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MISSION

To be recognized in the market place by Institutionalizing a merit & performance culture, Creating a powerful & distinctive brand identity, Achieving top-tier financial performance, and Adopting & living out our core values.

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NBP Performance at a Glance

Editor's Corner

Dear Readers,

The homework for the approaching Federal Budget 2006-07 is underway. The various trade bodies, associations, Chambers of Commerce & Industry, Stock Exchanges, business institutes, among others are busy in preparing their recommendations for the Budget. A difficult task falls on the shoulders of the Budget makers who are swamped by the numerous proposals/suggestions/demand for concessions etc. These are at times exacting on government resources.

The National Budget sets the target for revenue/expenditure and announces the various heads of revenue collection. Through its budgetary measures, it gives a direction to the economy for the next fiscal year and also sets out the medium term policy framework.

Raising revenue has been a cause of concern for the Government. Growth in taxes have not kept pace with the growth of the economy, primarily because some of the major sectors of the economy are outside the tax net. The composition of taxes is not consistent with the sectoral composition of GDP. While the manufacturing sector is over burdened, the services sector which generates 50% of GDP is lightly taxed, and the agricultural sector is totally exempt as is real estate and equities – two of the largest investment avenues in Pakistan.

With the revamping of CBR, there has been a marked improvement in its performance. The strategy initiated aims to reduce corruption opportunities in the organisation, raise the buoyancy of the tax system through organizational restructuring, self-assessment, reduction of personal contact between taxpayers and tax collectors, simplifying processes etc.

As a consequence, revenue targets have been surpassed during the past two years, against the earlier practice when these used to be revised down during the year, and even then were not met. Voluntary payments of income tax have gone up to nearly 40 percent of the total gross income collection, due to greater reliance of taxpayer in response of Universal Self Assessment Scheme.

The forthcoming Federal Budget should aim to net in tax evaders and also bring into the net the untaxed sectors. Of the total tax revenue generated, 31% accrues from direct taxes, while indirect taxes contribute 69%. We are charging high rates of taxes from those already paying taxes. Indirect taxes, such as, general sales tax, central excise duty, customs duty generally impose a relatively greater burden of taxation on the poor i.e. they are regressive, while direct taxes such as income taxes and urban property taxes impose a relatively greater burden on the rich. Pakistan's share of direct taxes is below world averages.

The greater reliance on indirect taxes imposes a burden on household incomes. The Social Policy and Development Centre Annual Review 2004, states that while the poorest 10 percent of households contribute 16 percent of their income towards GST, CED and customs, the burden of the tax progressively declines as income rises and the richest 10 percent contribute only about 10 percent.

An increase in any of the components of indirect taxes could fuel inflation which would lower the purchasing power of the currency, thus adversely affecting the pockets of all especially the middle class. To check inflation, the Central Bank is pursuing a tight monetary policy. Though this checks the growth in inflation, it simultaneously discourages borrowings by industrial concerns, which subsequently affects private sector credit, investment in different sectors, industrialisation and employment opportunities and subsequently the overall growth in the economy.

The budget makers should aim to provide a level playing field by imposing a tax wherever income is being generated, whether it is the agriculturalists, professionals, real estate brokers, transactions at the stock market, car dealers, people buying property in Dubai, on sale/purchase of property etc etc. all segments of society should be taxed, so that the tax base widens and as the proportionate tax liability paid by others because on non payment by one segment, decreases there would be no resentment among the people.

Some major initiatives will have to be taken by the budget makers, for new assesses to be brought into the tax net. We need sound policies, greater deterrence, access to more information. Those at the helm of budget making could match the number of NTN holders with the number of industrial and commercial concerns which have gas and electricity connections, where the discrepancy is found to be quite large. As against 3.6 mn gas connections to industrial and commercial concerns, NTN holders are not more than 2 mn. Proper investigation needs to be undertaken to narrow this gap, the large undocumented economy be taxed.

The economy has done well in recent years due to the good policies of the government. Macroeconomic indicators have improved, with a healthy increase in foreign exchange reserves, in foreign direct investment, a firming up of demand for Pakistani exportable goods, decline in both domestic and external debt, a more diversified base of industrial goods, a reformed financial sector, considerable progress on the fiscal side, buoyancy in the stock market, with good operating financial results from the majority of blue chip companies and KSE has been the best performing market in the world in 2005.

Although a number of new jobs have been created, and the government has a clearly enunciated policy for poverty alleviation, the trickle down has been slow and needs to be accelerated.

Over the years, the large domestic and foreign borrowings had pushed up debt serving and because of the geo-political situation in the region the government was spending large sums on defense.

Better relations with India, and stability in the region alongwith an improved public debt situation has provided budget makers the opportunity to divert substantially large portion of funds towards the development of economic and social sectors, thereby enabling the creation of job opportunities and reduction of poverty. This is the stated objective not only of the government, but also the people of Pakistan. More investment in education, health and population control are however essential.

Budget expenditure patterns will have to change, with focus on the wider distribution of the benefits of public expenditure; in other words it is called the benefit incidence of expenditure to be progressive. This implies that in such instances, lower income households derive greater benefits from a given public expenditure than relatively upper income households. For instance higher allocation for services such as housing, water supply, electricity, public transport, education, health and public health facilities would have a progressive benefit incidence.

If Pakistan has to achieve the Millennium Development Goals by 2015, higher budgetary allocations for the Social Sectors is of paramount significance.

This would require that every segment of the population contributes to the process. The poor through greater effort in improving their productivity, and the rich by investing into production capability through their pool of hitherto untaxed resources so as to enable the government to fulfill its basic responsibilities. The Budget is the most important tool available to achieve all this.

Let us all be realistic and adopt a balanced approach. Let every individual of the country benefit from the fruits of development and let the rich pay their due share.

Ayesha Mahmood

Water Resource Management in Pakistan

Water is central to human existence. Traditionally seen as limitless bounty, it is only in more recent years that it has come to be recognized as a scarce resource. There is more than 1.4 billion cubic kilometers of water (kms³) on the planet earth, but more than 98 percent of it is salt water, while most freshwater is locked in the polar ice caps. Less than 1 percent of the earth's freshwater is accessible in lakes, rivers and groundwater aquifers. It is a renewable resource on which we all completely depend.

The problem is compounded by the increasing population, which is estimated to expand from today's 6 billion people to almost 8 billion by 2025. Of these, more than 80 percent would be living in developing countries and assuming the renewable water resources to remain unchanged, the number of countries facing water stress will increase from 29 today to 34 in 2025. How these countries manage their water resources will have implications for the growing population and the natural environment.

Given the significance of better usage of the scarce commodity, policy focus is on its management. Water management has been defined as "the planned development, distribution and use of irrigation water in accordance with predetermined objectives and with respect to both quantity and quality of water resources." Since the 1970s, a series of international meetings have addressed water issues. A consensus has emerged from such meetings that new policies will have to be adopted within the next two decades, which sees that supply, use, and management of water resources are integrated across sectors and between regions sharing the same source.

Improving the efficiency of water, especially in developing countries is highly imperative. In more developed countries, water is efficiently utilized. For instance, in the US, total water use has declined by 10 percent since 1980, even with an increase in population and a rise in economic wealth. Similarly, in Japan, industrial water use has fallen by

25 percent. These reductions have been achieved through technological improvements (using less water to produce the same goods) and a change in the composition of industries making up the sector. The potential to reduce industrial use through further innovation, improved technology and cost effectiveness is 20-30 percent, states the article "*Imperatives for Wise Water Management: From Public Good to Priced Commodity*".

It further goes on to state, residential water use, although only a small part (about 10 percent) of total water use, can be reduced without sacrificing living standards. Readily available means include improving the efficiency of household appliances, better pricing structures, use of recycled water for certain applications, and especially reducing unaccounted-for water due to leaks and non-metered connections in aging distribution networks. In many cities, such as Dhaka, Jakarta, and Manila, non-revenue water exceeds 50 percent of water use.

The single largest variable in future water use for human needs is irrigation. According to the UN's Economic and Social Commission for Asia and the Pacific, irrigation in Asia and the Pacific accounts for 80 percent of total withdrawals, compared with 70 percent globally. By far the largest share of investments in agriculture during the green revolution era went into irrigation schemes. The adopted technology was generally at the lowest end of the scale: as much as 60 percent of the water is lost through leakage and evaporation before it even reaches the crop and an additional 20 percent may be lost on the field. There are few incentives for the service providers or the farmers to improve the efficiency of water delivery and use in such schemes where water is free or priced well below its cost.

For producing high-value crops in water-scarce areas, new irrigation techniques have been shown to be highly efficient and cost-effective. Even simple improvements in surface canal systems, which are used almost

Number of water stressed countries to rise

Ways to reduce water use

Irrigation accounts for major withdrawals

Water usage has fallen in the US & Japan

New irrigation techniques

exclusively in developing countries, can lead to impressive gains in efficiency. Efforts to increase efficiency in water use could, however, have serious impacts on poor farmers, who may not be able to finance technological improvements.

On the technology side, there are a number of options for small farmers, who can increase the productivity of their crops through better water control. It is the farmers themselves who have to manage water efficiently, have to make a choice from different available options as it can then radically alter the way the world uses its limited water resources.

Rapid expansion of groundwater irrigation during the last two decades, provided remarkable increases in yield, productivity, and area of irrigated crops in parts of rural Bangladesh, People's Republic of China, India, Indonesia and Pakistan. However, unregulated extraction over vast areas has caused extensive and rapid lowering of the water table and, in coastal areas, contributed to saltwater intrusion. In other parts, over-watering (combined with inadequate drainage) is bringing the water table dangerously close to the ground surface, rendering the surface saline and unusable.

An arid and semi arid climate characterizes most of Pakistan. Despite this, it has traditionally been an agrarian society based on livestock and food and forage crops. The vast Indus River plain is where most of the irrigated agriculture takes place. It is highly seasonal with flows associated mainly with glacier and snow melt and summer rains.

Agriculture continues to play a multifaceted role in the economy; accounting for 23 percent of Pakistan's national income, employing 42 percent of the workforce and responsible for 60-70 percent of exports. Nearly 68 percent of the population living in rural areas are directly or indirectly dependent on agriculture for their livelihood.

Large part of the agriculture sector is supplied with irrigation water through the Indus River and its tributaries, which have an expanded

network of canals. The Indus River and its tributaries on average, bring about 151.6 MAF of water annually. Most of the inflow, about 103.8 MAF is diverted for irrigation, 38.0 MAF flows to the sea and about 10.0 MAF is consumed by the system losses which include evaporation, seepage and spills during flood. In Indus Basin Irrigation System is a large network of reservoirs, barrages, canal system and water courses.

Details given as under: -

§	Population:	150 million
§	Geographical Area:	796,100 KM ²
§	Irrigated Area:	46 million acres
§	Irrigated Area in the Indus Basin:	90 percent
§	Annual Water Availability (At RIM Stations; Post Tarbela):	143 MAF
§	Annual Canal Withdrawals:	104 MAF
§	Groundwater Pumpage:	42 MAF
§	Per Capita Water Available (2003):	1200 Cubic Meter
§	Agriculture Product:	23 percent of GDP
§	Total Power Generation: (Installed Capacity):	17942 MW
§	Hydropower Generation (Installed Capacity):	5039 MW
§	Indus Basin Irrigation System	
	Main Storage	
	Reservoirs:	3
	Barrages:	19
	Main Canal	
	Commands:	45
	Link Canals:	12
	Small Dams:	80
	Water Courses:	More than 107,000
§	Water Sector Allocation in the Ten Year Perspective Plan:	Rs1,001.8 billion
§	Annual Freshwater Withdrawals	
	% for Agriculture:	97
	% for Industry:	2
	% for Domestic:	2

Ground-water irrigation

Pakistan subject to dry climate

Ground-water usage rises

There has been little change in surface water availability since the late 1970s, while groundwater usage has risen phenomenally, growing from just 8 percent of water available in 1960 to over 40 percent in late 1980s, after which there has been little change.

Water Availability at the Farm Head in the Indus Basin System

Year	Water Availability at Farm Head MAF			Irrigated Area Mac	Acre-ft per Acre
	Canal Water	Ground Water	Total		
1960-61	48.4	4.2	52.6	25.7	2.04
1967-68	56.8	11.7	68.5	30.9	2.22
1977-78	61.6	27.8	89.4	35.1	2.55
1985-87	61.4	40.9	102.3	39.8	2.57
1990-91	65.0	41.0	106.0	41.9	2.53
1999-00	61.5	41.6	103.1	44.0	2.34

Source: *Pakistan's Water Resources, Making Strategic Decisions* Usman Qamar and Walter Garvey Environment & Social Development Unit, World Bank June 2005

Groundwater has been a major factor in increasing agricultural production. Because of its increasing development, there has occurred a lowering of water tables and intrusion of saline water into freshwater aquifers. Increasing usage with limited capacity for recharge is resulting in shrinking groundwater areas.

The Water Accord recognized the need to set up an Indus River System Authority (IRSA) to ensure implementation of the Accord, and IRSA was established in 1992. It was with the objective to see to the implementation of the Accord, reviewing and specifying reservoir operation patterns, determining priorities for river and reservoir operation for irrigation and hydropower requirements, settling disputes amongst the provinces in respect of distribution of river and reservoir waters amongst others.

A World Bank study, *'Pakistan Public Expenditure Management: Accelerated Development of Water Resources and Irrigated Agriculture'* states "The Accord has worked in the sense that the waters of the Indus River are divided among the provinces each season, but it has not worked well as a framework for inter-provincial cooperation and planning, particularly for new storages or canals, as a

Effectiveness of the Accord

mechanism for sharing either water surpluses or deficits, or as a mechanism for enhance transparency and information sharing. From an admittedly simplified perspective, there appears to be several reasons for this. First, since the Provinces are not receiving their "full allocation" and the system is characterized by shortages even when there is not a drought, the operations of IRSA have been hampered by political interference and controversy among the Provinces. Second, there does not seem to be sufficient transparency or timely and credible information about the location and timing of flows and volumes of water in the system to build adequate trust that water allocations and withdrawals are in accordance with the rules of the Accord; and third, the system of storage and diversion works is not adequate to manage the river in a way that would ensure that the Accord can be fully implemented if there is sufficient water in the basin in a particular year."

There is a "people" side to managing water efficiently. Improving the management of water resources would enhance quality of life for large numbers as it would impact health and the conditions where people live. It would also have an enormous bearing on those people who eke out a living from agriculture and its sub-sectors. One in five people living today does not have access to safe drinking water, and half the world's population does not have adequate sanitation. This is most acute in Asia where the majority of the world's poor people live. The availability of a decent water supply and sanitation system would go a long way in improving the quality of life of the poor disadvantaged segment of society. It would not only improve both their social and economic status, especially of the womenfolk who have to fetch water from long distances but also address the poverty concerns.

Poverty and water availability

The lack of water accentuates the hardships of the poor. Marginal farmers who are often on the periphery of irrigation facilities are almost never able to reliably access water. Low productivity and crop failures create food insecurity. Uncertain incomes perpetuate indebtedness and social misery is

Lack of water causes hardship

compounded. Large numbers of the world's poor live in rural areas, they are often landless and farm marginally productive areas. Farm livelihoods, including those of the poor, have been afflicted by depletion in forests, deterioration in catchment areas, frequent flooding and diminishing groundwater recharge.

Today, food production can be more efficiently increased by improving the use of water and other resources, rather than by expanding the land frontier. As the pressure on water resources are rapidly becoming acute, it is necessary that while access to water resources is being focused upon, attention should also be placed on waste water treatment and disposal which is causing serious environmental problems.

Water consumption needs are increasing as countries rapidly move through the industrialisation chain. Competition for water is intense in developing countries, where demand for water by agriculture continues to grow despite changes in cropping patterns and the introduction of new seed varieties that are less dependent on water. Irrigated areas continue to use water inefficiently. Increased and better irrigation would promote employment opportunities and off farm income opportunities.

The Pakistan Poverty Assessment Report undertaken by the Government of Pakistan and the World Bank, indicates that about one-third of the country's population is poor, and two-thirds are found in rural areas, where the extent of poverty is more severe than in urban areas. Between 1990-91 and 1998-99, while urban poverty fell, rural poverty held at about 36 percent, widening the urban-rural gap. More than half the rural population is landless.

Most rural livelihoods depend directly or indirectly on agriculture and agricultural productivity depends on the availability of water for irrigation. In a paper, "*Addressing Water and Poverty at the Grassroots*", Asian Development Bank, while discussing a case from Pakistan the authors Simi Kamal, Jasveen Jairath have addressed poverty in a Delta

Region, and they state "the drying up of the River Indus downstream from Kotri Barrage has permanently damaged the ecosystem. It is established that the sea has intruded up to 150 miles (about 225 km). Shrimp production has decreased to one-tenth. The mangrove forest which covered 0.6 million acres has been reduced to 0.25 million acres. The drying up the Delta and the subsequent decrease in shrimp and fish production has affected the livelihood of a vast majority of nearly half a million fishermen in the region.

While the realities of water availability, it's regime, the climate, weather, delta conditions and the market have changed, the way of managing farms and using water at farm level has not. About 45 per cent of the land area is under cultivation. Poor management and distribution of irrigation water has also rendered a large area of land uncultivable and resulted in low crop yield and thousands of local farmers whose livelihood depended on agriculture are facing economic hardship. Poverty is on the increase."

Using the US\$1 poverty line, for all households in the sample, gives an even higher proportion of poor households. When the US\$1/person/day formula (where US\$1= Rs59.25), was applied, it can be seen that all the households that earn up to Rs5,000 (US\$ 84.38) per month were well below the poverty line. This means that 67 percent of the households (ie two thirds) were below the poverty line in the Indus Delta area. In fact even the families earning Rs10,000 (US\$ 169) per month (US\$ 0.8/person/day) are just on the margins of the poverty line. The low proportion of earning members reinforces the dependency ratio, which is another indicator of poverty.

The Indus Delta Area Water Partnership was initiated in June 2001, as part of the work of the Global Water Partnership. Its main objective is to promote water, food and livelihood security (and thereby tackle poverty). Its members include local NGOs, government departments and national-level support organizations as well as local farmers and stakeholders.

Water consumption increasing

Poverty in rural areas

Rural livelihoods affected

67% below poverty live in Delta

In another paper by ADB ‘*Role of the Traditional Water Supply Schemes in Poverty Alleviation in Turbat, Balochistan*’ it has been shown how *Karez*¹, a traditional water supply system to this extremely hot and arid land fell into disrepair as a result of drought and increasing poverty.

“As a result, the local agricultural system suffered greatly from the drought. The most dramatic examples of this are the potential loss of thousands of date palms. These date palms are capable of producing a substantial crop, providing food, jobs and marketable product. The less dramatic but no less damaging effects of the drought are widespread: it becomes increasingly difficult to sustain agriculture; animals die, and as the water supply dries up, women are forced to make longer and longer journeys for households supplies. As the amount of water is reduced, so is its quality: sickness almost inevitably results as it becomes harder to maintain good sanitation. The things have become progressively more desperate, families have had to migrate in search of water, more women have become responsible for water supplies.

The poor are the most vulnerable to the damaging effects of drought and poverty. The drought exacerbates the existing economic poverty and poverty of livelihood opportunities as productive lands diminish in size, as animals die, as vegetation dies off; as agriculture becomes less and less sustainable. The poor are pushed further into absolute poverty; more people are pushed below the poverty line, and levels of absolute and relative poverty increase.”

However, with the assistance of the National Rural Support Programme the *karez* was restored to full capacity, and they supplied the community drinking water and an additional number of 100 – 150 acres of land per *karez* were brought under cultivation.

Pakistan’s water resource development is of immediate concern. The Indus River System continues to be the single largest source of irrigation supplies. However, it suffers from

inefficient operations, lack of demand management, insufficient disposal of excess salt from soils and the deterioration both physical and functional of water related infrastructure.

A World Bank paper, ‘*Better Management of Indus Basin Waters*’, had identified the various gaps that exists today in Pakistan water sector, and the areas which need to be focused upon. Let us see what these deficiencies are. The Bank assistance would support four pillars of the water sector. These are given in the Box.

§ Pakistan is moving from being a water stressed country to a water scarce country due to high population growth.

§ Pakistan is fast approaching the limit of its water resources.

§ Groundwater is being over-exploited in many areas, and its quality is deteriorating.

§ Much of the water infrastructure is in poor repair.

§ The system is not financially sustainable. Users of canal water pay a very small part of the bill, which is basically paid by the taxpayer who provides much less than required for rehabilitation and maintenance of the assets and for operation repair. The result is that most infrastructure is in poor repair.

§ Poor governance and low trust: The result is inequitable distribution of water, poor technical performance and a pervasive mistrust and conflict, from the provincial offtake to the farmers fields.

§ Water productivity is low. Despite good soil and abundant sunshine, crop yields, both per hectare and per cubic meter of water, are much lower than international benchmarks.

Pakistan has very little water storage capacity; whereas the United States and Australia have over 5,000 cubic meters of storage capacity per inhabitant, and China has 2,200 cubic meters, Pakistan has only 150 cubic meters of storage capacity per capita. The storage capacity of both Tarbela and Mangla have declined over time because of high silt loads.

Drought adversely affects economy

Drought and poverty

The Resource Gap

The Maintenance Gap

The Trust Gap

The Productivity Gap

Investing in Water Reservoirs

¹ A water channel consisting of a series of high elevation ‘mother wells’ and low level connecting channels. A *karez* is owned by a group of villagers who build and maintain it.

Box

Pakistan Country Water Resources Assistance Strategy Water Economy: Running Dry - World Bank

Water management is a major issue for Pakistan. Given its arid climate and rising population growth, makes Pakistan one of the most water stressed countries of the world.

The World Bank had undertaken a study to assess the issues with regard to water development and management facing the country. As part of the process of preparing a Pakistan Country Assistance Strategy for the period 2006-10, it was agreed that the Bank would do a Water Country Assistance Strategy for Pakistan. The Report by identifying the priorities would support the Bank and other donors in providing assistance to desired sectors.

We give below excerpts from the Report: -

- § Pakistan is an arid country. The balance between population and available water already makes Pakistan one of the most water-stressed countries of the world with rapid population growth it will soon enter a condition of absolute water scarcity.
- § As population densities increased, especially in the areas adjacent to the rivers, so too did the vulnerability of people to the naturally meandering nature of heavily-silt laden rivers, and to floods.
- § The large investments in surface irrigation transformed not only the economy and landscape of Pakistan, but had a huge impact on groundwater. The vast, leaky, irrigation system disgorged hundreds of billions of cubic meters into the aquifers of the Indus Basin at the same time as when natural drainage channels were impeded. The result was a fundamental change in the water balance, with subterranean and surface flows out of the aquifers and into the rivers and eventually the ocean no longer capable of draining the much larger quantities of water which were poured into the aquifers. The result was an inexorable and relatively rapid rise in the water table. There were two pronounced and curiously entangled consequences of the high water table.
- § The first consequence was a revolution in the use of groundwater. The second consequence of the rapid rise in the groundwater table was much less benign. In its travel down and back up the soil profile, the water had absorbed the salts – sometimes very abundant where the sediments were of oceanic origin, as in large parts of Sindh – which were present in the soil. When the water evaporated the salts stayed behind, covering large areas of once-fertile fields with a sterile crust. The low-lying areas were now effectively barren, due to the combined effect of salt and sodden root zones.
- § Groundwater now accounts for almost half of all irrigation requirements. Now, although, there is clear evidence that groundwater is being over-exploited, yet tens of thousands of additional wells are being put into service every year. In the *barani* areas of Balochistan, farmers are pumping from depths of hundreds of meters and in the sweet water areas of the Indus Basin, depletion is now a fact in all canal commands. Furthermore, there are serious and growing problems with groundwater quality, a reality that is likely to get worse because there are 20 million tonnes of salt accumulating in the system every year. There is an urgent need to develop policies and approaches for bringing water withdrawals into balance with recharge, a difficult process which is going to require action by government and by informed and organized users.
- § Pakistan is in the throes of profound demographic and economic changes, which have major implications for water management. These changes of scale, location and composition have profound implications for water management in future. Most obviously they will mean a Malthusian

arithmetic, in which growing demands will put unprecedented pressure on a limited quantity of available water. But it also means that demands that could once comfortably be met at a local level will start having regional implications, and thus implications for other sectors. Large quantities of untreated, often highly toxic municipal and industrial wastes are being dumped in open drains, and are reaching down into the aquifers. More than 90% of municipal and industrial wastes are simply dumped, untreated, into the local aquatic environment with no treatment with major consequences for the environment and human health now, and since natural aquifer cleansing takes place over decades or even centuries, for very long periods into the future.

- § In the past water resources management in Pakistan was largely synonymous with management of water for irrigation. While irrigation will continue to use the majority of water in the foreseeable future, management of water resources in Pakistan will become a much more multi-sectoral affair. Water use for towns and industries will become a major local and regional issue and the use of water for environmental purposes will demand more water and more attention. And issues of water quality will grow to be as important as issues of quantity.
 - § Pakistan is currently close to using all of the surface and groundwater that it has available, yet it is projected that over 30% more water will be needed over the next 20 years to meet increased agricultural, domestic and industrial demands.
 - § The focus of attention will have to shift from productivity per unit of land to productivity per unit of water, and the major challenge will be to get more from less — more crops, more income, more jobs per unit of water.
 - § There is no higher priority for water management in Pakistan than to move aggressively in putting in place a totally transparent, impartial system for implementation of the Water Accord.
- The management of salinity constitutes one of the major challenges for long term sustainability of irrigated agriculture in the Indus Basin. There is an urgent need to invest heavily in monitoring and scientific and technical capacity to deal with the salinity issue. While salinity management is the most fundamental environmental challenge in the Indus Basin, there are other environmental challenges also — of management of the coastal zone and the delta, of preserving wetlands and of managing pollution.
- § If water entitlements, water pricing, accountable institutions, effective regulation were implemented, the majority of water-related environmental problems in Pakistan would be ameliorated to a significant degree. Specifically, this would mean an end to wasteful water use in both agriculture and urban areas; it would mean reductions in mining of aquifers and the consequent quality problems. It would also mean shifting the focus of government attention away from the traditional areas (of constructing and operating water supply infrastructure) and “creating fiscal space” for investing in environmental quality and other public goods.
 - § Pakistan is extraordinarily dependent on its water infrastructure, and it has invested in it massively. Due to a combination of age and what has aptly been called the “Build/Neglect/ Rebuild” philosophy of public works much of the infrastructure is crumbling. This is true even for some of the major barrages, which serve millions of hectares and where failure would be catastrophic. There is no modern Asset Management Plan for any of the major infrastructure. There are no reliable estimates of the annualized costs of replacing and maintaining the infrastructure.

§ Much of what is built is not being maintained, and that which does still function, delivers services of low quality.

§ There are three basic questions relevant to the financing of infrastructure – who pays? how much is paid? and how is the money used? In terms of “who pays”, there are many reasons why a substantial portion of the costs of public works which provide individual services (such as irrigation water) should be paid for by those who get the service. But in Pakistan users of canal water pay a very small part of the bill, which is basically paid by the taxpayer. In terms of “how much is paid”, the answer is: much less than the presently configured institutions require for rehabilitation and maintenance of the assets and for operations. The result is that most infrastructure is in poor repair. In terms of “how is the money used”, the answer is that first call is for payment of heavily overstaffed bureaucracies, whose productivity is low and whose appetite leaves insufficient funds for system maintenance and operation. This reality gives rise to a vicious circle, in which users are not willing to pay for poor and unaccountable services, which means that insufficient funds are available for operations and maintenance, which results in the decline of service quality and whereupon users are even less willing to pay....

§ Pakistan has to invest, and invest soon, in costly and contentious new large dams. When river flow is variable, then storage is required so that the supply of water can more closely match water demands. Relative to other arid countries, Pakistan has very little water storage capacity.

§ If no new storage is built, canal diversions will remain stagnant at about 104 MAF and the shortfall will increase by about 12 percent over the next decade. The Pakistan Water Strategy calculates that Pakistan needs to raise storage capacity of 18 MAF by 2025 in order to meet the projected requirements of 134 MAF.

§ In addition to the bulk water, irrigation and hydropower infrastructure, Pakistan needs to make substantial investments in water supply and sanitation facilities for those who do not have services in both rural and the rapidly-growing urban areas.

The primary immediate challenges for the water and sanitation sector are to extend services to the un-served, to improve the quality of services to those who are nominally served, and to find mechanisms which are much more efficient and accountable in order to do this. This will mean going beyond the traditional public utilities and mobilizing the resources and innovative capacity of community organizations (like the Orangi Pilot Project) and the private sector, large and small, domestic and international.

§ While Pakistan still needs to invest in some major water infrastructure, it is clear that the major challenge facing the country is to more effectively manage both the water resources (and the associated natural resource base) and the water services.

There is growing recognition, evident in most of the background papers by water experts in Pakistan, and in the discussions with experienced Pakistan water managers, that the principal task in water management in Pakistan today is to design a set of instruments – the rules of the game that determine how people use and dispose of water – that are better aligned with the looming resource, environmental, financial and economic challenges facing Pakistan. What would an incentive-based approach to water reform in Pakistan involve?

§ Most fundamentally, it would require a major change in the role of the state. The government would allow others (including the private sector) to compete for the right to supply water supply and irrigation services, while the government would turn its attention to the financing (and in some cases the delivery) of major storage, flood control, sewage treatment and other public goods and would have as its central task the development and implementation of an integrated package of instruments – entitlements,

pricing, regulation – which would structure the relationships among water users so that water is used efficiently, and environmental and financial sustainability is assured.

Pakistan will not be able to successfully address the many service and resource management challenges it faces without the implementation of a transparent, enforceable system of water entitlements at all levels.

§ This Report makes it clear that Pakistan is going to have to make major changes in the way in which it develops and manages its water resources, and that this process has to start soon.

§ The experiences of other countries suggest that there are a set of “rules for reformers” in undertaking such a transition. These rules include:

- Initiate reform where there is a powerful need and demonstrated demand for change.
- Involve those affected, and address their concerns with effective, understandable information.
- If everything is a priority, nothing is a priority – develop a prioritized, sequenced list of reforms.
- Pick the low-hanging fruit first – nothing succeeds like success.
- Keep your eye on the ball – don’t let the best become the enemy of the good.
- Be aware that there are no silver bullets.
- Don’t throw the baby out with the bathwater.
- Treat reform as a dialectic, not mechanical, process.
- Understand that all water is local and each place is different – one size will not fit all.
- Be patient, persistent and pragmatic.
- Ensure that reforms provide returns to politicians who are willing to make changes.
- Recognize that water, unlike electricity or telecommunications, is “far from a simple commodity.”

§ An important objective of the this Report is to help define the water elements of the framework (known as the Country Assistance Strategy) which will govern the relationship between the World Bank and Pakistan for the period 2006-2010.

§ Bank assistance would support four pillars of the water sector:

Asset Development and Management

Pakistan has a large endowment (with an estimated replacement value of US\$60 to 70 billion) of water resources infrastructure, most owned and managed by the provinces, and much now quite old. Bank-funded projects will make major investments in rehabilitation of some critical assets (including barrages) and will help put in place Asset Management Plans which will set priorities for asset rehabilitation and maintenance, make explicit the requirements for public and user financing, and develop efficient institutional arrangements for rehabilitating and maintaining this infrastructure.

Water Resources Management

The Bank expects to support development of capacity at the provincial and federal levels for improving water and associated natural resource management.

Service Delivery

The Bank expects to be heavily engaged in provincial - and city-level efforts to improve the quality, efficiency and accountability with which water supply, sanitation and irrigation services are delivered.

On-farm Productivity

The Bank will continue to invest in the on-farm services (land leveling, watercourse lining, and introduction of new technologies through private-public partnerships) which are essential for agricultural diversification and for improving the amount of crop, income and jobs produced per drop of water.

Need to raise storage capacity

The Water Strategy calculates that Pakistan needs to raise storage capacity by 18 MAF (6 MAF for replacement of storage lost to siltation and 12 MAF of new storage) by 2025 in order to meet the projected requirements of 134 MAF. Large dams do not only increase the assurance of water supply, but they can also generate large amounts of electricity. Currently, about 30 percent of Pakistan's energy is generated from hydropower. Even though irrigation requirements are its priority, Tarbela's power benefits account for 60 percent of the overall economic benefits from the dam.

Deciding on which dam should be built involves comparisons from many angles – economic, financial, technical, safety, environmental and social – and multi dimensional tradeoffs. Using some indicators of environmental and social impact of existing and possible future large dams in Pakistan with other major multipurpose dams in the world, the Bank suggests that for Kalabagh the environmental and social problems are smaller than for most other large multipurpose dams; for Basha the problems are very much smaller.

As part of the 1991 Accord, the shares of any increase in water available as a result of new storage are clearly allocated.

Given the gravity of issues facing the water sector, and with the country approaching the utilisation limits of its water resources, there has emerged a strong and growing need to manage this resource more efficiently, so to ensure water for all on a sustainable basis in the years to come.

Key challenges facing the Water Sector:

- § Reduction in water storage capacity.
- § Inefficient use of water.
- § Non-availability of irrigation water at required time and in right quantity.
- § Increasing areas threatened by water logging and salinity.
- § Over exploitation of groundwater.
- § Inadequate operation and maintenance funding and poor cost recovery.

- § Inequity in water distribution.
- § Effluent disposal and other environmental issues related to water.
- § Weak water management governance.
- § Absence of a conducive environment required to introduce and implement water efficient irrigation techniques.
- § Inadequate reflection of poverty alleviation issues and gender concerns.

The Government has addressed the issue of developing the water sector through several initiatives, including the Ten Year Perspective Plan, Vision 2025, National Water Policy and the Pakistan Water Sector Strategy Study, where the later provides a road map for the future development of the sector.

Several initiatives to develop the water sector

In the Ten Year Perspective Development Plan 2001-11, the various issues of scarcity of irrigation water/periodic droughts, deterioration of irrigation infrastructure, water logging and salinity, and periodic flooding have been addressed with strategies chalked out for each and related programmes to be undertaken to achieve the strategies.

It is expected that once the programmes are initiated, results would accrue, and by the end of the Perspective Plan period, water availability would increase from 134.77 MAF to 146.92 MAF at the farm gate through improvement of 75,000 water courses and construction of small and medium reservoirs; about 6.6 million acres of area will be protected from water logging and salinity by implementing various drainage projects.

Options available

The Plan has discussed the options available for meeting the water shortages. These could be categorized into the augmentation measures, construction of new reservoirs, desilting of dams, exploitation of remaining potential of groundwater; and the conservation measures lining of canals, lining of watercourses, changes in cropping patterns in view of water available and use of high efficiency techniques.

Focus would also be on the maintenance and sufficient allocation of funds, plus cost recovery from beneficiaries so to improve the

performance of irrigation and drainage facilities. Drainage and reclamation programme would receive priority as it would check the severe problem of water logging and salinity. Drainage development has so far been inadequate and the problem has been aggravated over time by the construction of numerous canals, roads and other infrastructure obstructing lines of natural drainage. Also persistent seepage from unlined canals over the years caused the groundwater table to rise dramatically. Water logging and soil salinisation were the consequences of this rise and today there is a need for drainage to prevent further salinisation and water logging.

The country has a Water Vision 2025, whose opening lines state, 'Pakistan should have adequate water available through conservation, development and good governance. The objectives of the Vision are:

- § prevent water shortages in the future.
- § protect the agriculture sector from droughts.
- § increase reservoir capacity lost due to siltation.
- § develop new storages to cater for future needs.
- § develop 16,000 MW of hydropower for providing cheap electricity to consumers.
- § invest \$33 billion in the next 22 years.

A National Water Policy has been prepared where the objectives of the policy are:

- § access to potable water supply for all.
- § adequate quantity of water for financially sustainable irrigated agriculture.
- § water for industry.
- § balanced and equitable use of water to meet the needs of all users.
- § reduction in drainage effluent.
- § improved environment through better water quality.

The other important initiative of the government to develop the water sector was the Pakistan Water Sector Strategy Study undertaken. This provides a roadmap for the future development of the sector. It covers the sector in its entirety. It emphasizes on institutional, management and financial matters as well as infrastructure. It prioritizes equity in water allocation, improving and maintaining the quality of water the conservation of the country's water resources and the need for efficiency and financial sustainability in water service delivery. It promotes an integrated approach to water sector development.

Did you know...

- § Agriculture is by far the biggest user of water, accounting for almost 70 percent of all withdrawals, and up to 95 percent in developing countries.
- § The water needed for crops amounts to 1000-3000 cubic meter per tonne of cereal harvested.
- § The daily drinking water requirements per person are 2-4 litres.
- § Drought ranks as the single most common cause of severe food shortages in developing countries.
- § Africa has the highest prevalence rate of hunger. In Ethiopia alone, more than 57 million people have been affected by drought in the past 30 years.
- § In India, more than 70 percent of annual rainfall takes place during the monsoon; most of it floods out to sea. Therefore, farmers who lack irrigation must contend with water scarcity through much of the year.
- § Globally, rain-fed agriculture is practiced on 80 percent of cultivated land and supplies more than 60 percent of the world's food.
- § It is estimated that poor drainage and irrigation practices have led to water-logging and salinization of about 10 percent of the world's irrigated lands, thereby reducing productivity.
- § Since water and population are unevenly distributed, water supply is critical in various countries and regions. Countries could be defined as "water-stressed" if they abstract more than 20 percent of their renewable water resources. By this definition, 36 out of 159 countries (23 percent) were already water-stressed in 1998.
- § In northern China, a large area of farmland is threatened by falling water levels owing to the overuse of groundwater.

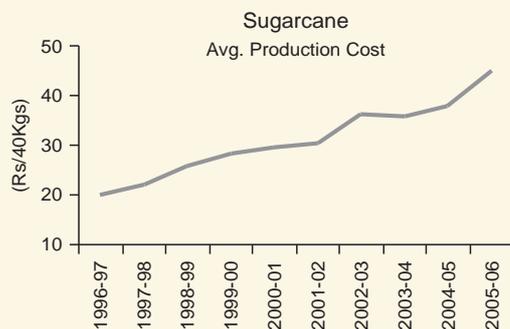
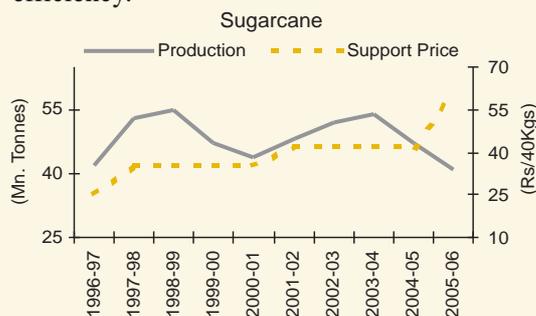
Current Sugar Scenario

The sugar industry in Pakistan is the second largest agro based industry with 6 percent weightage in large scale manufacturing. Comprising of 77 sugar mills, with daily crushing capacity of around 350 thousand tones, it provides employment to 47000 persons directly and about a million overall. Its by-products have contributed significantly towards import substitution and in raising export earnings. Sugarcane serves as the major raw material for production of white sugar and gur. It contributes 15 percent to value added of major crops and its share in agricultural value added and GDP is 6.3 percent and 1.5 percent respectively.

Sugar a large agro based industry

Pakistan is the 5th largest country in the world in terms of area under sugarcane cultivation, 11th by production and 60th in yield. Sugarcane production touched historic highs of over 55 million tones in 1998-99, after which it declined but in 2003-04, an output of 53.4 million tones was harvested. In FY06, production slumped to its lowest in the decade, to an estimated 40.95 million tones, down almost 16 percent over the previous year. This had an adverse impact on the availability of sugarcane for the sugar industry, thus affecting its operational efficiency.

Sugar-cane output declining



Record sugar output

According to the Pakistan Sugar Mills Association (PSMA) the sugar industry has a capacity of producing 6 million tones plus of sugar annually. In 2003-04, the sugar mills produced nearly 4.0 million tones of sugar by crushing 43.5 million tones of cane. The average sugar recovery rate improved to 9.2 percent.

Sugar availability above requirement

Due to a decline in cane production, together with unfavourable market conditions in 2004-05, cane supplies to mills fell by 26 percent, which translated in lower operational efficiency at 58.2 percent. The recovery rate came down for want of crop quality and only 2.921 million tones of sugar was produced by crushing 32.1 million tones of cane. Despite the fall, domestic consumption was met through sugar produced from sugar beet, besides imports and carry over stocks from the previous season's crop.

Sweets / beverages major consumers

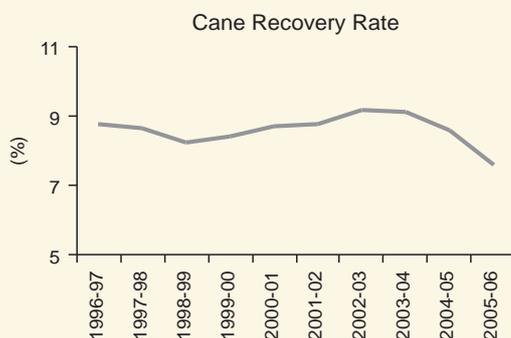
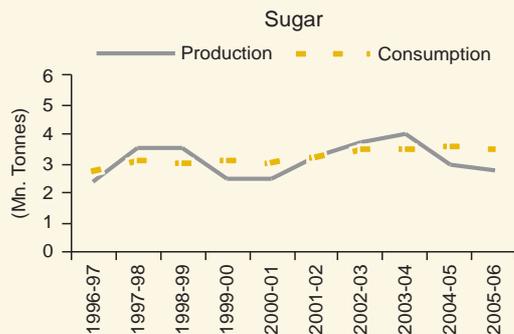
The preliminary estimates for 2005-06 show lower sugar output of 2.6 million tones, well below the projected domestic consumption of nearly 4.0 million tones. According to an estimate, only 30 percent of the total annual consumption is accounted by household consumers, the rest is consumed by the sweets and beverages sector. A substantial quantity of raw sugar finds its way to Afghanistan and Central Asian Republics.

A significant quantity of sugarcane crop has been diverted towards gur production, which is exported or smuggled to Afghanistan, Central Asia, and Iran. Reportedly many sugar mills, particularly in Punjab, have earned large profits by exporting raw sugar to Afghanistan. At least 300,000 tones of sugar equivalent of gur (raw sugar) has reportedly been exported to Afghanistan this season.

Low cane crushing

Growers have diverted their produce to the lucrative market of gur, which is fetching higher returns, following a rift between growers and millers over payments and row between growers and the government over cane prices. Under the present situation, sugar sources expect the current demand and supply gap would create a shortage of 1.36 million tones in the local

market. The gap narrows after the release of 500 thousand tones of sugar from last year's stock. The remaining gap would be met through imports.



Pakistan Sugar Mills Association reports that as of mid-February, domestically 1.6 million tones of sugar was produced by crushing 18.7 million tones of sugarcane. The Association expects this season's production to be in the range of 2.8-3.0 million tones, while it estimates annual consumption to be in the range of 3.2-3.6 million tones. There was also an opening stock of 1.1 million tones, inclusive of 100 thousand tones held by TCP.

PSMA blames the government's delayed decision to release sugar supplies to mills from the stocks and duty free import of refined sugar to have fueled the current sugar crisis. The crisis is deepening as consumers continue to face unprecedented increase in the price of the commodity. For the first time, sugar prices have increased by more than 95 percent within a few weeks. The retail sugar price set a new record following reports of future sugar contracts in the market in anticipation of more supply shortages and rising international prices.

Sugar prices all time high

Demand/supply gap increasing prices

Global supplies short

Season	(000 tones)				
	2000-01	2001-02	2002-03	2003-04	2004-05
Opening stock	27	634	637	759	810
Sugar production	2484	3227	3684	4016	2933
Imports	1165	52	8	-	859
Available	3676	3913	4405	4792	4602
Export	-	-	81	79	55
Consumption	3042	3276	3565	3518	3652
Surplus	634	637	759	1195	895
TCP procurement	-	-	-	385	224
Net surplus with industry	634	637	759	810	671

Source: Pakistan Sugar Mills Association

In the international market, sugar prices have crossed \$480 per ton. The Economic Coordination Committee recently directed the TCP to immediately import refined sugar to meet the local demand. The TCP has contracted import of 50 thousand tones of refined sugar from India at \$478 per ton. Though the private sector has also been permitted to import duty free sugar, it is reluctant to import at the prevailing prices.

The demand supply gap is exerting pressure on sugar prices in the domestic market. Imported sugar from India and Gulf is being sold in the domestic market at slightly lower prices ranging between Rs.34 to Rs.38 per kg, against the price of Rs43 per kg reached in February and significantly higher over the price of Rs.21 per kg recorded last November. Presently consumers are buying sugar from the open market at around Rs40 per kg. Though utility stores are selling sugar at Rs27.50 per kg, it is not reaching the common man. There are also complains of inferior quality being sold.

Shortage of local sugar has necessitated imports at a time, when supplies are short in the international market. Both the private and government sources are of the view that a looming shortage of sugar in the global market could cause further turmoil in local pricing of the commodity. This year, global sugar output is expected to decline by 4.6 percent from the 148 million tones produced a year earlier, following crop failure and a drop in productivity in key producer countries.

Global supplies affected

In particular Brazilian government's decision (the largest producer of sugar in the world) to divert 15 percent of the country's sugarcane towards producing ethanol has affected global supplies. Continued rise in oil prices in the international market has sent consumers searching for alternative energy sources, with ethanol as a prime candidate. Ethanol is an alternative source of fuel for road transport. Supply of sugar will remain tight this year as demand for cane for ethanol production grows and exports from other key producers, such as Thailand drops. This is expected to impact negatively on sugar prices in future.

Countries face sugar shortage

The global supply of sugar has been further affected because Thailand, another major producer that sells 4.5 million tonnes of sugar a year in the international market, also faces a short crop this year and will be able to bring just two million tonnes of sugar to the market. Moreover, Bangladesh, the Philippines, Indonesia, China and Turkey, will be buyers in the international market because of domestic shortages. Some 300,000 tonnes of sugar is also needed by Iraq.

Growers/millers/government rift

On the domestic front, according to the Ministry of Agriculture sources, the prolonged dispute amongst the growers and millers over payments has reportedly led to the fall in cane production. But some analysts say that the main cause of decline in sugar production in 2005-06, besides the fall in cane production, was the dispute between growers and millers over cane harvesting and beginning of crushing operation. Growers wanted the crop to be harvested earlier so to free their farms for wheat sowing, while the millers wanted late harvesting, which helps crop to mature for optimum yield.

Similarly there was also a dispute between the government and the millers over the start of crushing operation. The government wanted early crushing but millers insisted on delayed crushing. The crushing operation by many sugar mills was delayed till December, and reportedly some mills in major cane growing areas had to suspend the crushing early, due to shortage in cane supplies. Consequently, crushing in Sindh was 34 percent lower than last year resulting in 35 percent lower

production while in Punjab, crushing was 40 percent lower and production was down by 46 percent.

The sugar industry is confronted with the problem of higher cane prices. This season local mills have reportedly bought the crop at Rs.110 against the official rate of Rs.60 in some areas of Sindh due to the shortage of raw material. The mills, which are running at 35 percent production capacity, are finding it difficult to lower the rates.

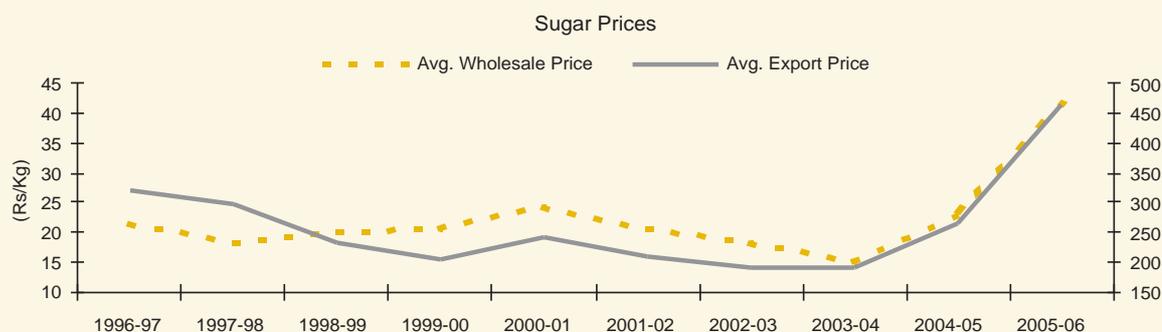
Hoarding by some sugar mills

Despite the shortfall in cane supplies, sugar availability was comfortable. However, some large sugar mills owned by big landlords and politicians, anticipating sugar production shortfall, both domestically as well as globally, started hoarding large quantity of sugar instead of releasing it to the market. According to official sources, the big landlords and politicians own 28 out of 77 sugar mills. A report presented to the Prime Minister reveals that 17 such mills in Punjab held back up to 86 percent of the mills production.

Origins of sugar crisis dates back to FY04

The sugar crisis has not emerged overnight. The origin of this crisis goes back to 2003-04, when four million tonnes of sugar was produced. Taking account of 0.5 million tonnes of carry-over stock from the previous season and an annual domestic demand of 3.5 million tonnes, there was a surplus of about 0.8 million tonnes. This led to a decline in sugar prices from the range of Rs 21 per kg to Rs 19 per kg at a time when the industry was incurring higher cost on the production of sugar.

The Pakistan Sugar Mills Association persuaded the government to purchase the excess sugar and also allow its export. Though the government did not allow sugar export at that time, it agreed to buy about 0.5 million tonnes of sugar from the mills through the Trading Corporation of Pakistan, provided the millers agreed to clear the outstanding dues of the growers by June 2004. The mills refused to make full payments to farmers. As an alternative, huge quantity of sugar was imported, despite surplus production. This was the beginning of the crisis.



Presently the situation is that sugar prices are soaring both in the domestic as well as international markets due to comparatively low production and heavy buying of sugar. As the sugar crisis deepens the consumers continue to face unprecedented increase in the price of the commodity. While in the domestic market, growers, the middlemen and sugar mill owners manipulate the market, with the objective of profit making, the government measures so far have failed to provide any relief to the consumers. Big sugar mill owners are hoarding huge quantity of sugar.

Of the many reasons for the current sugar crisis, one major cause for low cane production is stated to be the rift between growers and millers over the prices of sugarcane being sold to millers. Growers insist on higher prices due to increased cost of inputs, while millers favour low cane prices. According to millers, about 75 percent cost of cane is reflected in the cost of sugar production.

High cost of production

The production cost has gone up, due to considerable increase in prices of sugarcane and other utility charges. The cost of producing sugar has been estimated by industry sources, at above Rs.40 a kg in the current season against Rs.26 a kg in the previous season. Even at this cost, the sugar industry is not in a position to recover the cost of sugarcane after defraying the amount of sales tax and there is a possibility for the industry to default on long and short term loans.

To maintain a correlation between the sugarcane purchase price and the ex-mills price of sugar based on the factors of production, the analysts suggest that the government should evolve some sort of price mechanism. The Thai Sugar Industry operates on revenue sharing basis of 70:30 based on the price of sugar, which means growers receiving 70 percent of the net revenue and millers get 30 percent. The government needs to develop a long term policy, on similar lines the benefit of which could reach the common man.

Agricultural Crops - An Update

The agricultural sector's contribution to GDP has declined over the years to presently over 23 percent. It continues to support the economy by providing livelihood to over 60 percent of the rural population, or 43 percent of employed labour force and is a main supplier of raw material to domestic industry.

Water availability fluctuates

Pakistan's agriculture has been suffering from severe shortage of irrigation water in recent years. Against the normal surface water availability at canal heads of 103.5 MAF, the overall water availability for Kharif and Rabi has been less. Rabi season crops faced greater shortage of water than Kharif crops during FY 02 and FY04. The shortage was around 6 - 30 percent of requirement.

During FY06, availability of water for Kharif crops such as rice, sugarcane and cotton has been 5.4 percent more than the normal supplies and 19.6 percent higher than for preceding year's crop. Widespread rains alongwith melting of snow on mountain tops were responsible for higher than normal availability of water.

Improved water situation also helped in recharge of ground water. The water availability for the major Rabi crop — wheat as of January this year, is estimated at 30.6 MAF, 32.5 percent more than for last year's crop.

Anticipated decline in production

The performance of the major crops influences the growth of the sector. Major crops' share in agriculture value added is 37 percent. Wheat, rice, cotton and sugarcane account for over 90 percent of major crops value added. Based on provisional estimates released by the Ministry of Agriculture, a shortfall in the production of three major crops (wheat, cotton and sugarcane) is expected in 2005-06.

Cotton and sugarcane are expected to decline by 11.2 percent and 15.1 percent respectively against last year's output, and the size of the wheat crop will also be marginally lower. Due to an expected decline in the production of major crops, real growth in the sub-sector is anticipated to fall to 1.9 percent against the

targeted growth of 6.6 percent and previous year's 17.3 percent.

As a result of the reported shortfall in the production of wheat, cotton and sugarcane in 2005-06 and subsequent decline in real growth of this sub-sector, overall agricultural growth is also expected to fall to 3 percent against the targeted growth of 4.4 percent and 4.5 percentage points lower from previous year's 7.5 percent growth. Annual growth in the sector has averaged 2.34 percent in the past five years, with major crops contributing 2.72 percent growth on average.

Wheat

Crop surpasses previous output

Wheat, the staple diet of the people, has seen a decline in its share of major crops value added. Last season, growers harvested an all time high crop of 21.6 million tones, surpassing the previous record output of 21.1 million tones (1999-00). At the beginning of current season, area and production targets of wheat were fixed at 8.4 million hectares and 22.0 million tones respectively.

Wheat crop is sown between end-October up to end December. But late harvesting of cotton, rice and sugarcane crops impacted the timely sowing of wheat. In some areas, there was closure of canals on an average for about a month. This delayed the pre-sowing irrigation, thus delaying planting of wheat. Delayed sowing adversely affects the yield.

According to reports only 52 per cent of the targeted area was brought under the crop by end November. However, by mid January, reportedly 8.36 million hectares were sown, against previous year's sowing of 8.23 million hectares. This shows an improvement of 1.6 percent over last year but is short by 0.6 percent of the targeted area.

Support Price raised

In October, the Economic Committee of the Cabinet decided to increase the support price of wheat by Rs15 to Rs415 per 40kgs against the previous year's price of Rs400. The provincial Food Departments and PASSCO will

ensure that guaranteed minimum price is made available to the growers. Presumably, this has been done to help increase production and income of the farmers. The announcement gave the farmers reasonable time to decide on sowing of wheat vis-à-vis other crops competing with it for land and water.

Price support policy

According to a study by the Agricultural Prices Commission on the price support policy of wheat, for crop 2005-06, it is seen that the average cost of producing wheat, is estimated at Rs425 per 40kg in the Punjab and Rs406 in Sindh. The difference between the average cost of production and the support price is Rs10 per 40kg or Rs250 per ton. The issue is whether this increase of Rs15 per 40kg would provide adequate incentive to meet the output target, given the rising costs of almost all inputs since last year. Experts fear a drop in per hectare yield.

The US Department of Agriculture has cut the size of the domestic crop to slightly over 21 million tones for the current Rabi season, due to dry spell at the growing stage and a rise in temperature during February. This is short of the 22 million tones target fixed by the Ministry of Agriculture and some 0.6 million tones less than the previous season's crop. The Ministry however, is confident that recent spell of rains in late February and early March will help in achieving the target. Stock position is comfortable.

Wheat stocks substantial

The total indicative wheat procurement target for public sector (Provincial Food Departments and PASSCO) has been set at 4.73 million tones. Overall, wheat procurement by public sector this year was 3.939 million tones; Punjab 2.438 million tones, Sindh 0.504 million tones and PASSCO 0.997 million tones. Experts say that due to substantial carry over from the previous season's crop, wheat supplies this season would be substantial, Punjab would have carry over stocks of 0.8 million tones and Sindh 0.1 million tones. The wheat stock position as of end January is 3.149 million tones.

Despite surplus wheat stocks, the government has allowed duty free import of wheat and wheat flour. So far, the private sector has

contracted to import 1.0 million tones of wheat; of which 0.530 million tone has already arrived. In a recent move, the Government has also removed 15 percent duty levied on export of wheat flour.

Rice

Rice is a high valued cash crop being the second major foreign exchange earner after cotton products. Pakistan is an important exporter of fine quality basmati rice, mainly grown in Punjab, while coarse variety, grown in Sindh is also in demand internationally. Domestic production of rice is well above the country's needs. Share of rice in value added agriculture is 5.7 percent and contributes 1.3 percent to GDP.

Increase in output

For 2005-06, area and production targets were set at 2.533 million hectares and 5.00 million tones respectively. Area sown is estimated at 2.531 million hectares - 0.1 percent lower than the target, but 0.5 percent higher than last year's output. This year, due to favourable weather conditions rice production in Balochistan and Sindh has shown significant improvement and the overall size of the crop is estimated at 5.5 million tones – almost 9.5 percent higher than last year and 10 percent more than the original target.

The prices of Irri rice (paddy) were lowered to Rs.250/- per 40 kg. To support the rice growers, the government has advised PASSCO to procure Irri rice from the growers at the rate of Rs.300/- per 40 kg of paddy. It has also instructed Trading Corporation of Pakistan and Shipping Authority to extend support in storage facilities and availability of more berths.

Export surplus available

For financial year 2005-06, an export target of \$1 billion was set. A bumper crop of 5.5 million tones has increased the exportable surplus to 2.6 million tones. After meeting domestic consumption there would remain around 1.8 million tones exportable surplus of Irri-6, while for basmati rice, a smaller exportable surplus of around 0.8 million tones would be available owing to higher domestic consumption.

Rice exports increase

Pakistan's rice exports have witnessed more than 25 percent increase during the first eight

months of FY06. According to official figures for July-February, the country exported around 1.7 million tones of rice, which included 1.3 million tones of Irri-6 and 0.4 million tones of Basmati. The export of Basmati rice during the period recorded an increase of 13 per cent in term of quantity and an increase of 20 per cent in terms of value.

Pakistan recently won two tenders in the Philippines. China has also approved Pakistan as a possible supplier of rice, thus making it possible for Pakistan in achieving its export targets. Rice exporters have also signed contracts for the sale of 40,000 tones of superior quality rice at an average price of US\$305 per tonne to Iran, resuming bilateral rice trade after a gap of seven years. They have also initiated deals with Iraq and had sold 50,000 tones of rice in February after a gap of over three years. Other major consumers of Basmati, are the oil rich states of the Middle East. Much of the Irri-6 was exported to West African and East African countries. Exporters were fetching an average price of \$350 to \$360 per ton for Irri-6. Due to higher demand for rice, domestic prices have also firmed up from Rs11,200 per ton to Rs11,600 per ton.

China, Iran ME, Iraq to import rice from Pakistan

Cotton

Cotton is Pakistan's main cash crop and a major export earner. It is the single largest source for supplying raw material to the textile industry. The share of cotton in the value added of major crops is 28 percent. Cotton production has ranged between 8-11 million bales in the last decade. In 2004-05 a record output of over 14 million bales was recorded.

Bumper harvest

The Federal Cabinet had fixed the production target for the 2005-06 crop at 15 million bales, which was to be sown at over 3.25 million hectares. The crop was, however, sown on 3.124 million hectares - 3.8 percent less than the target and 2.2 percent less than the previous year's sown area. Keeping this in view, the Cotton Crop Assessment Committee of the

Revised estimates for area and production

Factors responsible for decline in output

Ministry of Food, Agriculture and Livestock (Minfal) in October, revised its production estimates to 12.5 million bales on ex-farm basis, (Punjab 9.5 mn, Sindh 2.9 mn, NWFP 0.007 mn and Balochistan 0.094 mn bales).

Factors responsible for decline in cotton production this season, included among others, excessive rains at the time of sowing, high temperature at flowering stage, late wheat harvesting resulting in decline in area under the cotton crop and pest attack in some cotton growing areas in the Punjab and Sindh. In order to provide incentives to growers, the Federal Cabinet has increased the support price of cotton for 2005-06 crop from Rs 925/- to Rs. 975/- per 40 kg of phutti (seed cotton). Currently the prices are above the announced price.

Cotton Ginners Association expected overall production to be lower than the corresponding period last year. By end February, cotton arrivals in ginning factories were 12.3 million bales; 10 million bales in Punjab and 2.5 million bales in Sindh. The government expects a cotton crop of 13 million bales, or 11.0 percent less than last year.

Meanwhile, reports coming from lower Sindh cotton belt said that the recent rains in some of the cotton growing areas is beneficial for the growth of the early sown crop as it has washed out the insects. The crop is close to flowering stage and arrivals of phutti are expected to reach the ginneries in Sindh by early June and modest quantities of lint will be available for the spinners in July.

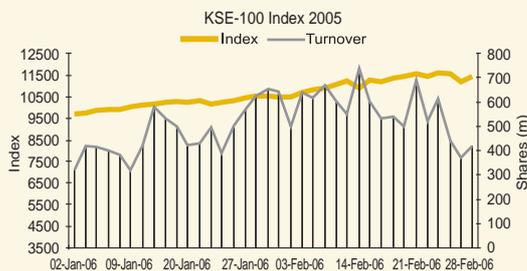
Rains help crop

According to the traders, harvesting of cotton has been completed and the crop size is below the government's estimates of around 12.5 million bales. Domestic consumption would be around 14.7 million bales. Globally, the country has become the third largest consumer of cotton. International bodies predict Pakistan to be among the four major countries that would account for 64 percent of global cotton consumption in 2005-06.

Market Analysis

Market Review

The KSE-100 index during the months of Jan-Feb 2006 gained over 18 percent on an average daily volume of 516mn shares. Participants remained bullish during the period under review on the back of strong corporate result expectations and discovery related news pertaining to the Exploration & Production sector. The index during the period had set a new record of 11,609 on closing basis. Many important events took place during the period including the appointment of the new SECP Chairman, announcement regarding the construction of dams and possible issuance of ‘Global Depository Receipts’ (GDR) for OGDC and also a couple of other local corporations.



The government in response to the growing water shortage and looming energy crises announced its intention of constructing five dams by 2016, which includes Bhasha (Northern Areas), Kalabagh (Punjab), Munda (Punjab), Akori (Punjab) and Kurram Tangi (FATA). The actual construction of Bhasha dam is likely to commence in another 3-4 years and in the meanwhile other factors such as the technical design, construction of the Karakoram highway will be completed. The estimated requirement of cement dispatches for construction purposes is around 1-1.5m tons per annum for 7 years. Cherat, Bestway, Dewan Hattar and Fauji Cement are expected to be the major beneficiaries of the dam construction due to their proximity to the construction site. Plants which are expected to indirectly benefit as a result of vacated markets include Lucky, DG Khan, Maple Leaf, and Pioneer.

Construction of water reservoirs

Monetary Policy Statement

The State Bank of Pakistan has recently issued the monetary policy statement in which it

highlights its expectations of the actual GDP for FY06 being slightly lower than the target. Once again the SBP has showed its inclination to control core inflation and has stressed upon the need to maintain a tight monetary policy. Aggregate demand remained robust with consumer and business spending providing fuel to the private sector credit off-take which reached almost Rs300bn during Jul-Nov '05. The trade deficit during the period rose to US\$3.8bn on account of higher international oil prices, rising imports of industrial and office machinery along with automobiles and raw materials. The central bank has also mentioned in the statement its desire to shift its reliance for funding from short-term government papers to the longer tenor PIBs. In this regard, we feel that a PIB auction may finally take place in the near future which would provide the market with a long-term reference rate and also help to shape the present flat yield curve.

Iran's announcement of resumption of uranium enrichment after being reported to the United Nations Security Council has raised international concerns. According to latest press reports, Iran has reached a basic agreement (which has not been specified) with Russia on jointly enriching uranium, but there was no immediate sign that it would suspend home-grown enrichment. The 'Iran' issue has been under the limelight during recent times and has placed the Pakistani government in a dilemma. The local government is also facing opposition from the US over the proposed Iran-Pakistan-India gas pipeline, which is imperative given the growing energy requirements of the country.

Political scenario: international and domestic

On the domestic front, the law and order situation within the country was disturbing during the period under review in the wake of countrywide protests against the publication of blasphemous cartoons and the ongoing insurgency in the province of Balochistan.

E&P: Manzalai discovery

Tal Block which is located in NWFP is operated by MOL, an Hungarian E&P company having a post-discovery interest of 8.4%. Other joint venture partners are OGDC, PPL, POL and

GHPL with respective stake of 27.8%, 27.8%, 21.1% and 15%. The current estimates of the reserve size for Tal Block as reported in the Pakistan Energy Yearbook 2005 is 2 tcf natural gas which include Makori-1 and Manzalai-1 fields and around 39m barrels of crude oil. The current production of Tal is around 50mmcf gas and 450bpd crude oil. Most of the speculation in the E&P scrips centers around the natural gas reserve estimates of Manzalai-2 which so far has not been made public as test drilling and technical appraisal has not yet been completed. The rumors circulating in the market regarding the reserve estimates vary from 2tcf to 18tcf. However, POL's HY06 directors' report states that appraisal test of Manzalai-2 yields 25.8mmcf gas and 500bpd of crude oil. The major beneficiaries of a sizeable discovery in Manzalai-2 are POL and PPL. In the absence of an official announcement in this regard, we have not incorporated the impact of discovery into our price targets both for POL and PPL but we do feel that in order to justify the current price levels, the discovery will have to be over 3 tcf.

Privatization corner

The Privatization Commission achieved a couple of important milestones during the period under review. According to press reports, the upfront payment of US\$1.4m by Etisalat and transfer of management control is scheduled to take place in the near future. The PC also conducted a two-day road show in Singapore in order to attract investors for the privatization of twin Suis and has extended the last date for

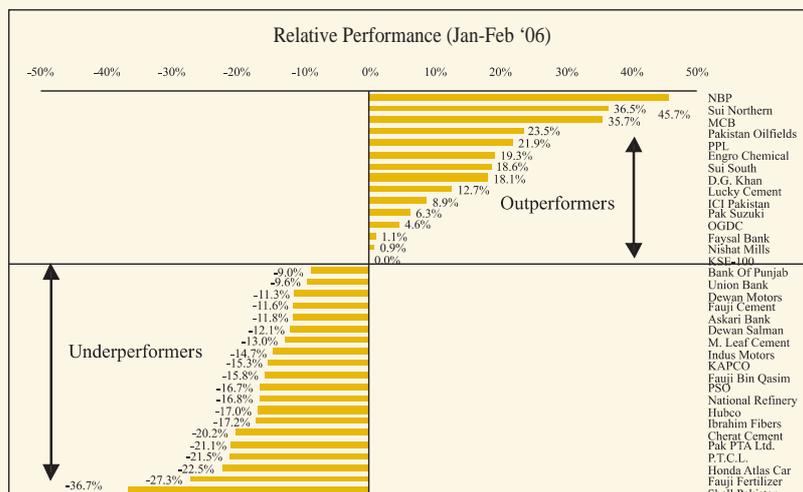
submission of Statement of Qualification (SoQs) for both SNGPL and SSGC to Mar 11, 2006. According to latest press reports, the PC has decided the pre-bid meeting of Pakistan State Oil to take place on March 2, 2005. The bidding of Pak American Fertilizer Limited (PAFL) was scheduled to take place on the Feb 28, 2005. Last but not the least, the PC has also been reported of having reached a deal with Steel Mills union regarding the employees package thus making the mills' bidding possible by Mar 10, 2005.

Earnings review

Corporate results for most of the major organizations have been announced and barring a few exceptions, generally the results have been in line with market expectations. The positive corporate announcements have not only kept the market sustainable at present levels but will also decide upon the future direction for the market.

SECTORS	PAT – Rs mn		% Chg
	2005	2004	
Cement	3,834	2,063	85.88
Banks	18,344	11,568	58.58
Automobile Assembler	1,509	1,092	38.23
E&P	28,976	21,237	36.44
O&GMC	7,007	5,230	33.97
Fertilizer	9,665	7,446	29.81
IPP	5,284	6,355	-16.85
Technology & Com	11,326	14,587	-22.36
Refinery	2,752	3,579	-23.10

Note: The above results includes major companies which have announced their financial results



(Contributed by Taurus Securities Ltd, a subsidiary of National Bank of Pakistan)

Interest Rate Outlook

Let the
Base Play

Along the lines of our previous outlook, the base effect came to the rescue of inflationary pressures, and we foresee it to be just the beginning. CPI numbers released for February are much to the liking of everyone at 8.05 percent; whereas core inflation is at 7.00 percent maintaining its downward trend. We attribute the lower figure to the high base effect which has started taking its toll and is likely to continue for the coming months. Headline CPI stood at 9.95 percent in February '05, relatively higher from 8.51 percent witnessed in January '05.

Food inflation, last month, also lowered significantly to 7.48 percent. Sugar prices witnessed a jump of 26.09 percent but its impact was negligible due to the low weight (1.95) assigned to the commodity in the CPI basket. A disaggregation of the basket shows that transport and communication head rose by 15.91 percent, fuel and lighting by 10.06 percent; whereas house rent increased by 9.36 percent over February '05. Milk prices have been raised to Rs30/litre, inspite of City Government's stance to keep it at Rs28/litre. This may dent the CPI to some extent as milk and its derivatives have a substantial weight of 7.33 in the CPI basket.

Core inflation is on a downward slope since October. However the only factors keeping the headline CPI above 8.0 percent are the volatile components of fuel, petrol, diesel, CNG, gas and electricity. These heads require administrative efforts of the government, as their prices are set administratively and require less input from the interest rate scenario.

It's been a while since the government borrowings for budgetary support surpassed the full year target of Rs98 billion and stood at Rs147 billion as on 25th February '06. Private sector credit amounted to Rs311 billion, taking Net Domestic Assets of the banking system to Rs337 billion. Current numbers suggest that these two heads are just a short distance away from breaching their full year targets of Rs330 billion and Rs365 billion respectively. The contraction in Net Foreign Assets stood at Rs81

Just a
short
distance
away

billion taking the money supply to Rs256 billion translating into 8.63 percent growth.

Break-up of private sector credit shows that of the credit expansion of Rs298 billion (Dec 31, '05) 31 percent went to manufacturing, whereas consumer loans amounted to 21 percent. However, the extent of credit actually contributing towards the economic growth remains to be seen by the GDP numbers which have currently been revised downwards to 6.2-6.4 percent, instead of the budgetary target of 7 percent.

No
bounds
known

Following the path of the domestic indicators, the external factors, also, seem to know no bounds; as trade deficit for July-February widened to US\$7.4 billion, with imports growing by 46 percent to US\$18 billion whereas growth in exports stood at 19.6 percent to US\$10.59 billion. The persistent rise in the trade gap swelled the current account deficit to US\$3.4 billion during July-January whereas balance of payments stood at US\$-582 million. Trade deficit is the second most important factor, after inflation, affecting the country's economy and claiming substantial attention from the policymakers. Reportedly, massive tariff rationalization on machinery, raw materials, used vehicles and consumer goods have encouraged their imports, exerting pressure on the forex reserves of the country which stood at US\$11.4 billion on March 11, '06. Government still awaits the inflow of privatization proceeds (US\$1.14 billion of PTCL) and materialization of US\$5.8 billion pledged at the donor's conference (US\$525 million have poured in so far) to relieve the pressure from the country's reserves.

The
Rupee /
Dollar
Parity

The parity breached the critical level of 60.00 (15-month high) and seems to have sustained the level for a few days. Quarter-end debt payments coupled with trade-related dollar-demand is continuously keeping the rupee under pressure. The dollar demand is expected to continue as some more payments seem to be in the pipeline. However, factors that are

Future
Outlook

likely to take the pressure off from the exchange rate are privatization proceeds, aids, grants and issuance of Global Depository Receipts and Euro Bonds. The country plans to launch a Eurobond on March 24, of more than US\$500 million. According to reports, the tenor would range between 5-10 years, very probably towards the higher end. There are no firm reports on pricing of the bond; however it is likely to be around 170bps over LIBOR. This would be Pakistan's third foray into the international capital markets. Pakistan launched a US\$500 million five year Eurobond in February '04 and in January '05 the government sold a US\$600 million Islamic bond.

State Bank of Pakistan still holds to the same cut-off yields, maintained since long, for three,

six and twelve months paper at 8.100 percent, 8.2910 percent and 8.7907 percent respectively.

There was a strong market sentiment that SBP may go for an increase in cut-off yields provided inflation numbers stick to a higher level. Nevertheless, the base effect has started taking its toll on CPI and is here to stay. This, coupled with the persistent decline in core inflation will give SBP lots of room to back its present posture of interest rates. We maintain our previous stance of stability in interest rates under the current economic scenario; however if the base effect and government's administrative efforts to curb food inflation bear fruit we might see a decline in interest rates which will bode well for the country's GDP.

(Contributed by Treasury Management Group, National Bank of Pakistan)

Books Review

Some of the recently published books on Pakistan economy which are available in the market.

- A. *The Encyclopedia of Pakistan*
 Editors in Chief Hafeez Malik & Yuri V. Gankovsky
 Oxford University Press

The book contains a wealth of information about Pakistan — its history, people, places, culture, heritage, politics and economics. Each entry has been well researched by the group of scholars and writers who have given a distinctive meaning to this publication. Some of the aspects covered, have rarely been written upon earlier. From classical dance, and visual arts, to jewellery of Pakistan, regional styles of embroideries, clay crafts to fauna, puppetry to tourism each piece is enjoyable to read. To meet the requirements of specific researchers, authentic overviews of economics, demography, geography, education are given.

Interspersed with the text are a large number of photographs. It also contains a centerpiece with bright, colourful photographs of various monuments, ethnic textiles, unique style of jewellery, currency in usage over the years and some of the postal stamps. The book is not only a good reference guide, but one which is enjoyable to read as it gives a true experience of Pakistan.

- B. *Pakistan in Perspective 1947 – 1997*
 Edited by Rafi Raza, Oxford University Press

The book contains articles by some of the leading figures in their respective area. They provide a short history of developments through the first fifty years of Pakistan's establishment. The introduction by Rafi Raza traces in brief how Pakistan came into existence, while the chapter "Constitutional Developments and Political Consequences", depicts the path the country followed in its search for a constitution, what happened to the constitution during the various periods up to 1997 has been explained.

The chapter on *Foreign Policy* has been written by Mr. Abdul Sattar, a career diplomat in the Foreign Office of Pakistan. It analyses the relations with the superpowers, with India, the various alliances Pakistan entered into in those years, 1965 war, cooperation with the muslim world, the Afghan

Civil War etc. '*Economic Development*' by Mr. Aftab Ahmad Khan, traces the developmental process in the country through the various plan periods, starting with the Colombo Plan. This was the first attempt at an integrated approach to development.

A section in the chapter gives an assessment of Pakistan's development record. The chapter on '*Education*' by Dr. Muneer Ahmad describes the development in this field as well as the need for further improvement. '*Towards a more focused Population Policy*' by Dr. Nafis Sadik, after reviewing the population situation, focuses on the need for population programme support at all levels. The last chapter '*Human Rights*' by Mr. I. A. Rehman talks about the evolution of human rights in Pakistan, the country's experience during the first 50 years.

- C. *Handbook of Statistics on Pakistan Economy, 2005*
 State Bank of Pakistan

The State Bank of Pakistan has published the Handbook of Statistics on Pakistan Economy for the first time. It contains time series data from 1947, for most sectors, of the domestic economy, except a few for which data was not available. The sectors covered comprise of banking, capital market, foreign trade, balance of payments, external debt, social sectors, national accounts, prices, savings & investment, public finance etc.

The explanatory notes on each chapter at the end of the book is of immense benefit to the readers, who get to know the changes in methodologies, base years, explanation of various terms and other changes that have taken place over the last nearly six decades.

- D. *Pakistan: Economic & Social Statistics - 2005*
 by Prof. Dr. Khawaja Amjad Saeed

This book is a compilation of economic and social statistics of Pakistan. It is divided into five broad areas; Globalizing Pakistan; Pakistan in SAARC perspective; Social economic statistics of Pakistan; Pakistan Federal Budget 2005-06 and the country's banking sector.

Information available in different publications has been put in one place, making it a useful reference book.

NBP Performance at a Glance

(Rs. Bn)

Items	2001	2002	2003	2004	2005
Total Assets	415.1	432.8	468.9	549.7	577.7
Deposits	349.6	362.9	395.5	465.6	463.4
Advances	170.3	140.5	161.3	221.4	268.8
Investments	71.8	143.5	166.2	144.7	156.9
Pre-Tax Profit	3.02	6.04	9.01	12.02	19.0
After-Tax Profit	1.15	2.25	4.20	6.24	12.7
Earning Per Share (Rs.)	3.08	5.49	8.53	10.48	21.51
Assets (Pre-Tax Profit) (%)	0.8	1.4	2.0	2.4	3.4
Number of Branches	1245	1204	1199	1226	1242
Number of Employees	15163	12195	13272	13745	13824

NBP Products

NBP Saiban

- § Finance available for home purchase, home construction and home improvement.
- § Period of repayment ranges between 3-20 years.
- § Loans available upto a maximum of Rs.10 million.
- § Mark-up choices available. Rate ranges between 9.0 - 12.85 percent. Rates subject to change.
- § Minimum approval and disbursement timing.
- § Limited to areas where there are no documentation, fee, resale and foreclosure related issues, so to protect the bank's interest.

NBP Advance Salary

- § 15 months salary in advance (certain conditions apply).
- § Minimum documentation.
- § Repayable in 5 years.
- § No processing charges; no collaterals, no guarantees, no insurance.
- § Mark-up charged at 13 percent per annum on reducing balance method.

NBP Cash n Gold

- § Facility of Rs.7000 against 10 gms of gold.
- § Mark-up 12 percent per annum.
- § No maximum limit of cash.
- § Repayable after one year.
- § Roll over facility.
- § No penalty for early repayment.

NBP Kisan Dost

- § Loans available for the farmers for production, development purposes, for purchase of tractors, for installation of tubewells, for purchase of agricultural implements, micro loans, for godown construction, for construction of fish pond, for livestock farming, for milk processing, for cold storage, bio-gas plants etc.
- § Mark-up 12 percent per annum.
- § Loans available at the farmer's doorsteps.
- § Agricultural experts to guide farmers.
- § Loans available against agricultural passbooks, gold ornaments and paper security.