 2009-10 (July-March), about 305.82 thousand tons of improved seed of various Kharif/Rabi/Spring/Winter season crops was distributed. The procurement and distribution of seeds of various Kharif crops (cotton, paddy, maize, mungbean etc) is under progress.

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 2009-10 are briefly given as under:

- ➔ During the year 2009-10, nineteen new seed companies were registered raising the total number of registered seed companies to 611 in the country including four public sector seed companies and five multinationals.
- ➔ Fifteen crop varieties were approved (wheat-4, cotton-4, oilseed-4, pulses-3, fodder-1, and vegetable-1) and thirty seven crop varieties were evaluated for registration.
- ➔ During the period under report, a total of 523.14 thousand acres of different crops offered by the various seed agencies were inspected for certification purposes.
- ➔ A total quantity of 305.82 thousand MT seeds of various crops were sampled and tested for purity, germination and seed health purposes.
- ➔ Pre and Post Control Trials of all pre-basic, basic seed lots and 20% of certified seed lots were carried out in the field to determine the quality of seed distributed by various seed agencies.
- ➔ Under the provision of seed act enforcement, 33 cases were filed in the different Courts of Law against the seed dealers found selling substandard seeds.
- ➔ Imported seed of various crops/hybrids at the tune of 17.55 thousand MT with a total value of Rs. 3140.85 million was tested under Labeling Seed (Truth-in-Labeling) Rules, 1991 during the year so far at the port of entries i.e. Lahore and Karachi.
- ➔ Almost 1004 seed samples of various crops/vegetables and fruits were tested at the Central Seed Health Laboratory, Islamabad for detection of fungal and viral diseases using latest diagnosis techniques and protocols.
- ➔ Federal Seed Certification & Registration Department (FSC&RD) with the collaboration of Ministry Food & Agriculture and all stakeholders prepared the Standard Operating Procedures (SOPs) for evaluation, release and registration of candidate biotech crop varieties in Pakistan.
- ➔ Various Seed Development Projects are being run during 2009-10 while three projects namely, "Establishment of National Variety Data Bank" , "Up-gradation of Seed Testing Laboratories to Meet WTO Requirements" and "Establishment of Seed Testing Laboratories and Rehabilitation of Existing Laboratories" have been successfully completed.

iii) Mechanization:

A demographic change towards urbanization reduces the size of rural workforce, agriculture will also need to adopt new forms of mechanization and shift to land use intensification, with all of its connotations. High agricultural production assures food security and agriculture surpluses for export at competitive prices require efficient development and utilization of agricultural resources. Cost effectiveness in the production of various crops brings built-in competitive edge to low productivity attributed farmers. Farm operations being time specific, demand precision to optimize the efficiencies of

agricultural input for higher productivity. The future changes of free market economy and faster globalization have further necessitated modernization of agricultural machinery through transfer of latest, efficient and cost effective technologies to the farming community. Efficient use of scarce agriculture resources and accelerated agricultural mechanization are, therefore, vital to meet the challenges of future scenario that need a comprehensive strategic loaning for future.

Further, to promote use of efficient and quality machinery & equipment etc, the Federal Government has allowed import of agricultural machinery not being manufactured locally, at zero tariffs. Other interventions like use of laser land leveler, ridge and broad bed framing system are being encouraged in the country at concessional rates to the farmers. To bring more land under cultivation a project titled "Land and Water Resources Development Project for Poverty Reduction in Pakistan" envisaging providing 300 bulldozers (200 bulldozers Balochistan and 100 units to Khyber Pakhtunkhwa) is under implementation.

iv) Plant Protection

Plant protection is an important agriculture input as it effectively contributes in achieving higher production by saving it from ravages of insect and disease pests. In this regard, the Department of Plant Protection (DPP) provides facilities such as Locust Survey and Control, Plant Quarantine Service, Aerial Pest Control, Pesticide Registration, Testing and Management.

1. DPP has conducted Desert Locust Survey of Sindh and Punjab deserts w.e.f. 1st June 2009 to 30th September 2009. During this period 6 border meetings with Indian counterparts were conducted on monthly basis at Khokhropar-Monabao border for exchange of locust information. The Survey of Locust potential areas in Balochistan is in progress since 1st February, 2010 which remain continue up to 31st May, 2010 and joint Pak-Iran Coastal area survey by a combined locust survey team of both countries under the auspices of FAO is also in progress with effect from 1st April 2010 for one month.
2. The department remained in regular coordination with all the Provincial Agriculture Extension Departments to meet any emergent demand of aerial spray.
3. Efforts are underway by the department in order to get the new Pesticides Act passed by the parliament. This act will help in improving quality control inspection and monitoring in the field with the help of the provincial governments. Environmental safeguards will also be improved with the collaboration of Ministry of Environment at manufacturing and formulation stages of pesticides.
4. A project of "Establishment of Pesticide Quality Control and Research Laboratory" Quetta has been completed in last five years by the Department of Plant Protection with a cost of Rs. 19.262 million and handed over to Agriculture Extension Department of Balochistan on 2-1-2010 for improving quality control inspection and monitoring of pesticides in Balochistan province.

v) Irrigation

The canal head withdrawals in Kharif 2009 (April-September) have increased by 1.0 percent and stood at 67.3 Million Acre Feet (MAF), as compared to 66.93 MAF during the same period last year. During the Rabi season 2009-10 (October-March), the canal head withdrawals shows a slight change, as it remained at 25.02 MAF compared to 24.9 MAF during the same period last year. Province-wise details are given in Table 2.15.

Provinces	Million Acre Feet (MAF)					
	Kharif (Apr-Sep) 2008	Kharif (Apr-Sep) 2009	% Change in Kharif 2009 over 2008	Rabi (Oct-Mar) 2008-09	Rabi (Oct-Mar) 2009-10	% Change in Rabi 2009-10 Over 2008-09
Punjab	34.23	34.57	1	13.28	13.36	1
Sindh	29.51	29.58	0	10.30	10.25	-1
Baluchistan	2.13	2.11	-1	0.61	0.79	31
Khyber Pakhtunkhwa	1.06	1.04	-2	0.74	0.62	-16
Total	66.93	67.30	1.0	24.94	25.02	0

Source: Indus River System Authority.

The Government of Pakistan's Vision for the welfare, poverty alleviation and well being of people is being come true through GDP enhancement. Water is a key source for GDP growth and poverty alleviation; therefore, the water sector gained major focus throughout the last decade. Per capita water availability is diminishing as Pakistan's population is increasing. In this context, the challenge will be the formulation and effective implementation of a comprehensive set of measures for the development and management of water resources.

The main areas of investments in water sector were:

- a. Augmentation of water resources
- b. Conservation measures
- c. Protection of infrastructure from onslaught of floods
- d. Significantly enhanced public sector investment
- e. Construction of small & medium dams, lining of irrigation channels, rehabilitation of irrigation system, surface and sub-surface drainage, lining of watercourses.

The strategy is inline with the Medium Term Development Framework (MTDF) Program 2005-2010 and also provides a benchmark for moving forward in the next five years. Water being a critical input to agriculture in arid and semi arid climate zone has been provided financial resources amounting to Rs. 59.92 billion including water management programme (during 2009-10), despite economic and financial recession and transition economy in Pakistan.

WATER SECTOR FISCAL PROGRAMMES DURING (2009-10)

- ➔ Works on Gomal Zam Dam Project in Tribal/Khyber Pakhtunkhwa area continues despite of law & order situation.
- ➔ A sum of Rs. 5.71 billion was spent for lining of irrigation channels in Punjab, Sindh and Khyber Pakhtunkhwa.
- ➔ An amount of Rs. 16.067 billion was spent for the improvement/remodeling of existing irrigating system.

Major water sector projects under implementation are given in Table 2.16.

Table 2.16: Major Water Sector Projects under Implementation

Projects	Location	Total App.cost (Rs. In million)	Live Storage (MAF)	Area Under Irrigation (Acres)	Completion Date
Gomal Zam Dam	Khyber Pakhtunkhwa	12,829	1.14	163,086	Oct, 2010
Greater Thal Canal *	Punjab	30,467	-	1,534,000	Phase-I, completed
Rainee Canal *	Sindh	18,862	-	412,000	June,2010, Phase-I
Kachhi Canal *	Balochistan	31,204	-	713,000	June ,2011 ,Phase-I
Raising of Mangla Dam (30 ft)	AJ&K	62,553	2.90	All over Pakistan	June, 2010
Satpara Dam Multi- purpose	Skardu	4,397	0.05	15,536	June, 2010
RIGHT BANK OUT FALL DRAIN					
• RBOD-I	Sindh	14,707			Dec, 2011
• RBOD-II	Sindh	29,014			June ,2011
• RBOD-III	Balochistan	6,535			June ,2011

* Date of completion for all three canals is for Phase-I, whereas cost is reflected for total project

Source: Water Resources Section, Planning & Development Division

v) Agricultural Credit:

In order to cope with the increasing demand for agricultural credit, institutional credit to farmers is being provided through Zarai Taraqiati Bank Limited, Punjab Provincial Cooperative Bank Limited, five big Commercial Banks, and Domestic Private Banks. Adequate availability and access to institutional credit is essential for accelerating the pace of agricultural development and ensuring Food Security in the country. The Agricultural Credit Advisory Committee (ACAC) has allocated Rs. 260 billion for the year 2009-10 as compared to Rs. 250 billion fixed for last year which indicates an increase of 11.6 percent over the disbursement of Rs. 233 billion during the year 2008-09. See Table 2.17.

Table 2.17: Supply of Agricultural Credit by Institutions (Rs. in million)

Year	ZTBL	Commercial Banks	PPCBL	Domestic Private Banks	Total	
					Rs. Million	%Change
2005-06	47,594.14	67,967.40	5,889.49	16,023.38	137,474.40	26.4
2006-07	56,473.05	80,393.19	7,988.06	23,976.16	168,830.46	22.8
2007-08	66,938.99	94,749.29	5,931.45	43,940.92	211,560.66	25.3
2008-09	75,138.55	110,666.00	5,579.43	41,626.33	233,101.31	10.1
2008-09 *	45,399.87	74,364.60	3,538.89	28,557.24	151,860.60	9.6
2009-10 *	48,986.53	85,177.16	3,530.02	28,641.15	166,344.86	9.5

* : (July – March)

Source: State Bank of Pakistan.

Zari Taraqiati Bank Limited (ZTBL)

Zari Taraqiati Bank Limited (ZTBL) is the country's premier financial institution providing financial services to agriculture sector. It is a key specialized Bank of Pakistan Providing affordable agriculture financial service to rural sector, comprising 62 percent of the total population. The Bank operates

through a country-wide network of 26 Zonal Offices and 347 branches and a team of 1392 Mobile Credit Officers in the field. ZTBL alone serves about half a million farmers annually and has a share of around 28.6 percent of the total institutional agricultural credit. Since inception up to March 31, 2010, the Bank has disbursed loan amounting to Rs. 648.313 billion. The bank so far has financed 532,254 tractors and 148,486 tube-wells besides being the major source of financing for farm inputs including seeds, fertilizer, pesticides and insecticides. Priority was also accorded to the provision of more credit for livestock, dairy farming, poultry farming, aquaculture and financing of oil seed crops.

NEW PRODUCTS INTRODUCED BY ZTBL

1. Benazir Tractor Scheme

- ➔ In order to bridge the gap between demand and supply position of tractors in the country, the Federal Government has decided to launch Accelerated Agricultural Mechanization for Productivity Enhancement, "Benazir Tractor Scheme" through ZTBL.
- ➔ The scheme envisages supply of 10,000 tractors during 2009-10 to the farmers to be selected through computerized balloting for grant of subsidy up to 50% of the cost of the tractor subject to maximum of Rs. 200,000 per beneficiary/tractor.

2. Awami Zarai Scheme

- ➔ All new borrowers of crop production loans will have to avail revolving limit under Awami Zarai Scheme to get inputs through M/S KSSL under kind system. This scheme is optional for existing borrowers to the Bank.

3. Rural Development Scheme

- ➔ This Project is initiated to provide credit assistance for dairy, poultry, sheep & goat farming in the rural areas of AJ&K state especially in Earthquake affected areas.

III. Forestry

Forests are crucial for the well being of humanity. They provide foundations of life on earth through ecological functions, by regulating the climate and water resources and by serving as habitats for plants and animals. Forests also furnish a wide range of essential goods such as wood, food fodder and medicines in addition to opportunities for recreation, and other services. Forests are under pressure for expanding human and livestock populations with frequently leads to conversion or degradations of forests into unsustainable forms of land use. When forests are lost or severely degraded, their capacity to function as regulators of the environment is also lost, increasing floods and erosion hazards, reducing soil fertility and contributing to the loss of plant and animal life. Under Millennium Development Goals of Forestry sector, Pakistan is committed to increase forest cover from existing 5.2 percent to 5.7 percent by the year 2011 and 6 percent by the year 2015. An increase of 1 percent implies that an additional 1.051 million hectares area has to be brought under forest cover by 2015.

Measures to enhance forest cover

- ➔ *Mass Afforestation and Tree Planting Campaigns:* In order to enhance tree cover in the country, tree planting campaigns are held each year. During the tree planting campaigns all the Government Departments, Private organizations, Defence organizations and NGOs were involved in planting activities.

- ➔ By 2030, Pakistan will be managing all types of forests on ecosystem approach, enabling them to perform potential functions of conserving biodiversity, providing sustainable livelihood to dependent communities, meeting national demands for wood and contributing positively to mitigate global environmental problems.
- ➔ Pakistan has set a new Guinness World Record in maximum tree planting during 24 hours on July 15, 2009, three hundred planters from the local communities planted 541,176 propagules of mangrove tree on 796 acres on an island at Keti Bundar in the Indus Delta. This event was organized by the Forestry Wing of Ministry of Environment in collaboration with the Sindh Forest Department and National Bank of Pakistan.
- ➔ Prime Minister of Pakistan declared 18th August as National Tree Planting Day (NTPD). Underlying objective of celebration of NTPD is to address deforestation and associated environmental problems being faced by the nation through motivation and involvement of all segments of the society in tree plantation campaign. This was to be achieved by inducing a culture and sense of ownership among the public for forest conservation and trees cultivation through an extensive but systematic and organized awareness campaign involving print and electronic media. On 18 August 2009 massive plantation was carried out throughout Pakistan with the help of Provincial Forest Departments and Federal line Ministries/agencies.
- ➔ Mangroves for the Future (MFF) initiative focus on the countries worst-affected by the tsunami. However, MFF will also include other countries of the Region that face similar issues, with an overall aim to promote an integrated ocean wide approach to coastal zone management. Pakistan joined MFF as dialogue country in 2008. Subsequently, in October 2009 Pakistan's National Coordinating Body for the MFF was decided that Pakistan will prepare its draft National Strategy & Action Plan (NSAP) as per requirements of Regional Steering Committee of MFF hosted by IUCN and UNDP to become regular member of this regional programme.

During the year 2009-10 forests have contributed 93 thousand cubic meters of timber and 263 thousand cubic meters of firewood as compared to 89 thousand cubic meters timber and 258 thousand cubic meters firewood in 2008-09. In order to enhance tree cover in the country, tree planting campaigns are held each year.

IV. Livestock and Poultry

A. Livestock

The overall thrust of Government livestock policy is to foster “private sector-led development with public sector providing enabling environment through policy interventions and play capacity building role 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 livestock development strategy revolves around the following:

1. Public Private Partnership led development.
2. National Economic growth.
3. Poverty Alleviation.
4. Food Security.
5. Improve Livestock service delivery.
6. Expand opportunities for livelihood needs of farmers.

7. Enhance Foreign Exchange Earnings.

Livestock plays an important role in the economy of the country. Livestock sector contributed approximately 53.2 percent of the agriculture value added and 11.4 percent to national GDP during 2009-10. While other development sector experienced saturation and decline there has been an increase in livestock sector in 2009-10. Gross value addition of livestock at current factor cost has increased from Rs. 1304.6 billion (2008-09) to Rs. 1537.5 billion (2009-10) showing an increase of 17.8 percent as compared to previous year.

The population growth, increase in per capita income and export revenue is fueling the demand of livestock and livestock products. In order to speed up the pace of development in livestock sector, The Ministry of Livestock & Dairy Development was created as a part of Reform Agenda and political commitment of present Government to improve service delivery, reduce poverty, achieve sustainable economic growth and expand opportunities to address the needs of livestock rural farmers and to protect the livelihood concerns of rural community. The major products of livestock are milk and meat, the production of which for last three years is given in Table 2.18:

Species	Units	2007-08 ¹	2008-09 ¹	2009-10 ¹
Milk (Gross Production)	000 Tons	42,191	43,562	44,978
Cow	"	14,437	14,982	15,546
Buffalo	"	26,231	27,028	27,848
Sheep ²	"	35	36	36
Goat	"	700	719	739
Camel ²	"	787	798	808
Milk (Human Consumption)³	000 Tons	34,064	35,160	36,299
Cow	"	11,550	11,985	12,437
Buffalo	"	20,991	21,622	22,279
Sheep	"	35	36	36
Goat	"	700	719	739
Camel	"	787	798	808
Meat⁴	000 Tons	2,728	2,843	2,965
Beef	"	1,549	1,601	1,655
Mutton	"	578	590	603
Poultry meat	"	601	652	707

Source: Ministry of Livestock and Dairy Development

Note:

1. The figures for milk and meat production for the years 2007-08, 2008-09 and 2009-10 are calculated by applying milk production parameters to the projected population of 2007-08, 2008-09 and 2009-10 based on the inter census growth rate of livestock census 1996-2006.
2. The figures for the Milk production for the year 2007-08, 2008-09 and 2009-10 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.

B. Poultry

Poultry sector is one of the organized and vibrant segments of agriculture industry of Pakistan. This

sector generates employment (direct/indirect) and income for about 1.5 million people. Poultry meat contributes 23.8 percent of the total meat production in the country. Poultry Development Policy visions sustainable supply of wholesome poultry meat; eggs and value added products to the local and international markets at competitive prices and aimed at facilitating and support private sector-led development for sustainable poultry production. The strategy revolves around Improving regulatory framework; disease control and genetic improvement in rural poultry; hi-tech poultry production under environmentally –controlled housing; processing and value addition; Improving bio-security; need based research and development and farmers training & education. It envisages poultry sectors growth of 15-20 percent per annum.

C. Mega Development Projects

The Government has substantially increased public sector investment and has initiated mega development project for strengthening Livestock services for improved disease diagnosis and control, milk and meat production, breed improvement, animal husbandry and management procedures in the country. The Ministry of Livestock & Dairy Development is presently executing seven (07) projects in Livestock sector at an estimated cost of Rs. 8.8 billion. These projects were approved during the last 3 to 4 years. The progress is an under:

Strengthening of Livestock Services Project (SLSP)

Project is of Seven years duration (2003-2010) with total cost of Rs. 1992.66 million. The project is aimed at to eradicate rinderpest disease from the country, to enhance efficiency and effectiveness of delivery of livestock services, improvement of disease diagnosis, monitoring and reporting system, Vaccine production particularly against newly emerging and trans-boundary Animal Disease and capacity building of veterinary staff. The major achievements of the project are:-

- ➔ Field studies on 05 models of service delivery are in progress: Community Animal Health Extension Worker (CAHEW), Women Livestock Extension Worker (WLEW), Dairy Farmers Cooperative Model (DFCM), Wool Producers Association, Rural Poultry Support Model (RPSM)
- ➔ Introduced Pest Des Petites Ruminants (PPR) vaccine production in the country, and
- ➔ Established National Epidemiology Net work for Livestock Disease Surveillance and Reporting.

Livestock Production & Development of Meat Production

This project is of five years duration (2005-2010) and has total allocation of Rs. 1520 million. It is assisting in the establishment of 2590 fattening farms (1040 beef and 1550 mutton), 08 Slaughter houses and 20 butcheries in Private Sector. Under this project more than 9000 feed-lot fattening operations have been completed in which more than 8,000 tons of quality beef and more than 2,000 tons of mutton have been produced.

Milk Collection Processing and Dairy Production & Development Programme

This project is of five years duration (2005-2010) and has total allocation of Rs. 1588 million. More than 10,000 rural subsistence dairy farmers are likely to enter into the milk marketing chain due to project interventions. 15,000 to 20,000 additional breeding animals of better genetic potential for milk production will become available in the project area. The major achievements of the project includes:-

- ➔ Formed 207 Milk Producer Groups (MPG) in all the four provinces, Azad Jammu & Kashmir and

Northern Area,

- ➔ Installed 150 milk cooling tanks,
- ➔ Provided 63.3 tons of fodder seeds and 663 tons of animal ration/feed on cost basis to the members of MPGs,
- ➔ Registered 1004 Sindhi, Sahiwal and NiliRavi livestock breeders for production of quality breeding animals.

Prime Minister's Special Initiative for Livestock (PMSIL)

This project is of 05 years duration (2005-2010) having total allocation of Rs. 1992 million. It is aimed at enhancing the livestock productivity through the provision of livestock production and extension services at farmer's doorsteps, targeting 13 million rural poor in 1963 union council in 80 districts of the country. Its activities will assist in the production of additional milk and meat to the tune of 12 million liters and 0.2 million tons per annum respectively, after the completion of the project. The major achievements achieved under this project are:-

- ➔ 290 veterinary clinics have been established providing veterinary services at 70 percent reduced cost to rural farmer at their door steps i.e. 100 percent achievement
- ➔ Quality medicines/vaccines are available to rural farmer at 30 percent reduced cost as compared market prices
- ➔ 3000 number of rural community persons have been trained by imparting one month training in basic veterinary services through livestock Government institutes
- ➔ 44265 rural livestock female farmers have been trained in better animal husbandry practices to enhance their income through enhanced milk productivity.

National Programme for the control and prevention of Avian Influenza

This project is of three years duration (2007-2010) having total allocation of Rs. 1180.142 million. The project is aimed at Development Avian Influenza (AI) Surveillance & Reporting System & Handling AI outbreaks strengthening diagnostic capabilities & AI vaccine quality control in country. The major achievements of this project are:-

- ➔ Established 40 Surveillance unit, 66 Rapid Response Units (RRUs),
- ➔ Processed 0.4 million samples of blood, tissues & swabs for screening against Avian Influenza,
- ➔ Establishment of Bio security Lab.-3 is under process,
- ➔ The project collected and analyzed 190,000 swab samples and more than 200,000 blood samples.
- ➔ Disbursed Rs. 23.5 million as compensation to Avian Influenza affected farmers,
- ➔ Pakistan is maintaining Avian Influenza (bird flu) free status since June 2008.

Improving Reproductive Efficiency of Cattle and Buffaloes in smallholder's production system

This project is of five years duration (2007-2010) and has total allocation of Rs. 495.15 million. The project aimed at establishment of Embryo Transfer Technology Center, Semen Production and Processing Center, Strengthening of Provincial Semen Production Units and Support of semen Production in private sector. The center will produce 5000 embryo per year for farm use and supply to

others:-

- ➔ Civil work of Embryo Transfer Technology Centre at Okara has completed,
- ➔ Embryo Transfer Technology Centre has produced 75,498 semen doses and 640 embryos from elite exotic animals for cross breeding purposes,
- ➔ Carried out 10,834 Artificial Insemination and transferred embryos in 79 animals, and
- ➔ Provided training to Artificial Insemination Technicians.

Up gradation and Establishment of Animal Quarantine Stations in Pakistan

This project is of five years of duration (2006-2011) having total allocation of Rs. 336 million. The project is aimed at improving quarantine facilities and establishing new entry/exit points to facilitate trade of animal and animal products:-

- ➔ 05 Animal Quarantine Stations (AQS) have been up-graded in order to facilitate import/export of livestock and its products,
- ➔ 02 new AQS are being established at Khunjrab and Khokhrapar.

D. New Initiative

Ministry of Livestock & Dairy Development has conceived and initiated new projects worth of Rs. 5500 million during 2009-10. PC-II (Feasibility studies) of the following projects is underway:

A feasibility study project on **“Establishment of Halal Food Certification system in Pakistan”** was proposed at a total cost of Rs. 1000 million against which a token amount of Rs. 10.0 million is allocated for the year 2009-10. The objective of the feasibility study is to develop PC-I regarding establishment of Halal Food Certification System in Pakistan.

A feasibility study **“Establishment of National Research & Extension Network”** is under implementation at a cost of Rs. 20.0 million. The project will assist in developing PC-I with a total cost of Rs. 1500 million regarding establishing National Camel Research & Extension Network in the country.

A feasibility study titled **“Progressive Control of Foot and Mouth Disease (FMD) in Pakistan”** is under implementation. It is aimed at undertaking studies on Foot and Mouth Disease prevalence; study its various strain, prepare control strategy and establish modern Foot and Mouth Disease vaccine production facility in the country. The allocation for the year 2009-10 is Rs. 9.390 million. A national program worth of Rs. 3.0 billion will be initiated on conclusion of feasibility study in 2009-10.

Poverty Reduction through Small holder Livestock Development at a total cost of Rs.3539.132 million during the year 2009-10. The project envisages establishing 400 smallholders’ livestock farms in the country specifically designed to cater the needs of poor farmers and landless livestock smallholders. The farms will be managed by the Members of the community farm on commercial basis in specifically designed animal sheds with facilities of fodder and water management as well as recycling of organic wastes to produce biogas/compost/electricity.

During 2008-09, the **Animal Quarantine Department (AQD)** provided quarantine services and issued 18729 Health Certificates for the import of live animals, mutton beef, eggs and other livestock products

having a value of more than 201.7 million US\$. The AQD generated non-tax revenue of Rs. 54.38 million which exceeded the target of Rs. 40.00 million fixed for 2008-09, showing an increase of 26.44 percent.

The export of meat (beef, mutton & camel meat) during 2006-07 was US \$ 47.64 million as compared to US \$ 74.4 million in 2008-09 showing an increase of 56 percent. The meat export (beef, mutton & camel meat) from July to January 2009-10 is to the tune of US \$ 60.2 million while live animals export was US\$ 13.95 million. With the current pace, it is expected that export of meat during the year 2009-10 may exceed well beyond 2008-09 figures. Malaysian Government has shown interest to import 60,000 M. tons meat from Pakistan annually.

V. Fisheries

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 river, lakes, ponds, dams etc.) is also very important activity through out the country. Fisheries share in GDP although very little but it adds substantially to the national income through export earnings. During the year 2008-09, a total of 134,000 m. tons of fish and fishery products were exported earning US\$ 236 million. Government of Pakistan is taking a number of fruitful steps to improve fisheries sector which include *inter alia* strengthening of extension services, introduction of new fishing methodologies, increased production through aquaculture, development of value added products, enhancement of per capita consumption of fish, up-gradation of socio-economic conditions of the fishermen's community.

Marine Fisheries Department is executing two development projects i.e. the project "Stock assessment survey programme in EEZ of Pakistan through chartering Research vessel and capacity building of Marine Fisheries Department", is aimed to charter a suitable vessel of conducting stock assessment resource surveys in the coastal and offshore waters of Pakistan, including Exclusive Economic Zone. The project is also aimed to strengthen Marine Fisheries Department by capacity building to conduct resource survey and stock assessment on regular basis and to develop management strategy for the fish exploitation and utilization. For this purposes Iranian research vessel was chartered and first trip of stock assessment survey was undertaken during 30th October to 7th November 2009. The data collected during the survey have been analyzed and cruise report has been prepared and submitted to concerned agencies.

Two other projects i.e. "Accreditations of quality control laboratories of Marine Fisheries Department" and Establishment of Integrated National Animal and Plant Health Inspection Service (NAPHIS) (MFD component), are also being implemented to provide improved quality control services to the seafood export industry. These two projects are aimed to get the laboratories of the Marine Fisheries Department accredited with international bodies and meet the requirements of ISO 17025. It also aimed to improve the human resources capabilities of the department by inducting trained manpower and also to provide training to existing staff and officers. Microbiological and Chemical Laboratories were Accredited by the Norwegian Accreditation Agency under ISO/IEC-17025 will now be got accredited from P.N.A.C

A hatchery complex was established under the auspices of a development project entitled "Established of hatchery complex for production of seeds of fish and shrimps" in 2001 is being renovated from funds provided by Fisheries Development Board. The renovation work will be completed by December 2010.

During the period July-March 2009-10 the total marine and inland fish production was estimated

952,735 M. tons out which 667,762 M. tons was marine production and the remaining catch come from inland waters. Whereas the Production for the July-March 2008-09 was estimated to be 914,141 M. tons in which 660,141 M. tons was for marine and the remaining was produced by inland fishery sector. There is an increase of 1.3 percent in the quantity compared to the last year.

Special Section: Water Availability, Conservation & Management in Pakistan

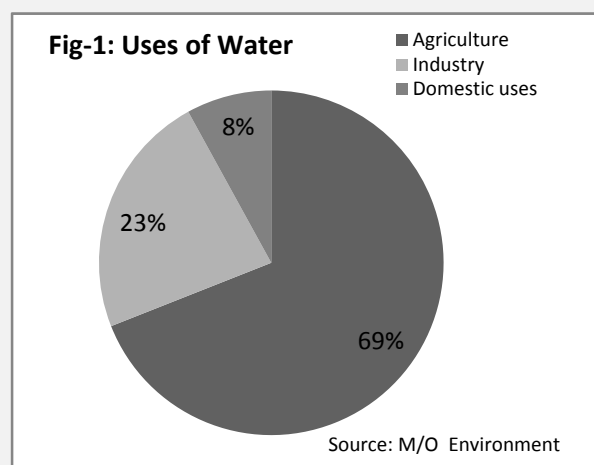
Water is essential for sustenance of life in all forms and fresh water is a finite resource, progressively becoming scarcer due to persistent increases in its competing demands. Pakistan possesses the world's largest contiguous irrigation system commonly called as Indus Basin Irrigation system. It commands an area of about 14.3 million hectares (35 million acres) and encompasses the Indus River and its major tributaries. The system includes three large reservoirs (Tarbela, Mangla and Chashma), 23 barrages/ headworks /siphons, 12 inter-river links and 45 canal commands extending for about 60,800 km to serve over 140,000 farmer operated watercourses. Irrigated agriculture is the backbone of the national economy. The level of agricultural production is directly related to the availability and effective use of water as a major input. The demand for water is increasing rapidly while the opportunities for further development of water resources or maintaining their use to existing levels are diminishing. The shortage of water particularly in Rabi season has further aggravated the ongoing water crisis.

Consumption Pattern of Water

The consumption pattern of water in domestic, industrial and agriculture sector is shown in Table.1 and Fig-1 as percentage of total use.

Sectors	Percentage
Agriculture	69%
Industry	23%
Domestic uses	8%

Source: Ministry of Environment



Emerging Issues

- **Water Shortage:** Pakistan is one of the world's most arid countries, with an average rainfall of under 240 mm a year. According to the benchmark water scarcity indicator (the Faulkenmark Indicator), Pakistan's estimated current per capita water availability of around 1,066 M³ (Table 2) places it in the "high water stress" category (Table 3).
- The water shortage scenario in Pakistan is further aggravated with high variability of rainfall. The onset of climate change and global warming is likely to severely affect the availability of water. To aggravate the situation, after the loss of 3 major rivers, Ravi, Sutlej and Beas, to India under the Indus Waters Treaty 1960, India's construction of water storage infrastructure at Baghlihar and Kishanganga, is threatening to disrupt the uninterrupted flow of water downstream into Pakistan.

Year	Population (Million)	Per Capita Water Availability (M ³)
1951	34	5260
1961	46	3888
1971	65	2751
1981	84	2129
1991	115	1565
2002	139.5	1282
2010	167.7	1066
2020	195.5	915
2025	208.4	858

Source: Planning Commission

- Compounding lower availability is the issue of inadequate water storage. Pakistan stores around 40% of the world's average in terms of storage. In comparison, the storage capacity of Colorado is 497%, Nile 347%, India 33%, while Pakistan has just 9% storage capacity. As population size increases, resources become scarce in terms of per capita the same is in case with Water Resources that are statistic in nature we may conserve and manage them only. The current per capita water availability at 1066 m³/person is low, with Pakistan in the category of a high water stress country (Table-2), that requires to concentrate on water resource development, urban and rural water supply and sanitation, industrial water supply ,irrigation and drainage, hydropower and environment protection.

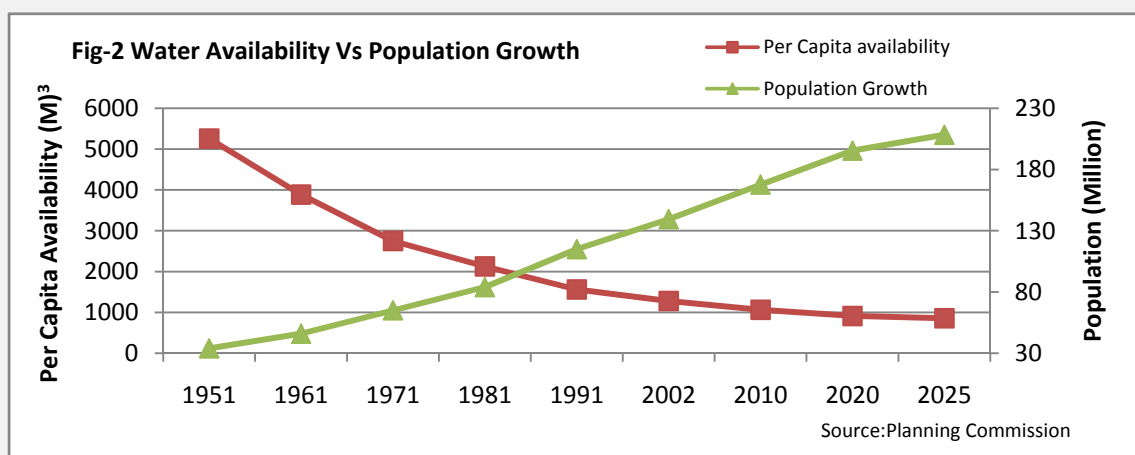


Table-3: Water Scarcity Indicators (Faulkenmark Indicator)

>1700M ³ /Capita	Water Scarcity Rare
<1700M ³ /Capita	Country faces seasonal or regular water-stressed conditions
<1000M ³ /Capita	Water shortages hamper the health and well being of the human beings- Economic activities are affected
<500M ³ /Capita	Shortages are severe constraints to human life

Source: IRSA

- Low Water Productivity:** Whatever water is available is utilized in an inefficient manner. Water production in Pakistan is less than 0.1 kg/m³ as compared to 0.39 kg/m³ in India.
- Aging and Outdated Infrastructure:** Pakistan is blessed with one of the largest contiguous irrigation infrastructure. However, it was designed for water requirements of the 20th century and not for the 21st century. The design of system was for 60% cropping intensity and now the cropping intensity has crossed over 120%. Further the cropping pattern on which water demands and withdrawals were worked out was not supposed to cater to crops like sugarcane and rice which require high water use. The system maintenance also requires a lot more attention due to deferred maintenance over the last 100 years.
- Innovative Knowledge Based Management:** Challenges of the 21st century require the frontiers of knowledge and innovative approaches rather than historic practices. The institutions need redefining of their roles and to develop their capacities according to new responsibilities.
- Ownership, Reforms and Joint Management:** The irrigation infrastructure operation and on-farm practices need ownership of the stakeholders such as farmers, professionals and revenue collectors. A joint management mode needs to be devised as area water boards and farmer's organizations.
- Equity:** Water provides prosperity and jobs, and acts as a "force multiplier" in the national economy. However, serious concerns exist with respect to spending common pool money to the benefit of selected groups in the absence of policy on equity. The disadvantaged groups are:
 - Users at tail end of canal commands
 - Farmers outside Indus Basin

iii. Farmers using groundwater with options of costly diesel/electricity

Water Resources of Pakistan consists mainly of rainfall, rivers, glacier, groundwater etc. There are two major sources of rainfall in Pakistan. The Monsoon and Western disturbances. Flow of Indus basin depends heavily upon the glaciers of Western Himalayas. Various sources of river flows are shown in Table-4.

Location	Snow (%)	Rain (%)	Glaciers (%)
River Indus above Tarbela	30-35	5-10	60-80
River Jhelum above Mangla	65	35	--
River Kabul above Nowshera	20-30	20-30	30-35

Source: WAPDA

In 1960, the Indus Waters Treaty was signed by India and Pakistan. According to this treaty, Pakistan got full rights on its Western rivers i.e. Indus, Kabul, Jhelum and Chenab. The average annual runoff of these rivers is 140 MAF, with minimum recorded so far as low as 97 MAF and maximum 172 MAF. Corresponding to this, annual diversion at the barrages for irrigation purposes is about 104 MAF.

There are three primary storage reservoirs at Tarbela, Mangla and Chashma with an original total storage capacity totaling 18.37 MAF. The reservoirs regulate the natural flows for irrigation purposes and hydropower generation and help in utilizing the stored water during the low-flow season. From 15.75 MAF of live storage of reservoir 4.18 MAF about 27 percent has lost due to sedimentation. Due to loss storage, agriculture of Pakistan is facing shortage during low-flow season. According to Indus River System Authority (IRSA) the shortage has gone up to 30 percent. Consequently it is becoming difficult for IRSA to fulfill the demand of provinces during *Rabi*. Loss of storage of reservoirs is given below in Table-5.

The surface water of the Indus system is utilized through 19 barrages, 12 links canals, 43 canal commands and 100,000 tertiary irrigation commands (Chaks). Irrigation releases from the reservoirs are planned by the Indus River System Authority (IRSA).

Reservoir	Original			Present			Loss		
	Gross	Live	Dead	Gross	Live	Dead	Gross	Live	Dead
Tarbela	11.62	9.69	1.92	7.95	6.77	1.18	3.67 32%	2.92 30%	0.74 39%
Mangla	5.88	5.34	0.54	4.67	4.54	0.13	1.21 21%	0.80 15%	0.41 76%
Chashma	0.87	0.72	0.15	0.32	0.26	0.06	0.55 63%	0.45 63%	0.10 62%
Total	18.37	15.75	2.62	12.95	11.58	1.37	5.42 30%	4.18 27%	1.25 48%

Source: WAPDA

Escapage to Sea

Despite acute water shortage in the system, data shows that a substantial amount of water escapes below Kotri to the Arabian Sea. The data shows that post-construction of Tarbela (1976-2008) average annual escapages below Kotri are 31.48 MAF, with a maximum of 91.83 MAF in 1994-95 and minimum of 0.79 MAF in 2000-01. Most of the flow to the sea occurs during Kharif season and very little during Rabi season.

Groundwater

Groundwater under the Indus Irrigation System is plentiful and is derived from infiltration of surface water as well as local rainfall. However, depending upon the quality, the useable groundwater is confined to an area of 10 million hectares. The development of this resource is through private tubewells and account for a gross abstraction of about 40 MAF per annum. The surface water and groundwater and all canal commands are being used in conjunctive environment. In many canal commands, *pumpage* is greater than *recharge*, thus causing subsidence. There is no regular and proper monitoring of private tubewells capacity, their pumping hours and utilization.

Water Availability and Requirement Gap

According to the Water Accord 1991, 117 MAF water is required for irrigation by the provinces. The water resources available for future development are 36 MAF of river flow 6.4 MAF of groundwater contribution and 3 MAF of rainfall harvesting. Besides, agriculture requirements, the estimated additional water needs to meet the municipal water supply, rural potable and sanitation industry and environment are estimated at 8 MAF (as per National Water Policy, 2003).

Future Strategic Areas to Combat Water Security Risk

The following core areas require immediate attention while formulating contingency action plan and management/policy plans:

- a) Water demand management
- b) Climate change impacts in Pakistan
- c) Potential use of saline water
- d) Asset protection of irrigation infrastructure

a. Water demand management

Water availability is diminishing with a growing population and increasing urbanization. The need for better water demand management is well established. The following represent some areas of immediate attention:

- Promoting efficient use
- Pricing water better
- Optimizing cropping pattern
- Integrated use and recycling of water

b. Climate Change Impact

Pakistan has been cited as amongst the most vulnerable group due to Extreme weather, change in temperature +rainfall.

Potential Impacts

- Glaciers melting.
- Droughts.
- Flood Event.
- Change in Rainfall Pattern.

The climate change requires the following actions e.g. Potential offsets

- Need for carry over dams
- Efficient irrigation (water conservation & demand management)
- Controlling population growth rate
- Changed cropping pattern

c. Saline water potential

Pakistan's groundwater aquifer consists of join layers of fresh and saline waters and the proportional percentage of these layers varies from place to place. Today's groundwater pumpage is around 50 MAF which can be increased by harnessing additional 25 MAF pumpage of saline water and utilization of saline drainage surplus of 3-5 MAF. The bio-saline technology is to be promoted. The investment will be required in future adoption of bio-saline agricultural technology.

d. Asset Protection of Irrigation Infrastructure

Pakistan has the largest contiguous irrigation system in the world which commands an area of 42 million acres. The Indus River and its western tributaries on an average bring about 142 million acre feet (MAF) of water annually and the average annual canal withdrawal is 104 MAF. The System has three major reservoirs, 19 barrages, 12 inter-river link canals, 45 independent irrigation canal systems and more than 110,000 water courses. The total length of the canal system is about 64000 Km, the system also utilizes an estimated 42 MAF of ground water pumped through more than 921,229 tube wells (mostly private) to supplement the canal supplies.

Pakistan needs more water, however there is less likelihood that new water storage projects could be completed in next 3-4 years. Pakistan is extra-ordinary dependent on its water infrastructure, and it has invested in it massively. The natural state of heavily-silt laden river Indus is to meander. This is because as silt builds up in their beds, the rivers seek lower lands and change their courses. This creates havoc with human settlements and so, throughout the world, such rivers have been trained and confined by embankments within relatively narrow beds. Over time, the likelihood of embankment breaching increases from floods.

The Indus Basin is a single, massive, highly complex interconnected ecosystem, upon which man has left a huge footprint. When a dam or barrage is constructed the water and sediment cycles are changed dramatically. When water is diverted onto deserts, the water and salt balances seek new equilibriums. The Investment in building knowledge base and the accompanying institutional and human systems is Key for efficient operation of the massive irrigation works.

Conclusion:

It is important to ensure water security for the people through a national water policy laying down the outlines of an integrated water management strategy that aims at maximizing the sustainable economic, social and environmental returns on the water resource development, allocation among its competing demands, its use by consumers and safe disposal of post-use effluents.

TABLE 2.1 (A)

INDEX OF AGRICULTURAL PRODUCTION

Fiscal Year	1980-81 Base				1999-2000 Base			
	All major crops	Food crops	Fibre crops	Other crops	All major crops	Food crops	Fibre crops	Other crops
1991-92	143.7	122.5	305.9	120.5	-	-	-	-
1992-93	141.0	124.0	216.0	118.0	-	-	-	-
1993-94	155.0	123.6	191.8	137.5	-	-	-	-
1994-95	165.4	133.1	207.5	146.0	-	-	-	-
1995-96	163.3	137.0	252.8	140.1	-	-	-	-
1996-97	155.3	136.5	223.6	130.3	-	-	-	-
1997-98	186.2	150.2	219.1	164.5	-	-	-	-
1998-99	189.8	147.6	209.7	170.9	-	-	-	-
1999-00	178.4	167.7	268.2	143.7	100	100	100	100
2000-01	165.9	152.8	256.0	135.1	93	91	95	94
2001-02	172.1	142.9	253.2	148.7	97	85	94	104
2002-03	185.4	153.9	243.6	160.9	104	92	91	112
2003-04	190.7	159.6	239.7	165.1	107	95	89	115
2004-05	-	-	-	-	104	106	127	102
2005-06	-	-	-	-	101	107	116	96
2006-07	-	-	-	-	117	115	114	118
2007-08	-	-	-	-	126	108	104	138
2008-09	-	-	-	-	114	124	105	108
2009-10 P	-	-	-	-	112	122	113	106

P : Provisional, Jul-Mar

Source: Federal Bureau of Statistics

TABLE 2.1 (B)

BASIC DATA ON AGRICULTURE

Fiscal Year	Crop- ped Area (million hectares)	Improved seed dis- tribution (000 Tonnes)	Water* Availa- bility (MAF)	Fertilizer off-take (000 N/T)	Credit disbursed (Rs million)
1990-91	21.82	83.27	119.62	1892.90	14,915
1991-92	21.72	65.93	122.05	1,884.00	14,479
1992-93	22.44	63.93	125.12	2,147.61	16,198
1993-94	21.87	63.27	128.01	2,146.80	15,674
1994-95	22.14	76.87	129.65	2,183.10	22,373
1995-96	22.59	145.10	130.85	2,515.05	19,187
1996-97	22.73	137.67	132.05	2,413.01	19,548
1997-98	23.04	130.50	122.15	2,646.00	33,392
1998-99	22.86	167.38	133.78	2,583.00	42,852
1999-00	22.74	194.30	133.28	2,832.00	39,688
2000-01	22.04	193.80	134.77	2,964.00	44,790
2001-02	22.12	191.57	134.63	2,929.00	52,314
2002-03	21.85	172.02	134.48	3,020.00	58,915
2003-04	22.94	178.77	134.78	3,222.00	73,446
2004-05	22.78	218.12	135.68	3,694.04	108,733
2005-06	23.13	226.07	137.78	3,804.00	137,474
2006-07	23.56	218.60	137.80	3,672.00	168,830
2007-08	23.85	264.67	142.44	3,581.00	211,561
2008-09	23.80	314.63	142.86	3,711.00	233,010
2009-10 P	23.80	305.82	142.00	3,426.00	166,335

.. : not available

P : Provisional, Jul-Mar

* : At farm gate

(Contd.)

TABLE 2.1 (B)

BASIC DATA ON AGRICULTURE

Fiscal Year	Number of Tube wells (a)	Production of Tractors (Nos)	Production of meat (000 Tonnes)	Milk (000 Tonnes)	Fish Production (000 Tonnes)	Total Forest Production (000 cu.mtr.)
1990-91	339,840	13,841	1,581	15,481	483.0	1,072
1991-92	355,840	10,077	1,685	16,280	553.1	491
1992-93	374,099	16,628	1,872	17,120	621.7	691
1993-94	444,179	15,129	2,000	18,006	558.1	703
1994-95	463,463	17,063	2,114	18,966	541.9	684
1995-96	485,050	16,218	1,841	22,970	555.5	720
1996-97	506,824	10,121	1,908	23,580	589.7	343
1997-98	531,259	14,242	1,841	24,215	597.0	386
1998-99	563,226	26,885	1,906	24,876	654.5	436
1999-00	609,775	35,038	1,957	25,566	614.8	364
2000-01	659,278	32,553	2,015	26,284	629.6	472 *
2001-02	707,273	24,311	2,072	27,031	637.8	487 *
2002-03	768,962	27,101	2,132	27,811	566.2	266 *
2003-04	950,144	36,059	2,188	28,624	573.5	313 *
2004-05	984,294	44,095	2,271	29,438	580.6	282 *
2005-06	999,569	49,642	2,515	31,970	604.9	265 *
2006-07	931,306	54,431	2,618	32,986	640.0	373 *
2007-08	921,121	53,598	2,728	34,064	885.0	363
2008-09	921,229	60,561	2,843	35,160	914.1	347
2009-10 P	921,229	69,245	2,965	36,299	925.7	356

.. : not available

(a) : Public and private tube wells.

Source: 1. Federal Bureau of Statistics.

P : Provisional (July-March)

E : Estimated

2. Ministry of Food and Agriculture

* : Revised

TABLE 2.2

LAND UTILIZATION

(Million hectares)

Fiscal Year	Total Area	Reported Area	Forest Area	Not Avail- able for Cultivation	Culturable Waste	Cultivated Area			Area Sown more than once	Total Cropped Area (8+10)
						Current Fallow	Net Area Sown	Total Area Cultivated (7+8)		
1	2	3	4	5	6	7	8	9	10	11
1990-91	79.61	57.61	3.46	24.34	8.85	4.85	16.11	20.96	5.71	21.82
1991-92	79.61	57.87	3.47	24.48	8.86	4.87	16.19	21.06	5.53	21.72
1992-93	79.61	58.06	3.48	24.35	8.83	4.95	16.45	21.40	5.99	22.44
1993-94	79.61	58.13	3.45	24.43	8.74	5.29	16.22	21.51	5.65	21.87
1994-95	79.61	58.50	3.60	24.44	8.91	5.42	16.13	21.55	6.01	22.14
1995-96	79.61	58.51	3.61	24.35	8.87	5.19	16.49	21.68	6.10	22.59
1996-97	79.61	59.23	3.58	24.61	9.06	5.48	16.50	21.98	6.23	22.73
1997-98	79.61	59.32	3.60	24.61	9.15	5.48	16.48	21.96	6.56	23.04
1998-99	79.61	59.28	3.60	24.52	9.23	5.35	16.58	21.93	6.28	22.86
1999-00	79.61	59.28	3.78	24.45	9.09	5.67	16.29	21.96	6.45	22.74
2000-01	79.61	59.44	3.77	24.37	9.17	6.73	15.40	22.13	6.64	22.04
2001-02	79.61	59.33	3.80	24.31	8.95	6.60	15.67	22.27	6.45	22.12
2002-03	79.61	59.45	4.04	24.25	8.95	6.61	15.60	22.21	6.25	21.85
2003-04	79.61	59.46	4.01	24.23	9.10	6.23	15.89	22.12	7.05	22.94
2004-05	79.61	59.48	4.02	24.39	8.94	6.86	15.27	22.13	7.51	22.78
2005-06	79.61	57.22	4.03	22.87	8.21	6.72	15.39	22.65	7.74	23.13
2006-07	79.61	57.05	4.18	22.70	8.30	5.72	16.16	21.88	7.40	23.56
2007-08	79.61	57.08	4.21	23.41	8.19	4.93	16.34	21.27	7.51	23.85
2008-09	79.61	57.08	4.21	23.45	8.20	4.93	16.28	21.18	7.52	23.80
2009-10 P	79.61	57.08	4.21	23.45	8.20	4.93	16.28	21.21	7.52	23.80

P : Provisional

Source: Ministry of Food and Agriculture

Note:

TOTAL AREA REPORTED is the total physical area of the villages/deh, tehsils or districts etc.

FOREST AREA is the area of any land administered as forest under any legal enactment dealing with forests. Any cultivated area which may exist within such forest is shown under heading "cultivated area".

AREA NOT AVAILABLE FOR CULTIVATION is that uncultivated area of the farm which is under farm home steads, farm roads and other connected purposes and not available for cultivation.

CULTURABLE WASTE is that uncultivated farm area which is fit for cultivation but was not cropped during the year under reference nor in the year before that.

CURRENT FALLOW (ploughed but uncropped) is that area which is vacant during the year under reference but was sown at least once during the previous year

CULTIVATED AREA is that area which was sown at least during the year under reference or during the previous year.

Cultivated Area = Net Area sown + Current Fallow.

NET AREA SOWN is that area which is sown at least once during (Kharif & Rabi) the year under reference.

AREA SOWN MORE THAN ONCE is the difference between the total cropped area and the net area sown.

TOTAL CROPPED AREA means the aggregate area of crops raised in a farm during the year under reference including the area under fruit trees.

TABLE 2.3

AREA UNDER IMPORTANT CROPS

(000 hectares)

Fiscal Year	Wheat	Rice	Bajra	Jowar	Maize	Barley	Total Food Grains	Gram	Sugar-cane	Rapeseed and Mustard	Sesamum	Cotton	Tobacco
1990-91	7,911	2,113	491	417	845	157	11,934	1,092	884	304	53	2,662	44
1991-92	7,878	2,097	313	383	848	149	11,667	997	896	287	70	2,836	54
1992-93	8,300	1,973	487	403	868	160	12,191	1,008	885	285	82	2,836	58
1993-94	8,034	2,187	303	365	879	151	11,919	1,045	963	269	73	2,805	57
1994-95	8,170	2,125	509	438	890	165	12,297	1,065	1,009	301	80	2,653	47
1995-96	8,376	2,162	407	418	939	171	12,473	1,119	963	320	90	2,997	46
1996-97	8,109	2,251	303	370	928	152	12,113	1,100	965	354	100	3,149	49
1997-98	8,355	2,317	460	390	933	163	12,618	1,102	1,056	340	96	2,960	53
1998-99	8,230	2,424	463	383	962	137	12,599	1,077	1,155	327	71	2,923	57
1999-00	8,463	2,515	313	357	962	124	12,734	972	1,010	321	72	2,983	56
2000-01	8,181	2,377	390	354	944	113	12,359	905	961	273	101	2,927	46
2001-02	8,058	2,114	417	358	942	111	12,000	934	1,000	269	136	3,116	49
2002-03	8,034	2,225	349	338	935	108	11,989	963	1,100	256	88	2,794	47
2003-04	8,216	2,461	539	392	947	102	12,657	982	1,074	259	60	2,989	46
2004-05	8,358	2,520	343	308	982	93	12,603	1,094	966	243	66	3,193	50
2005-06	8,448	2,621	441	254	1,042	90	12,896	1,029	907	217	82	3,103	56
2006-07	8,578	2,581	504	292	1,017	94	13,066	1,052	1,029	256	71	3,075	51
2007-08	8,550	2,515	531	281	1,052	91	13,020	1,107	1,241	224	76	3,054	51
2008-09	9,046	2,963	470	263	1,052	86	13,880	1,081	1,029	233	91	2,820	50
2009-10 P	9,042	2,883	476	248	950	80	13,679	1,050	943	185	80	3,106	49

Note : 1 ha = 2.47 acres
P : Provisional (Jul-Mar)

Source: 1. Ministry of Food and Agriculture
2. Federal Bureau of Statistics

TABLE 2.4

PRODUCTION OF IMPORTANT CROPS

(000 tonnes)

Fiscal Year	Wheat	Rice	Bajra	Jowar	Maize	Barley	Total Food Grains	Gram	Sugar- cane	Rapeseed and Mustard	Sesa- mum	Cotton		Tob- acco
												(000 tonnes)	(000 Bales)	
1990-91	14,565	3,261	196	239	1,185	142	19,588	531	35,989	228	21.4	1,637	9,628	75
1991-92	15,684	3,243	139	225	1,203	140	20,634	513	38,865	220	28.7	2,181	12,822	97
1992-93	16,157	3,116	203	238	1,184	158	21,056	347	38,059	207	34.0	1,540	9,054	102
1993-94	15,213	3,995	138	212	1,213	146	20,917	411	44,427	197	32.3	1,368	8,041	100
1994-95	17,002	3,447	228	263	1,318	164	22,422	559	47,168	229	36.2	1,479	8,697	81
1995-96	16,907	3,966	162	255	1,504	174	22,968	680	45,230	255	39.5	1,802	10,595	80
1996-97	16,651	4,305	146	219	1,491	150	22,962	594	41,998	286	44.9	1,594	9,374	92
1997-98	18,694	4,333	211	231	1,517	174	25,160	767	53,104	292	42.5	1,562	9,184	99
1998-99	17,858	4,674	213	228	1,665	137	24,773	698	55,191	279	32.1	1,495	8,790	109
1999-00	21,079	5,156	156	220	1,652	118	28,380	565	46,333	297	35.4	1,912	11,240	108
2000-01	19,024	4,803	199	218	1,643	99	25,987	397	43,606	230	50.7	1,826	10,732	85
2001-02	18,226	3,882	216	222	1,664	100	24,311	362	48,042	221	69.6	1,805	10,613	94
2002-03	19,183	4,478	189	203	1,737	100	25,889	675	52,056	215	19.3	1,737	10,211	88
2003-04	19,500	4,848	274	238	1,897	98	26,855	611	53,419	221	25.0	1,709	10,048	86
2004-05	21,612	5,025	193	186	2,797	92	29,905	868	47,244	203	30.0	2,426	14,265	101
2005-06	21,277	5,547	221	153	3,110	88	30,396	480	44,666	172	35.0	2,215	13,019	113
2006-07	23,295	5,438	238	180	3,088	93	32,337	838	54,742	212	30.0	2,187	12,856	103
2007-08	20,959	5,563	305	170	3,605	87	31,198	475	63,920	176	32.8	1,982	11,655	108
2008-09	24,033	6,952	296	165	3,593	82	35,121	741	50,045	188	41.0	2,010	11,819	105
2009-10 P	23,864	6,883	293	154	3,487	78	34,759	571	49,373	202	33.4	2,160	12,698	104

P : Provisional (Jul-Mar)

Source: 1. Ministry of Food and Agriculture
2. Federal Bureau of Statistics

TABLE 2.5

YIELD PER HECTARE OF MAJOR AGRICULTURAL CROPS

Fiscal Year	(Kg/Hectare)					
	Wheat	Rice	Sugarcane	Maize	Gram	Cotton
1990-91	1,841	1,543	40,720	1,401	486	615
1991-92	1,990	1,546	43,371	1,419	514	769
1992-93	1,946	1,579	43,024	1,364	344	543
1993-94	1,893	1,826	46,144	1,380	393	488
1994-95	2,081	1,622	46,747	1,481	524	557
1995-96	2,018	1,835	46,968	1,602	607	601
1996-97	2,053	1,912	43,521	1,607	540	506
1997-98	2,238	1,870	50,288	1,626	696	528
1998-99	2,170	1,928	47,784	1,731	648	511
1999-00	2,491	2,050	45,874	1,717	581	641
2000-01	2,325	2,021	45,376	1,741	439	624
2001-02	2,262	1,836	48,042	1,766	388	579
2002-03	2,388	2,013	47,324	1,858	701	622
2003-04	2,375	1,970	49,738	2,003	622	572
2004-05	2,568	1,995	48,906	2,848	793	760
2005-06	2,519	2,116	49,246	2,985	467	714
2006-07	2,716	2,107	53,199	3,036	797	711
2007-08	2,451	2,212	51,507	3,427	429	649
2008-09	2,657	2,346	48,635	3,415	685	713
2009-10 P	2,639	2,387	52,357	3,670	543	695

P : Provisional

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

TABLE 2.6

PRODUCTION AND EXPORT OF FRUIT

Fiscal Year	Production of Important Fruit (000 tonnes)								Export	
	Citrus	Mango	Apple	Banana	Apricot	Almonds	Grapes	Guava	(000 tonnes)	Value (Mln. Rs)
1990-91	1,609	776	243	202	81	32	33	355	112	935
1991-92	1,630	787	295	44	109	38	36	373	125	966
1992-93	1,665	794	339	52	122	40	38	384	121	1,179
1993-94	1,849	839	442	53	153	45	40	402	127	1,324
1994-95	1,933	884	533	80	178	49	43	420	139	1,256
1995-96	1,960	908	554	82	191	49	72	442	135	1,487
1996-97	2,003	915	569	83	188	49	74	448	219	2,776
1997-98	2,037	917	573	94	189	49	74	455	202	2,793
1998-99	1,862	916	589	95	191	50	76	468	181	2,773
1999-00	1,943	938	377	125	121	32	40	494	240	4,130
2000-01	1,898	990	439	139	126	33	51	526	260	4,586
2001-02	1,830	1,037	367	150	125	26	53	539	290	5,097
2002-03	1,702	1,035	315	143	130	24	52	532	263	4,861
2003-04	1,760	1,056	334	154	211	24	51	550	354	5,912
2004-05	1,944	1,671	352	158	205	23	49	572	281	5,408
2005-06	2,458	1,754	351	164	197	23	49	552	455	7,508
2006-07	1,472	1,719	348	150	177	23	47	555	343	6,894
2007-08	2,294	1,754	442	156	240	27	75	539	411	9,085
2008-09	2,132	1,728	441	157	238	27	76	512	466	12,314
2009-10 P	2,203	1,847	426	155	235	26	77	516	533	16,554

P : Provisional (Jul-Mar)

Source: Ministry of Food and Agriculture
Federal Bureau of Statistics

TABLE 2.7

CROP WISE COMPOSITION OF VALUE OF MAJOR AGRICULTURAL CROPS
(AT CONSTANT FACTOR COST 1999-2000)

Fiscal Year/ Crops	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	(%age share)	
									2008-09 R	2009-10 P
<u>All Major Crops</u>	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
<u>Food Crops</u>	62.32	60.34	62.66	63.52	61.55	63.37	63.85	62.24	66.69	65.30
Wheat	40.39	39.48	39.26	38.98	37.58	38.23	39.27	37.12	40.43	39.61
Rice	15.62	14.54	15.85	16.94	15.28	17.45	15.78	16.63	17.20	17.66
Bajra	0.45	0.50	0.41	0.59	0.36	0.42	0.43	0.58	0.53	0.52
Jowar	0.44	0.46	0.39	0.46	0.31	0.27	0.29	0.29	0.26	0.24
Maize	3.10	3.21	3.13	3.32	4.14	4.70	4.42	5.37	5.08	4.82
Gram	2.11	1.95	3.41	3.05	3.73	2.14	3.51	2.10	3.06	2.33
Barley	0.20	0.21	0.19	0.19	0.15	0.15	0.15	0.15	0.13	0.12
<u>Fibre Crops</u>	24.89	25.26	22.98	22.06	27.21	25.58	23.65	22.67	21.85	23.50
Cotton	24.89	25.26	22.98	22.06	27.21	25.58	23.65	22.67	21.85	23.50
<u>Cash Crops</u>	11.27	12.63	12.95	13.00	9.95	9.75	11.20	13.82	10.20	9.96
Sugarcane	11.27	12.63	12.95	13.00	9.95	9.75	11.20	13.82	10.20	9.96
<u>Other Crops</u>	1.52	1.77	1.41	1.43	1.28	1.31	1.29	1.27	1.26	1.24
Sesamum	0.34	0.47	0.12	0.15	0.16	0.20	0.16	0.18	0.21	0.17
Rape Seed & mustard	0.70	0.75	0.81	0.81	0.65	0.57	0.67	0.58	0.58	0.62
Tobacco	0.84	0.55	0.48	0.46	0.47	0.54	0.46	0.51	0.47	0.46

R : Revised

Source: Federal Bureau of Statistics

P : Provisional

TABLE 2.8

CREDIT DISBURSED BY AGENCIES

Fiscal Year	(Rs million)					
	ZTBL a	Taccavi	Domestic Private Banks	PPCBL b	Commercial Banks	Total
1990-91	8,324	56	..	3,017	3,518	14,915
1991-92	6,996	57	..	3,247	4,180	14,479
1992-93	8,643	51	..	2,978	4,526	16,198
1993-94	8,989	..	..	2,621	4,063	15,674
1994-95	14,576	..	..	3,757	4,041	22,373
1995-96	10,339	..	..	3,803	5,045	19,187
1996-97	11,687	..	..	3,431	4,429	19,548
1997-98	22,354	..	..	4,929	6,110	33,392
1998-99	30,176	..	..	5,440	7,236	42,852
1999-00	24,424	..	..	5,951	9,313	39,688
2000-01	27,610	..	..	5,124	12,056	44,790
2001-02	29,108	..	593	5,128	17,486	52,314
2002-03	29,270	..	1,421	5,485	22,739	58,915
2003-04	29,933	..	2,702	7,564	33,247	73,446
2004-05	37,409	..	12,407	7,607	51,310	108,733
2005-06	47,594	..	16,023	5,889	67,967	137,474
2006-07	56,473	..	23,976	7,988	80,393	168,830
2007-08	66,939	..	43,941	5,931	94,749	211,561
2008-09	75,139	..	41,626	5,579	110,666	233,010
2009-10 P	48,987	..	28,641	3,530	85,177	166,335

.. : not Available

P : Provisional (Jul-Mar)

Source : i) State Bank of Pakistan

b : Punjab Provincial Corporative Bank Ltd.

ii) Ministry of Food, Agriculture & Livestock

a : Zarai Taraqiate Bank Limited, formerly Agriculture Development Bank of Pakistan

TABLE 2.9

FERTILIZER OFFTAKE AND IMPORTS OF FERTILIZERS & PESTICIDES

Fiscal Year	Fertilizer off-take (000 N/Tonnes)				Import of fertilizers 000 N/T	Import of Insecticides	
	N	P	K	Total		Quantity (Tonnes)	Value (Mln Rs)
1990-91	1,472	389	33	1,893	685	13,030	1,489
1991-92	1,463	398	23	1,884	632	15,258	1,946
1992-93	1,635	488	24	2,148	759	14,435	1,731
1993-94	1,659	464	23	2,147	903	12,100	1,706
1994-95	1,738	428	17	2,183	261	21,776	2,978
1995-96	1,991	494	30	2,515	581	30,479	5,081
1996-97	1,985	420	8	2,413	878	30,856	5,272
1997-98	2,075	551	20	2,646	714	29,225	4,801
1998-99	2,097	465	21	2,583	885	31,893	5,515
1999-00	2,218	597	19	2,834	663	26,124	4,692
2000-01	2,264	677	23	2,966	580	21,255	3,477
2001-02	2,285	625	19	2,929	626	31,783	5,320
2002-03	2,349	650	20	3,020	766	22,242	3,441
2003-04	2,527	673	22	3,222	764	41,406	7,157
2004-05	2,796	865	33	3,694	785	41,561	8,281
2005-06	2,927	851	27	3,804	1,268	33,954	6,804
2006-07	2,650	979	43	3,672	796	29,089	5,848
2007-08	2,925	630	27	3,581	876	27,814	6,330
2008-09	3,035	651	25	3,711	568	28,839	8,981
2009-10 P	2,618	791	17	3,426	968	27,995	8,741

P : Provisional, (Jul-Mar)

Source: 1. Federal Bureau of Statistics.

2. National Fertilizer Development Centre.

TABLE 2.10

AVERAGE RETAIL SALE PRICE OF FERTILIZERS

Fiscal Year	(Rs per bag of 50 Kgs/110lbs)							
	Urea (46% N)	AN/CAN (26% N)	AS (21% N)	NP (23:23)	SSP(G) (18%)	DAP (18:46)	SOP (50% K)	NPK (10:20:20)
1990-91	195.0	90.0	85.0	173.0	93.0	249.0	150.0	176.0
1991-92	195.0	95.0	90.0	173.0	93.0	272.0	150.0	176.0
1992-93	205.0	109.0	96.0	196.0	93.0	264.0	195.0	247.0
1993-94	210.1	..	125.3	202.6	95.8	269.0	195.0	247.0
1994-95	235.0	150.0	164.0	250.0	150.0	379.0	195.0	247.0
1995-96	267.0	172.0	172.0	320.0	183.0	479.0	331.0	..
1996-97	340.0	209.0	197.0	384.0	211.0	553.0	532.0	..
1997-98	341.0	223.6	232.5	396.6	200.0	564.6	540.0	..
1998-99	346.0	231.0	275.0	457.0	234.0	665.0	541.0	..
1999-00	327.0	231.0	286.0	464.0	298.0	649.0	543.0	..
2000-01	363.0	233.0	300.0	468.0	253.0	670.0	682.0	..
2001-02	394.0	268.0	308.0	519.0	280.0	710.0	765.0	..
2002-03	411.0	282.0	344.0	539.0	287.0	765.0	780.0	..
2003-04	420.0	208.0	373.0	622.0	329.0	913.0	809.0	..
2004-05	468.0	353.0	405.0	704.0	373.0	1,001.0	996.0	..
2005-06	509.0	395.0	744.0	710.0	407.0	1,079.0	1,170.0	..
2006-07	527.0	396.0	779.0	670.0	334.0	993.0	985.0	..
2007-08	581.0	471.0	867.0	1,267.0	572.0	1,934.0	1,497.0	..
2008-09	751.0	704.0	1,330.0	1,700.0	874.0	2,578.0	2,091.0	..
2009-10 P	782.0	698.0	1,289.0	1,358.0	720.0	2,144.0	2,297.0	..

.. : Not available

P : Provisional (Jul-Mar)

AN/CAN : Ammonium nitrate/calcium ammonium nitrate

ASN : Ammonium super nitrate

AS : Ammonium sulphate

NP : Nitrophosphate

Source: Federal Bureau of Statistics
National Fertilizer Dev. Centre
SSP: single super phosphate
DAP: Diammonium phosphate
SOP: Sulphate of potash
NPK: Nitrogen phosphate and potash

TABLE 2.11

AREA IRRIGATED BY DIFFERENT SOURCES

(Million hectares)

Fiscal Year	Canals	Wells	Canal Wells	Tube wells	Canal Tube wells	Others	Total
1990-91	7.89	0.13	0.08	2.56	5.87	0.22	16.75
1991-92	7.85	0.16	0.11	2.59	5.93	0.21	16.85
1992-93	7.91	0.18	0.10	2.67	6.23	0.24	17.33
1993-94	7.73	0.14	0.09	2.78	6.22	0.17	17.13
1994-95	7.51	0.17	0.10	2.83	6.41	0.18	17.20
1995-96	7.60	0.18	0.11	2.89	6.58	0.22	17.58
1996-97	7.81	0.18	0.11	2.90	6.61	0.22	17.85
1997-98	7.79	0.16	0.13	3.00	6.74	0.18	18.00
1998-99	7.67	0.17	0.09	2.98	6.88	0.16	17.95
1999-00	7.56	0.18	0.09	3.11	6.99	0.18	18.11
2000-01	6.98	0.16	0.10	3.19	7.22	0.17	17.82
2001-02	6.81	0.20	0.16	3.45	7.24	0.18	18.04
2002-03	7.06	0.21	0.17	3.37	7.21	0.20	18.22
2003-04	7.22	0.22	0.15	3.48	7.50	0.21	18.78
2004-05	7.00	0.25	0.19	3.46	7.70	0.24	18.84
2005-06	7.06	0.28	0.20	3.58	7.78	0.22	19.12
2006-07	6.68	0.67	0.22	3.89	7.78	0.25	19.59
2007-08	6.91	0.31	0.17	3.83	7.79	0.28	19.29
2008-09	6.86	0.33	0.20	3.88	7.94	0.21	19.49
2009-10 P	6.86	0.33	0.20	3.88	7.94	0.21	19.49

P : Provisional

Source: Ministry of Food and Agriculture

TABLE 2.12(A)

PROCUREMENT/SUPPORT PRICES OF AGRICULTURAL COMMODITIES

Fiscal Year	(Rs per 40 kg)								
	Rice			Paddy		Sugarcane			
	Wheat	Basmati 385	Irri-6 (F.A.Q)	Basmati 385	Irri-6 (F.A.Q)	Khyber Pakhtunkhwa	Punjab	Sindh	Baluch- istan
1990-91	112	283.00	127.00	143.50	73.00	15.25	15.25	15.75	..
1991-92	124	308.00	140.00	155.00	78.00	16.75	16.75	17.00	17.00
1992-93	130	340.00	150.00	175.00	85.00	17.50	17.50	17.75	17.50
1993-94	160	360.00	157.00	185.00	90.00	18.00	18.00	18.25	18.25
1994-95	160	389.00	170.00	210.90	102.60	20.50	20.50	20.75	20.75
1995-96	173	419.80	183.00	222.00	112.00	21.50	21.50	21.75	21.75
1996-97	240	461.78	210.45	255.30	128.80	24.00	24.00	24.50	24.50
1997-98	240	..	..	310.00	153.00	35.00	35.00	36.00	36.00
1998-99	240	..	..	330.00	175.00	35.00	35.00	36.00	36.00
1999-00	300	..	..	350.00	185.00	35.00	35.00	36.00	36.00
2000-01	300	..	..	385.00	205.00	35.00	35.00	36.00	36.00
2001-02	300	..	..	385.00	205.00	42.00	42.00*	43.00	43.00
2002-03	300	..	..	385.00	205.00	42.00	42.00	43.00	43.00
2003-04	350	..	..	400.00	215.00	42.00	42.00	43.00	43.00
2004-05	400	..	..	415.00	230.00	42.00	42.00	43.00	43.00
2005-06	415	..	..	460.00	300.00	48.00	45.00	60.00	..
2006-07	425	..	..	..	306.00	65.00	60.00	67.00	..
2007-08	625	..	..	..	..	65.00*	60.00*	63.00	..
2008-09	950	..	..	1250.00 @	700.00	80.00	80.00	81.00	..
2009-10 P	950	..	..	1000.00	600.00	100.00	100.00	103.00	..

FAQ : Fair Average Quality .. : Not applicable

(Contd.)

@ : Price of Basmati Super (Paddy) Rs. 1500/40kg

* : Sugarcane prices has been fixed by the respective Provincial Government.

TABLE 2.12(B)

PROCUREMENT/SUPPORT PRICES OF AGRICULTURAL COMMODITIES

(Rs per 40 Kg)

Fiscal Year	Cotton Lint				Seed Cotton (Phutti)				Potato	Onion
	Desi	AC-134, NT	B-557 149-F	Sarmast Qallan-dri Delta-pine MS-39-40	Desi	AC-134, NT	B-557 F-149 Niab-78	Sarmast Qallan-dri Delta-pine MS-39-40		
1990-91	550	615	645	690	220	235	245	260	55	52
1991-92	662	685	715	745	255	270	280	290	65	60
1992-93	695	..	770 *	800	275	..	300 *	310	67	65
1993-94	726	..	801 *	831	290	..	315 *	325	77	78
1994-95	795	..	986 *	1055	340	..	400 *	423	84	78
1995-96	795	..	986 *	1055	340	..	400 *	423	84	85
1996-97	..	..	..	..	440	..	500 *	540	115	100
1997-98	..	..	..	..	440	..	500 *	620	145	112
1998-99	..	..	..	..	..	..	825 *	..	145	140
1999-00	..	..	..	..	..	..	725 *	..	145	..
2000-01	..	..	..	..	..	..	725 *	..	145	..
2001-02	..	..	..	..	..	..	780	..	..	..
2002-03	..	..	..	..	..	..	800	..	..	..
2003-04	..	..	..	..	..	..	850	..	..	..
2004-05	..	..	..	..	..	..	925	..	..	..
2005-06	..	..	..	..	..	..	975	..	..	..
2006-07	..	..	..	..	..	..	1025	..	..	..
2007-08	..	..	..	..	..	..	..	..	..	..
2008-09	..	..	..	..	..	..	1465	..	..	..
2009-10 P	..	..	..	..	..	..	..	..	..	..

P : Provisional

.. : Not applicable

* : Niab-78, CIM

Source: Ministry of Food and Agriculture, Agriculture Policy Institute (API)

TABLE 2.13

PROCUREMENT, RELEASES AND STOCKS OF WHEAT AND RICE

Fiscal Year	(000 tonnes)						
	Wheat (May-April)			Rice Procured		Stocks Balance (on 1st July)	
	Procurement	Releases	Stocks	Basmati	Others	Basmati	Others
1990-91	3,159.0	5,608.0	1,508.0	142.7	673.8	719.3	117.5
1991-92	3,249.0	5,431.0	1,000.0	121.6	370.3	486.8	314.7
1992-93	4,120.0	5,143.0	505.0	500.5	454.0	285.2	540.5
1993-94	3,644.0	5,982.0	1,007.0	144.9	681.4	224.8	541.2
1994-95	3,740.0	5,999.0	776.0	284.0	..	236.4	848.5
1995-96	3,448.0	5,139.0	385.0	50.8	154.6	494.3	117.7
1996-97	2,725.0	5,987.0	456.0	..	..	159.4	187.9
1997-98	3,984.0	5,794.0	902.0	..	..	..	..
1998-99	4,070.0	6,165.0	981.0	..	..	..	..
1999-00	8,582.0	6,131.0	702.0	..	..	..	..
2000-01	4,081.0	5,537.0	3,552.0	..	..	..	..
2001-02	4,045.0	3,376.0	3,683.0	..	..	..	..
2002-03	3,514.0	5,130.0	992.0	..	..	..	..
2003-04	3,456.0	4,104.0	161.0	..	..	..	..
2004-05	3,939.0	4,500.0	350.0	..	..	..	..
2005-06	4,514.0	2,088.0	2,107.0	..	..	..	..
2006-07	4,422.0	5,985.4	499.1	..	..	..	..
2007-08	3,917.0	6,357.9	136.9	..	..	..	..
2008-09	9,231.0	5,784.4	821.9	..	..	..	..
2009-10 P	4,788.1 @	5,984.7	4,223.0 *	..	..	..	..

.. : not available

P : Provisional

Source: Ministry of Food and Agriculture

* : as on 1st May, 2010

@ : upto 10th May 2010 (2009-10 Crop)

TABLE 2.14

LIVESTOCK POPULATION

Fiscal Year	(million numbers)								
	Buffaloes	Cattle	Goats	Sheep	Poultry	Camels	Asses	Horses	Mules
1990-91	17.8	17.7	37.0	26.3	146.9	1.1	3.5	0.4	0.1
1991-92	18.3	17.7	38.7	27.4	156.2	1.1	3.8	0.5	0.1
1992-93	18.7	17.8	40.2	27.7	182.6	1.1	3.8	0.4	0.1
1993-94	19.2	17.8	42.0	28.3	250.0	1.1	3.9	0.4	0.1
1994-95	19.7	17.8	43.8	29.1	318.8	1.1	4.0	0.4	0.1
1995-96	20.3	20.4	41.2	23.5	350.0	0.8	3.6	0.3	0.1
1996-97	20.8	20.8	42.6	23.7	382.0	0.8	3.6	0.3	0.1
1997-98	21.4	21.2	44.2	23.8	276.0	0.8	3.2	0.3	0.1
1998-99	22.0	21.6	45.8	23.9	278.0	0.8	3.8	0.3	0.1
1999-00	22.7	22.0	47.4	24.1	282.0	0.8	3.8	0.3	0.2
2000-01	23.3	22.4	49.1	24.2	292.4	0.8	3.9	0.3	0.2
2001-02	24.0	22.8	50.9	24.4	330.0	0.8	3.9	0.3	0.2
2002-03	24.8	23.3	52.8	24.6	346.1	0.8	4.1	0.3	0.2
2003-04	25.5	23.8	54.7	24.7	352.6	0.7	4.1	0.3	0.2
2004-05	26.3	24.2	56.7	24.9	372.0	0.7	4.2	0.3	0.3
2005-06 *	27.3	29.6	53.8	26.5	433.8	0.9	4.3	0.3	0.2
2006-07 @	28.2	30.7	55.2	26.8	477.0	0.9	4.3	0.3	0.2
2007-08	29.0	31.8	56.7	27.1	518.0	1.0	4.4	0.3	0.2
2008-09	29.9	33.0	58.3	27.4	562.0	1.0	4.5	0.4	0.2
2009-10	30.8	34.3	59.9	27.8	610.0	1.0	4.6	0.4	0.2

Source: Ministry of Livestock & Dairy Development.

* : Population figures are actual figures of Livestock Census 2006

@ : From 2006-07 onward figures estimates are based on Inter census growth rate of livestock census 1996 & 2006

TABLE 2.15

LIVESTOCK PRODUCTS

Fiscal Year	Milk #	Beef	Mutton	Poultry Meat	Wool	Hair	Bones	Fat	Blood	(000 tonnes)		
										Eggs (Mln.Nos.)	Hides (Mln.Nos.)	Skins (Mln.Nos.)
1990-91	15481	765	665	151	48.1	7.9	259.0	101.8	40.1	4490	5.9	32.7
1991-92	16280	803	713	169	49.3	8.3	265.0	104.5	42.5	4914	6.0	33.9
1992-93	17120	844	763	265	50.5	8.1	271.0	107.2	45.1	5164	6.1	36.0
1993-94	18006	887	817	296	51.7	9.0	277.0	110.0	47.3	5740	6.2	37.8
1994-95	18986	931	875	308	53.1	9.4	283.0	113.0	50.7	5927	6.3	39.3
1995-96	22970	898	587	355	38.1	15.6	295.7	110.1	32.0	5757	7.0	32.7
1996-97	23580	919	602	387	38.3	16.2	302.3	112.6	32.8	6015	7.1	34.5
1997-98	24215	940	617	284	38.5	16.7	309.2	115.2	33.6	5737	7.3	35.3
1998-99	24876	963	633	310	38.7	17.3	316.3	117.8	34.4	8261	7.5	36.3
1999-00	25566	986	649	322	38.9	17.9	324.0	120.6	40.9	7321	7.6	37.2
2000-01	26284	1010	666	339	39.2	18.6	331.4	123.5	41.8	7505	7.8	38.2
2001-02	27031	1034	683	355	39.4	19.3	339.4	126.5	42.9	7679	7.9	39.2
2002-03	27811	1060	702	370	39.7	19.9	347.6	129.7	44.0	7860	8.2	40.3
2003-04	28624	1087	720	378	39.9	20.7	356.2	132.9	45.2	8102	8.4	42.4
2004-05	29438	1115	739	384	40.0	20.7	365.1	136.3	45.2	8529	8.4	42.6
2005-06 *	31970	1449	554	512	40.1	20.3	633.5	203.3	51.4	9712	11.4	43.3
2006-07 @	32996	1498	566	554	40.6	20.8	652.5	209.2	52.7	10197	11.8	44.3
2007-08	34064	1549	578	601	41.0	21.4	672.2	215.3	54.1	10711	12.2	45.3
2008-09	35160	1601	590	652	41.5	22.0	692.4	221.6	55.4	11258	12.6	46.3
2009-10	36299	1655	603	707	42.0	22.6	713.4	228.1	56.8	11839	13.0	47.4

Source: Ministry of Livestock & Dairy Development.

* : Population figures are actual figures of Livestock Census 2006

: Human Consumption

@ : From 2006-07 onward figures estimates are based on Inter census growth rate of livestock census 1996 & 2006