

GOVERNMENT OF PAKISTAN  
PLANNING COMMISSION



# VISION 2030

August, 2007





# **Pakistan in the 21<sup>st</sup> Century**

## **Vision 2030**

**Planning Commission  
Government of Pakistan  
Islamabad**

August 2007

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إِنَّ اللَّهَ  
لَا يُغَيِّرُ مَا بِقَوْمٍ حَتَّى يُغَيِّرُوا مَا بِأَنْفُسِهِمْ

*Allah will not change the state of a nation, unless they  
first bring about the change within themselves*

**Al Qura'n**

**Sura Al Ra'ad, Ayat 11**



# **Vision 2030**

*Developed, industrialized, just and prosperous Pakistan  
through rapid and sustainable development  
in a resource constrained economy  
by deploying knowledge inputs*

## Planning Commission

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## Abbreviations

AEDB	Alternate Energy Development Board
BRIC	Quartet of Brazil, Russia, India, China
ASEAN	Association of South East Asian Nations
CCBs	Citizen Community Boards
CGIAR	Consultative Group on International Agriculture Research
CMS	Compact Muon Solenoid
DSL	Digital Subscriber Line
ECO	Economic Cooperation Organization
EU	European Union
FAO	Food and Agriculture Organization of the UN
FATA	Federally Administered Tribal Areas
FDI	Foreign Direct Investment
FFS	Farmer Field School
FTAs	Foreign Trade Agreements
GAP	Good Agricultural Practice
GDP	Gross Domestic Product
GJ	Giga Joule
GMP	Good Manufacturing Practice
GNP	Gross National Product
GoP	Government of Pakistan
HEC	Higher Education Commission
IAEA	International Atomic Energy Agency
ICT	Information and Communications Technology
IPCC	Intergovernmental Panel on Climate Change
IPRs	Intellectual Property Rights
IT	Information Technology
ITER	International Thermonuclear Experimental Reactor
kmph	Kilometers per hour
KWH	Kilowatt Hour
LHC	Large Hadron Collider
MAF	Million Acre Feet
MDGs	Millennium Development Goals
MINFAL	Ministry of Food, Agriculture and Livestock
MNCs	Multinational Companies
MTDF	Medium Term Development Framework
MTOE	Million Tonnes of Oil Equivalent
MW	Mega Watt
NARS	National Agriculture Research Systems
NCSW	National Commission on the Status of Women

NIC	Newly Industrialized Countries
NPDEW	National Policy for Development and Empowerment of Women
NTC	National Trade Corridor
NWFP	North-Western Frontier Province
OEM	Original Equipment Manufacturer
PBR	Plant Breeder Rights
PNSC	Pakistan National Shipping Corporation
PPP	Purchasing Power Parity
PSDP	Public Sector Development Program
PRSP	Poverty Reduction Strategy Paper
PS	Public Sector
PSL SMS	Pakistan Social and Living Standards Measurement Survey
PV	Photovoltaic
R&D	Research and Development
RTT	Round Trip Time
SAARC	South Asian Association for Regional Cooperation
SMEs	Small & Medium Enterprises
SPS	Sanitary & Phytosanitary
T&D	Transmission and Distribution
TB	Tuberculosis
TCP	Transmission Control Protocol
TFP	Total Factor Productivity
TRIPS	Trade Related Intellectual Property Rights
USD	US Dollar
UN	United Nations
VOs	Village Organizations
WIPO	World Intellectual Property Organization
WLL	Wireless Local Loop
WTO	World Trade Organization



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## **The Quaid's Vision**

“...My guiding principle will be justice and complete impartiality and I am sure that with your support and cooperation, I can look forward to Pakistan becoming one of the greatest nations of the world...”

**Muhammad Ali Jinnah**  
**11<sup>th</sup> August 1947**



## **Message from General Pervez Musharraf President of the Islamic Republic of Pakistan**

I am happy to learn that the Planning Commission has accomplished the task of formulating the Vision 2030 document. I am informed that this national vision is based upon extensive consultations and discussions with hundreds of experts and visionaries spread over 18 months, drawn from across the country and that eminent persons belonging to all schools of thought have contributed to the formulation of this document. We are grateful to them for reflecting the hope, aspirations and determination of our people to shape their collective destiny. It is for this reason that the consensus arrived at in the Vision 2030 document is of enduring significance in the process of nation building.

I see Vision 2030 as an important milestone in our journey as an independent nation which began sixty years ago under the leadership of the Quaid-i-Azam. A journey which has seen ups and downs, but is inspired by our intrinsic strength, rich culture, and traditions. I am pleased with the quality of Vision 2030 contents, and by its futuristic thought process, while remaining focused on the imperatives of nation-building. It looks into the future with feet firmly planted in reality, armed with wisdom and lessons garnered from the past.

Vision 2030 examines the sustained efforts made by the Government to attain macroeconomic stability and implement wide-ranging reforms which are impacting every aspect of our state, society and economy. It rightly focuses on the right of the people to the benefits of growth and development, and ensuring the end of poverty as the foremost national priority. This is why we are developing our less developed regions, including Balochistan, FATA, and Northern Areas with massive investments in infrastructure, and social services. Pakistan cannot prosper as a nation if any of its entities, peoples or regions get left behind in the march to prosperity.

Vision 2030 presents a clear picture of important emerging and expected challenges that the nation will have to confront. These pertain to water, energy, infrastructure, climate change, world trade and markets. I am confident that we have the capability to turn all these challenges into opportunities with commitment, resourcefulness and sense of responsibility.

I fully endorse the stress on knowledge and inventiveness as key drivers of future progress. Science and technology are central to the creation of core competencies that can provide needed skills and enhance productivity to transform agriculture, industry and services sectors over the coming years. Constructive change will have to stay permanently on the nation's agenda. This shall require political will to embrace continuing reform.

At the same time, we need to conserve our basic values of solidarity, harmony, compassion and above all respect for all our fellow citizens. Our institutions will have to enshrine the concept of human dignity. This signifies a polity where law is supreme; merit is recognised, women and children are honoured, and the weak and vulnerable are socially and economically protected.

Pakistan's geo-political location at the strategically important crossroads between West and South Asia on the one hand and between Central Asia and the Arabian Sea, will allow Pakistan to play an important role for inter and intra -regional trade, and peace in

the region. The vision of an enlightened, strong and secure Pakistan contributing to global and regional peace and proud of its achievements comes out as the essence of Vision 2030.

Quaid-i-Azam had envisaged Pakistan as a democratic state, a welfare economy and a pluralistic society, where debate and diversity is welcomed. I see Vision 2030 as a translation of the Quaid's dream in the context of the 21<sup>st</sup> century and as a blueprint of our future course of action .

The Planning Commission under the able leadership of Dr. Muhammad Akram Sheikh deserves to be congratulated for formulating a document which will guide the nation to its rightful place in the comity of nations.

In sum, Vision 2030 sounds a clarion-call to the entire nation to unite and forge ahead with faith in our destiny; and discipline in all our undertakings and endeavours to make Pakistan an embodiment of peace, prosperity and progress.

May Allah Almighty Be with us in our endeavours. Ameen.

**General Pervez Musharraf**

**President of the  
Islamic Republic of Pakistan**

## Foreword by the Prime Minister of the Islamic Republic of Pakistan

The Planning Commission deserves to be complimented in preparing the roadmap for Pakistan in the 21<sup>st</sup> Century - Vision 2030. This document reflects the aspirations and potential of our people in the context of a fast-changing world. Its underlying theme is based on the imperatives of embracing change and transformation, and to create new opportunities based on our innate strengths. We are confident that we will have laid down the foundations of a prosperous and harmonious society much before 2030!

Managing the 7<sup>th</sup> largest country in the world is a gigantic task; managing its society in transition is, even more challenging. I am pleased to note that Vision 2030 acknowledges the forces of globalisation and dispersion of information and technology, which are likely to dramatically change the scale and character of all human enterprise, with immense impact upon Pakistan. We are determined to manage these global forces of change to our advantage.

Vision 2030 is a logical reflection of the turn-around which transformed a stagnating economy into a vibrant one. Through prudent economic management and reforms of fiscal consolidation, debt reduction, deregulation, privatization, liberalization and transparent governance, Pakistan has emerged today as one of the fast growing economies of the Asian region. The performance of the last eight years, under the able leadership of President Musharraf, speaks for itself.

This economic renewal has seen a dramatic improvement in all areas of growth and development. Economic independence and self-reliance have been consolidated, while investment flows have touched record levels. A major breakthrough has been achieved in managing both domestic and external debt, and the fiscal space for public sector development has been enhanced.

Pro-poor development expenditures have grown at an annual compound rate of 27 percent since 2001-02, and have touched 6 percent of GDP this year. Rural incomes have gone up, and the poverty measured on headcount basis has been reduced from 34.4 percent in 2000-01 to 23.9 percent in 2004-05. At the same time, social development indicators of population welfare, literacy, school enrolment, immunization coverage and piped water have recorded salutary progress.

Pakistan expects to maintain the growth trajectory of the last several years of around 7-8 percent per annum, which will enable Pakistan to join the ranks of middle-income countries by 2030, with a per capita income of around USD 4,000 at 2007 prices. While the agriculture sector will be an efficient provider of food and nutrition, the economy is expected to be dominated by high-end manufacturing and services.

This high growth rate would be sustained through developing our human resources, and by developing the necessary physical and technological infrastructure. We will further improve the legal and regulatory framework, which will enhance government efficiency and governance. This will reduce the cost of doing business, and unleash the entrepreneurial spirit of our people.

Knowledge, technology and skills will be the tools to manage this immense transformation, to enhance employability, for ending poverty and for better productivity and competitiveness. This will be the principal instrument to manage the growing competition for access and ownership of resources and energy and to maximize the dividends from demographic transition in the coming years. We will also need to prepare

for the dynamics and imperatives of growth of large cities, urban concentrations as well as expected internal and international migrations.

In our forward march, our people are the greatest asset. We wish to leverage their strengths for growth and development. The demographics of Pakistan with nearly hundred million people below the age of 25 presents a unique opportunity which we cannot afford to fritter away. Our leading priority will be to tap their latent energies and potential skills, in making them affective managers of change for tomorrow.

The state, on its part, will ensure that the development process provides a more equitable distribution and spread of prosperity across all regions of the country. There will be full access to quality education, health, water and sanitation, shelter, as well as security under law. Effective social protection will be available for the most vulnerable, and poverty will have been largely eliminated.

Vision 2030 asserts that while globalisation and stronger international organisations will no doubt reduce such freedom for some states, size will matter in the end. Pakistan must, therefore, be prepared to re-design the structures of state and instruments of government in terms of delivery of services, and good governance in order to attain its true potential as a nation.

It is also important to leverage our country's locational advantage for developing multiple corridors of regional cooperation, involving energy, industry, trade and transportation. We plan to harness the tide of globalization and continue to strengthen the gains from making Pakistan an attractive destination for local and foreign investment.

We must constantly remind ourselves, that while we may have come a long way, the journey before us is long and arduous. I am happy that Vision 2030 reflects the dreams of our growing numbers of educated and assertive young people. They are the instruments for changing the national mindset. Their passion is the best guarantee of our achieving the vision for Pakistan in the 21<sup>st</sup> century.

Welcome to our Pakistan of the 21<sup>st</sup> Century.

**Shaukat Aziz**

**Prime Minister of the  
Islamic Republic of Pakistan**



## Preface

The National Economic Council (NEC) meeting chaired by the Prime Minister of Pakistan on 27<sup>th</sup> May, 2005 approved the Medium Term Development Framework 2005-10 as a first step towards the nation's march as a developed economy within a generation. In the meeting held on 28 February, 2006, the NEC approved the Approach Paper titled "Strategic Directions to Achieve Vision 2030", and authorised the Planning Commission to prepare a long term perspective document highlighting the strategic directions which need to be followed to achieve this national vision.

I am honoured and delighted to report that the National Economic Council approved the document on 31<sup>st</sup> May, 2007 and authorized its launching during the month of August to coincide with the 61<sup>st</sup> Independence Day.

The Vision 2030 statement approved by NEC envisages a "developed, industrialized, just and prosperous Pakistan through rapid and sustainable development in a resource constrained economy by deploying knowledge inputs".

The rationale for long term national vision lies in the framework it provides for steering the economy towards a well defined destination.

The task of preparing the Vision Document was carried out through six thematic groups (Annexe I), each headed by an eminent Pakistani. They were assisted by equally capable professionals and citizens drawn from across the country (Annexe II), who were invited to contribute towards "How Pakistan should look like in 2030?". They were further requested to take cognisance of global transformations which are likely to impinge upon Pakistan.

The Vision 2030 document has been prepared based upon the papers and reports of members of the thematic groups, and subsequent consultations with other stakeholders. The feedback and inputs received from the Provincial Governments, Line Ministries and other eminent persons on the Vision 2030 Committee's report of January 2007 has been incorporated in the Vision document.

The Vision 2030 document concludes that Pakistan *will* break out of the cycle of high expectations and poor performance of the past. Moreover, this will be possible with a considerable degree of certainty within one generation. This development and prosperity will be judged basically by only one parameter, i.e. improvement in the quality of life of each and every Pakistani, and their ability to unleash their true potential, within assured security and opportunity. This is the basis of the social contract which needs to be strengthened further between the state and the people. If this covenant is arrived at and sustained, Pakistan would become an important nation state of the 21<sup>st</sup> century. This is the premise on which the framework for implementing Vision 2030 has been formulated.

Pakistan has the potential and the will to be a developed, industrialized, just and prosperous nation within one generation. Within the constraints imposed by the physical resource base, we should reach the required development levels by deploying knowledge inputs and human capital. This is our Vision for Pakistan in the year 2030.

The Document for Vision 2030 may appear ambitious, but we firmly believe that keeping in mind our key natural resources and the latent potentials, strengths, entrepreneurship, and drive of our people, it is achievable. The success of Pakistan in some key areas and recent strong economic performance provide ample reasons for optimism.

We are a compassionate and caring nation as was demonstrated in the earthquake of October 2005. We can and will build a just and sustainable society, where the caring heart is in harmony with the thinking mind, and where knowledge and rationalism will be the guiding principle at large, ultimately giving birth to a nation which is uniquely Pakistani.

Vision 2030 will be implemented through five year development frameworks, which would provide an opportunity for refining the operational details of the Vision, with a major review in 2015. This will enable the planning process and development programmes to stay aligned with implementation strategies and national benchmarks over the Vision period.

This Vision Document is a tribute to the women and men from all over Pakistan, who participated in the foresight exercise, and gave their time and passion unflinchingly. The enthusiasm, participation, and optimism witnessed during this exercise augurs well for the future of Pakistan. The message is clear: Pakistan can and will change for the better.

I express my gratitude to all members of the Vision team, parliamentarians, Federal Ministries and Provincial Departments, and the civil society at large for assisting the Planning Commission in this monumental effort.

Under the guidance of the President and the Prime Minister, the Planning Commission has recently been restructured and is being further strengthened to focus on strategic issues and long term foresight exercises in a highly professional environment. Stronger analytical work and generation of related multiple scenarios would improve the quality of advice to the government for informed decision-making. The Planning Commission is also focussing on more participatory development and stronger links with all tiers of government. These efforts provide the underpinning for implementation of the Vision.

**Eng. Dr. Muhammad Akram Sheikh, *H.I.***

**Deputy Chairman  
Planning Commission**

# Acknowledgement

This is a national document, drawn up after receiving contributions from some of our best minds and hearts in the country.

*Their efforts are acknowledged with deep gratitude*

Being a national document, it does not belong to any group or personality.

Neither is it restricted in time.

Even with change of government and personalities, continuity of policies presented in this document will insha'Allah be there to guide us to the future we desire and deserve.

# Pakistan in the 21<sup>st</sup> Century: Vision 2030

## Executive Summary

### 1. Introduction

A Vision is like a dream, but one which is experienced with both eyes open and with one's feet on the ground. The Medium Term Development Framework 2005-10 launched by the Government in July 2005 presented the Vision of a "developed, industrialized, just and prosperous Pakistan through rapid and sustainable development, in a resource constrained economy by deploying knowledge inputs". Vision 2030 extends that dream further and higher in terms of space and time.

The Vision 2030 for Pakistan has been prepared after a consultative process spread over two years. It presents a strategic framework for overcoming obstacles and challenges standing in the way of the preferred future chosen by the people of Pakistan.

We aim to achieve the stated Vision within a generation, in a manner that sustains a high quality of life and provides equal opportunities to its citizens to reach their true potential. We plan to meet contemporary and future challenges by deploying knowledge inputs and developing human capital. This, we believe, is the substance of the Vision in our mind.

The Vision document necessarily combines idealism with a sense of the possible. Its goals reflect the aspirations and potential of our people in the context of a fast-changing world. The Vision 2030 exercise considers a range of futures with concomitant strategic alignments. Yet the underlying theme is to embrace needed transformation, and to create new opportunities based on our innate strengths. This is the basic theme of Vision 2030.

Growing economically at a rate of around 7-8 percent per annum, Pakistan expects to join the ranks of middle-income countries, with a GDP of around USD 4,000 by 2030. This high growth rate would be sustained through developing its human resources, and by developing the necessary physical and technological infrastructure.

The growth trajectory will gain momentum by the latent capacities of a sizeable middle class emerging in the development process. Besides sustaining high growth rates, benefits of growth are planned to be equitably distributed, and poverty to be largely eliminated.

The citizen shall have greater access to quality education, as well as basic amenities like health, water and sanitation. Freedom of enterprise and enlarged opportunities will transform the lives of the majority but the benefit of social protection will provide sufficient cushion to the most vulnerable.

Vision 2030 acknowledges the forces of globalisation and dispersion of information and technology, which are likely to dramatically change the scale and character of human enterprise. By 2030, human lives, workplaces, education, skills, trade and competition would stand transformed. We are determined to manage these global forces of change to our advantage.

We intend to make a mark in the various fields of knowledge which can add value to our endeavours. What is posited is a quest for excellence, so that Pakistan can redefine and transform its institutions and structures as well as national policies, priorities and goals. We need to convert knowledge into a socio-economic enterprise. It should transform the market place, the quality of its processes and products and the productivity of our human resource.

The acquisition and dissemination of knowledge and the quest for excellence will be the driving force of our future destiny. Our vision is demanding and simple at the same time; we aim to transform ourselves into a state, society and economy dedicated to the assimilation and generation of knowledge, the harnessing of technology, and the practice of compassion. In making this transformation, we will continue to nurture the roots of our culture and remain uniquely Pakistani.

## 1.1 The Consensus

There is a remarkable consensus among the stakeholders about the future of Pakistan. This country is poised to assert its innate significance in one of the world's most strategic areas. With the right choices and intelligent calibration of its strengths, Pakistan can attain its historical promise. There is confidence in the air and a determination to build on our successes which are not few but many in diverse fields. We are a nation determined to stand alongside the best of the world with confidence and faith in our destiny.

There is national consensus on the following fundamentals:

- i. To build a nation whose development is measured by economic growth as well the quality of life enjoyed by its people;
- ii. To evolve into a tolerant and productive society, which is at peace with itself and with the rest of the world, within a framework of sovereignty and security;
- iii. To establish the rule of law as a bedrock principle impacting on all walks of life;
- iv. To encourage freedom of enterprise and innovation in the market place together with state responsibility for the provision of basic services to all citizens, including education, healthcare, water and sanitation, shelter, and security under law;
- v. To make employment and employability, a central theme in economic and social policies, with special emphasis on the rights of women;
- vi. To eliminate absolute poverty and ensure social protection for the weak and the vulnerable;
- vii. To generate and absorb knowledge and harness technology for the good of all while promoting social sciences and humanities as an essential branch of knowledge;
- viii. To sustain an average growth of 7-8 percent in the long term through effective investment and saving strategies while maintaining macro-economic stability;

- ix. To take advantage of globalisation through enhanced competitiveness in a global economy relating to commerce, manufacturing and services, with increased diversity and quality of content;
- x. To facilitate the emergence of “Brand Pakistan”, which will result in several large conglomerates becoming global players, and many more regional hubs and centres established in Pakistan;
- xi. To re-design the structures of state and instruments of government in terms of participation, delivery of services, and good governance;
- xii. To maximize dividends from the demographic transition in the coming years, while avoiding the pitfalls;
- xiii. To manage the anticipated growing competition for access and ownership of resources and energy both regionally and globally;
- xiv. To prepare for climate change, and its likely unfavourable implications
- xv. To minimize wastage of natural resources as an important tool for preserving inter-generational equity;
- xvi. To prepare for the dynamics and imperatives of growth of large cities, urban concentrations and expected internal and international migration;
- xvii. To achieve significant breakthroughs in the sectors of education, employment and energy while consolidating and expanding the gathering momentum in infrastructure and service sectors.

All these objectives will be achieved through consensus of all stakeholders in a graduated but timely fashion.

## 2. The Challenge

Pakistan will continue to face many challenges, which will all have to be managed and turned into opportunities for the welfare of the people. Some of the important challenges are:

- i. **Population:** Pakistan is projected to become the fifth largest country by 2030, with a population ranging between 230 and 260 million people, some 60 percent of whom will live in urban areas.  
*We expect dividends of our declining birth rate in the form of attainment of universal primary education by 2015, and universal secondary education by 2020-25. The second dividend will be higher productivity and a faster economic growth because of higher educational attainments throughout the population.*
- ii. **Employment:** The current techno-economic-knowledge revolution places a premium on education and skills. Employment generation, and matching of skills with demand in a changing workplace will therefore be central to poverty reduction, economic growth and social stability.
- iii. **Resources:** Natural resources will be severely depleted and stressed, especially *water, land and forests*. Assuming that current water consumption patterns continue unabated, projections show that at least 3.5

billion people — or 48 per cent of the world's projected population — will live in water-stressed river basins in 2030, including Pakistan.

The situation will be accentuated by the looming climate change; its impact and capacity to de-stabilise the geographical spread and location of human habitats is only just beginning to be understood.

- ? Integrated water resource management, which aims at ensuring the most optimal use of water, is a major strategy for overcoming the looming water scarcity.
- ? Pakistan has not managed its water resources with care and is now becoming increasingly water-stressed (less than 1000 cubic metres per capita). The country's current storage capacity at 9 per cent of average annual flows, is very low compared with the world average of 40 per cent. Further, on average, 35 MAF of water flows into the sea annually during the flood season. In addition, extensive damages result due to flooding. Without additional storage, the shortfall will increase by 12 per cent over the next decade. Increasing storage capacity is thus an important part of the strategy.
- ? It is planned to increase storage capacity by 18 MAF (6 MAF for replacement of storage lost to silting / sedimentation and 12 MAF of new storage) in order to meet the projected requirements of 134 MAF.

The large storage facilities will be complemented by a comprehensive programme of small dams, and other measures for recharging underground reservoirs.

- ? While the agriculture sector will remain the predominant user of water, the requirements for industry, municipal and human use will continue to increase. It would be necessary to enhance efficiency for all uses of water, including re-cycling and re-use.
- ? There is a dire need for aggressively pursuing all resource conservation technologies for sustainable agriculture. Our existing irrigation methodologies, based on gravity flow, are extravagant and unsustainable.
- ? There are nearly 14 million acres of salt affected wasteland with brackish underground water as well as large areas of sandy desert. Pakistani scientists have pioneered bio-saline agriculture technology whereby such lands can be economically utilized through a National Bio-saline Agriculture Program. Drought-tolerant and water-use efficient crop varieties through biotechnology will augment conservation of water resources.

Salt tolerant, fast growing grasses, shrubs and trees are planned to be grown with brackish water, and used as a feedstock for economic conversion to methane or ethanol for fuel.

- iv. **Food and Agriculture:** *Our vision is an efficient, competitive, and sustainable agriculture which will ensure food security, rural livelihood, and will contribute to the economic development of Pakistan.*

Few people would have accepted that Pakistan would be able to feed its growing population, which increased from around 34 million in 1947 to 156 million in 2006. Not only has this been achieved, in addition rice has been

exported nearly every year, and even wheat occasionally. It was able to achieve food self-sufficiency, triple its agricultural exports, reduce poverty, increase income levels, and improve the quality of life for its people.

- ? **The Green Revolution has essentially run its course** and its achievable potential has been largely realized.

*When we couple this with the looming water shortages, we believe that it will be difficult for Pakistan to support an estimated population of 230 - 260 million in 2030, with current technology and current best practices alone.*

- ? Biotechnology will play the critical role in meeting agricultural targets during this century, leading to higher production, better resistance, and lower costs of production.
- ? Small farms are continuously increasing in number because of land division due to inheritance. This is impacting agricultural productivity, as small farmers are generally resource-poor and need greater attention.

We may need to re-visit the debate over land reforms in keeping with the demands of the 21<sup>st</sup> century.

- v. **Energy:** The world will demand even more energy, on the wave of rapidly growing demand from Asia; it will be in short supply, and may not be affordable. Pakistan too will require enormous amounts of energy to meet its developmental challenges, and to attain and sustain its vision for economic growth. We must therefore change the way we draw up our strategies for acquisition, generation and conservation of energy:

- ? Diversification of the energy mix, by expanding the share of coal, nuclear and renewable energy from its current combined share of 20 per cent to 36 per cent by 2030;
- ? Increase in capacity of strategic reserves from the current 29 days of demand to bring it closer to the 60-day supply of USA by 2015, and Europe's 90 days by 2030. This is also a hedge against price volatility/market panics;
- ? Improved and expanded oil and gas distribution networks, both within the country and internationally;
- ? Increased energy cooperation, whereby buyers and sellers expand investments in each other's energy infrastructure. Pakistan will actively pursue exploration in oil and gas fields abroad as well as investing in infrastructure (ports and shipping) for handling enhanced use of LNG;
- ? Extensive use of coal-fired plants based on indigenous and imported coal, coupled with carbon capture and sequestration to reduce emissions;
- ? Meet fully the oil and gas exploration targets set in the Energy Security Plan, which is the most effective path for enhancing energy self-reliance in Pakistan;
- ? Make *buildings more energy efficient*, specially for reduction of air-conditioning loads in summer. Solar heating will be promoted for winter;
- ? Put in place *mass transit systems* in major cities to meet the mobility needs of the public, and to reduce pollution;



- ? Accelerate the current *programmes in alternate energy* (especially wind), which have the potential to provide more than 5 per cent of the electricity supply needed in 2030, as incorporated in the Energy Security Plan;
- ? *Build up the local power engineering industry* for power plant equipment, steam turbines, and generators;
- ? Initiate research in *emerging thrust areas* such as fusion, fuel cells, and hydrogen for energy generation and storage.

These measures need to be complemented by broadening the *database* through regular census and surveys in order to fine tune energy planning.

- vi. **Rural and Urban Dimensions:** Pakistan will become predominantly urban by 2030. An additional urban population of the size of Punjab's total current population ( about 80 million) will have to be accommodated. Further, mega-cities of the world will compete with nation states, on the basis of congruence of cluster strengths and a whole new set of economic dynamics. This will demand a holistic approach within Pakistan also to address the issues of increasing rural non-farming employment skills, rural-urban complementarities, and linkages to develop balanced hierarchies of settlements. This is expected to increase productivity in every sphere.
- vii. **Sustainability:** The battle for biodiversity may have been irretrievably lost already in mankind's quest for high economic growth. We will be faced with the challenge of managing a growing deficit of inter-generational equity and conservation of our environment.
- viii. **The Race for Talent:** Men and women of talent and skills will be valued and sought after by all nations, driven by changes in the nature of work and the workplace, demands for greater productivity and innovation, and to make up for aging populations.

To meet this challenge, education sector strategies will include the following:

- ? *Enhance the scale and quality* of education in general and of scientific / technical education in Pakistan in particular.
- ? *Increase public expenditure on education and skills generation* from the present 2.7 per cent of GDP to 5 per cent by 2010 and at least 7 per cent by 2015.
- ? *Generate an environment which encourages the thinking mind to emerge from our schools.* Among other things, this would require qualified, and well-paid teachers, whether at the level of the school, the college or the university.
- ? *Establish one curriculum, and one standardised national examination system* under state responsibility.
- ? *Make employment and employability the central theme in economic and social policies.* This will require major investment in skill generation after 10 years of schooling, and social reforms to draw in women, since labour markets are always socially embedded.

### 3. A Just and Sustainable Society

Achieving the true potential of each and every citizen is the cornerstone of Vision 2030. The basic thread in the discourse of Vision 2030 remains the creation of a just society, without which Pakistan will not flourish and prosper. Pakistan will continue to be a multiethnic, multi-cultural, and multi-religious society.

#### 3.1 The Social Context

It will be imperative to achieve synthesis among the streams of religion, cultural roots, *and* scientific methodology. We are confident that within Pakistan, as elsewhere in the world, identities based on religion, language and culture will have emerged into a state of maturity by 2030. The challenge will be to strengthen social and political institutions, to ensure that any imbalances and social tensions do not hold the country back.

Attaining gender parity and universal female literacy remains a challenge due to large regional variations and low female enrolment and retention in rural areas. There have been some impressive gains in empowerment of women in recent years, with reserved representation in federal, provincial and local elected bodies.

However, there are a number of daunting challenges hindering moves towards gender equality. The gender gap is most serious in terms of opportunities for education, health, and employment in rural areas. A school in every settlement, and vocational and technical education especially in the good practices of agriculture and livestock, would be key instruments for reducing poverty among rural working women, who outnumber their male counterparts in these sectors.

*The conversion to a gender balanced and empowered society is a slow process, requiring careful but persistent sensitization of society. This process will be encouraged within a wider environment of continued government interventions and social activism.*

#### 3.2 The Political Context

Pakistan will need to adapt its institutions of state and instruments of government to become more responsive to the needs of the 21<sup>st</sup> century. Even greater attention will be required in building the capacity of civil servants, specially those at the provincial and local levels where the delivery of services actually takes place. The political framework will be required to enhance democratic processes so that participation and ownership of all citizens in decision making can be improved.

***We expect to see the following in 2030:***

- ? The spread of education and sensitisation to citizens' rights in Pakistan will have led to the resolution of many issues which agitate the Pakistani public at present.
- ? The performance of government will be judged by the security of life and property it provides, and the quality and speed of justice offered, and not simply by economic growth rates.
- ? The provision of public goods, such as security of life and property and the provision of justice under a strengthened social contract, will dominate the

functions of state, since it cannot be an effective helmsman of economic development, unless it can provide social contract goods effectively.

- ? Political susceptibility and ‘clientilism’ will have been mostly eliminated. The civil servant of the future in Pakistan will have learnt to work within the environment of greater political participation, devolution and social mobilisation.
- ? Most government functions will have devolved to provincial and local governments.

*The excellence of Pakistani institutions in 2030 will be reflected in the state’s capacity to unilaterally reach its governance targets for internal and external efficiencies, which must include:*

- ? Consolidation of a democratic culture in society;
- ? Fair and efficient access to, and sharing of, infrastructure and wealth through pro-poor policies and training;
- ? Protection of the rights of the citizen against arbitrary decision making;
- ? Access to justice whereby redress is available and dispensable to all, with offences regarded as offences against society and not merely persons;
- ? Development of legal and regulatory frameworks to minimise risks inherent in public-private partnerships.

### 3.3 Critical Benchmarks of a Modern State

Vision 2030 postulates that Pakistan needs to cross some critical benchmarks to manage the modern state of the 21<sup>st</sup> century. These will include:

- i. **Justice and Law:** The first is an independent judiciary, made up of good men and women, who are just - but not too good as to be unjust. Moreover, laws exist for every known contingency, it is their enforcement, first as decision in the court and then their implementation, which is crucial.
- ii. **Government Efficiency:** A second important, and separate, dimension is related to the efficiency of government and the quality of the bureaucracy. We must ensure a professional civil service, which facilitates and implements policies, and is free of clientilism – be it political, donor-related, or even cadre-centred.
  - ? The professionalism of the civil servant is critical to the reform process, whether through greater induction of technocrats or their lifelong capacity building and learning. Close interaction with technology and understanding of its social and economic accelerators will be necessary. This is specially applicable to the service cadres at the provinces and local government level, where the actual delivery of services takes place.
  - ? Extensive administrative reforms are needed in Pakistan to attract and retain competent officers, and to establish better interaction across the tiers of government and its various organs.

? Improved service structures and security, *and* opportunities for professional growth, *as well as* greater political insulation will need to be ensured.

- iii. **Participation:** Third, the democracy deficit needs to be overcome. This is essential to restore trust between the state and the people, who need to know and see that the state actually cares for them.
- iv. **The Non-State Actor:** The influence of the “non-state” actor can be significant, specially the international institutions, which are much more intrusive into national societies than traditional ones. Their policy prescriptions tend to make national borders irrelevant. This can seriously affect the ability of a state to meet its governance targets, since *effective governance depends upon the availability of a minimum spatial congruence* of political regulations with socially integrated geographical areas and the absence of significant externalities. They also have severe representational deficits, and increasingly contain features which undermine the consensus principle of international cooperation.

Pakistan will witness an increasing emphasis on public–private partnerships to increase the resource envelope, and to increase efficiency and delivery of services. The relationship between the public and private sectors will have matured, and its dynamics much better understood in 2030. It is imperative to develop the legal and regulatory framework to minimise risks and facilitate this partnership .

- v. **Globally Integrated Economy:** By 2030 economies are likely to diffuse across national boundaries into truly global supply chains, whether in industry, services or ownership. This dispersal of work and strategic linkages across national boundaries, coupled with information integration, and a shift in the technological content of world trade towards high technology, will be the most conspicuous features of the globalised economy of the future. There will be a continuation of relocation of manufacturing and an increasing share of design and services from the developed countries. Attracting and retaining relocation activities and investments, and developing into regional or global hubs, will be major challenge for Pakistan.
- vi. **Changing Nature of Work and Workplace:** Pakistan will need to address the challenges of a changing workplace, changing demand for skills, and a flexible gender inclusive workforce. A new economic landscape is being created globally that highlights a shift from geographical industrial clusters to virtual clusters, driven by digital innovation. These clusters are emerging in the new competitive space offered by a web-based business world, where “how you do business” can be more relevant than “where you do business”. For Pakistan, it translates into a challenge to operate the next generation of communication networks, which combine convergence with speed, stability, security, and flexibility.
- vii. **The Asian Region:** The most abrupt transformation is occurring in Asia which is expected to be the engine of global growth and consumption in the foreseeable future. If some emerging economies in Asia can sustain their growth for several decades, then three of the four largest global economies will probably be Asian in 2030. *Pakistan’s competitors will be other Asian countries.*

#### 4. The Macroeconomic Framework

Pakistan's macroeconomic framework in 2030 will be linked to the level of globalisation prevalent at the time. Whether globalisation is intense or benign, Pakistan may have little ground for manoeuvre, and the state would still be busy in maintaining the balance at the fiscal, monetary, and external levels.

*In both cases, low inflation would be an important goal, tariffs would also be low or within those set by the international environment, and the number of taxes would be few.*

We expect Pakistan to have eliminated extreme poverty in all its manifestations much before 2030. The state would build upon this to increase the employability and quality of life of all its citizens.

High GDP growth rates exceeding 7 –8 percent are envisaged in view of recent performance; however, the low levels of savings and investments, broad-basing of growth, its sustainability over time, and the trickle down of growth benefits to the poor, would remain major challenges.

We expect the share of *manufacturing* to rise from the current 18 percent in 2005-06 to nearly 30 percent by 2030.

Within manufacturing, there is also a need for *diversification* from textiles to machinery, electronics, automobiles, pharmaceuticals and chemicals, to match the global trade composition. Fortunately, all these sectors are showing strong growth.

The *services sector* plays a vital role in sustaining the growth of Pakistan's economy, with a share of about 60 percent in GDP, and 44 percent in employed labour force. A cross-country comparison shows that share of services sector in GDP is currently about 75 percent in most developed countries.

Boundaries between services and industry are changing fast, and about half of all services in modern industrialized economies are sold and bought while being *embedded* in the form of goods. While the content and function of goods remain important, the designing, marketing, consultancy and advertising services claim a share of the value added to goods. Manufacturing, too, has important contributions from services, such as resource planning, warehousing, value chain analysis, financial services and inputs, after sales services, and the logistics of transport and communication.

All these elements are a core focus of Vision 2030.

The government will provide the necessary *infrastructure*, human resource development including skill development and the development of scientific and technological infrastructure. The government will also use fiscal incentives including tax holidays, depreciation allowance, tax credits, subsidy for R&D, freight subsidy etc. to promote the export-oriented and hi-tech industries.

An important instrument to achieve Vision 2030 would be to enhance the trade/GDP ratio from the current 30 percent to about 60 percent by 2030, or around USD 600 billion by 2030. The services sector accounts for nearly 60 per cent of the GDP but contributes very little to the revenue generation (telecommunications and electricity being the exceptions).

The major interventions required are *strengthening of the infrastructure*, and assurance of quality standards and accreditation. Quality improvement and

diversification would require active partnership between the private and public sectors with a focus on increasing export competitiveness.

In a world of aggressive *competition* in the global market, generating growth exclusively from factors accumulation makes a country uncompetitive. Empirical estimates suggest that 20 to 50 per cent of GDP growth has emanated from productivity gains in various countries. In Pakistan, TFP has contributed one-third to its growth in recent years, but it reflected an extreme form of inefficiencies in the base year, rather than improvement in productivity.

Rising levels of *investment* without an increase in savings result in external debt; savings rate in Pakistan is around 15 percent of GDP (with investment levels of 20 percent) which is quite low in the perspective of 6-8 percent growth rate envisaged in Vision 2030.

The country is entering into a *capital intensive investment regime* in order to diversify towards hi-tech industries, to meet the energy and infrastructure requirements, and to provide for the human resource development. The minimum level of requisite investment would range between 27 to 30 percent if the growth rates of GDP envisaged in the vision 2030 are to be realized.

Accordingly, a major effort is to be made to increase the savings rate from the current 15-16 per cent of GDP to 25 percent at least.

## 5. Building Competitive Advantage

Pakistan must quickly put in place the infrastructure and instruments for matching of transnational skills, to deal with the emergence of the 24 hour / 7 day working society, and to cater for relocation of manufacturing and design high income developed economies. Apart from the excellence of public institutions and quality of macroeconomic policies, the driving force will remain flexible, skilled and innovative technical personnel; and fast and efficient physical and electronic connectivity.

We need to bridge the increasing *digital divide* between Pakistan and the global leaders. We will need to establish an excellent, low cost, physical and electronic connectivity (part of the required technological infrastructure) with the rest of the world, specially with those countries from where industrial and business relocation is possible.

Establishing a world class and innovative *telecommunication infrastructure* is therefore an important pre-requisite to enable both manufacturing and services sectors to expand rapidly.

The reduction of the digital divide offers enormous opportunities for the emergence of major Pakistani business and industrial conglomerates.

Services and industry constitute nearly three quarters of our national income, and the *future economic growth of Pakistan will take place in its urban areas*, particularly the mega-cities and other large urban centres. Our future urban centres will be planned within the framework of strategic master plans, incorporating economic parameters for efficiency gains to make our cities competitive in the global and regional context. The development of urban infrastructure will ensure that the location of business and commerce is fully facilitated.

There is a need to carefully enforce and strengthen the *legal and regulatory infrastructure* for IPRs, speedy access to justice, and resolution of commercial

disputes. The local spirit for innovation will be enhanced through better enactment and enforcement of the laws, accompanied by world class quality and standards.

*Small and medium enterprises* (SMEs) will be the prime vehicle of employment generation and poverty alleviation. Government interventions will be focussed at lifting them out of the low skills, low expectations trap. Business trust will be enhanced through better contract enforcement, as part of the overall enabling environment.

With these enablers in place, industrial and commercial competitiveness will increase, and productivity will improve through information-intensive, value-added processes. Well before 2030, several local enterprises will reach the technological trajectory where they become generators of knowledge and skills.

The cost of doing business is determined by a large number of factors, with availability and cost of infrastructure as the major factor. Pakistan has recently introduced several measures to reduce costs of doing business faced by investors (local and foreign), and was ranked<sup>1</sup> at 74 out of 175 countries in 2007; the ranking of the BRICs countries was 121 for Brazil, 96 for Russia, 134 for India and 93 for China. *The most critical issue remains adjudication and settlement of disputes, where Pakistan ranked 162 globally.*

The *new arc of activity* from Gwadar to upcountry and beyond into China and Central Asia (the Energy, Trade, Transport, Industry corridor) will be a major catalyst on completion, as it will make use of Pakistan's prime location on energy and trade routes, to meet its own need as well as those of its neighbours.

*Urban centres* will be planned within the framework of strategic master plans, incorporating economic parameters for efficiency gains, to make our cities competitive in the global and regional context.

## 5.1 The Physical and Technological Infrastructure

The infrastructure will be strengthened to ensure that bottlenecks do not impede the envisaged growth and competitiveness:

- ? *Excellent Physical Infrastructure.* A comprehensive programme has been launched under the National Trade Corridor Initiative to overhaul the entire logistics chain, physical connectivity and processes (motorways, expressways, railways, ports and shipping and airports) and efficiency to bring them at par with international standards. *The time spent at our ports to clear imports has already been slashed by more than half, and will be reduced further.*
- ? Major investment in standards, measurements, testing, and accreditation are being made to assure quality of processes and products.
- ? *ICT:* Pakistan will put in place a multi-platform, any-time any-place infrastructure, which can meet the challenges of technology convergence in order to cater to needs of the present and future. The quality of service for the 'last mile' is of particular focus. Development of the infrastructure and secure environment for e-Commerce will receive high priority.

<sup>1</sup> World Bank; *Doing Business 2007*.

- ? Special economic and industrial zones and clusters will be encouraged to reduce the cost of production.

With an excellent infrastructure in place, Vision 2030 expects for a quantum increase in manufacturing and services to fuel long term growth.

## 6. Building the Innovative Society

A society without innovation and based only upon the use of technical skills, for production and services, will not flourish for long. *After the initial economic growth, the envelope of prosperity and quality of life can only be increased through research, which will help to promote both planned and unplanned pathways for development.* It is the unplanned application of fundamental research which generally has greater impact in the long run.

Innovation, however, does not mean research only. *The basic building blocks of an innovative society must be put in place before any other expectations can be made.* The first essential requirement is universal enrolment and completion of education for a minimum of ten years. The second requirement is for an environment which nurtures independence of thought – the creation of a thinking mind among the children. Here the choice of medium of instruction is extremely important. This is the essence of the knowledge worker, and this is the prime focus of Vision 2030. If we can succeed in creating the thinking mind, we will have the instrument for change.

The third requirement is the creation of a set of skills and aptitudes which will enable employability and productivity, at the same time as the ethics of a social environment are inculcated in the young mind.

Finally, the ‘long pole’ in the tent of an enlightened society is the teacher. Teacher shortages are exacerbated by low salaries, low status, and low expectations, coupled with indifferent attitudes and pedagogical skills. This issue deserves the highest attention, since the teacher is the mediator between what is intended to be taught and what actually gets delivered, and determines the kind of young men and women coming out of our institutions. The teacher will be at the centre of educational reforms in Vision 2030.

Recent investments in education, research and infrastructure have improved the environment in Pakistan recently, but not enough is being done at the school and college level. It is still hampered by lack of critical mass and insufficient skills in design, and instrumentation. The issue of critical numbers is being addressed through greatly enhanced funding for faculty development and research funding, and a focus on quality.

There will be focus on the five technologies driving the techno-socio-economic revolution of the 21<sup>st</sup> century: energy, materials, biology, nanotechnology, and computational power. Space is in a category of its own in its ability to fire the imagination all human beings, and will be actively pursued.

Pakistani scientists and engineers can play an important part in building up a broad research base in energy and its new technologies. This offers employment and industrial opportunities as well, because the energy crunch is already here.



## 7. The State and Security

The sovereignty and security of Pakistan will need to be addressed at two levels – internal and external. As Pakistan moves towards greater prosperity, preserving its physical space and even expanding its virtual counterpart will become extremely important. The emergence of new global players in the 21<sup>st</sup> century is a certainty, and a whole new set of strategic alliances are being quietly forged in Asia, on the premise that these new players will have an impact as large as the imperial powers of the previous two centuries.

Fortunately for Pakistan, size will still matter, whether demographic, economic, or military, to help preserve the national space.

There is potential for Pakistan to be a bigger player in matters of global security instead of being a target. However, Pakistan is placed geographically and politically in a region of great tension, at the same time as its economic growth and expectations are rising.

Domestically, Pakistan needs to ensure not only food and energy security, but also an equitable distribution of all forms of wealth and the opportunities to access and generate them, and removal of the democracy deficit. Such an internal concord would be the best protection from external forces and events.

Pakistan will continue to work towards peace in the region, so that its economic space can be cultivated intensely, and the fruits of development can be shared by all its citizens. Promotion of peace and dialogue is therefore a critical element of its foreign policy.

It is reasonable to expect that the Pakistani state in 2030 will have evolved as part of the international order of modern progressive states, where international issues will be resolved through dialogue and negotiations rather than coercion being applied under delusions of empire or quest for hegemony or resources. *With peace in the region, Pakistan can get on with the business of building a prosperous state.*

## 8. Some Concluding Reflections

In 2030, Pakistanis will be better educated, better fed, and better served by the state in which their participation will be far greater than in the past, because of much improved instruments of state and government. Worry will remain about the nature of the state in terms of size and intrusiveness, on the shoulders of the unfolding information and scientific / technical revolution. Science and society will continue to co-evolve in this century, with science continuing to provide more singularities and disruptions through unplanned pathways, as it has done throughout human history, specially the last 100 years.

The Vision 2030 document emphasises the four levels at which the Vision process has been placed. These are the nature of the state, the economy, the society, and the global imperatives in which the process will be embedded. It also discusses issues related to energy, knowledge, science and technology, and changing demographics from the viewpoint of global demands for competition, productivity, and diversification. All these are placed within the boundaries of sustainability of the environment and the human habitat, and intergenerational equity.

No matter what the background, everyone agrees that Pakistan must change. It must change to manage the reality of global competition. It must also learn to manage the shift in the centre of economic and political gravity to Asia.

The most interesting impact of the Vision process is the ‘re-discovery’ of Pakistan’s young people – vibrant and confident, possessing higher expectations and skills than their forebears, and no longer willing to settle for second best.

They had somehow been forgotten in our lost decades, but in 2030 they will be the ones who will have wrought the changes which we all wish for. They will also be more demanding of quality of government and assured equality under law, a sustainable habitat and environment, and better delivery of services. They are already more pluralistic and inclusive than the older generation, and have the confidence to take what they like or want in cultural terms; they also carry lesser historical baggage. They are the instrument for achieving our Vision for a productive, progressive, just and stimulating Pakistani society in 2030.

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## Introduction

A nation must know where it wants to go and what its vision for itself might be, only then can it prepare strategies and policies to reach there. The effort and set of rules needed to achieve such a vision would therefore depend strongly upon the height of one's gaze. Pakistan, too, has to spell out a vision for itself, and then define its preferred future in an increasingly uncertain world.

The Medium Term Development Framework, 2005-10 (MTDF) emphatically states that Pakistan must become a developed, industrialized, just and prosperous nation within one generation. It must do so in a manner that sustains its development paradigm of a good quality of life and opportunity for all its citizens to reach their true potential. The MTDF also states, that in spite of resource constraints, Pakistan can reach the development levels which it needs and deserves, by deploying knowledge inputs and human capital. This is our Vision for Pakistan in the year 2030.

The time until 2030 represents the period of one generation, during which we have not only to place Pakistan firmly along proper alignments, but actually cross some critical milestones. Within these operating parameters, the Vision 2030 exercise examines future possibilities and subsequent strategic directions in order to manage and take advantage of ongoing global and societal transformations, and even to *create* new opportunities. This is the basic theme of Vision 2030.

*Vision 2030 is ultimately about changing the mindset of a people* so that the preferred future can be grasped from among the several futures that will be possible. It is a journey of exploration, which attempts to convert potential and dreams into reality. Given the nature, diversity and enormity of the challenges, this Vision Document outlines only the *beginning* of a comprehensive analytical process to determine the appropriate responses in order to provide authority, legitimacy and credibility to this foresight exercise.

The year 2030 is important for Pakistan in several respects. It is the year when a child entering the educational stream today will have become an important productive member of the society. It is the period when most analysts predict the beginning of an irreversible decline in oil production, which will allow only a few years for humanity to find alternative and sustainable sources of energy. It is the year when most of mankind is likely to be severely stressed between water scarcity and melting glaciers and polar caps. It is also the year when all demographic trends suggest that we in Pakistan too will start ageing as a society - with all the social and economic consequences of a fragmented family unit. We will face the additional danger, however, that unlike the countries of the richer West, we could start aging *before* we have grown rich as a nation.

Where Pakistan can and should, be placed in the middle of such major transformations is the focus of Vision 2030. In order to manage these global forces of change to Pakistan's advantage, we must first understand their form and intensity, and then

complement this knowledge with a vision for ourselves; *the stance chosen, however, must be our own*.

Growing at a rate of around 7-8 percent per annum Pakistan expects to join the ranks of middle-income countries, with a GDP of around USD 12,000 - 13,000 (in current PPP terms) by 2030. This high growth rate would be sustained through developing its human resources, and by developing the necessary physical and technological infrastructure.

The growth trajectory will gain momentum by the latent capacities of a sizable middle class emerging in the development process. Besides sustaining high growth rates, benefits of growth are planned to be equitably distributed, and poverty largely eliminated, through pro-poor policies.

Predicting where a nation might be a generation hence is an uncertain exercise. A vision, however, represents more than mere predictive numbers and statistics. It spells out the dreams, hopes, and aspirations of a nation and the desire to lead a better and fuller life. It is completed when our hopes for well-being for our own selves are realised at the same time as the world is freed from conflict, disease and hunger.

The Vision 2030 document has been prepared, after a consultative process spread over two years with some of our best minds and hearts in the country.

## The Consensus

The future is essentially unpredictable, with a *range of possible futures* for Pakistan, influenced by internal and external factors and path-breaking events or innovations. The future is, however, predictable to the extent that economic globalisation and dispersion of information and technology will have occurred to such a massive extent, that it will change the scale and nature of human enterprise. Based on changes that have already taken place in recent decades, we can safely assume that by 2030, the way we live, work and educate ourselves, or compete and trade, and the manner in which we grow old and become sick, would have been completely transformed.

In spite of often divergent and always passionate views and opinions, there is a remarkable consensus among all national stakeholders about the possible state of affairs for Pakistan. Everyone agrees the country is neither too small nor too poor to be irrelevant, nor is its population too large to pull it down. It has, however, reached a certain 'tipping point', when the right choices and their intelligent calibration can help Pakistan attain its historical promise, while the wrong choices will revert it to a state of 'muddling through' at best. Alternatively, it could benchmark itself against the best of the world with felicity and confidence and attain its true potential. This transformation therefore offers vast opportunities as well as challenges for Pakistan.

All strategies and action matrices to be drawn up for Pakistan reaching the desired state under the Vision 2030 must be subservient to the overarching objective of becoming a vibrant knowledge economy. *The economics of knowledge must therefore underpin policies for growth*. Since many other nations are also embarking on the path of either enhancing their existing knowledge drivers or becoming similar knowledge driven societies, Vision 2030 is as much about Pakistan and Pakistanis competing with other nations, as it is about internal transformation.

Vision 2030 is all about managing such a transition. It calls for a quest for excellence, so that Pakistan can redefine and transform its institutions and structures of the state,

as well as national policies, strategic priorities and long-term benchmarks, within the overarching Vision for Pakistan in 2030.

There is consensus on the following:

- i) Build a nation whose development is measured not through mere statistics of economic growth but by the *quality of life* of all its people, especially the vulnerable and dispossessed, who must be placed at the centre of national development.
- ii) Evolve into a mature, tolerant, and democratic society, which is developed economically and socially, and is at peace with itself and with the rest of the world, within a framework of assured sovereignty and security.
- iii) Establish a social, economic and political system based on rule of law which alone will assure justice and equity. It will be reflected in a shared destiny and prosperity, brought about by a series of 'public goods', and participation and equal opportunities for all, irrespective of geographical and ethnic origin, creed, gender, or age.
- iv) Sustain an average growth of at least 6 -7 per cent until 2030 to meet the development goals. Without high growth, there will be no poverty reduction, or improvement in the quality of life.
- v) Make employment and employability the central theme in economic and social policies. This requires major social reforms to draw in women, since labour markets are always socially embedded.
- vi) Re-assume greater responsibility for the delivery and provision of certain basic services and facilities of acceptably high quality to all citizens. These would cover 10 years of schooling, healthcare, food, water, shelter, and energy, apart from security under law.
- vii) Re-design the structures of state and instruments of government, so that these are responsive to an educated and demanding population in terms of participation, delivery of services, and good governance. Pakistan has reached the 'tipping point' which stipulates that we cannot afford any longer not to have good institutions.
- viii) Attain rapid and sustainable growth, through the use of knowledge and technology inputs, to create opportunities for increased productivity and competitiveness, within the constraints imposed by depleting resources.
- ix) Become an intelligent and efficient exploiter of globalisation through enhanced competitiveness, whether it relates to commerce, manufacturing, or services, or increased diversity and technology content. A necessary corollary is the emergence of "Brand Pakistan", with several large conglomerates becoming global players, and many more regional hubs and centres established in Pakistan.
- x) Generate knowledge and manage it in all its forms. This would focus on science and technology because science and technology not only makes change possible, but also provides tools for managing this transition; there

must be equal focus on the social sciences, the humanities, and the arts, which provide the human face to science and technology .

- xi) Prepare for the demographic transition towards an increasingly aging population by ensuring that its dividends should be exploited, and the threat of a low skills population is avoided.
- xii) Manage the current and looming intense competition for access and ownership of depleting resources and energy, which will increase Pakistan's vulnerabilities in its transition towards a high level of sustained growth over the long term.
- xiii) Prepare for climate changes, and its accompanying uncertainties.
- xiv) Minimise wastage as an important tool for preserving inter-generational equity while exploiting current resources.
- xv) Prepare for and manage the very predictable state of future societies which will be reflected in the growth of large cities, urban concentrations and considerable internal and intra-national migrations. These will have dynamics and imperatives of their own in all spheres of human activities.

If this transition is brought about successfully, we can aspire to become an influential nation of the 21<sup>st</sup> century. It will be a nation that has achieved competence in technology, and a nation which draws upon its rich past to become modern, developed, just and affluent, while remaining uniquely Pakistani in character.

#### **Pakistan in 2030**

In 2030, Pakistan will be the world's fifth most populous country with an estimated 230 to 260 million people. It will emerge as a major economic power, and will be ranked among the top twenty countries on the basis of a 78 percent sustained growth. Its GDP is expected to be \$1000 billion, with per capita incomes of around USD 13,000 in current PPP terms.

Pakistanis will enjoy a high quality of life in both rural and urban areas. Absolute poverty will be largely eliminated, and social protection will be available to every citizen.

Its people in the under-25 age group will have an average of 10 years of education, while tertiary enrolments will grow to 20 percent of the 17-23 years age cohort.

Pakistan will be transformed into a knowledge-based economy, harnessing technology to its advantage. The innovation, productivity, and enterprise of its people, in the context of appropriate economic and social environment, will make Pakistan a major regional hub for industry, education, services and the arts.

Pakistan will have taken its first steps in space, having earlier launched its own communication and resource mapping satellites, and manned space modules.

Pakistan will be an active player in regional and international cooperation, with a competitive enabling environment for innovation and investment.

Pakistan will be a just and prosperous society,  
at peace with itself and the rest of the world.

## Global Imperatives: Challenges and Opportunities

The authenticity of Pakistan's Vision in 2030 would be enhanced if it is embedded within wider trends and events and societal transformations, which are taking place across the globe, and are likely to impact our lives in this century.

The world in 2030 will have some distinctive features. It will have more people than can be effectively sustained by the planet. It will also be very short of affordable energy, ecologically threatened, insecure about food, short of healthy land and water, highly competitive, and over whelmed with information. The world will see great upheavals and singularities in the wake of trend-breaking events in science and technology. It will also be a world where physical proximity is no longer relevant for carrying out human activities, be it international trade, business, education or manufacturing.

Further, climate change and depleting natural resources of water, land and usable energy are bound to increase competition for their access and ownership. This will increase Pakistan's vulnerabilities in its transition towards a high level of sustained growth over the long term.

### 2.1 Challenges and Opportunities for Pakistan

While new challenges emerge, there will be opportunities arising as well, and great rewards for those who can position themselves for competitive advantage. Only those countries, which are competitive and can generate knowledge will be able to steer their own course and decide for themselves; they will acquire wealth and influence, while others will be marginalized. Such nations will also have better control of their own future and sovereignty, whether economically, politically or culturally. *Achieving this state of affairs, must be the driving force for Pakistan.*

Pakistan will face the following major challenges:

- i. **Population:** Pakistan would have the world's fifth largest population with a population ranging between 230 and 260 million, of which 130-140 million are expected to be living in urban areas. This transition will be part of the global population dynamics whereby population will rise from current 6.3 billion to at least 8.2 billion by 2030, and more people will live in cities than rural areas. This has major implications for availability and sustainability of resources needed for mankind to survive.
- ii. **Employment:** Employment generation and matching of skills in a changing workplace will be central to poverty elimination, economic growth, and social stability.

- iii. **Resources:** Natural resources will be severely depleted and stressed, especially water and land. The greatest threat would be faced by the arid parts of the planet, including Pakistan. Assuming that current water consumption patterns continue unabated, projections show that nearly half of the world's projected population will live in water-stressed river basins in 2030. Pakistan, too, is fast approaching the water stress regime, with a storage capacity of only 9 percent of average annual flows compared with a world average of 40 percent.
- iv. **Sustainability:** The battle for biodiversity in the context of mankind's quest for high growth will determine the future of the planet. We will be faced with a growing deficit of inter-generational equity. In the meanwhile, the global crop germplasm is eroding at 1-2 per cent per year, a quarter of our soils are degraded, and even more soil is being destroyed at higher rates than we can retrieve or add.
- v. **Climate Change:** The resource crunch will be aggravated by the looming climate change, whose impact and capacity to de-stabilise the geographical spread and location of human habitats is only just beginning to be understood. Pakistan must prepare to adapt to the coming changes, and mitigate their negative impacts.
- vi. **Food:** Globally, food security will be under threat as much from degraded land and insufficient production, as it will be from a growing demand for different foods and higher nutrition requirements. This problem will be accentuated in the case of Pakistan, with its limited arable land and water, amid rising expectations of its people.
- vii. **Energy:** The world will demand even more energy, on the wave of rapidly growing demand from Asia; it will be in short supply, and may not be affordable. Pakistan too will require enormous amounts of energy to meet its developmental challenges, and to attain and sustain its vision for growth.
- viii. **Rural and Urban Dimensions:** In 2007, more people will live in urban habitats than rural areas for the first time in human history. Pakistan too will face the challenge of managing approximately 80 million more city dwellers by 2030 (which number equals the present population of Punjab). Further, powerful cities will compete with nation states, on the basis of congruence of cluster strengths and a whole new set of economic dynamics, which increases productivity in every sphere. This transition will demand a holistic approach to address the issues of increasing rural non-farming employment and skills, rural-urban complementarities, and linkages to develop balanced hierarchies of settlements.
- ix. **The Race for Talent:** Men and women of talent and skills will be valued and sought after by all nations, driven by changes in the nature of work and the workplace, demands for greater productivity and innovation, and to make up for aging populations. Migration will be common, and no laws will be able to keep talented persons from being lost to other countries where they are valued more.
- x. **Political Aspects:** Governments and societies will be under strain from economic globalisation and the dispersion of technologies, especially information technologies. One result will be that *traditional centres of power* – governments or industrial and business leaders– will no longer be able to digest information fast enough or to make *every* critical decision. *Individuals would have more information* and capacity for information at their fingertips



than most countries or corporations have today. This has implications for governance as a whole. Pakistan will be under pressure politically and socially from other centres of political and economic power in the world, including non-state entities and international organisations. Pakistan would require mature and strong institutions to absorb the positive influences only.

- xi. **Social Aspects:** Globally, societies will move inexorably towards a creeping mono-culture. However, to ensure a fulfilling environment, we must ensure that Pakistanis will lead a richer and better quality life in 2030, within the framework of social justice based on our rich and diverse cultural heritage.
- xii. **Gender Parity:** Attaining gender parity and youth literacy remains a challenge due to large regional variations and low female enrolment in rural areas.
- xiii. **Just Society:** Like all successful nation states in 2030, Pakistan too will continue to be multiethnic, multi-cultural, and multi-religious, and Pakistan would need to effectively manage its transition to a just society and a developed nation. The challenge will be to strengthen social and political institutions, to ensure that any imbalances and social tensions do not hold the country back.
- xiv. **Techno-Economic-Knowledge Revolution:** The ongoing massive economic globalisation and dispersion of information and technology is changing the scale and nature of human enterprise. An important likely consequence of the techno-economic-knowledge revolution is the erosion of equity, in the world, at the same time as the tools for banishing inequity and poverty will become available to mankind. This is likely to be an important challenge for Pakistan.
- xv. **Globally Integrated Economy:** By 2030 economies are likely to diffuse across national boundaries into truly global supply chains, whether in industry, services or ownership. This dispersal of work and strategic linkages across national boundaries, coupled with information integration, and a shift in the technological content of world trade towards high technology, will be the most conspicuous features of the globalised economy of the future. There will be continuing relocation of manufacturing and an increasing share of design and services from the developed countries. Benefiting from relocation activities and investments, and developing into regional or global hubs, would be major challenge for Pakistan.
- xvi. **Markets and Trade Liberalization:** There will be fierce competition in both domestic and external markets. The role of the multinationals and regional supply chains will also have expanded, not only in industry but also in agriculture and services. Pakistan will face a challenge of putting in place the infrastructure, and matching of skills with demand, within the country as well as those of trans-national agents.
- xvii. **Electronically Networked World Economy:** A new economic landscape is being created globally that highlights a shift from geographical industrial clusters to virtual clusters, driven by digital innovation. These clusters are emerging in the new competitive space offered by a Web-based business world, where “how you do business” is more relevant than “where you do business”. For Pakistan it is a challenge to operate the next generation communication networks, which combine convergence with speed, stability, security, and flexibility.
- xviii. **Nature of Work and Workplace:** Several factors are influencing work and employment in the emerging global 24 hour / 7 day societies and economies of

the 21<sup>st</sup> century, but nearly all of them are technology related. Some key features are short product lifecycles, global competition and supply chains, and processes with focus on the entire value chain and not just on internal processes. In addition, countries playing catch-up are also more open to trade (i.e. have a high ratio of exports to GDP).

- xxix. All these factors have resulted in a continuously changing economy, with technology and globalisation influencing what we produce and serve, and how it is done. Pakistan will need to address the challenges of a changing workplace, changing demand for skills, and a flexible gender inclusive workforce.
- xxx. **The Asian Region:** The most abrupt transformation is occurring in Asia which is expected to be the engine of global growth and consumption in the foreseeable future. If some emerging economies in Asia can sustain their growth for several decades, then three of the four largest global economies will probably be Asian in 2030.

Some critical pillars of Vision 2030 are now examined.

The first goal is the attainment of a just society without which prosperity and growth are not sustainable. It will discuss the various deficits and propose means to overcome them.

The second fundamental tenet of Vision 2030 is the establishment of a society which is innovative and productive, and which makes excellence its guiding star. This is the only route to be competitive in the 21<sup>st</sup> Century.

Pakistan's competitors will be other Asian countries, specially during the earlier portion of the Vision period.

Pakistan must embrace globalisation and employ it as a principal tool for economic growth.

Pakistan needs to put in place the infrastructure and matching of skills with demand, within the country as well as those of trans-national agents.

Greater co-operation with Asia will be a key strategy.

## The Basic Goal: A Just and Sustainable Society

Having identified some global forces and transformations which will impinge upon Pakistan's social and economic fabric in the medium and long term, some critical social benchmarks need to be examined.

Achieving the true potential and well-being of each and every citizen is the cornerstone of Vision 2030. The creation of a just society is its basic goal. Eradicating poverty, be it physical, economic, social or of the mind will be the primary responsibility of the Pakistan will address the challenges of balancing unity with diversity as a nation-state. It will need to strengthen social and political institutions, and ensure that any imbalances and social tensions do not hold the country back. It is imperative, therefore, to achieve synthesis between religion and science, and between culture and modernity.

### 3.1 When is a Society Just?

Pakistan aims to transform itself into a just, prosperous, and sustainable society, and the vision can be summed up in a single proposition: *every Pakistani citizen must be allowed to reach his or her full potential.*

This goal will be manifested in a high quality of life for all citizens, marked by equal access and opportunity for education, health, security, and national resources. Pakistani society must therefore develop along greater inclusiveness, participation, and pluralism; it must also establish a fair framework of mediation between individual freedoms and collective responsibility.

This includes political freedom, economic opportunity, and cultural, religious and intellectual expression. It must also lead to change in consumption patterns which do not harm the integrity and productivity of the natural systems while sustaining inter – generational equity.

The institutional requirement for equitable progress is the rule of law, which provides optimal productivity and equity for each citizen. This is ensured when these rights are embedded in broad-based and participatory institutions - not just in the state sector - but also through strong and capable civil society institutions, and a socially responsible corporate sector.

We start with one basic premise: poverty is no longer acceptable, and that it does not belong in a civilised society in the 21<sup>st</sup> Century.

The poor and vulnerable also want and deserve a better life with quality services just as the more affluent people of our society. We must therefore build up the institutions and pro-poor policies to eliminate poverty in our lifetime.

*First*, the rule of law and access to justice must become the bedrock of our society, so that we can renew the trust between the citizen and the state.

*Without this trust and a shared perception that the state is just and cares for its people, the spring of common endeavour will run dry. There will be no commitment to any public or common good, no social capital, and no trust - only apathy and indifference at best, and perhaps even alienation.*

*Second*, there must be economic justice, which can only flow from an equitable and inclusive society, where imbalances created by the continuation of an ancient order are resolved, and national wealth is shared equitably. The state will therefore need to put in place a mechanism to ensure fair distribution of wealth.

*Third*, priority must be accorded to creating employment opportunities for those whose skills are no longer in demand because of market changes. This will be ensured by skills matching through a wider set of training and vocational programmes that make employment goals achievable.

*Fourth*, we must follow the Vision of Iqbal and Quaid and the millions who gave their all to establish this country. Islam will remain the wellspring of our ethical and moral foundations and our core values. It will be a powerful moral force for good. It will also be the basis of an enlightened citizenry, and will continue to provide sustenance to the vulnerable and the downtrodden; however, its wrongful interpretations in legal and administrative matters or for political purposes must be avoided.

*Fifth*, we must care for our fellow citizens in less developed areas, being fully sensitive to their culture language and traditions, as equal partners. This is of great significance in the context of alienation and the 'other' within society, since cultural and political dimensions of ethnicity and language can create synergies, or *discord*, among people.

*Sixth*, the state must discharge its responsibility as a neutral provider and enabler of essential public goods such as education, employment, health and safety. The share of Pakistan's private sector in providing education is among the highest in all developing countries, yet education is an area where we lag the most. Public health coverage is also faltering in some areas, and the policing structure can sometimes bear a bitter social harvest.

*Seventh*, special attention must be accorded to the vulnerable position of women in the present and future home and workplace, in the context of a patriarchal society which is crumbling fast, but is not yet confident of the new moorings. We expect Pakistan to have evolved as a *gender sensitive* society within the next decade.

*Eighth*, economic migration and dispersion from rural to urban areas, within Pakistan or abroad, is closely related to issues of social health and well-being. We have to mitigate the social upheaval caused by the prolonged absence of male wage earners from the family unit. It has both positive and negative impacts on the health of the family. It is also a major force for change in society at large – especially through increased female responsibility and the empowerment it bestows.

*Ninth*, The credibility of the state institutions must improve substantially through greater and more transparent interactions with communities involved.

*Tenth*, a sustainable society is best nurtured at the local level. The enabling role of government must be the promotion of inclusiveness and participation at the local level. Devolution and greater gender presence at the district level has initiated some of the much needed reforms; these will need to be matched by further reforms at the institutional, political, financial, and educational levels.

There is no choice but to become a nation united by a common vision of public well-being and participation, and to move towards a state of affairs, where inherent contradictions, pressures, and conflicts within different groups will have disappeared.

We are confident that Pakistani society will become more just, vibrant, and sustainable. This faith is reinforced by the outlook of our youth which has embraced social, cultural, and political diversity, together with national pride and commitment.

### 3.2 The Citizen in 2030

Vision 2030 requires that the ordinary citizen will be at the centre of all discourse on development. Investing in social capital is therefore as important as investing in skills and training to generate wealth and economic growth.

Vision 2030 is as much about the Punjabi woman who picks cotton in a pesticide ridden field and frequents the peer's shrine for spiritual uplift and strength, the Baluch and Sindhi nationalists who proudly contest for rights from the state as well as the feudal overlord, or the Pathan who is in transition from running the country's transport, to running its textile and electronics industry.

Vision 2030 also reflects the aspirations of the citizens of Azad Kashmir, the Northern Areas, and FATA, who are still awaiting completion of the unfinished business of 1947. It further represents the Karachi teacher who ponders over the choice of public or private institutions for his children's education, and the madrassa student who has no other social protection.

Add to them the simple person exhausted by contemplation and prayer in the depths of the night, the activist who fights for society's rights - or the ordinary jawan keeping vigil in his outpost - and one gets a true picture of the varied individuals of this land, all of them with different interests, inclinations, habits, and tastes.

All of them are part of this nation of some 160 million who have given so much and asked little in return all these years. All these people are fighting for acceptance of their interests in continuous and simultaneous processes, which reflect the dynamism and assimilative forces shaping Pakistani national identity, and which unconsciously binds them together, in a polity called Pakistan.

The Pakistani young men and women are quite different from their forebears. They are better educated, more conscious about political and environmental matters, and have higher expectations. They are also more confident in their aspirations and articulation, whether they wear T-shirts or sport tableeghi beards and attire, or are young women in newly donned hijab. They all assert their independence; and they will all have the country change for the better.

They also care for their fellow Pakistanis, as was so eloquently demonstrated after the earthquake of 2005, when ordinary people of all diverse backgrounds and age gave generously of their time, money, and goods in an extraordinary display of solidarity and passion. This spirit of sharing is the biggest factor, which encourages the dream that a more just and caring society will be Pakistan's destiny.

They all want a resolution of issues which confront present society, and which are ultimately linked up with issues of identity and self-esteem. The foremost issue at present relates to synergy between Islam, social norms and modern science.

### 3.2.1 Islam and Culture in the Pakistani Environment

Islam is the foundation on which we have liberated ourselves and which inspires us to reorder our lives and our core values. It will remain the powerful moral force for good, and will continue to provide sustenance and strength to the oppressed. It is the ethical basis of our society. Being an idea and thought process, it is not liable to be drawn into wars and conflicts with other *lands*.

The current debate about its application in matters of culture, state and administration is welcome as it is part of the process of nation building. It is also reflected in the vision of our founding fathers.

“The great majority of us are Muslims. We follow the teachings of the Prophet Mohammed (Peace be upon him). We are members of the brotherhood of Islam in which all are equal in rights, dignity and self-respect. Consequently, we have a special and a very deep sense of unity. But make no mistake: Pakistan is not a theocracy or anything like it. Islam demands from us the tolerance of other creeds and they are themselves willing and ready to play their part as loyal citizens of Pakistan.”

“The Vision for Pakistan is that the state will be completely neutral in dealing with all its citizens. The Government is already working towards legislation which will correct the occasional misinterpretation of religion in legal and administrative matters for political purposes. Religious, ethnic and cultural pluralism will reinforce Pakistani national identity”.

“You are free to go to your temples, you are free to go to your mosques or to any other places of worship in this state of Pakistan. You may belong to any religion or caste or creed that has nothing to do with the business of the state”.

[Quaid-e-Azam, Muhammad Ali Jinnah]

There is need to reconcile the great spirit of social justice and equality which permeates Islamic teachings within a modern global regime which is not favourable to religion. Here it is important to emphasise two basic tenets.

*First*, the world must step back from a situation where one’s own best principles are compared with another’s worst practices. This concept needs to be brought forth vigorously. Interfaith harmony is the heritage of our Islamic civilisation. We believe in ourselves and we believe that others can be themselves in a spirit of human dignity. This has been our teaching in the past. This will remain the future norm of our collective life.

*Second*, Pakistan’s long traditions of a broad based inclusive approach to the faith of others must be nurtured, even in the midst of provocations aimed at Islam. Forbearance must be promoted in the tradition of the Holy Prophet who bore all personal insults and revilements with compassion, both as Prophet of God and as ‘ashraf ul makhlookat’ – *mankind being the best work of the Creator* - and the responsibilities which come from this status.

It is also important to realise that ethics and morality cannot be enforced through legislation; they ultimately flow from inner beliefs and education which are its true binding force.

### 3.2.2 Culture, Diversity and Creativity

Issues of culture are as intimately woven into concepts of identity as are faith and

language. The ability to embrace diversity is an essential premise of Vision 2030, and will require policies which encompass the sphere of politics, communication, education, and employment.

This has to be seen in the context of a creeping movement of ideas and images across national boundaries which are likely to spawn *mono-cultures and look-alike societies*; these invoke their own forms of resistance for diversity and plurality. Two per cent of the world's languages are becoming extinct every year, and just four European languages comprise more than 50 per cent of all book translations.

*By the middle of this century, it is feared that almost all the languages of indigenous and 'native' societies of the world will have regressed to such a level, that the people using those languages will no longer be capable of describing or using, or conserving their linguistic diversity.* Even though literacy is increasing worldwide and more people can read than ever before, fewer people (as a share of total population) actually write in the local language, or compose music on traditional instruments. The right and ability to use and develop diversity is being further eroded everywhere by intellectual property monopolies and corporate domination of government, and the consumer culture has destroyed our ability to draw upon our older values at a time when technology could have conserved, amplified and enriched such creative efforts. This is beginning to happen in Pakistan also.

The Vision document is clear about the issue of language, culture and identity. We will be much poorer if we do not effectively resist the weakening and eventual disappearance of our regional languages and cultural heritage. Fortunately, every province and linguistic group is fully alive to the challenge; organizations have sprung up for the nurture and sustenance of our languages and regional cultures, each one of which is an indispensable part of what makes a Pakistani. True sustainability, however, will come when these languages create better synergies with global modern movements and ideas, especially the Internet.

Urdu is and must remain the first language of Pakistan. It is and must remain the language of our culture and of our day-to-day communication. It is and must remain the first language a Pakistani child learns to speak and write. Simultaneously, it is imperative to supplement Urdu through the strengthening and preservation of other Pakistani languages by treating them as national assets. The challenge to make Urdu a flourishing technical and computer language has to be taken up in right earnest under Vision 2030.

Imagine a Pakistan where Urdu is taught as a second class language. We would be in an unhappy position of de-culturising our society and future generations.

English will continue to be used as the language of business and trade and of science and technology, for communication across national boundaries, and as the preferred computer software language. As travel becomes easier, English becomes even more important as the universal language. It is now widely recognized that industrial development is accelerated in developing economies if English is functionally understood and used. This is a fallout of globalisation which we must embrace positively. However, we need to have a confident and balanced approach in devising a language policy of the future.

### **3.2.3 Building An Inclusive Culture**

We are heirs to a great tradition in literature, architecture, music and the arts. Our culture also owes a lot to its eclectic origins, and it would be unfortunate if we are

unable or unwilling to share in the greater human streams of creativity. So, while we must work hard towards preserving our rich heritage at the local, regional and national level, we must accept avidly from the greater human flow of ideas.

Much of what we call culture is an expression of a society's creative urges as well as the many ways in which the ability to entertains itself. Economic development would remain incomplete without a synthesis with its cultural dimensions.

Excellent programmes have been underway for several years for collecting and archiving the most precious heritage and essence of our oral traditions, legends, and musical culture. Commitment by civil society has similarly brought greater awareness of our historical buildings and other national treasures. These activities will be strengthened and replicated in all the regions of Pakistan to increase our knowledge of one another, so that a truly Pakistani person can emerge.

The performing arts have seen a reassuring revival, including robust street and formal theatre, puppeteering, diverse musical genres, classical and modern dance, and contemporary cinema. These activities have added to the richness of our premier metropolitan centres, and furthered cultural and artistic exchange between the East and the West.

Pakistan unfortunately has sometimes embraced modern expressions without taking care of their cultural dimensions. This is particularly true of architecture, where we seem to have completely lost our links with our past heritage. Where is the Islamic form which had been distilled over a thousand years and more! Islamabad's buildings boast of no 'Islamic' touch, and only faint attempts have been made at reproducing it. Calligraphy too has lost its healing touch, and classical music is being sacrificed at the altar of the modern medley of noise and more noise.

Perhaps, we may have to make it compulsory for public buildings to leave aside a small fraction, say one percent, of building costs for bringing in a touch of the classical form, symmetry, and material.

### **3.2.4 The Case for Reading**

An important instrument for enriching one's cultural roots is books, and the libraries in which they are kept. Book reading also contributes to the flourishing of a civilised society through engagement in social and political activities as well as the arts.

One of the ironies of the present information revolution is the decline of the reading habit among the 15 – 30 age group, even as higher education expands. This decline may be linked to the growth of electronic communication and media as well as a cultural and 'information' climate that does not accord books the respect they deserve. The 'electronic' article and even the book, on the other hand, keeps on filling computer memory discs, where its storage does not guarantee its reading in full. Plagiarism and inaccuracies continue to plague the internet and its contents which are freely downloaded and exchanged.

All this has a particularly severe impact on the quality of education, since lectures and notes are now being routinely loaded on to web sites for use by students, or are available as 'distance' learning. The arts and social sciences suffer the most.

In Pakistan, most people are starved of literary reading material. The reading habit must be encouraged from the early age, and we need to expand the public libraries for children and parents right down to the tehsil administrative unit, in addition to establishing and expanding them inside every school.



Pakistan must now ensure that not-for-profit public libraries (with special access for the handicapped) and reading rooms are an essential component of every one of its public or private housing projects.

Considering there are about 230,000 educational establishments in the country, an important benefit will be the revitalisation and growth of our publishing and printing industry.

### 3.3 The Demographic Transition

The key features of world population in 2030 will be larger numbers, increased share of Asia, and a changing age structure. According to the UN's medium assumption estimates, the world's population will increase from its current levels of over 6.4 billion to nearly 8.2 billion in 2030, with Asia's numbers rising to 4.8 billion by 2030. Pakistan will be the 5<sup>th</sup> most populous country after China, India, USA and Indonesia, as its transition to a low mortality -low fertility regime will not have been completed. More than 60 per cent of its population will be urban.

Population growth rates and size in all developed countries is expected to reach sub-replacement levels by 2030 (USA is currently the only developed country which is not in the sub-replacement category, but it too is likely to join the club by 2030).

The most significant change in human population will be in the age structure of the population in both developed and developing countries, with the former having a substantial population of over 65s, as well as deficits in the working age population. In contrast, the developing countries and especially our region will experience its biggest bulge in the working age population.

In Asia, the demographic transition is most pronounced in China, followed by India, and then Pakistan. Because of the different times of peaking of working age populations, most of the developed world could face acute shortages in their labour force. Migration could possibly become an important pivot for future global population distributions between the richer and poorer countries. Pakistan will find the delay in its own peaking of the labour force a potential period of capitalisation.

All societies will complete this transition and the consequent aging of its population within the next 40 – 50 years. Pakistan too will grow old. However, while the richer developed countries had become rich *before* they became old, the challenge for Pakistan will be *not to remain poor when the transition is nearing completion*.

Reduced fertility has potentially powerful and beneficial effects on economic growth through age structure, with the "East Asian Economic Miracle" as the prime case in point, where nearly one thirds of the average growth in per capita income experienced between 1965 – 1990 is attributed to increased labour force participation and savings (for South Korea, with a population of 50 million, the demographic bonus translates into cumulative effect of more than \$300 billion per year - more than twice Pakistan's total GDP).

These potentially far reaching effects become even more important when we start accounting for the impact of fertility declines on education, health or women's labour force participation, which are even harder to quantify, but are also undoubtedly large.

Population stabilisation is also closely related to education and jobs for women, and the quality of life. Pakistan's own future will depend very much on current trends in fertility and mortality. A look at demographic changes on the social and economic development of Pakistan between now and 2030, shows a demographic transition

already underway that can have a substantial positive impact on Pakistan's development. In Pakistan, mortality began to decline as far back as in the 50s; fertility decline is more recent, having begun in the decade of the 90s or late 80s, with one of the fastest fertility declines in Asia from 6.5 to 3.9 in 2004. The rising age at marriage of women - from 18.1 years in 1961 to 23 years in 2004 - has played a strong role in reducing population growth in recent decades, though further declines may be harder to achieve.

### 3.3.1 Pakistan's Population Growth

Population projections up to 2030 are made using three different assumptions of fertility and mortality changes (rapid, moderate and slow decline in fertility accompanied by a standard decline in mortality and improved life expectancy), and ignoring international migrations.

The first scenario assumes that fertility will continue to decline at a relatively rapid rate, from 3.9 to 1.8 ; the second assumes a moderate decline to 2.2 by 2030, while in the third scenario, a stalling of fertility decline is assumed with very small or no change until 2030. It is further assumed that mortality will decline resulting in improved life expectancy at birth for males from 65.3 years in 2005 to 72.8 years in 2030, and for females from 65.1 to 74.5 years for the same period.

*It becomes obvious that by concentrating on fertility and mortality assumptions alone, there could be a divergence of almost 33 million persons between the high and low assumptions, (262 million versus lower estimates of 229 million) with serious implications for the planning process.*

### 3.3.2 Reaping the Demographic Dividend

Fertility declines and the resulting demographic dividend operate through the interaction between the economic lifecycle and population age structure. The dividend results from an increase in the share of the population at ages with a production surplus, which leads to higher per capita income, higher consumptions and potentially higher savings.

The fertility decline that has been underway in Pakistan since the late 1980s has already begun to effect age composition and dependency ratios. i.e., the ratio of persons under 15 and over 64, to persons between 15 and 64. The unusual complementarities of age structures of developed and developing countries could turn into an opportunity for Pakistan.

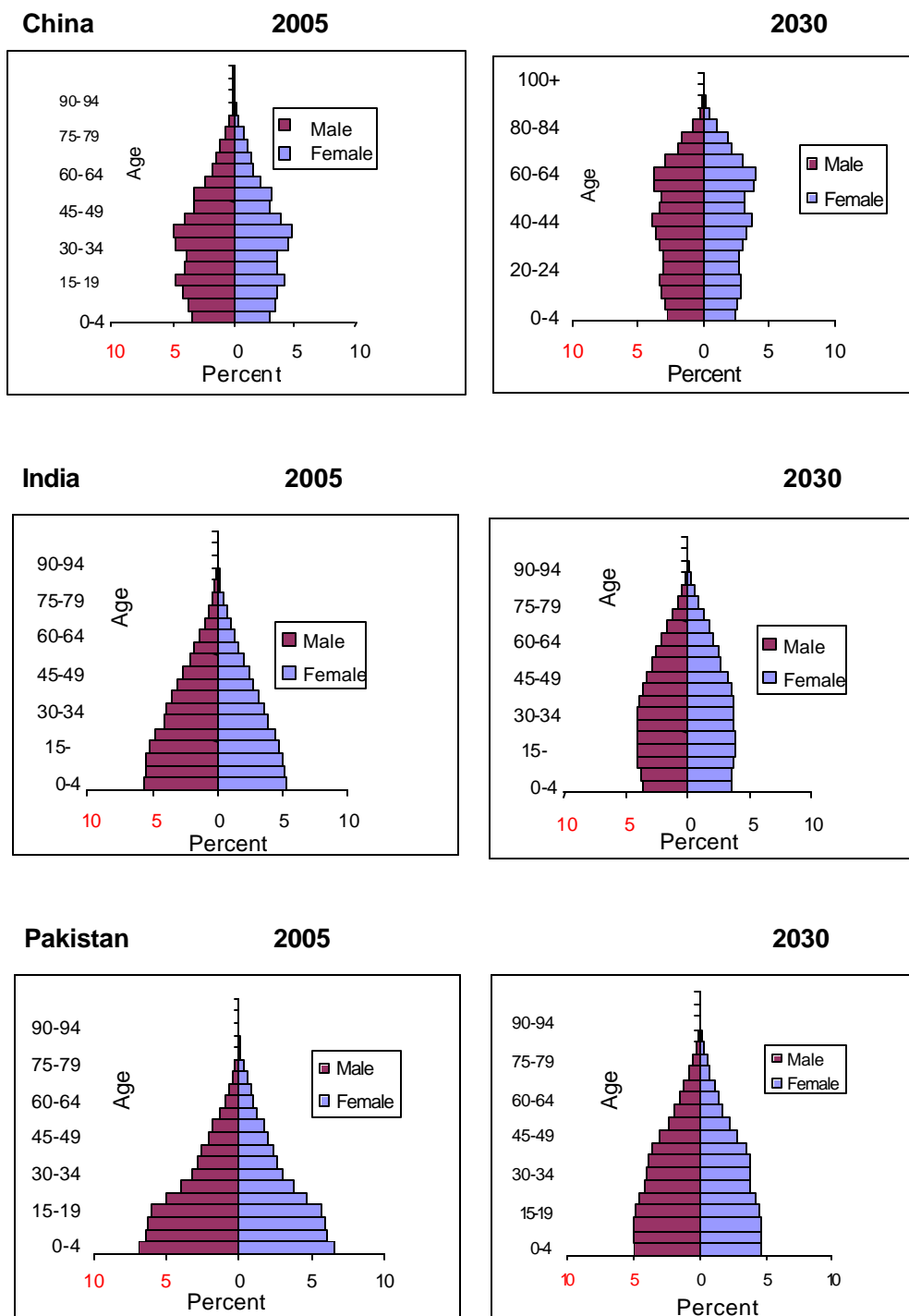
Pakistan is on a favourable portion of the demographic transition until 2030, with an influx of some 60 million people in the economically productive age group. But what skills and opportunities will they have ?

Reduced fertility saves resources to be invested in education and health care that could now be used for improving the quality aspects. Other potential benefits would be easing of the pressure on Pakistan's limited resources, especially water.

These changes in age structure are seen pictorially in the broadening of the age pyramid of Pakistan between 2005 and 2030, being most accentuated in the case of rapid fertility decline (Figure 3.1).

Pakistan is a 'late starter' in the process of demographic transition and it will also be one of the last to complete it. It will therefore experience its dividend much later than other neighbours such as India and China.

**Fig 3.1 Population Pyramids<sup>1</sup> of China, India and Pakistan (2005 and 2030)**



<sup>1</sup> Sathar et al, Vision Paper

### 3.3.3 Demographic Changes and Education

Education is a key driver of economic growth because of its positive linkages with employability, entrepreneurship, empowerment of women and productivity – conditions that are all conducive to building a knowledge-based productive economy where our youth are better skilled, productive and scientifically trained to compete with the fast changing global trends. *The demographic transition, however, will impact economic development positively only if we enhance investment in human capital.*

With the beginning of fertility decline in Pakistan, the cohort of children entering school will decline, followed by a fall in the proportion of high school entrants. *This is an opportunity to invest more in primary and higher levels of education and to eliminate gender differentials at all levels of schooling.*

*This is an essential prerequisite to achieve the target of universal primary education within the short span of time available for the MDGs. Moreover, the labour force can become more productive, gets higher wages and acquires an improved standard of living.*

An important spillover of fertility declines is that population policies can be seen as effective education policies; with education policies also being very effective as population policies, since there is a strong temporal effect of increasing trends in female education on both age at marriage and contraceptive use.

We are confident that *all children* aged 5-9 years will be in school by the year 2015 if there is a rapid decline in fertility, which assumes that replacement level fertility (~2.1 children per woman) is achieved by 2020. As regards secondary school enrolment, under the faster fertility decline scenario, all 10-14 year old children will be in school by 2020 (20.4 million) provided enrolments increase rapidly. However, it will take another eight years to get all children in school if enrolment rises slowly, even if fertility falls rapidly. Population and education interactions are extremely important for outcomes in both sectors.

In order to reap the 'demographic dividend', Pakistan needs to focus on first sustaining and then accelerating the pace of fertility decline during the next 10 years, along with a rapid increase in enrolment to achieve universal primary education. We will simultaneously create the critical mass of manpower with appropriate scientific and technological skills. *In the absence of any such planning and investment in Pakistan, large numbers of uneducated, unskilled and unprepared population will only lead to a humanitarian and social disaster.*

### 3.3.4 Women in the Labour Force

Several factors contribute to the current low (27 per cent) female share of the labour force <sup>2</sup>, and although there is some improvement, the pace of change is simply not enough if women are to constitute closer to half of the work force. *For the demographic dividend to provide its maximum impact, women have to be as well equipped as men to take up their role in filling the labour force.* Gaps in their education and skills that are even more inadequate than for men at the moment will have to be addressed immediately.

<sup>2</sup> Pakistan Economic Survey, 2006-2007

### 3.3.5 The Epidemiological Transition

Pakistan will witness two specific health regimes during the period leading to 2030. First, it will continue to cope with infectious diseases, water borne diseases, and diseases which come from poor infrastructure and inadequate health coverage, all of which mostly affect the poor and disadvantaged. It will simultaneously start feeling the impact of the epidemiological transition towards chronic diseases related to an ageing population. Without a large number of educated productive people in the 15-64 age groups, and without adequate social nets, the societal and economic burden of caring for the senior citizens will be enormous. Women will be more affected than men because of higher life expectancies.

Contemporary experience leads to the conclusion that with current factor endowment and level of technology of Pakistan, it may be difficult to break out of the poverty trap and ensure a regime of high sustainable growth, *unless population growth rate is reduced to one per cent point within the Vision 2030 timeframe*. This will complement other economic policies such as improving the income distribution in favour of the poor, achieving higher productivity levels, or increasing the growth rate of real GDP.

80 percent of all persons over the age of 65 in the USA have at least one chronic condition; and 50 percent have at least two.

We must prepare for the *aging of our population* and issues related to caring for the aged in 2030. This would be accentuated by transition from infectious to chronic diseases, as well as issues of mental happiness and illness, which could emerge as one of the biggest challenges for modern science.

- ? Since preventive care and treatment of infectious diseases will remain Pakistan's main concern, careful analysis and restructuring is needed to make these services available and affordable.
- ? Pakistan must avoid emergence of major *gender imbalances* (brought about by use of modern technology to determine the sex of the unborn child) as has already occurred in China and India.
- ? Without a highly educated, skilled and economically flexible work force, the social and economic costs of aging in terms of security of health and pensions would be difficult to bear. A major societal change is required to make the economically productive age approach the physical age i.e. reduce the dependency ratio.
- ? Pakistan needs to carry out detailed studies on a variety of issues related to demographics and skill levels and skills-mix. These would include studies on how Pakistan could reap the '*demographic dividend*' during the period of transition to a low population growth regime of 2030.

### 3.3.6 Pakistan's Demographic Profile in 2030

We expect a more crowded but manageable Pakistan with a reaping of the demographic bonus, if the right conditions are enabled. In addition, we expect:

- ? A lower total fertility and lower mortality rates, perhaps reaching replacement levels by 2030, if fertility decline continues as rapidly as achieved in the last few years;
- ? Increasing proportion of older people with an increased longevity;

- ? Changes in family composition and structure, with greatly reduced numbers of three and two generations living together;
- ? Rising levels of urbanization and city sizes;
- ? Increased international migration and ethnic diversity;
- ? A gender parity index approaching one;
- ? Universal enrolment of the 5–15 year cohort;
- ? A healthy Pakistan, with lesser malnutrition and a changing food intake profile.

It is important to realise that population *regulation* is rarely enforceable by central planners and is not desirable. Fertility decisions are best made by women and men together, based on local economic and social conditions. It is unrealistic to expect a woman to have fewer children if they are her major source of economic security and social status.

The demographic transition is a unique event in the history of Pakistan. It has never happened before, and once completed, will never happen again. We are living in it now.

This presents an opportunity to take us to a different level of development, provided we adopt some strong and wise policies and make the correct levels of social sector investments right now. If we squander this opportunity, we will leave our future generations with the daunting task of picking up the pieces.

All these factors and more have to be woven into the impact of demographic changes on models of economic growth and social cohesion.

### 3.4 A Healthy Nation

A vision is not only a description of the transformed future but also a driving force that begins to impact upon the present. A powerful vision therefore has contemporary relevance.

The health vision as reflected in the National Health Policy, 2001 saw health reform as basically a means of poverty reduction. Health Vision, 2030, is a lever for heightened productivity, an entry point for economic and social progress, and a doorway to development.

The Health Policy 2001 identified ten specific areas for reform ranging from control of communicable diseases, especially T.B, Malaria, HIV/AIDS and the EPI cluster, and addressing inadequacies in primary and secondary health services, to improvements in district health system, including removal of professional and managerial gaps and distortions. These elements will continue to be important, but in the context of a paradigmatic shift from healthcare reform to the wider health sector linkage with social development. It is now widely recognized that without a strong nexus with social determinants of health and inter-sectoral bridges, it is difficult for the populace to overcome poverty.

Vision 2030 espouses a healthy and productive population that actively contributes to the overall socio-economic development of the country. The health benefits are shared equitably by all without any discrimination on account of income, gender age residence or social stratification. The Vision will be achieved through a holistic approach that targets the major burden of disease through a well functioning health system, as well as, through tackling the key social, economic and environmental determinants of health.

In the new vision of health, service delivery is only at one end of the spectrum. It is to be linked via knowledge and innovation to civil society and the community. Policies and programmes in the social sector have to share a common foundation of vision, principles and values.

The following points encompass the spirit of the new approach towards health, social policy and development:

- ? The Ministry of Health and the provincial Departments of Health will develop all round capacity for furthering the Health Vision undertaking health policy reform, strategic programme review, fostering a balanced health workforce, ensuring coordinated medical and health systems research and providing inputs in key issues of regional and international trade and health.
- ? Adequate and fair financing will be the hallmark of the health system. The government will increase its expenditure on health that would ensure provision of priority public health programs to all and protect the vulnerable sections of the population.
- ? Community-based household-oriented rural cadre of Lady Health Workers has been developed over the years to provide basic curative, preventative and promotion services for women and children, including free RH and FP services. The future envisions a more comprehensive and functionally integrated approach for networking “the three sisters” i.e LHV, LHW and the Community Midwife, in order to ensure universal coverage. Hospital care for complicated deliveries and neo-natal concerns will be strengthened by robust investments in women and child health linked to timely referrals.

### 3.4.1 Priority Areas

Money spent on women and children including a larger EPI package of modern vaccines will continue as a national priority. Its underlying axiom will be: *not only women need development but development itself needs women*; and today's child is tomorrow's entrepreneur and innovator.

- ? LHW's Programme will turn a fresh leaf by embracing community mobilisation for better health and welfare. Community groups, village organisations and federating bodies will broaden the focus from poverty reduction through basic health security to seizing opportunities of income generation, skill development, community health insurance, housing and other avenues of development via credit and micro-finance facilities. The majority of poor will outgrow poverty and become self-reliant. The poorest will tap community organization's resources for gaining access and strength to benefit from social protection interventions.

- ? Health in tandem with social sector interventions, community organization and access to technology and credit, and other available resources, will lay the foundations of a vibrant and sustainable society embracing security and prosperity.
- ? The pillars of social development will be equity, gender justice, quality assurance, and community involvement. Development and equity, especially across health, will go hand in hand.
- ? These dimensions will also be secured in the increasing resort to alternative health delivery mechanisms, most especially through a public-private-partnership framework providing greater space for, non-profit as well as for-profit, private sector participation in the social sectors. Value-for-money and performance based incentives will be at the core of the successful private -public-partnership strategy.
- ? Non-communicable, especially life-style related diseases, injuries and accidents will receive commensurate attention in terms of resources and strategy.
- ? The needs of the poor, the aged, the disabled, women in distress, street children and child workers will constitute a priority agenda in the area of social protection.
- ? Effective and resourceful regulatory system will be in place for ensuring accreditation, quality assurance and equity dimensions of health services both in the public and private sectors.
- ? For timely and effective response to emerging and re-emerging epidemics, a comprehensive Health Emergency Surveillance and Response System will be in place covering national, provincial and district levels. Due importance will be given to public mobilization and training.
- ? A national vaccine vision will be developed through a multi-sector Task Force. The availability of a substantial home market with proper incentives shall motivate investments in this important sector. The National Institute of Health will be strengthened to play a coordinating and catalytic role in partnering with the private sector in the realization of this vision.
- ? Universal access to essential medicines, as part of essential health care package, will be ensured and the pharmaceutical industry will be enabled to tap export potential in Afghanistan, Central Asia and Africa. The quality, competition and social responsibility dimensions of medicines will be ensured through an autonomous and empowered Drug Regulatory Authority.
- ? Critical shortages in skilled health workforce, especially nurses, dentists, pharmacists, anaesthetists and paramedics will be overcome by developing a strategic vision, which will include encouraging private sector investment in the field of medical and allied training subject to quality assurance through effective regulation. Pakistani health workforce will be respected and retained for their skills.
- ? In the field of knowledge and higher medical education, the acquisition of excellent technological and educational qualifications will establish Pakistan's writ in the world market. This will also be reflected in the field of basic sciences, public health disciplines, medical and health systems research, pharmaceutical industry and, most significantly in an evidence-base approach to ensure informed policy-formulation.



- ? With a credible health information system spanning both public and private sectors, its linkage with the national statistical system will provide an assured framework for informed policy-making. This linkage between the two systems will ensure accurate and timely statistics for effective governance and informed decision making to achieve the socio-economic objectives of a modern welfare state. Training links of social sectors with a restructured Bureau of Statistics for capacity building in collecting and analysis statistics will be forged.
- ? The strengthening of the devolved District Health System will continue to be the foundation of Health Vision 2030 and will enjoy requisite powers and competencies to perform effectively. A functioning district health system in the context of decentralization will become the source, conduit and guarantor of health policy success in the field.
- ? The key feature of Health Vision 2030 will be the establishment of inter-sectoral linkages creating synergies. The synergies implied in the social determinants of health and health equity will be ensured at the national level by the Social Sector Committee of the Cabinet chaired by the Prime Minister and by similar bodies in the provinces under their chief Ministers. Planning Commission will act as a focal point for inter-sectoral linkages at policy level. At the key implementation level of the district, an inter-sectoral Health Board will not only integrate all health-related interventions but also link up with the civil society and the community.

Some milestones of Vision 2030 are captured in the following points:

- ? Polio and measles, like small pox, will stand eliminated. Universal immunization coverage will be achieved.
- ? The women and child health scenarios will be transformed, mirrored by dramatically reduced infant, child and maternal mortality and morbidity rates.
- ? The TB, Malaria and HIV-AIDS scenarios will be characterized by breakthroughs attributable to some of the most innovative models of private-sector partnerships, resulting in fall in incidence and mortalities.
- ? Effective public health and awareness models to tackle the increasing incidence of non-communicable and lifestyle related diseases and accidents and injuries will make a significant difference to their burden on disease. Evidence based approaches will be the basis of planning and financial interventions.
- ? More vigorous and better regulated fortification programmes will be taken up in the field of nutrition. School feeding programmes will be established.
- ? Public health expenditure to GDP ratio will need to go up from less than 1 percent to 3 percent by 2010 and further doubled by 2030. The out-of-pocket expenses will be reduced from current level of 70 percent to below 50 percent.

All in all, strategies related to health for all will build on the earlier foundation of Primary and Secondary health to health care in tandem with its social determinants as a means of enabling, empowerment and progress. Vision 2030 in health is another name for human welfare and development.

### 3.4.2 Water and Sanitation for All

Provision of safe water supply and sanitation is necessary to ensure a healthy population. By 2015, the water supply and sanitation will stand extended to the entire population.

The main elements of the strategy will include the following:

- i. Adoption of an integrated approach, rational resource use, and the introduction of water efficient techniques.
- ii. Containment of environmental degradation.
- iii. Institutional strengthening, capacity building & human resource development.
- iv. Improving performance and utilization of local systems through better planning management and community participation.
- v. Improving quality of and easy access to water supply, especially for women.
- vi. Improving sanitation through sewerage and drainage schemes.
- vii. Promoting increased take up of household sanitation.
- viii. Improving the understanding of linkages between hygiene and health through community education campaigns, especially among the women and children.

### 3.5 A Home of One's Own

Vision 2030 postulates that the provision of decent accommodation is essential to the growth of citizens, especially the less well-to-do.

Approximately, about 300,000 units are being built annually against the incremental demand of 650,000 houses/flats. The backlog has increased to more than 6 million units, with half the urban population and majority of rural population living in Kacha homes and Katchi Abadis, with inadequate housing and living conditions (water, sanitation or drainage services).

Vision 2030 aims for provision of shelter to all, with access to essential amenities in a clean and secure setting. The housing policies and programmes would cater for the needs of the poor. Construction of low-income housing will be a priority, as well as issues of supply of developed land, responsive administration, effective legal and regulatory systems, and adequate housing finance for the poor.

To cater for increasing housing demand, high-rise mass housing construction will be encouraged, together with enhanced supply of institutional finance and long term fixed rate financing options. This will also entail increased availability of developed land with more small-size plots for low-income groups; and improved construction technology based on standardization for mass production.

Housing is also a local community affair where end users are both the contributors and stakeholders for all types of housing activities. Accordingly, the role of the Local Governments would be important in enabling, promoting and facilitating the provision of housing to all segments of the population within their respective jurisdictions.

The concept of 'land banks' with a focus on low-income housing needs to be examined at federal/ provincial levels, in order to transfer and allocate suitable federal and provincial state lands for various housing projects/ new towns. This has to be

looked at in concert with drastic revision of urban land use policies such as commercial use of land and permissions for high rise apartments.

### 3.6 End of Poverty

Poverty does not belong in a civilised society and certainly not in Pakistan in the 21<sup>st</sup> century. Vision 2030 envisages that extreme poverty will have been eliminated in Pakistan in all its forms much before 2030, whether it relates to lack of productive resources to generate material wealth, access to food, health, and education, prevalence of diseases, or natural calamities such as floods or drought, or man-made calamities such as wars.

Poverty in Pakistan is characterized by a large percentage population that is classified as transitory poor. The distribution of population around the poverty band reveals that nearly 40.5 percent of the population can be classified as vulnerable and poor and only 12 percent of the population is ultra and extremely poor.

A cow in the EU attracted two US dollars a day in subsidy in 2005 - poverty line numbers for a large number of human beings on earth.

Despite an increase in per capita income, an increase in poverty in the 1990s has resulted from worsening income distribution. Even though in recent years absolute poverty has declined, income distribution has shown adverse trends.

Poverty in Pakistan has a distinct spatial character in that rural and urban poverty is not only different in magnitude, but also in its footprint. It is worth noting that the income share of lowest 20 percent population in urban areas is lower than their rural counterparts; informal safety nets are also weaker in urban areas.

An important factor in rural poverty is lack access to energy, fuel, and potable water. Surveys show that nearly 22 percent of income in poor rural households is spent on fuel. Women suffer the most, having to travel long distances to gather wood for burning, or 'safe' water to drink. Provision of affordable power and safe water is therefore an important ingredient in increasing rural productivity and thereby reducing poverty, apart from being environmentally friendly.

*All these statistics cannot hide the sheer numbers of those who are either at the poverty line or just above it and therefore most vulnerable. This is totally unacceptable.*

The core of social development policy and poverty reduction strategy must lie in the recognition of the state's responsibility to ensure that basic needs of its citizen are met. These are seen in terms of indicators such as rates of morbidity and mortality, specially infant and maternal mortality rates, illiteracy and malnutrition. It is equally important to take into reckoning the wider poverty indicators which relate to self-esteem, vulnerability to internal and external risks, exclusion from the development process, and lack of social capital.

In order to realise the Vision for Pakistan in this century, it is necessary to meet the critical benchmarks outlined above. Ability to meet the cost of minimum food and nutritional requirements is the first important component of the basic-needs approach to poverty reduction. Gainful employment and remuneration are essential to achieve and sustain this policy. For this, massive investments are required in education and skills generation and improved quality of health coverage. These factors coupled with improvements in road infrastructure and services are expected to make a strategic

dent in eradicating absolute poverty. In this scenario, social safety nets will provide needed succour to the most vulnerable and the chronically poor.

Clearly, however, poverty reduction is largely dependent upon political will for the adoption of pro-poor policies, which must include sharing of wealth and access to land.

*Apart from other state interventions, establishing clear title to land will be crucial.*

The current unequal economic and political partnership at the international level, is another important cause of poverty engendered through unfavourable terms of trade and other adverse transactions for developing countries. Vision 2030 perceives that ongoing efforts of a more just and equitable international order will bear fruit, and postulates that this relationship will have been significantly altered in the positive direction.

### **3.6.1 Rural Poverty and Income Distribution**

For reducing rural poverty levels and increasing employability, pro-poor planning and budgeting would need to be altered significantly. Labour productivity levels need to drastically improved through provision of education, health and civic amenities, skill formation, technological and engineering infrastructure and optimal choice of technology. Apart from skill generation, the livestock sector will be the focus of attention for raising incomes through improved breeds and better feed and markets. Better rural infrastructure will also require much higher resource allocations.

Currently, social protection in the rural areas exists mainly through informal family networks. This needs to be supplemented through micro-insurance schemes and community based funding to meet needs at the level of the community, which would cover:

- ? Vulnerable groups such as children and women
- ? Small scale / informal sector / non farming labour force, including the fishing sector
- ? Agricultural insurance to protect against risks offered by droughts, floods or pests.

It is acknowledged that welfare programmes can only mitigate to some extent the effects of extreme poverty. For its elimination, we must empower the citizens with education, skills, and a stable political and economic environment which will allow them to engage in gainful employment with decent waged and physical security.

It is part of our tradition to look after the vulnerable nearest to us, with affection and humility. We are also among the people in the world who regularly and generously share their wealth through charity.

The handicapped and other 'special' people are among the most deserving of support by the state. This will be made available through institutions which enable them to look after themselves - for personal needs, education, skills and reasonable employment. The state will forge a strong partnership with civil society to meet this goal.

**It is estimated that that three quarters of the poorest of the poor in Pakistan are women, especially rural women.**

### 3.7 Pakistani Women

We are determined to empower the Pakistani woman, since equality of opportunity and equity of treatment in all spheres of life is not only their birthright but also a constitutional requirement. The vision for Pakistan in 2030 is therefore a country where women enjoy equal rights and respect, the same level of decision-making authority, and equal mobility and protection under law as their male counterparts. The *Vision does not imply, however, that it will take until 2030 to achieve this state of affairs; the goals must be achieved much earlier in order for the society of 2030 to have settled into assured levels of prosperity.*

This vision of gender justice assumes equality of opportunity for all citizens – both women and men. *For both*, it also necessitates freedom - freedom from hunger, poverty, illiteracy, ill-health, strife and lawlessness, religious and ethnic intolerance, feudalism, tribalism, racism, militarism, class and linguistic boundaries, urban-rural imbalances, deprivation and marginalisation.

There have been some impressive gains in the empowerment of women in recent years, with reserved representations in federal, provincial and local elected bodies. The Muslim Families Law Ordinance (1961) provides contractual protection to women in marriage. The Women's Protection Bill 2006 is another important step in providing them some relief against institutional injustices.

One dimension of political empowerment, representation of women in National and Provincial Assemblies, has been achieved well ahead of the 2015. This is a significant milestone in reaching a key MDG goal.

Another major initiative, the National Policy for Development and Empowerment of Women (NPDEW) was enunciated in March 2002. However, a massive exercise in advocacy will still be required without which it will be difficult to transform social attitudes.

There exist a number of very real and daunting challenges hindering the path of achieving Vision 2030 for women. Most of them are embedded in our socio-cultural norms which have patriarchal and feudal structures, especially in rural areas. These are exacerbated by the absence of access to decision-making and mobility, lack of awareness, education and skills, lack of information and communication, and finally inadequate access to justice.

Women in Pakistan continue to be more overworked, underpaid, unemployed and under-represented in most spheres of national activity. They are also less likely to receive skills, especially in the rural areas where their need and numbers are greatest.

Over 70 per cent of rural women work in agriculture and livestock, while over three-quarters of the urban female labour force is in the non-formal sector, where women are deprived not only of enumeration in the official data, but also of adequate remuneration, skills training, legal protection, social protection and security, health and maternity benefits under labour laws, as well as the right to organize.

Whether we view them in legal, cultural or economic terms, the gaps between professed theory and actual practice are of great concern, and they all ultimately relate to the basic issue of *recognition and acceptance* of social empowerment and opportunity.

In the rapid societal transformation taking place in Pakistan, the security offered by the family or extended clan within the traditional social values is often traded in for an

uncertain process and dispensation of justice and rights. Thus, while the Family Laws of 1961 and subsequent amendments and laws offer some degree of protection to women, yet their awareness is not widespread, and implementation is generally overlooked.

The empowerment process will be accelerated through access to education, health, work and resources. It also involves a degree of physical mobility and recognition of current social norms, especially in the underprivileged rural areas, which must be appreciated and used to attain positive results.

### 3.7.1 Women's Education and Employment

Education is recognised as the key to a better life socially and economically, as well as a means of providing upward social mobility. Major instruments for achieving the goals of Vision 2030 for women will be:

- ? Universal enrolment and completion up to secondary education<sup>3</sup> by all girls by 2015. This requires provision of a school in every community, the school teacher to be female, and provision of boundary walls, toilets and other basic facilities.
- ? Stipends and nutritional supplements to girl students; their implementation and delivery needs to be enhanced and modified in the light of recent lessons.
- ? Provision of greater access to knowledge systems, and technical and vocational training for rural women; this translates into a large number of women being trained as agricultural and livestock *extension workers*, since they can interact better with women workers who outnumber their male counterparts in the agriculture and livestock sectors.

### 3.7.2 Affirmative Actions

Vision 2030 envisages continuous affirmative actions to achieve gender parity by 2015, since gender equality is not only a goal in its own right, but is an essential ingredient for development. Many of the MDGs are embedded in gender equality and provide a vision of a much improved world by 2015, where extreme poverty is cut in half, child and maternal mortality is greatly reduced, and gender disparities in primary and secondary education are eliminated. Education and health services will thus remain crucial to all gender equality programmes.

- ? Several of the planned MTRF achievements are on track with proportionate MDG targets for these indicators; while those which lag (e.g reproductive health) will be addressed urgently, so that all indicators are met by 2015.
- ? This process will be embedded within a wider environment of continued government interventions and social activism. Recently, as part of affirmative action, the quota for women's employment in the Federal Civil Services has been increased from 5 per cent to 10 per cent.

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<sup>3</sup> In urban areas, gender disparity in education has nearly disappeared; in some universities women can actually outnumber their male counterparts.

- ? The political will and commitment necessary for such transformation will be enhanced, in order to implement the many excellent recommendations of the NCSW, with proactive legislation, and practical operational programmes.

Ultimately, gender equality, cannot be enforced by legal provisions alone. The conversion to a fully gender balanced and empowered society is a slow process, requiring persistent sensitisation of society.

The demographic transition currently underway in Pakistan will enable major improvements in the health and economic empowerment of women.

Opportunities for employment are increasing. Women are more assertive and confident, and employer bias against hiring women in occupations outside agriculture is also diminishing.

New avenues of employment are emerging based upon increasing education and skills among women. Recently the coveted Sword of Honour in the Air Force Academy was won by a female cadet; equally notable is the visibility of women in professions and blue-collar occupations such as the paramedics, teachers, police, shop and bus attendants, as well as in manufacturing (electronics, textiles), banking, and financial services.

It is recognised that without the empowerment and emancipation of women, the country will not achieve its Vision for 2030.

### ***There are no emancipated women without emancipated men***

## **3.8 The Quality of Life**

We are confident that we will have reached the following benchmarks of a just, harmonious, and prosperous society much before 2030.

### **3.8.1 We will make the eradication of poverty and hunger our foremost priority**

Pakistan has fortunately witnessed a decline in extreme poverty and hunger by several points recently; however, the widespread incidence in rural areas in terms of absolute numbers is unacceptable. Social protection nets can only be interim solutions. Sustainable development has to be ensured.

The foremost requirement is the creation of decent employment with adequate remuneration. This calls for investment in skills and training for the young as well as those who have missed out on education. Other policies will include:

- ? Continuing growth of agriculture output in order to feed all our population in 2030.
- ? Focused measures undertaken for reducing income inequality.

- ? Apart from other state interventions such as pro-poor planning and budgeting, establishing clear titling to land will be crucial.

### **3.8.2 Provision of education, skills, and employability will be key strategies**

Clearly universal primary and secondary enrolment and completion by 2015 are the foundations on, which the dreams for 2030 will be realised.

Enrolment for vocational and technical skills must reach 15 per cent of the secondary stream by 2015 and 40 per cent by 2030. The goal for complete gender parity in general education by 2015, and vocational education in 2020 is central to development of Vision 2030.

### **3.8.3 Assuring healthcover to all will underpin human development**

The health vision will be extended to go beyond poverty reduction to become a lever for social and human development. However, continuing focus will be placed on reaching MDG targets in child mortality and maternal health.

- ? The dangers of epidemics like TB, Malaria, HIV-AIDS and Hepatitis will be averted.
- ? Delivery mechanisms, private-public partnerships, prevention and control of non-communicable diseases and fair financing issues will be tackled.
- ? Inter-sectoral linkages will be forged between health and nutrition, education and skills, and social and gender development.

### **3.8.4 Building the infrastructure for the 21<sup>st</sup> Century will provide the instruments for employment and wealth generation.**

Infrastructure development will ensure that the fruits of globalisation, especially the development of linkages with the global supply chain will be facilitated. Major new energy and trade corridors will be opened.

### **3.8.5 Security under law** is a fundamental right of all citizens, not only for personal safety but also from arbitrary government.

Access to justice and security under law will be the focus of legal reforms.

### **3.8.6 Social protection systems will be put in place to provide alternative pathways for the needy and those who will be inevitably left behind in a society in transition, either for lack of skills or opportunities.**

Robust social nets for the vulnerable, the unemployed, the ageing, and the dispossessed will receive priority attention.

## **3.9 Inter-Generational Equity and Sustainable Development**

Pakistan has one of the six great ecosystems in the world, which includes permanent snow bound mountains, glaciers, and forests in the north, tropical and subtropical swamps and dry steppe land elsewhere. The Arabian Sea has been receiving biological waste brought down by the Indus river system for millennia. The whole ecosystem and its diversity is under threat from human activity.

There are major threats to our freshwater. World wide nearly 70 percent of all available freshwater is used for agriculture, as against 90 percent in Pakistan. This is



mostly responsible for the deteriorating quality of freshwater through agrochemicals (fertiliser and pesticides). Industrial pollution, too, is unchecked and will get worse as economic activity accelerates further.

Another sign of deteriorating habitat is air pollution, which is endemic because of massive surge in automobiles and insufficient emission standards. This is further exacerbated in winter by heavy smog rolling in from India's coal-fired power plants.

Sustaining Pakistan's ecological and environment and biodiversity is now an important agenda of Pakistani society. Inability to do so now will result in extremely high costs in future.

Cleaning up water sources, retrieving land, and planting forests are three critical elements of the strategy. This will be achieved, first, by greater awareness, specially among children and women in rural areas. Secondly, it will come about through massive pressure exerted by civil society at large to ensure that laws in place already are enforced through legal and industrial punitive actions.

The Vision for environment conservation and management aims for equitable sharing of environmental benefits, increasing community management of national resources, and integrating environmental issues into socio-economic planning to achieve sustainable development.

The action agenda would cover both the brown environment (water, air pollution, solid wastes, hazardous wastes and noise pollution) and the green environment (forestry and watershed management, biodiversity, range management, desertification and marine pollution).

Particular focus would be on energy conservation and increasing generation through renewable forms of energy. Environmental assessments, accounting and information management tools would be incorporated in the decision-making processes.

Major strategies will be advocacy, conservation, reforestation, and alternative fuels:

- i. "Catch them young"; this will be attained through greater awareness programmes for young people in the schools.
- ii. Strict enforcement of environmental and pollution standards; and enforcing the ban on persistent organic pollutants.
- iii. Doubling of forest cover to 6 percent by 2030 through better watershed management and planting campaigns
- iv. Encouraging forest -based industry through fast growing species for timber, fuel, pulp and other products will be used to manage forests and rangelands. This will be specially applicable in saline affected areas where salt tolerant crops can be grown for fodder *and* bio-fuels.
- v. Extensive energy conservation measures, which would include first, the halving by 2015 of electricity transmission and distribution losses, and secondly through encouraging alternative energy sources.
- vi. Introduction of urban public transport (with CNG as fuel) and mass transit systems to reduce air pollution.

Inter-generational equity and biodiversity will be assured, while pursuing a policy of balanced growth. These measures are required to be put in place *now*, so as to have a holistic impact over a 25– 30 year period.

### 3.10 The Midway Point for Vision 2030

Given that the vision extends over two decades in the future, it is imperative to revisit it periodically to gauge its actual progress. This will be done every 5 years.

The next convenient mid-way point to undertake an in-depth evaluation is 2015, when it will be fine-tuned to make it a reality by 2030. In many respects it is a logical point in time as the year 2015 will be a watershed in the commitment made by Pakistan in the UN Millennium Declaration 2000 to attain a set of eight Millennium Development Goals by 2015.

These eight goals are all firmly embedded within Vision 2030:

- ? Eradicate extreme poverty and hunger
- ? Achieve universal primary education
- ? Promote gender equality and women empowerment
- ? Reduce child mortality
- ? Improve maternal health
- ? Combat HIV/AIDS, malaria and other diseases
- ? Ensure environmental sustainability
- ? Develop a global partnership for development.

In a broader sense MDGs capture the essence of Vision 2030. Eradicating absolute poverty and hunger is the first step in promoting a just and progressive society. A sustained annual increase of 7-8 percent in GDP accompanied by low inflation till 2015 will most likely enable Pakistan to achieve the MDG target of 13 percent of population below the national poverty line. *Reducing absolute poverty to the range of 3-6 percent by 2030 will then be possible under the Vision.*

Universal primary education, achieving gender parity at various levels of education, and youth and adult literacy are indicators for achieving Goal 2 and 3 in the Millennium. *Based on recent performance, the target of adult literacy is achievable by 2015, if decline in fertility rates is sustained and investments in education are accelerated.* The achievement of the remaining targets under these goals, remain a challenge for the year 2015, but appear possible because of the demographic transition to a low mortality, low fertility regime. When these are reinforced by the commitments of GOP as enunciated in Vision 2030, MTFD 2005-10 and PRSP II, the possibilities are fairly bright.

An aggressive, dynamic and well coordinated campaign of immunization of infants and children under 5 and increasing the outreach of Lady Health Workers by the government in recent years has led to visible positive results in reducing infant and child mortality and raise the hope that MDG targets for 2015 are within reach. In the area of TB, Malaria & HIV-AIDS, it is expected that sufficient strides to wards prevention and control will be made to protect our people.

The MDG on Environmental sustainability is designed to ensure that pursuit of rapid economic growth does not jeopardize the environmental quality and reduce the benefits of growth via increased pollution, inefficient use of energy, low coverage of sanitation and access to safe drinking water.

*Of particular reference to Pakistan are the two indicators related to provision of safe drinking water and sanitation coverage. They have direct linkages with health and therefore the productivity of the society and its future generations.*

Achieving MDG target for access to safe drinking water crucially hinges on the successful implementation of the recently approved major programmes for “Clean Drinking Water for All” and “Clean Drinking Water Initiative” within the stipulated time. These will be completed expeditiously.

Achieving MDG target of 90 percent of sanitation coverage is important in meeting the desired quality of life and health. The population coverage increased by only 24 percent in the last 15 years; an additional 36 percent population has to be covered to achieve the target by 2015.

Some possible indicators for Pakistan in 2015 and 2030 are shown in Table 3.1 below. These indicators are referenced against current figures with high or medium the human developed indices (HDI).

### **Building the Future Together**

At the same time as we build a society which is socially just and sustainable, we would have to lay down the structures of a prosperous nation.

This requires that we put in place the building blocks of a productive and innovative society, with a much higher level of collective competence and sophistication.

We have already highlighted earlier the importance of excellence of public institutions and social capital, which foster trust on the road to building competitive national advantage.

We will now discuss how we can build up this collective advantage which will reside in the national human capital and will be reflected in:

- ? Knowledge, information and skill levels as well as competence in, and assimilation of, technology;
- ? The scale, quality and efficiency of physical infrastructure;
- ? The stability of the macroeconomic environment.

All these must be built to their optimum levels to achieve Vision 2030

Table 3.1 Some Possible Socio-economic Targets for 2030

Category	High HDI Avg. (2004)	Med. HDI Avg. (2004)	Pakistan			
			2004 - 05*	MDG Target (2015)	Vision 2030	
<b>1. Education</b>						
a	Net Primary Enrolment Ratio ( percent)	97.3	92	52	100	100
b	Net Secondary Enrolment Ratio ( percent)	91	71.3	18	90	100
c	Youth Literacy rate percent (Age 15-24)	98.45	88.9	66	100	100
d	Public Expenditure on Education as percentage of GDP	6	4.28	2.7	7.0	8.0
<b>2. Health</b>						
a	Life Expectancy at Birth (Years)	78	67.3	63.4	-	75
b	Infant mortality rate / 1000 live births	9	45	73	40	15
c	Population with sustainable access to improved sanitation ( percent)	97	51	59	90	100
d	Population with sustainable access to an improved water source ( percent)	99	83	66	93	100
e	Public health expenditure as percentage of GDP	7.05 <sup>1</sup>	3.82 <sup>1</sup>	0.63	3.0 (2010)	6
<b>3. Poverty and Income Distribution</b>						
a	GDP Per Capita USD GDP Per Capita USD PPP ( all in 2007 prices)	26,999 26,568	1,494 4,901	742 2,225	-	4000 13,000
b	Population below Absolute Poverty line ( percent)	22.18 <sup>1</sup>	28.61 <sup>1</sup>	23.9 <sup>2</sup>	13	3-6
c	Income distribution (Gini index)	31 <sup>3</sup>	39 <sup>3</sup>	41.3 <sup>4</sup>	-	30-35
d	Gender related development index	0.94	0.78	0.513	-	0.9
<b>4. Electricity Consumption</b>						
a	Consumption per Capita (KWH)	8,502	1100	493	-	1800
<b>5. Communications</b>						
a	Road Density ( Km/ Km <sup>2</sup> )	0.88	0.58	0.32	-	0.60
b	Telephone Lines per 1000 people	469	128	34	-	250
c	Cellular Subscribers per 1000	703	184	250 <sup>2</sup>	-	750

\* MTFD 2005-10. *Figures refer to:* 1=2003; 2= 2005-06; 3= 2002; 4= 2000-01; HDI: High Development Index; *Sources:* Human Development Report (2006); Pakistan Millennium Development Goals Report 2005; PSLM Survey (2004-05); MTFD, 2005-10; World Fact Book 2006; Annual Report, Pakistan Telecomm. Authority, 2006; Pakistan Economic Survey, 2005-06.

## The Institutions of State and Government

A just society attains sustainability when key institutions of State and Government are firmly established and deeply respected by the people.

Institutions are created when the social benefits of building institutions exceed the transaction costs of doing so. They stabilise and take root if their three major determinants - economic, political, and cultural - are not treated as antithetical but complementary. Collective action and government are ultimately shaped by the character and beliefs of the citizenry. This is the essence of nation-building, and is an imperative instrument for Pakistan in the 21<sup>st</sup> Century.

We believe that in order to sustain and improve economic performance, and make the quality of life of its citizens more meaningful, good governance will not only be indispensable, it will also become affordable as the scale and tempo of economic activity expands in Pakistan during the coming years.

The *institutional aspects* of this vision for transforming Pakistan are reflected in a state of affairs which strengthens trust between the state and people on the one hand, and among different linguistic, ethnic, and religious groups on the other. This trust will come through participation in the process of decision making as well as sharing of national wealth.

We must commit ourselves to improve, stabilise and even re-invent the institutions of the legislature, judiciary, administration, and security, so as to enable wider ownership of these national institutions.

Strong institutions which embody good governance in the public sector, and sound organizations which represent efficient public service will be essential for sustainable economic growth.

With national security assured, the focus of the state will increasingly shift towards civil peace, law and justice, education, health, housing, water and sanitation, and social protection.

Decentralisation and devolution, a robust legal system to protect property rights and enforce contracts, coupled with a modern taxation, regulation, and tariff systems, will be the main areas of administrative reform.

Pakistan needs to cross some critical benchmarks to manage the modern state of the 21<sup>st</sup> century. These relate to justice, efficiency of government, and governance.

### 4.1 Justice and Law

The first benchmark is an independent judiciary as a custodian and guarantor of the rule of law and equal opportunity for all, made up of good men and women, who are just - but not too good as to be unjust.

Laws exist for every known contingency, but it is their enforcement, which is crucial. Equitable enforcement of laws will be strengthened. Further, the legal system cannot deliver if a parallel system is allowed to flourish unchecked. This applies specially to the concept that crimes are against persons rather than the state. We expect complete harmonisation and synthesis into a uniform system which is applicable in the entire country.

Apart from matters of re-engineering the 'bureaucracy' and administration of justice, its access and quality will be further enhanced through several measures which enhance the trust between the judiciary and the public at large, among them being:

- ? Independence of the judiciary from the legislative and executive arms of the state.
- ? Adoption of Alternative Dispute Resolution Mechanism i.e. conciliation and mediation at the levels of the community and intermediate courts. These can be extremely effective in addressing the concerns related to access of justice for the poor. These institutions will need to be adequately supported by public policy and provision of human and financial resources.
- ? Progressive legal and regulatory policy framework will be put in place to stimulate the economy, with special emphasis on enforcement of contracts and streamlining of arbitration processes.
- ? Reformation of the police will include incorporation of several aspects of modern policing, like greater community policing, separation of the investigative and prosecution sections, and greater emphasis on gender sensitisation.
- ? Rights based education and training of lawyers and the judiciary.
- ? Gradual elimination of 'private' tools for dispensation of justice.

The judicial system will be strengthened through a system of monitoring and inspection of formal institutions of justice and training in law.

## 4.2 Increased Government Efficiency

At the national level, there is consensus that no reforms or re-structuring can be successful, nor will Vision 2030 be achieved, *unless a major change is brought about in the competence, quality, and adequate remuneration of public servants.*

- ? The professionalism of the civil servant is critical to the reform process. *This is specially applicable to service cadres in the provinces and local government, who operate at the level where the actual delivery of services takes place.*
- ? Far-reaching administrative reforms would be initiated in Pakistan to attract and retain competent officers, and to establish better interaction across the tiers of government and its various organs. This requires ensuring improved service structures and security, and opportunities for professional growth
- ? We must ensure a professional civil service, which facilitates and implements policies, and is free of clientilism – be it political, donor-related,

and even cadre centred. Vision 2030 requires greater insulation against politicisation, and higher levels of accountability to parliament.

- ? There will be zero tolerance for corruption.

### 4.3 Strengthening of Governance and the Participatory Process

The democratic culture needs to be strengthened so that it can function at its optimal levels. It must facilitate and ensure accountability of all organs of the state, and serve to avoid democratic disruptions. This is essential to restore trust between the state and the people, who need to know that the state actually cares for them.

Historically the classic nation state has been under siege for some time. This has resulted in some major distortions and erosions and sharing of its political, legal, economic and cultural powers, either by sub-national entities and non-state actors within its boundaries, or by international organizations, and financial markets and conglomerates.

- ? The political process will need to be strengthened through transparent and open debate about the role of various centres of power in political affairs. This debate is essential to enhance trust among the people, the armed forces, and the state.
- ? The influence of the “non-state” actor can be significant, specially the policy prescriptions of international institutions which may tend to make national borders irrelevant. This can seriously affect the ability of a state to meet its governance targets, since effective governance depends upon the availability of a minimum spatial congruence of political regulations with socially integrated geographical areas and the absence of significant externalities. The international organisations also have representational deficits, which can contain features that undermine the consensus principle of international cooperation.

We expect international agencies and corporations to have become truly international as regards representation much before 2030, which will help in the achievement of Pakistan’s Vision for itself.

The provision of public goods, such as security of life and property and the provision of justice under a strengthened social contract, will dominate the functions of state, since it cannot be an effective helmsman of economic development, unless it can provide social contract goods effectively.

### 4.4 Evolution of the Pakistani State

*We expect that much before 2030*, the spread of education, coupled with social and political maturity and sensitisation to citizen rights, will have led to the resolution of many issues which agitate the Pakistani public at present.

*First*, political susceptibility and clientilism will have been mostly eliminated. The modern bureaucrat in Pakistan will be working within the environment of greater political participation, devolution and social mobilisation. Positive policing, with policing regarded as a public good, will be an essential part of institutional and administrative reforms in Pakistan.

*Secondly*, most government functions will have devolved out of Islamabad to provincial and local governments, which is an important item on the agenda of participatory

reforms and efficiency. The local bodies will now manage the delivery of most of the social sector functions and institutions, just as they are the first step in law and order and justice.

*Thirdly*, Pakistan will witness an increasing role of public–private partnerships to increase the resource envelope and to increase efficiency and delivery of services. We expect the relationship between the public and private sectors will have matured, and its dynamics much better understood and much better integrated in 2030.

The excellence of Pakistani institutions in 2030 will be reflected in the state’s capacity to unilaterally reach its governance targets for internal and external efficiencies, which must include:

- ? Removal of the representational deficit;
- ? Effective delivery of affordable services pertaining to education, health and security;
- ? Devolution to provinces of most federal functions which deal with delivery of services
- ? Fair and efficient access to, and sharing of, infrastructure and wealth through pro-poor policies and training;
- ? Protection of the rights of the citizen against arbitrary government;
- ? Access to justice whereby redress is available and dispensable to all, with offences regarded as offences against society and not persons;
- ? Development of legal and regulatory frameworks to minimise risks inherent in public-private partnerships.
- ? Positive policing, providing responsible delivery of civic functions as well as responsiveness to public needs.

#### **4.5 The Role of Government in Economic Growth and Development**

Governments have played a fundamental role in economic growth throughout history, either as active planners and implementers, or as promoters, facilitators and regulators. The role of the state is particularly crucial to poverty alleviation.

*Creating a competent and efficient bureaucracy, must be complemented by a pro-poor political environment.*

All nations wish to achieve economic growth and increase the levels of material and social well-being of their citizens. In today’s world, emphasis has to be laid on stabilisation, liberalisation, privatisation and de-regulation as key pillars of economic policy. This separates government from the task of running businesses, which latter is better handled by the entrepreneurship of private sector, allowing the government to concentrate on its core functions of regulation and essential services.

The future world will require Pakistan to make its own variation on these basic themes to suit its national requirements and conditions. The transformation of China, as well as Japan and the East Asian Tigers earlier, has been the result of heterodox policies combining economic incentives with a market oriented system, within their peculiar socio-economic conditions, and in parallel with interventionist regulatory state policies.



The role of government in Pakistan's economic growth is expected to cover the following:

- ? Implementation of a policy basket for macroeconomic stability.
- ? Provision of a conducive environment for sustained high economic growth with equity.
- ? Encouraging integration in the world economy primarily through attraction of foreign investment and increased trade.
- ? Effective protection of investment in terms of property rights and contract enforcement, without which there is no incentive either to accumulate capital or improve productivity or to innovate.
- ? The above measures must be complemented by making governance *acceptable*. The current trust deficit must be breached. Trust creation between the citizen, the private sector, and the government will be accorded the highest priority through a variety of measures including participation in the decision-making process.
- ? A gradual reduction will be required in the power of the executive and the civil service through the use of institutional autonomy. Self-renewing boards could then run organizations like universities, regulatory bodies, hospitals and other public agencies which would become more autonomous with minimal executive controls.

It has been argued that the nation state will wither away, into some sort of post-modernistic uni-polar world order and structure. This is not really tenable in light of the fact that the best example of a post modern state – the EU – is also beginning to assume the form of the classic nation state in regard to those outside its ambit.

Pakistan too will remain a state in the mould of the classic nation state.



## Realising Vision 2030: The Macroeconomic Framework

Economic development is a complex phenomenon which is the outcome of myriad economic, social, and institutional determinants such as labour (quantity as well as quality), capital stock, natural resources, technology levels, entrepreneurship, and infrastructure. It is influenced by the political environment and governance, the strength of public institutions and the civil services, which in their turn help determine the government's approach to fiscal, monetary, and trade issues.

The focus has to be on decomposing the development experience of the fast growing economies of the world into its critical sub-components and then using this experience to envisage the future course of economic development in relation to Pakistan.

The macroeconomic framework of Vision 2030 reflects a mutually consistent state (present and future ) of four key macroeconomic variables and their inter-connections:

- a. Economic Growth, Savings and Investment
- b. Distribution, Wages, Employment, and Poverty
- c. Foreign trade and capital flows
- d. Public Finance

While economic growth is a sine qua non for higher level of economic development, it both feeds into and feeds upon the remaining four areas when combined with social and infrastructure development. Thus it is important that backward and forward linkages among the key variables of the macroeconomic framework are properly identified and adequately quantified so as to make the framework consistent, mutually enforcing, and a catalyst for overall economic activity.

There have been significant improvements in the growth rate of GDP during the last several years, with average growth rate exceeding 7 percent on average. Employment has also grown rapidly and poverty has fallen by almost 10 percentage point over 2001-06 period. The investment levels that had stagnated around 16 to 17 percent of GDP increased to 20 percent of GDP in 2006-07, when foreign private investment also increased sharply to USD six billion. The foreign exchange reserves have increased several fold and the rupee has shown stability against US dollar. While inflation has increased over the last couple of years it still is in single digit.

Despite the growth, the sustainability and the trickle down of the growth benefits to the poor remain major challenges. Though the aggregate investment levels have increased, investment-GDP ratio in the real sectors of the economy has failed to grow and continues to be rather low, and national savings are inadequate even to meet the current relatively low level of investments. There is a growing trade imbalance, partly explained by high demand for capital and consumer goods. The tax-GDP ratio remains low and constrains the growth of development expenditure at a time of

extensive capitalisation requirements. Inflation had increase to 9.3 percent in 2004-05 from around 3 percent in 2001-02; although it has declined to around 8 percent at present, but it is still unacceptably high.

*Pakistan's macroeconomic framework in 2030 will be linked to the level of globalisation prevalent at the time.* The first scenario assumes rampant globalisation, under which Pakistan may have little ground for manoeuvre, even though the state would still be busy in maintaining the balance at the fiscal, monetary, and external levels. Even without intensive globalisation, which is the second scenario, maintaining the balance at the fiscal, monetary, and external levels, would be the underpinnings of sustainability of macroeconomic policies in the country.

In both cases, low inflation would be an important goal, tariffs would also be low or within those stipulated by the international environment, and the number of taxes would be few. The Federation would collect income and corporate taxes, and customs duties. The rest would have devolved down to the provinces or local governments as per agreed shares.

## 5.1 The Economic Context

The recent acceleration in the growth rate of GDP has been contributed by all three sectors of the economy, viz. agriculture, industry, and services. However, the agriculture sector has shown wide fluctuations. Generally, the focus of government has been on major crops, even though the crop sector accounts for less than the livestock sector; in the 2006-07 budget a major initiative has been taken to promote livestock development. The crop sector is of course constrained by availability of water and better quality seeds, and inadequate extension services and research.

Whereas the manufacturing sector has grown at an average rate of more than 10 percent, there is a downward trend over the last few years; it is still concentrated in traditional industries such as food and textiles, which account for about 40 percent of the output. The services sector has shown a robust growth of around 6 percent, but productivity continues to be low.

The restructuring of the economy is possible through sharp increase in the investment levels, and there have been various positive developments encouraging investments. These include, among others, consistency of economic policies, rationalisation of the incentive structure, pursuance of export oriented industrialisation strategy, improved infrastructures, and focus on skill development and better regulatory framework. Nevertheless greater efforts are required to enhance the investment levels.

Rising levels of investment without an increase in savings result in external debt; savings rate in Pakistan is around 15 percent of GDP (with investment levels of 20 percent) which is quite low in the perspective of 6-8 percent growth rate envisaged in Vision 2030. The capital inflows will have to be large, equalling to at least 5 percent of GDP. All the three components of savings, viz. household, public and corporate savings are low. The household savings may fall further with consumer financing.

Public saving accounts for 2.0 per cent of GDP but the government savings are negative. Similarly corporate savings rate of around 1.5 to 2.0 percent are quite low compared to those observed even in most

? The tax to GDP ratio is around 40 per cent for high income countries, 25 per cent for middle income countries and 18 per cent in low income countries.

? In Pakistan, however, the tax-to-GDP ratio has remained around 10 per cent in recent years despite tax reforms; this reflects not only the inelasticity of the tax system but also its inefficacy

of the developing economies. Inefficiency of public institutions and poor governance has contributed to lower public savings primarily through tax evasion as reflected in large arrears in payments of utility bills, and slow recoveries by the banking system.

### **5.1.1 Fiscal and Monetary Issues**

The fiscal policy aims at progressive and elastic tax structure and rationalization of public expenditure. At present some sectors are exempted from tax payments and there is widespread tax avoidance and tax evasion. The government would improve the tax administration, exemptions to various activities will be withdrawn, tax loopholes will be plugged and documentation would be vigorously pursued. The tax base will be broadened and agriculture and services sector will be brought under the tax net.

Rationalization of expenditure would involve among others downsizing of the government at federal and provincial levels, with capacity enhancement at the local level; rationalizing the non-development expenditures; reallocation of budgetary resources toward high-priority social services and essential operating and maintenance expenditures and improved planning and monitoring of budgetary expenditures.

Despite various reforms, the tax-GDP ratio continues to be low due to various factors including absence of tax culture, inadequate enforcement, lack of documentation, narrow tax base and wide spread exemption. The tax-to-GDP ratio is only 10 percent in Pakistan compared to around 40 percent for high income countries, 25 percent for the middle income countries and 18 percent for the low income countries. The services sector accounts for 51.4 per cent of GDP but contributes very little to the revenue generation (telecommunications and electricity being the exceptions). The tax machinery is slowly being overhauled to reduce corruption and inefficiency, but dispute settlement, complex procedures and multiplicity of taxes need major reforms.

Through various reforms the government has sought to reduce the fiscal deficit including the Fiscal Responsibility and Debt Limitation Act which provides measures to eliminate the revenue deficit and minimize public debt to a prudent level by effective debt management. Whereas the fiscal deficit had fallen to just 3 percent of GDP it has increased to 4.2 percent of GDP as the public sector development expenditure necessary for growth has been enhanced. It shows quite clearly that unless tax-GDP ratio increases, objectives of high growth and stability of the economy would be compromised.

The fiscal deficit and monetary policy are interrelated. If more money is required for the budgetary support and tight monetary policy is pursued to combat inflation interest rates would increase with serious implications for growth. The interest rates had fallen to low levels in Pakistan but at present they have increased and inflation rate is around 8 percent.

### **5.1.2 External Trade**

Despite liberal trade policies, the integration of Pakistan with the rest of the world in terms of merchandise trade remains limited to 34 per cent of GDP, though there has been significant increase in the ratio and may well reach to 60 percent of GDP in the next few years.

Trade competitiveness is linked with productivity and diversification of manufactures and services. Productivity levels of Pakistan need to be enhanced through human resource development and deploying knowledge inputs. The reduction in transaction cost would also enhance the competitiveness.

The value of per capita manufacturing exports of Pakistan is around US\$ 58 compared with US\$ 38 for India, US\$ 222 for Brazil, US\$ 234 for China, US\$ 4121 for Malaysia, and US\$ 3591 for Korea.

Pakistan's share of medium and high technology goods in manufactured exports remains low at 10.1 per cent, compared with 19.7 per cent for India, 51.5 per cent for Brazil, 45.6 per cent for China, 76.2 per cent for Malaysia and 70.6 per cent for Korea.

Ref: UNIDO, IDR 2005

Pakistan has not been able to break out of the circle of high concentration of exports; cotton and its derivatives account for about two-third of exports. The Hirschman coefficient of concentration (measure of exports concentration) works out to be 0.28 for Pakistan in the 1990s, compared with 0.22 for Malaysia, 0.15 for Korea and only 0.09 for China. Engineering goods made up less than 1 per cent of Pakistan's exports, and hardly figure in government statistics, while share of engineering goods in world trade has been around 63 per cent.

The goal of macroeconomic policies will be:

- ? Diversification of production content and structure;
- ? Availability of adequate physical infrastructure and energy at competitive prices;
- ? Development of human resource and skill;
- ? Building up of scientific and technological infrastructure, and
- ? Institutions that help the complete market structure to ensure functioning efficient markets.

Barring major upheavals, the government would continue the policy of floating exchange rate and tariff rates would be rationalised further to encourage commerce and industry. Pakistan would continue the policy of facilitating exports, and would provide all necessary facilities to ensure their double digit growth rate. Facilitated by a rationalized incentive structure, foreign investment would flow faster into those areas in which the country has comparative advantage, as has been observed during 2006-07 where it has crossed USD 6 billion.

## 5.2 Economic Growth

The main contours of the macroeconomic framework for Vision 2030 will be acceleration in GDP growth with stability, through rapid productivity increase and industrialisation of all activities whether agriculture, manufacturing or services (better practices, inputs and research, diversification, quality management, improvement in productivity), through appropriate policies. It will also focus on increasing investment and national saving rates so as to attain higher growth with lessened dependence on foreign resources and ways and means to keep inflation within a reasonable range.

Within these broad parameters, the thrust will be to draw up models, policies and strategies, which will steer the competitiveness of Pakistan in the right directions. Each of these will be continually examined in the context of present and the future scenarios

as they emerge, weaknesses highlighted, and actions proposed to mitigate them. It is envisaged to attain an average real growth in GDP of 8.0 per cent per annum during the period leading up to 2030, with sector shares as follows:

**Table 5.1 Some Projections for 2030**

Indicator	FY 2005-06	FY 2030
<b>GDP f<sub>c</sub></b> (in 2005 prices Rs billions)	<b>7,713</b>	<b>49,000</b>
Real Average GDP Growth Rate	8.0% per annum.	
<b>Share in GDP (%)</b>		
Agriculture	21.6	10
Industry (Manufacturing)	26.1 (18.2)	38 (30)
Services	52.3	52

For realising growth rates of around 8 percent, reliance on private sector for all commercial activities would continue. The government would rationalise the incentive structure to ensure that various activities in agriculture, industry and services are developed in accordance with the national priorities. With a view to ensuring that the cost of doing business is competitive and productivity grows at a more rapid rate than our competitors, the government will provide the necessary infrastructure, human resource development including skill development and the development of scientific and technical infrastructure.

*Pakistan would rely more on growth in productivity than on the accumulation of inputs.* The increase in productivity would result from deploying knowledge inputs, which in turn implies that not only scientific and technological infrastructure is developed but an incentive structure is also established that promotes use of technology and innovation.

The government will facilitate the growth competitive market structure within the country and encourage the producers to compete with imports in the domestic market and with other competitors in the international markets. While rates of protection will be reduced, 'pioneer' industries that are in line with the national priorities will be provided special incentives through fiscal incentives including tax holiday, depreciation allowance, tax credits, subsidy for R&D, freight subsidy etc. to promote export oriented and hi-tech industries.

### 5.2.1 Resource Mobilisation

Vision 2030 will need to be based on a well-defined strategy to augment and broaden the national resources through structural reforms in tax policies and administration.

There is need for different sectors of the economy to bear the *proportionate* burden in revenue generation and for the tax system to be more elastic with respect to tax base, so that increase in GDP can automatically lead to proportionate increase in tax. This requires coherent long term taxation policies and measures to enhance revenue generation.

- a. Taxes and Revenues:** Among the factors which inhibit the growth of tax revenues, the most important are: lack of documentation, absence of tax culture, inadequate will to enforce tax laws, narrow tax base and wide spread exemption, large scale tax evasion, unsatisfactory settlement of tax disputes, corrupt and inefficient tax machinery, complex procedures and multiplicity of taxes. Tax reforms need to focus on each and every aspect of these factors in order to maximize tax revenues.

In terms of revenue generation, sales tax has been the most prolific tax, with its share in tax receipts increasing from 23.4 per cent in FY 99 to 40.6 per cent in FY 05. Services sector in Pakistan is the dominant sector contributing 51.4 per cent in GDP but it does not contribute its expected weight in revenue generation. Seventy five percent of taxes were collected from only *one* sub-sector of services i.e. telecommunications services. The agriculture sector contributes about 22 percent to national wealth, but its share of taxes is around 1 percent only. The national tax base will need to be broadened.

- b. Public Savings and Debt:** In Pakistan, public saving accounts on average for around 10 per cent of national saving, or 1.5 per cent of output, for the period between 1970 and 2005. Although positive since 1976, public saving is still in the neighbourhood of 2 per cent of GDP, which is low when compared to the rate of public saving in East Asia. Public finances are essential to boost expenditure in public goods, such as education, health, safe drinking water and sanitation, and to double their share of public spending in GDP.

In Pakistan the inefficiency of public institutions and poor governance contributed to lower public savings primarily through tax evasion as reflected in large arrears in payments of utility bills, and slow recoveries by the banking system.

The Government has sought to reduce the fiscal deficit through a number of reforms. These reforms include the enactment of the Fiscal Responsibility and Debt Limitation Act that has been approved by the legislature. The Act provides measures to eliminate the revenue deficit and minimize public debt to a prudent level by effective debt management.

The proper financial management of government resources (expenditure management) would be based first on tight control of expenditures on public administration, defence, and debt. It would include:

- i. Downsizing of the government at federal and provincial levels, with capacity enhancement at the local level
- ii. Rationalizing the non-development expenditures
- iii. Reallocation of budgetary resources toward high-priority social services and essential operating and maintenance expenditures
- iv. Improved the planning and monitoring of budgetary expenditures

### 5.3 Attracting Investments

The minimum level of requisite investment would range between 27 to 30 percent, if the growth rates of GDP envisaged in the vision 2030 are to be realized. With low domestic savings compared foreign investment flows assume great significance, and



both domestic and foreign investment will increase if the cost and risk of doing business is reduced.

First, a major effort is to be made to increase the savings rate from 15-16 per cent of GDP to 25 percent. This will come about by improving the return on savings, keeping down the inflation rate, higher corporate savings resulting from higher levels of productivity, and finally increase in government savings through better resource mobilization and control over public expenditure.

In order to attract investment into Pakistan, several key questions will need be addressed. These are:

**a. Reducing Business Costs:**

Cost of doing business is determined by a large number of factors and the availability and cost of infrastructure is the major factor. Pakistan has recently introduced several measures to reduce costs of doing business faced by investors (local and foreign), and was ranked at 74 out of 175 countries in 2007.

Pakistan was ranked at 74 out of 175 countries Pakistan is well placed to build further on this comparative advantage. This compares with 18 for Thailand, 23 for S. Korea, 25 for Malaysia. The ranking of BRICs countries was: 121 for Brazil, 96 for Russia, 134 for India and 93 for China. Singapore was at first place. World Bank, Doing Business 2007.

(World Bank Report, "Doing Business 2007")

Attracting FDI requires a comprehensive set of measures, including minimizing the risks and reducing the cost of doing business. For higher level of both foreign and indigenous investment a number of initiatives need to be taken. *The most critical issue is the adjudication in settlement of disputes, where Pakistan ranks 162 globally.* This issue is being the highest priority to reduce business costs even more.

**b. Improving Infrastructure:** The cost of doing business would be reduced further by alleviating the constraints in logistics chain, including roads, railways, ports, airports and trade facilitation.

Some current indicators which point to a n attractive investment regime are:

- ? The IPR regime has been strengthened
- ? Fast efficient commercial courts are in the process of being set up as in banking
  - ? Junior / senior level salaries are typically one tenth / one fifth of counterparts in, say, the EU or the USA
  - ? Cost of international phone calls is extremely low
  - ? A large variety of business supportive services are widely available at highly competitive costs
  - ? Prime office rents are lower than those in major cities of China and India, even though they are expensive by Pakistani standards.
  - ? The e-Commerce infrastructure is still not in place, and major targets as regards security authentication have yet to be met.

- c. Improving Environment for Trade:** Early Harvest, and FTAs have been negotiated with several countries and blocs recently, and the results are not yet visible. However, these will help provide complementarities in the economies, which will allow companies in Pakistan to take advantage of tariff free access to the world's fastest growing consumer market of over 1700 million people in ECO, SAFTA areas.
- d. Improving Sector Cluster Strengths and Dynamics:** Pakistan is investing considerably in building up cluster based strengths through common facility centres and special industrial parks. An international quality local supply chain exists only in some sectors, and is expanding in auto, pharmaceuticals, electronics and household appliances, because of the economies of scale driven by an exploding domestic market.
- ? Weaknesses are in certification and accreditation. These have been taken in hand through a vigorous programme under the Ministry of Science and Technology.
  - ? The knowledge-based sectors account for only 10 percent of exports, but their share is rising.
- e. Ensuring Availability of Fresh Talent and Skills in Pakistan:** Major investments have been made in all educational levels. Higher education has focused on increasing numbers of students and faculty development through a massive education programme at the MS/PhD level within Pakistan as well as abroad.
- f. Reforming the Financial Sector:** Investment houses in Pakistan work in partnership with investors to ensure all the necessary support is given throughout the lifetime of a commercial venture to develop and expand business and to improve capability and international competitiveness.
- ? Pakistan offers a highly attractive and competitive package of financial incentives, recruitment and training, support for R&D and other development support tailored to the needs of a knowledge based company.
  - ? Pakistan has become increasingly successful in attracting foreign direct investment (FDI) in telecommunications, consumer appliances, and oil and gas.
  - ? Many of these companies are externally owned, who have further re-invested and diversified their activities in Pakistan in the last few years.
  - ? Currently, regional HQs are being set up in Pakistan for manufacturing (electronics) or related services (procurement, logistics, call centres), as well in a major petrochemical downstream industries

### 5.3.6 Legal and Regulatory Framework

The stress in Vision 2030 on technology driven growth in all sectors of the economy will bear fruit if the administration, management, organization and protection of the property rights regime is effectively implemented. This will be in consonance with international conventions, because a legal and regulatory framework that stifles business expansion, innovation and competitiveness translates into a shrinking

economic base. A strong and intelligent intellectual property rights regime is being put in place as an important instrument for achieving Vision 2030 as it works to the benefit of both local and foreign parties. While it will facilitate foreign investment, it will also protect local property rights for products, processes and innovations against foreign exploitation, and provide incentives for local inventors and authors.

Vision 2030 envisages to:

- ? Encourage open and formal business transactions to provide impetus to economic development.
- ? Introduce greater transparency, objectivity, predictability and legitimacy in the institutional environment to lower transaction costs, increase contracting efficiencies and lengthen time horizons.
- ? Improve governance, which is compromised by the absence of an *effective* court system.
- ? Enforce awards and contracts in a timely manner, specially arbitration clauses whose sanctity is paramount. Without minimising this risk for foreign and domestic investors, costs of doing business will not be brought down.
- ? Protect and guarantee property rights which have an essential role in the broader process of economic development. This will help enhance incentives of rational economic agents to invest in efficiency enhancing transfers and value adding activities, while enforceable contracts will reduce the risk in economic transactions.

#### **5.4 The Private Sector and Public-Private Partnerships**

The revival of private sector investment is a major element of Vision 2030, in the environment of deregulation, liberalization and privatisation. Notwithstanding a host of tax concessions and incentives provided to the private sector, it remains shy and fails to make investment in the domestic economy of the right quality and the right quantity. On the other hand, the private sector is inhibited in its investment initiatives by diverse factors such as high prices of utilities, a plethora of administrative barriers to investment such as corruption, red tape and higher costs of inputs (such as fertilizer for the farming community) resulting from the ubiquitous imposition of GST in the range of 10 to 15 per cent.

In this context, privatisation of strategic assets in energy (looming shortages) may need to be re-examined, and separation of ownership from responsible corporate management practices must be reinforced. It is recognised that public private partnerships have been most successful in telecommunications (privatisation and management transfers) or in highways (construction and / or toll collection). It is also acknowledged that it has not been a resounding success in unbundled railway systems (different owners of tracks, signalling and trains) and perhaps done quite badly in community water supplies. However, it can be extremely effective in sanitation and waste collection, and in services at transport hubs such as air and sea -ports.

New models for partnership are being experimented with in Pakistan at present. A policy and operational framework for fostering public-private partnerships is gradually evolving in order to facilitate provision of resources, technical expertise, outreach, and financial mechanisms. The private sector will be regulated to the extent that it does not stifle their initiatives, while the state should focus on institutional arrangements,

performance assessment, licensing and accreditation of service delivery facilities, and quality assurance mechanisms.

Recent studies suggest that governance in the private sector needs considerable improvement. Social accountability, observation of international norms in labour laws and right of association, together with environmental standards will need to be widely accepted and enforced in a speedy manner.

## Agriculture Growth: Food, Water and Land

Our vision is an efficient and competitive sustainable agriculture ensuring food security, and with ability to contribute to the economic development for Pakistan.

Pakistan has diverse agro-climatic conditions and a good natural resource base (land and water); it also has the world's largest contiguous irrigation network, suitable for diversified and intensive agriculture production system. The agriculture sector, provides livelihood for two-thirds of the country's population, contributes 22 per cent to GDP, 60 per cent to exports and 45 per cent to the labour force. Most of its contribution comes from crops and livestock in almost equal proportions, although fruits and horticulture are increasing in importance.

Few people would have accepted that Pakistan would be able to feed its growing population which increased from around 34 million in 1947 to 156 million in 2007. Not only has this been achieved, but rice has been exported nearly every year and even wheat occasionally.

In the last three decades of the 20<sup>th</sup> century, Pakistan witnessed an unprecedented technological and economic transformation. It was able to achieve food self-sufficiency, triple its agricultural exports, reduce poverty, increase income levels, and improve quality of life for its people. The transformation started in the late sixties with the advent of the green revolution (a technology package of high yielding varieties of rice and wheat, water, and fertilizer). These were supported by an improved policy environment, incentive structure in the form of input subsidies, and investment in agriculture infrastructure, including irrigation, research and extension services.

As a result, by the end of 20<sup>th</sup> century almost all of the irrigated wheat and rice area in Pakistan was cultivated under high yielding varieties irrespective of farm size. Similarly, there was tripling of cotton and doubling of sugar production. Cereal production more than doubled on the same area under wheat and rice as in 1970.

*Despite an impressive increase in agriculture production, it has not resulted in improving the living standards of the rural population to the extent desired.*

Pakistan's average national crop yields (Table 6.1), except cotton, do not compare favourably with world averages, although the yields in progressive farms is much higher than the national average. A major contributor is farm size, with 86 per cent of the total number of farms comprising less than 12.5 acres; their number is continuously increasing because of land division due to inheritance.

One of the contributory factors is the relationship of the rural population with land. Since independence Pakistan has tried thrice to implement land reforms by limiting land ceilings and giving land to the tillers. All these efforts had a very limited effect on redistribution of land or reducing feudal hold on our society.

This is impacting agricultural productivity adversely, as small farmers are generally resource poor and need greater attention. Comprehensive and wide ranging strategies have recently been initiated to mobilize small farmers. These include an intensive

participatory outreach approach to make available key inputs such as credit, certified seed, training, small-farm equipment, veterinary coverage for livestock, milk collection, and establishment of a revolving fund for financing operations by the local communities through legally constituted Village Organizations (VOs). Such VOs will be the backbone of our agriculture production, and are expected to develop into corporate entities and conduits for transfer of technology. Together with Farmer Field Schools (FFS), the VOs will help reduce the vast productivity gap between progressive farmers and resource poor small farmers.

**Table 6.1 Average Yields (Kg / hectare ) of Selected Crops, 2005**

Country	Wheat	Cotton	Rice (paddy)	Maize	Sugarcane
<b>World</b>	2,906	1,949	4,019	4,752	65,597
<b>China</b>	4,227	3,379	6,266	5,153	66,063
<b>India</b>	2,717	850	3,007	1,939	61,952
<b>Egypt</b>	6,006	2,603	9,538	8,095	121,000
<b>Mexico</b>	5,151	-	-	2,563	70,070
<b>France</b>	6,983	-	-	8,245	-
<b>Pakistan</b>					
? <b>National Average</b>	2,586	2,280	1,995	2,848	48,906
? <b>Progressive farmer</b>	4,500	2,890	4,580	7,455	106,700

Ref: MINFAL, *Agric. Statistics of Pakistan, 2005-06*; also [www.fao.org](http://www.fao.org)

## 6.1 Major Challenges

Several challenges have now emerged in a more intense form and need to be addressed. These include increasing water scarcity, degradation of land resources (water logging and salinity), inefficient use of agricultural inputs (specially unbalanced application of fertilizer and inefficient water application), ineffective transfer of technology to the farmers, lack of coordination between research and extension, post-harvest losses, and marketing infrastructure.

Pakistan will need to increase its production of major agricultural products (food, feed, fiber, sugar, edible oil, meat, milk, poultry, and fish) to feed its growing population and also generate some modest surpluses for export by 2030. This would need to be done with lesser land and water resources than are available for agriculture today. The challenges for agriculture in the 21<sup>st</sup> century will be:

- ? Doubling of output of several crops, pulses, oilseeds horticulture, livestock and fisheries production exclusively through productivity increases;
- ? Improving the nutritional quality of staple foods to provide essential nutrients such as iron, vitamins, amino acids and proteins;
- ? Diversification into high value agriculture and value added products.
- ? Reducing the loss of fertile land to urbanisation
- ? Private sector-led growth through investments in value added products, both for domestic and export markets, such as floriculture using hydroponics technology for export oriented high-value vegetables/flowers.
- ? Improving marketing systems, especially for perishable commodities.

- ? Sustainable management of the natural resource base and protection of the environment;
- ? Public investments in rural infrastructure and institutions including water management, research and extension, education, health, water supply and sewerage
- ? Encouraging balanced use of renewable biomass suitable for production of bio-fuel (biomass from wastelands, castor, jatropha<sup>3</sup>);
- ? Mitigating the impact of climate change.

The response to these challenges were unthinkable ten years ago, but is a reality now with the advances in science and technology and widespread application of molecular biology, genetic engineering, and other biotechnology tools.

These tools and the persons to use them are already available within Pakistan.

## 6.2 From Green to Gene Revolution

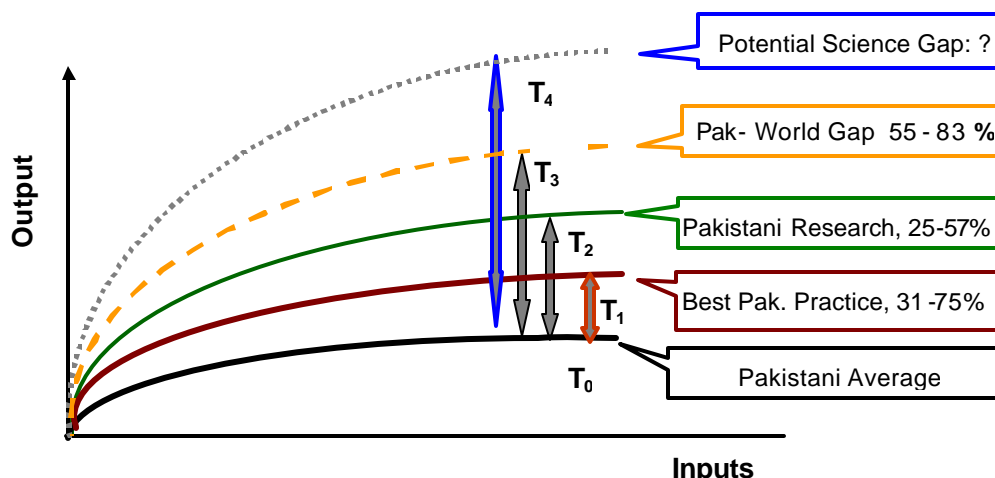
The Green Revolution has essentially run its course and its achievable potential has been largely realized. The emergence of post-green revolution problems, especially pests and diseases, declining water resources and land degradation coupled with high population growth, are now posing threats to food security and environmental sustainability of the current production systems. Figure 6.1 presents schematically possibilities of increasing productivity by employing best practices, and inputs from scientific research and development.

When we couple this with the looming water shortages, *we believe that it will be difficult for Pakistan to support a population of 230 - 260 million in 2030, with current technology and current best possible practice alone.* Biotechnology can play the critical role in meeting agricultural targets during this century, leading to higher production, better resistance, and lower costs of production.

The global planting of transgenic crops is rising annually at a rapid rate from 1.7 million ha in 1996 to 81 million hectares in 2004. By the end of 2004, transgenic crops were grown in several developed and developing countries; two-thirds of the world's transgenic area and more than 90 per cent production is located in developed countries. Pakistan has entered this sector by developing transgenic cotton varieties which will drastically reduce use of pesticides.

In contrast to 'green' revolution, the 'gene' revolution has several issues related to intellectual property rights and not being freely available to end-users; this requires intensification of research in public sector (Table 6.2).

<sup>3</sup> Jatropha produces toxic oils whose environmental impact is unknown.



**Fig 6.1: Increasing Crop Productivity.** The percentage spread in the call-outs denotes improvement expected in different crops

Beyond applications to crop sector to increase production of food, fiber and animal feed, biotechnology will be used in the livestock sector for genetic improvement of animals in terms of milk or meat production, disease resistance, detection and prevention, vaccine and drug production etc.

**Table 6.2 : Green vs ‘Gene’ Revolution**

Tasks	Green Revolution	‘Gene’ Revolution
<b>Technology</b>	Hybridisation (Dwarf Gene/Biodiversity)	Recombinant DNA Technology
<b>Technology Transfer</b>	Free	Barriers
<b>Inventor</b>	Public (CGIAR/NARS)	Private (MNCs), few in the Public Sector
<b>Regulations</b>	None	PBR, WTO, TRIPS, SPS
<b>Thrust</b>	Public Good	Profit / Efficiency

Internationally, most of the current agro-biotechnology research is being undertaken by a few multilateral companies and caters to the interests of rich farmers and developed countries. We are optimistic that Pakistan will also generate international players in its private sector, but for the time being, the public sector will play the major role in ensuring that small and disadvantaged farmers and resource poor areas are not left further behind by the upcoming gene revolution.

Major investments in public sector have been made over the years in agricultural biotechnology, and a few research centres have attained international recognition. There is a need to establish more such centres especially on agro-genomics to act as the supplier of all basic information for developing desirable transgenic crops and animals. Investments in this area will have high rates of return.

The cropping intensity for major crops in Pakistan is already nearly twice the 75 per cent assumed in the Indus Basin Treaty.



### 6.3 The Water Challenge

Pakistan has not managed its water resources with care and is now becoming increasingly water stressed (current availability of 1100 cubic metres per capita which is fast approaching the water scarcity regime of under 1000 cubic metres per capita), compounded by overuse of water resulting in water-logging and salinity. The country's current storage capacity at 9 per cent of average annual flows is very low compared with the world average of 40 per cent. On average 35 MAF of water flows to the sea annually during flood season. There is need to conserve every drop not required for optimal ecological flow into the sea.

**Table 6.3 The Looming Water Scarcity**

Year	Population ( millions)	Water Available, Per Capita (cubic metres)
1951	34	5650
2003	146	1200
2010	168	1000
2025	221	800

Without additional storage, the shortfall will increase by 12 per cent over the next decade alone. Increasing storage capacity is thus an important part of the strategy, and it is planned to increase storage capacity by 18 MAF (6 MAF for replacement of storage lost to silting / sedimentation, and 12 MAF of new storage) in order to meet the projected requirements of 134 MAF. The large storages will be complemented by a comprehensive programme of small dams, and other measures for recharging underground reservoirs.

The massive expansion of private and public sector tube-well irrigation in Pakistan ( 45 MAF or 30 percent of agricultural water , which is twice the average annual rainfall) has had its serious environmental consequences through over-mining of the aquifer, secondary salinisation, and increased fluoride content from fertilisers. Furthermore, 11 per cent of the 22 million hectares of arable land has been declared as 'disaster area' because of severe water-logging and salinity (water table only 0 – 5 feet), while another 20 per cent is under stress (water tables 5– 10 feet below the surface)<sup>4</sup>.

#### 6.3.1 Managing the Use of Water

While the agriculture sector will remain the predominant user of water, the requirements for industry, municipal and human use will continue to increase.

Integrated water resource management, which aims at ensuring the most optimal use of water will be a major strategy for overcoming the looming water scarcity and enhancing efficiency for all water users, apart from re-cycling and re-use. A major programme is underway for lining the water channels. This will certainly improve water at the farm gate, but it will have a negative impact on recharge of underground aquifers. Other planned reforms are:

- ? Changing the institutional and legal environment in which water is owned, supplied and used

<sup>4</sup> MTFD 2005-10

- ? Introduction of appropriate price mechanisms and zoning laws to manage the geographical location of water intensive crops and changes in cropping patterns. Thus rice is no doubt exported every year, but every million tons exported can carry nearly half a million acre-feet of precious water.
- ? Incentives for adoption of water saving technologies such as laser land levelling, furrow irrigation and high efficiency irrigation systems (drip & sprinkle), instead of extravagant gravitational irrigation.
- ? Developing drought-tolerant and water-use efficient crop varieties through biotechnology. This will help in reclamation of nearly 14 million acres of salt affected waste land and large areas of sandy desert through an integrated approach, whereby salt tolerant, fast growing grasses, shrubs & trees could be used as animal fodder as well as economic conversion to methane or ethanol.
- ? Strict prevention of discharge of industrial effluent in natural streams is another serious issue to be addressed through incentives and punitive measures, coupled with cleaning of polluted water streams.

A major intervention is underway to use brackish water for aquaculture, which will not only alleviate the poverty in local communities, but also improve food security and the environment.

By use of all these technologies and construction of proposed water reservoirs, we are confident to meet the needs of agriculture during the coming quarter century and beyond.

#### 6.4 Dairy and livestock

Agriculture sector is more than just crops. Livestock and fisheries sub-sectors contribute nearly 50 per cent of the agriculture value added and 11 per cent to the GDP. They are net source of foreign exchange earnings, contributing 8.5 per cent of the total exports. Historically, it has been a subsistence sector dominated by small and landless farmers to meet their needs for food, draft animals, and some cash income. The livestock sub-sector has been able to sustain an annual growth rate of 4 - 5 per cent during the last decade *without major investments*.

Development of this sector is constrained by inadequate and poor quality of feed, poor health coverage, indiscriminate breeding of genetically inferior livestock, outdated and limited marketing facilities, lack of investment in R&D and market infrastructure. The recent emphasis on this sector provides optimism for continued sustained growth of the sector at a projected growth rate of 5 per cent or higher (MTDF 2005-10). The main thrust is on private sector led development with government providing the enabling environment. A major recent programme aims to increase per unit productivity of livestock through genetic improvement of breeds on a massive scale. Improving feed and fodder availability, improving health coverage and organising market oriented livestock farming are other important interventions.

Pakistan is the world's 5<sup>th</sup> largest milk producer; its value exceeds the combined value of its two major crops (wheat and cotton) in spite of the fact that the average yield at 5 litres / day is only a fraction of the world average. Major initiatives have been launched to improve animal breeds and feedstock, as well as improving milk collections (chillers close to the source, with onward collection by the private sector). Simultaneously, milk and dairy technicians are being prepared in agricultural Institutes to meet growing demand in industry. The white revolution is waiting to happen.

Dairy and livestock have an important role to play in poverty reduction, as well as in gender empowerment, since women outnumber men by nearly 50 per cent in these

two activities. Major new initiatives have been launched recently to improve the skills technology and training among the people who actually do the work, with a focus on women trainers in areas such as milk collection, animal health and feed.

The fisheries sector has been neglected in the past even though the Indus Basin is one of six great ecological systems in the world, with large amounts of sedimentation and biological material deposited in its delta and the Arabian Sea. In view of its potential in both coastal and inland aquaculture, major interventions are being made to boost fisheries through provision of technical and financial assistance to the fishing communities. The problem of post harvest losses and bad hygienic conditions are being similarly addressed to improve marketability of fish products. Over-fishing from foreign trawlers must be controlled to protect our national stocks.

The agriculture sector has intimate linkages with other sectors such as rural development, water resources, industries, poverty alleviation and environment. High growth rates in the agriculture sector will help achieve the objectives of Vision 2030 by providing opportunities for employment and income generation through diversification of the rural economy towards agro-based industries and activities such as livestock, fisheries and poultry. The development of rural infrastructure will help the farmers in marketing their products. The key elements in future agricultural development will be the management of land and water resources in a sustainable manner and structural transformation of agriculture from small scale subsistence farming to diversified and commercialised agriculture.

## 6.5 Food Security for All

The challenge of achieving food security for Pakistan remains a real one notwithstanding the progress in agriculture output since it depends on both availability of food as well as its access and affordability. By best estimates, nearly half the population still suffers from varying degrees of outright malnutrition, as well as mild and moderate under-nutrition, with the most vulnerable being children, women and the elderly, especially among the lower 30 per cent income group.

Increasing food availability alone will not overcome the problem of malnutrition unless other basic needs such as provision of safe drinking water, improved health care and basic education are made available to all as a part of an overall strategy to achieve food security for all.

While the *share* of agriculture in GDP may decline to 10 per cent by 2030, as has happened in the newly industrialized countries, *continued growth* of the agriculture sector would be important because it plays such a vital role in sustaining food security and natural resources base.

In spite of a worryingly high population growth, we are confident that Pakistan's rich and productive resource base - augmented by the enterprising spirit of its farmers, and scientists – will not only achieve food, feed and fiber security, but also produce exportable surpluses (Table 6.4).

The food balance sheets for the last decade indicate that the overall per capita availability of food items has only marginally been maintained, during which period the population grew by 20.1 per cent, from 124.5 million in 1995 to 154 million in 2005.

There have been slight reductions in total cereals production/consumption (wheat, rice, maize, millet sorghum, barley), and meat. However, increases have been recorded in milk, eggs and edible oil.

**Table 6.4 : Targets of Major Agricultural Products (Million tons)**

Crops and Livestock	2004-05 (Benchmark)	Production Targets		
		2009-10 **	2015 ***	2030 ****
Wheat	21.6	25.4	30.0	33.0
Rice	5.0	6.3	7.5	8.5
Cotton (lint)*	14.6	17.0	20.7	21.5
Sugarcane	45.3	56.7	63.4	NA
Fruits	6.0	7.0	10.8	NA
Oil Seeds	5.8	7.5	8.12	NA
Meat	2.8	3.1	4.2	NA
Milk	29.4	43.3	52.2	NA
Fisheries	573.6	725	NA	NA

\* Million Bales    \*\* MTFD 2005-2010    \*\*\* MINFAL 2015

\*\*\*\* Production based on Regression Analysis of 16 years data (1990-2005)

Over the longer period of the last 25 years, availability of calories per day during this period (1979-80 to 2004-05) has decreased on average by 1.3 per cent from 2301 to 2271 while that of protein has increased from 61.5 gm per day to 65.5 per day.

Based on the pattern of existing food production and availability, and desirable change to the National Food Basket, on the pattern recommended by FAO, the consumption requirements per capita of major food commodities has been worked out up to 2030. This shows we would require lesser cereals, but increases in pulses, meat, oils, vegetables and fruits and dairy products.

## 6.6 Globalisation and Agriculture

Globalisation offers both challenges and opportunities for further economic growth in Pakistan, and can facilitate rural and general economic development. Globalisation has also made mandatory for Pakistan to introduce new regulatory rules and bring fundamental changes in its agricultural production regimes. The competitiveness will be strengthened by adopting Good Agricultural Practices (GAP) and Good Manufacturing Practices (GMP) in agricultural production and processing. In this way, by meeting WTO requirements and standards, agricultural commodities from Pakistan can get more opportunities of export due to dynamic market evolution, continued social change and shift in consumer preferences for high value crops. Investments in transport and preservation technologies is already underway in Pakistan through appropriate government interventions and triggers, which will improve the entire value chain in agro-industries.

We are aware that even if all this is achieved, trade and non-tariff barriers in the developed countries will also need to be reasonably amended to allow a level playing field for Pakistan's agriculture sector to become an efficient exporter.

## 6.7 Managing Natural Resources

There is unprecedented consumption and degradation of water, land, and air because of continuous growth in the scale of human enterprise worldwide. Development, and economic growth have also perhaps destroyed irreversibly the scale of natural biodiversity, with the result that the eco-system now has lesser capacity to sustain waste or human life.

Land degradation is a serious problem both in irrigated and less favourable areas. In irrigated areas, monoculture and excessive or unbalanced use of chemical inputs resulting from pricing and subsidy policies has been the main cause of environmental degradation. In less favourable areas, mining of soil nutrients, erosion and deforestation are the major causes.

The rapidly increasing demand for meat and livestock products, and the resulting pressure on livestock production could cause similar or more environmental degradation in this sector, if science-based high yielding technologies are not adopted/developed. There is therefore need for sustainable management of natural resource base to meet the needs of present and future generations.

## 6.8 Climate Change

Global climate change and warming, which are now convincingly attributed to human activity (IPCC, 2007), will affect the lives of all human beings. Recent data reveals that 1990s were the warmest decade, and 1998 was the warmest year since records were started. The greatest warming over the next 100 years is expected to be at higher latitudes, and the smallest amount of warming in the tropics.

At the macro scale, the monsoon system has been reasonably stable over the last 200 years. However, our region will now see shift in both intensity and timing of the monsoon season, which could result in heavy losses to national economies. This change would have intense socio-economic impact, in human health and well being (through heat and disease such as increase malaria, food production and security, water resources, forestry, livestock, and energy. Site selection of coastal power plants, the urban and built environment, transport and communications, and tourism will all be affected. We must first understand, and then adapt to and mitigate the impact of these changes.

Comprehensive and careful studies are therefore, needed to understand the nature and the extent of this climatic change and develop plants and animals types and farming systems, which are less vulnerable to such climatic changes.

Models show that Pakistan will grow warmer by about 1 degree C by 2030 (CICERO, Report 2002-2), and could even reach 4-5 in the last 3 decades of this century. This would reduce yields of wheat, rice, sorghum and maize in the rain fed areas, as well as shifting some of these crops northwards by up to 200 Km for every degree C rise (United Nations Framework Convention on Climate Change, UNFCCC). We will need crop varieties which are more drought as well as more flood resistant. On the whole, wheat yield is likely to go up, even though its geographical distribution will change, while rice will not be affected. Pests of course would appear earlier, requiring wholly new different mitigation strategies.

There are strong indications that climate change is likely to affect Pakistan in at least two ways. The Indus basin depends heavily on the glaciers of western Karakorums and Himalayas that act as a reservoir, capturing snow and rains, holding the water and releasing it into the rivers which feed the irrigation system of the country. Estimates are that with increase in global temperature there will be increase in the melting of glaciers for the next fifty years, during which time the flows in the rivers are

expected to increase. Nine out of the ten General Circulation models used by the Intergovernmental Panel on Climate Change (IPCC) project that precipitation during summer monsoon will increase substantially, by up to 20– 30 percent. This increase in the overall monsoon rainfall in Pakistan is likely to be poorly distributed in time as well geographical space; much of the additional rainfall is likely to be in high-intensity storm events. Building major new water storage facilities and 'raising' many of the existing ones will allow us to exploit one positive aspect of global warming.

Climate change will also have an important impact on wildlife and their habitat. Rangelands, forests and their types, and biodiversity will be under even greater threat. This requires major programmes for increasing the forested areas with plantation suited to the looming climate change. The way we build our houses will also need to be looked at differently.

It will be essential to build up the capacity for multidisciplinary studies and modelling for reliable climate forecasting and analysis of its socio-economic impact. This will require sustained regional co-operation as well as monitoring of our entire environment from the North to the South.

We believe that it is possible to achieve the vision of an efficient and competitive agriculture sector which will be able to meet on sustainable basis, the food security and agricultural product needs of a developed, industrialized and prosperous Pakistan envisioned in the Vision 2030.

We have to start preparing for the climate change now, in order to adapt to and to mitigate its impact. *However it will be sustainable only* if the economics of ecology and biodiversity is firmly embedded in our young people's minds as a part of inter-generational equity, and as a part of their inheritance.

This will be attained through the application of science and technology and sustainable management of natural resources. This turn requires major investments in human resources, reforms in agricultural practices and rural institutions, national infrastructure, and management of challenges from globalisation, biotechnology and climate change.

? Biotechnology research, and patents, are raising major concerns about intellectual property right issues, because of undue claims of multinationals on the indigenous genetic material of Asian countries. These common issues necessitate a common negotiating stance of the developing countries in Asia to counter outside threats. The recent such examples are 'basmati' rice, turmeric and 'neem'.

? The import of GM (genetically modified) seeds and other organisms would be subject to strict scientific, legal, and financial accountability. Measures will be put in place and enforced for controlling invasive pathogens imported with food, feed, seeds, livestock and germplasm.

## Manufacturing and Industry

Vision 2030 envisages the share of the manufacturing sector to change from the current 18.3 percent of GDP to nearly 30 percent (or USD 300 billion in current terms) by the end of the Vision period. This requires the sector to grow at a sustained average growth of around 10 percent. To meet this ambitious target, Pakistan has to quickly put in place the necessary human, technical, legal and physical infrastructure. These are the instruments needed for matching of trans-national skills, so that investments and possible relocation of manufacturing and design from developed economies can be facilitated. While excellence of public institutions and stability of macroeconomic policies are basic requirements, the driving force will remain flexible, skilled and innovative technical personnel; and fast and efficient physical and electronic connectivity.

### 7.1 Diversification of Manufacturing Sector

Pakistan has to make important strategic choices to ensure sustainable growth in the manufacturing sector in a rapidly changing and international competitive environment. This requires massive structural changes rather than a marginal change, a shift in the production paradigm to technology and knowledge based industrialization with a focus on the quantitative and the qualitative growth of an integrated and competitive industry in the private sector. The inefficiencies of import substitution will be reduced through tariff rationalization and export led strategy.

The lack of diversification in Pakistan's manufacturing sector has been due to heavy protection granted to resource based industries, high rates of import duties on raw materials used in the machinery, equipment, and chemical industries, and zero or low rates of import duties on finished and semi-finished goods relating to these sectors. This is further compounded by widespread smuggling of all consumer durables. Many of these issues have been resolved to some extent through tariff rationalization in the last few years, but further fine tuning is needed to encourage investments in manufacturing.

Traditional industries such as food and textiles industries still account for an overwhelming share of the manufacturing output; food industries accounted for 13.8 and textiles industries for 24.0 per cent of the total manufacturing value added. On the other

The share of agriculture in GDP has fallen from 39 percent in 1969-70 to 20.9 percent in 2006-07. During the same period, share of the service sector increased from 38.4 percent to 60.0 percent, and manufacturing from 15.9 percent in 2001-02 to 19.1 per cent during 2006-07.

To reach the quantitative targets of 30 percent GDP share by 2030, within an overall average GDP growth rate of 7.0 percent until 2030, the manufacturing sector needs to grow at an average rate of around 10 percent.

*Pakistan Economic Survey, 2006-07*

hand machine goods producing industries, electrical and non-electrical, and automobile industries accounted for just 4.4 and 4.7 per cent of value added respectively. Even though chemical industries accounted for around 15.2 per cent of manufacturing output, most of the chemical industrial output is concentrated in low-tech and low value added industries.

Global demand for goods does not match what Pakistan produces and sells, as shown in Figure 7.1 which highlights the composition of world trade for 2005 (WTO). The four sectors having the largest share in world trade are machinery, electronics, pharmaceuticals, automobiles, and agricultural products.

Pakistan’s current strength in textiles has not been converted into a larger share of the international market after the removal of quota regimes, which has impacted adversely on the growth of the sector. The automotive, pharmaceuticals and electronics/electrical / home appliances sectors on the other hand have shown great promise, reflecting the rapidly expanding middle class with money to spend. The auto sector has seen an eightfold increase in demand during the last 4 years and the share of local components has been increasing (around 90 per cent of parts used in motorcycles and tractors are made in Pakistan). Moreover, motorcycles are being aggressively marketed abroad. Investment and employment opportunities in the emerging flourishing vendor clusters will be carefully cultivated.

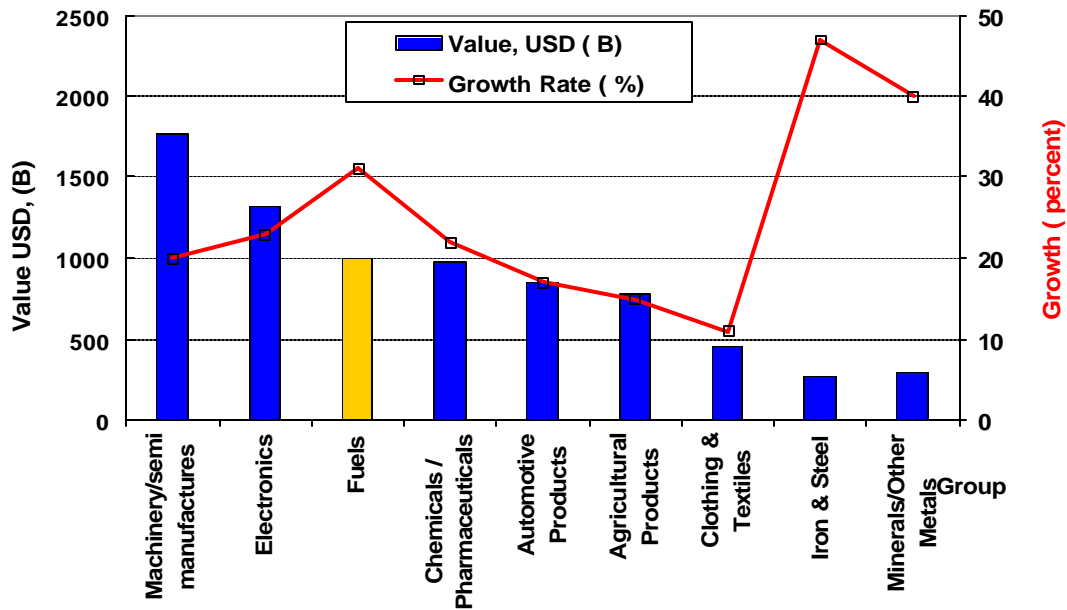


Fig 7.1 Global demand for Goods

The vision for manufacturing aims to strengthen present industrial activity and enhance its output and productivity, so that it can become competitive, flexible and agile. While investment flows to increase capacity and technology at the OEM level are being encouraged, local design capability is also being enhanced through new clusters for



training, design and testing, which will drive medium technology activities such as automobiles petrochemicals, as well as high technology sectors in electronics and pharmaceuticals. The construction industry is also enjoying robust growth with major demand for cement and steel. There has been a doubling of demand and capacity for cement in the last five years, fertilisers composition has changed but fertiliser production has not changed much over the last few years.

As a result of incentives and policies, the range of manufacturing activities is expanding with new activities ('pioneering industries' which would include are 'new' products, processes or technologies) in electronics, software, petrochemicals, fertilisers, chemicals, steel, and shipbuilding, among others. Secondly, the human and technical infrastructure for exploitation of natural products, and biotechnology design tools are being established. These building blocks are essential to meet the targets of Vision 2030.

## 7.2 Development of Micro, Small and Medium Enterprise

A major global re-structuring is underway in the manufacturing as well as services sector. This has taken the form of re-location of manufacturing, design, and service activities to places where cost reduction can be affected without compromising reliability. Such activities are generally undertaken by small and medium enterprises (SMEs) which comprise the bulk of any nation's economic units and contribute significantly to employment.

The contribution of small and medium industries (SMEs) to Pakistan's economy, employment absorption, and poverty alleviation, can be gauged from the fact that 90 % of all private sector manufacturing units employ less than 99 persons. Their impact is extremely high in the manufacturing sector, even when most of this may be employment generation at 'subsistence levels'. They contribute 7% to GDP, and generate 25 % of exported manufactures. However, low investments in technical and managerial skills, coupled with an unfavourable legal, regulatory, and taxation environment, prevents the SMEs from achieving their actual growth potential for employment, income generation, and poverty reduction.

In the 1980s-90s, it was shown that manufacturing could be undertaken anywhere; now designing can also be done anywhere. These activities are ideally suited for SMEs if they can become partners in an internationally accepted supply chain. This is the peril, but this is also the promise of the present globalisation.

Our Vision is for Pakistani SMEs to evolve into major global players and conglomerates through this activity, offering complete end-to-end services in the supply chain, whether as manufacturers of piece parts and systems, or providers of IT enabled services.

The key ingredient needed to make SMEs competitive is enhanced technical skills and organisational capacity. Earlier attempts in this direction in Pakistan and elsewhere were not very successful, partly due to limited conceptualisation of technology and its role in development, and lack of practical experience in project implementation and delivery mechanisms.

Vision 2030 proposes to overcome the serious deficit of SMEs to adapt and improve hardware and processes, by increasing their internal and external efficiencies through training in skills and better managerial practices and technological levels. The purpose is to bring them at a plane where they are can interact positively with large modern

companies in Pakistan or abroad, or even the modern SMEs in the Newly Industrialised Countries (NICs).

The mechanism whereby technology and business skills are delivered or embedded in an SME is of paramount importance. This *change management* (training, skill development, and adaptation of technology) has been institutionalised in a series of clusters and training programmes across the country, since low-income, small- and micro-enterprises in developing countries always tend to under-invest in innovation relative to the social optimum.

Business networking and trust will be enhanced through better contract enforcement, as part of the overall enabling environment. Instruments for micro- credit and information technology will further help fill the gap in the SME sector, viz. networking and match making for markets and technology.

### 7.3 Enhancing Productivity

In a world of aggressive competition in the world market, generating growth exclusively from factors accumulation makes a country uncompetitive. Empirical estimates suggest that 20 to 50 per cent of GDP growth has emanated from productivity gains in various countries. In Pakistan, TFP has contributed one-third to the growth but it reflected extreme form of inefficiencies in the base year, rather than improvement in productivity level as a result of human development activities. The entire process for increasing productivity needs to be based upon the realisation that workers are hardly educated and have little access to formal training, and whatever skills they possess are a result of informal apprenticeships.

One-window operations which have been promised for a long time are seeing fruition with public-private partnership for creating industrial zones, estates, and corridors, where skills and physical and administrative infrastructure can be clustered and matched for greater efficiency. This will further reduce the cost of starting new enterprises<sup>1</sup>. A Textile City in Karachi and Garment cities in Lahore and Faisalabad are current projects in exploiting cluster strengths in key sectors. Everywhere standards, certification and testing facilities are being established to enable product ratings and approvals based on international quality benchmarks and accreditations.

#### 7.3.1 Availability of Skilled Workers

Whereas the wage rates in Pakistan are low they may not be low when adjusted for the low productivity levels. With a view to increasing their productivity level human capital development activities will be promoted including the skill development. A major emphasis will be placed on design activities, and generation of critical numbers and quality of researchers in all areas of human knowledge, focusing not just on emerging technologies but equally on the social sciences, which will foster understanding of the human dimension of such a major transition.

A major element of Vision 2030 is to determine the real costs and create awareness about challenges faced by ordinary people and businesses, especially those related to opportunity costs and the loss of valuable time. The erosion of competitive advantage of lower salaries and wages needs to be reversed through reforms in labour policies in order to promote better productivity and better employer-employee relations.

<sup>1</sup> Pakistan has the least cost of doing business in South Asia.

## 7.4 The Services Sector

The services sector plays a vital role in sustaining the growth of Pakistan's economy, with a share of over 50 percent in GDP, and 44 percent in employed labour force. A cross-country comparison shows share of services sector in GDP is currently about 75 percent in developed countries; within Asia, share of services in GDP was 65 percent in Singapore, followed by 54 percent in case of Sri Lanka, 60 percent for Pakistan, 52 percent for India and 42 percent for Indonesia.

Boundaries between services and industry are changing fast, and about half of all services in modern industrialized economies are sold and bought while embedded in the form of goods. While the content and function of goods remain important, the designing, marketing, consultancy and advertising services claim a share of the value added to goods. Manufacturing also has important contribution from services, such as resource planning, warehousing, value chain analysis, financial services and inputs, as well as after sales services, and the logistics of transport and communication.

In the modern global economies, it has been shown that not just manufacturing, but designing can also be done anywhere. Pakistan is investing in the skills and infrastructure which are needed to raise our traditional industry to the next higher plane for engineering design and consultancy. Textiles clothing and jewellery, industrial moulds and dies, dimension stones, and furniture have been targeted in the short term.

Apart from services to business and industry, an important class of services relates to public services by government, which are an indicator of good governance as well as human development. These include access to and quality of services related to education, health, environment, transport and communications, and law and order. Many financial services such as financial regulation are also expected of good governance and the modern tool of good governance, namely, e-governance contributes towards providing public information to people so as to reduce time and transaction costs, and increase quality and transparency of government functioning.

Pakistan intends to carve a larger share in the export of service sector. With consolidation of the banks their size are increasing, and their productivity levels would also rise through better surveillance by the State Bank of Pakistan. They will not only be able to compete with the foreign banks in the domestic market they would be able to extend the services across the borders.

The transport sector is seeing major growth and investments as part of north-south corridors and introduction of integrated multi-modal transport invigorated through proper control and regulated mechanisms and improved productivity levels.

Pakistan would build up design capabilities, which will bring in better content, functionality and style. Public-private partnerships will help generate integrated and strong linkages between needs of industrial sector, technology, and patterns of R&D. Design centres are being put in place at several places across the country.

## 7.5 The Leisure Industry; Sports and Tourism

A major convergence has arisen globally between media and sports, which has completely changed the very concept of sports as a pursuit of amateurs. It is no longer possible to reproduce the earlier conditions, when wearing the national colours was more important than financial reward. Sports is now big business, and so also are

sportspersons and the whole new host of service providers in the media such as anchorpersons, cameramen, editors and commentators.

Pakistan must make greater use of this phenomenon to support and nurture sports infrastructure and services, including coaching, and health and fitness in society.

To create the future sportspersons, focus will need to be placed on schools, so that pursuit of sports and fitness can be inculcated at a very young age. By the same token, we also need to realise that management of sports is a full time professional job, and cannot be left to government functionaries alone.

Vision 2030 aims to exploit the great potential of cultural and religious tourism of the country, with one of the world's oldest civilization, exotic mountain beauty and splendid seasonal variety, to its optimum level for employment generation. However Pakistan presently ranks very low in terms of world tourism income. Out of global tourism income of USD 514 billion, the share of South Asia is USD 5.4 billion (Pakistan's share is only USD 135 million i.e. 0.03 per cent of global and 2.5 per cent of South Asian share. Out of the total tourist arrivals in the world estimated at 694 million per year, Pakistan receives only 0.5 million tourists annually, which is a very low figure. Even among South Asian countries, the tourist arrival in Pakistan is very low.

The sacred religious places, which spread throughout the country, make Pakistan an attractive place for a variety of people and religions. The tourism assets of Pakistan include a coastal zone spreading over one thousand kilometres along the Arabian Sea offering long term development potential for beach resorts, diversified natural deserts in the south and beautiful hill stations and valleys in the north. It has also great potential for tourism sports like mountaineering and trekking. The relics of the Indus and Gandhara civilizations and the great architectural heritage across the whole country are exceptional cultural assets of Pakistan. There are also great adventure zones with the high mountains located in the north of the country, where four of the world's largest ranges meet.

The sector objectives include: (a) to enhance tourism activities, increase tourist arrivals, and make tourism an instrument for generating employment, alleviating poverty, and increasing foreign exchange earnings; (b) to promote affordable, accessible and enjoyable domestic tourism and cultural and sports festivals; tourism of the religious sites and old civilizations; and foreign tourism linked to regional tourism particularly among SAARC and ECO countries and (c) to enhance coordination between public and private sectors and upgrade resources to ensure desired standards of quality service.

The strategy would be to develop appropriate incentives to promote greater private sector investment in creation of tourist facilities. Public sector investment in the development of infrastructure facilities will be made part of overall national development effort. While the ongoing projects will be completed as part of federal PSDP, the development requirements for new projects will be met from privatisation of existing motels (already started). Greater financial autonomy will be given to the public sector tourism agencies.

With the adoption of a holistic and integrated approach for tourism development, an emphasis on product development and promotion, linked with human resource development and through strategic alliances, there is considerable potential for tourism industry to grow over the vision period. This strategy will be developed in the context of high growth in regional prosperity and tourism, which will facilitate the prospects of increased tourism as part of multi - country travel and package tours. Vision 2030 incorporates specific programmes for promoting this goal.

## 7.6 Infrastructure for Growth

Apart from human capital (skills and education), the physical and technological infrastructure will be strengthened to ensure that such bottlenecks do not impede envisaged growth and competitiveness. The current major constraints in local logistics chain, including roads, railways, ports, airports and trade facilitation, is acknowledged. With present infrastructure, it will not be possible to expect our enterprises to become part of, and players in, the international supply chain, or to facilitate new investments in industry, agriculture and services.

A comprehensive programme has been launched under the National Trade Corridor Initiative to overhaul the entire logistics chain, physical connectivity and processes (motorways, expressways, railways, ports and shipping and airports) and efficiency to bring it at par with international standards. *The dwell time at ports has already been slashed by more than half.*

### 7.6.1 Transport and Communications

The Vision for the transport sector is the establishment of an efficient and well integrated system which will facilitate the development of a competitive economy and poverty reduction, while ensuring safety in mobility. The strategic thrust is on optimal utilisation of the existing capacity, improved management, and co-ordinated use of various modes of transport. Private sector in the sector will be enhanced and institutional capacity building activities undertaken to enhance sector efficiencies.

Motorways, efficient port handling and customs, replacement of railway tracks and their doubling, new railway carriages and locomotives, multi-axial road haulage vehicles, and mass transit systems in large metropolitan areas, are some of the current major initiatives. All these will reduce transit times, and cut down on the costs of doing business.

Reducing delays in our transport system is critical instrument for the cost of doing business, and hence increasing our competitiveness.

The following interventions are targeted at improving the logistics and supply chain:

- ? Construction of major new motorways / corridor through less populated areas to spread urbanization, as well as with other countries in the region
- ? Modernization of the trucking fleet by gradually replacing older 2 – 3 axial rigid trucks through multi-axial, low emission vehicles, together with incentives for fleet operation, through conversion to modern prime movers / multi-axle, trucks conforming to Euro 2 and Euro 3 emission standards
- ? Adopting an inter-modal approach to develop links between trade and the economy
- ? Promotion of industrial estates along the highways and motorways, focusing on pioneering industries and clusters
- ? Encouraging the establishment of warehouses by the private sector along the corridors

### 7.6.2 Railways

It is proposed to increase the share of railways in national freight from present 4 percent (6 billion-ton km) to 22 percent (81 billion-ton km) by 2030. Further, freight turn-around time would be reduced drastically to increase productivity, through several measures including the following:

- ? Dual tracks for major inter-city traffic.
- ? Increase in the average train speeds from present 70 kmph (passenger) & 42 kmph (freight) to 100 kmph (passenger) & 90 kmph within 3 years. This will halve freight times to 28 hours only
- ? Addition of a separate high-speed trans-country track with speeds up to 450 kmph for future systems.
- ? Induction of new flat-bed container wagons and high speed locomotives & passenger coaches in the railway fleet.
- ? Improvement in the signalling system.
- ? Better management, focusing on maximizing service delivery

### 7.6.3 Ports & Shipping

All three ports would be made more efficient in service delivery, and are planned to be run on landlord-port concept through private sector port operators of international repute. The objective of the ports' reforms would be to enhance and facilitate the trade & business at minimum costs:

- ? Reduce free cargo dwell time to less than 3 days.
- ? Reduce ports costs (customs procedures, terminal handling charges, apart from lower vessel charges, increased infrastructure, deepened berth drafts)
- ? Pakistan's National flag carrier PNSC owns a fleet of 15 vessels which is projected to increase to 61 vessels by 2030.
- ? Professional port management through foreign operators if necessary.

Most of these measures have already been initiated with major impact appearing within 2-3 years.

### 7.6.4 Aviation

Pakistan currently has 4 operational airlines (one in the public sector), while the number of functional airports (including new ones) would be doubled to 50 by 2015, including Greenfield airports at Gawadar and Islamabad. With the goal of improving cargo and passenger traffic, an open sky policy is being pursued; while user charges and fuel prices made competitive. Facilities for export of perishables and developing air cargo facilities for cold chain at major airports; a commendable example is Sialkot Airport, which has been built entirely by the private sector (local Chambers of Commerce and Industry) and will also be operated by them.

All these programmes will need to be regularly updated to cater for increased trade, specially the major North South trade and energy corridor planned to start from Gawadar to the North of Pakistan and on to China and Central Asia.

### 7.6.5 Information and Communications Technologies

An important instrument for expanding both the services and manufacturing sector is the use of IT enabled services. Pakistan has seen impressive developments in the last few years, and is quite competitive as regards IT outsourcing because of the highly skilled pool of labour force and low hourly rates (only 37 US cents compared with 58 cents and 67 cents for India and China respectively at present). Establishing and maintaining a world class and innovative telecommunication infrastructure is therefore an important supplemental tool to enable both manufacturing and services sectors to expand rapidly.

Currently, there are 210 million broadband subscribers in the world of which nearly 70 per cent are using DSL. Pakistan is experiencing an explosive growth in the telecommunications sector during the last 5 years, with the cellular market alone growing at over 2 million subscribers per month at present. Pakistan now has 58 million cellular subscribers (36 per cent penetration, as compared with 76 per cent in Malaysia), and the objective of achieving the same teledensity (75 percent) as in highly developed economies will be easily reached by 2030 if current expansion is any indicator. The overall footprint for cellular networks covers some 73 per cent of the country, and the cost of local and international telephony has fallen drastically.

However, recent measurements of the digital divide show Pakistan (including South Asia) to be at least 10 years behind the world leaders. No doubt internet has increased 5000 per cent in just 4 years, but this has caused a major congestion in the infrastructure, which is only now beginning a second expansion. There are less than 100,000 DSL subscribers, compared with 33 million in South Korea. Major initiatives are now being undertaken by the Government to de-regulate the sector and expand the complete spectrum of fixed and mobile telephony and internet, with greater emphasis and incentives for broadband connectivity and in particular improvements in last mile performance.

Fortunately, demand driven services are beginning to show results. The fibre optics network has increased eight fold to 11,600 km in the last two years, and is now being laid to the customer's door as convergence of audio, video and data becomes popular. A new submarine cable in 2006 has improved international redundancy.

The reduction of the digital divide offers enormous opportunities for the emergence of major Pakistani players. The ICT infrastructure in Pakistan needs to move quickly in the following directions:

- ? Completing the programmes related to e-Business and e-Government, and digital rights management.
- ? Increasing the speed of adoption of ICT by SMEs
- ? Increasing high bandwidth last mile connectivity, and further improving international connectivity / redundancy
- ? Moving towards multi-platform access which will allow any content, any time, anywhere, on any platform

- ? Improving consumer confidence through implementing effective penalties on 'spam' and cyber crimes
- ? Enforcing quality assurance through major investments in standards, measurements, testing, and accreditation.

## 7.7 Quality Matters

Pakistan's objectives to increase value addition and diversification of goods and services within the country's economy as well as in export are critically dependent upon conformance to international standards. This requires efficient and competent quality organizations for defining and implementing standards, certification and accreditation.

Many of the institutions needed to facilitate the quality and productivity of public and private institutions, or of entities engaged in education, production, commerce, or services, already exist in Pakistan. However, their capacity to handle the volumes and diversity of modern domestic and international trade is limited.

Further, awareness and understanding in the country about the quality, productivity and property rights (intellectual and physical) is inadequate, which leads to feeble enforcement. Major interventions are needed to upgrade national organizations within government which had stagnated in the past, through a whole new set of technical capacity and better management practices at several tiers.

Several new initiatives have also been initiated in enhancing the human, technical, and legal infrastructure for managing quality matters, whether they relate to goods and services, or social accountability. This need to be expanded further to realise an environment which can match the best international practices.

We look to the creation of many 'Brands Pakistan' in the coming years.

With perhaps every global IT company in the world having a presence in Pakistan, and with revenues growing by 30-40% year on year, the IT industry is probably the most exciting and dynamic sector in Pakistan today. With about 60,000 professionals, major ongoing IT projects within government and the private sector to the tune of hundreds of millions of US dollars, and world class software product and services companies, the Pakistani IT sector and its portfolio of IT enabled services is an important agent for change and productivity improvement.

The convergence of communications, computing, and entertainment has resulted in the blurring of boundaries between disciplines, and IT companies now come in all shapes and sizes. IT has indeed been taken out of the closet and has been mainstreamed into every aspect of industrial and economic activity within the country.



## Building the Innovative Society: Knowledge, Technology, and Competition

Pakistan's economy has grown faster than the world average during the last 25 years, with particularly high growth rates of 7 - 8.4 percent since 2003. This growth with reasonable stability has been achieved through various reforms in several institutions of the state; second generation reforms have been initiated, and devolution is expected to improve the delivery of the social services to the common man. Further reforms in the civil services, judiciary and the police, would enhance the institutional factors affecting long term growth.

The last two decades have witnessed sustained growth in trade on the shoulders of trade liberalisation supported by enhanced physical and electronic connectivity. The composition of trade in goods and services has also changed, with increasing emphasis on medium and high technology content. Many other countries have increased their competitiveness in the international arena and have shifted to the higher value added products, while we still remain basically a single crop economy as far as exports are concerned (some 60 per cent of our exports in 2005 were related to cotton and its derivatives). Even here there is fierce competition from many other nations, and Pakistan has not really capitalised on the post - 2005 WTO regime. The game of commodity and low technology goods and services cannot continue any longer, whether for domestic commerce or exports.

The institutional evolution of domestic knowledge systems (in countries such as Germany, US and Japan in the 19th century as well as more recently in Korea, Malaysia, and China) highlights the role of *collective competence building in economic catch-up*. It is no longer enough to create and nurture islands of excellence only.

It is also not possible to simply emulate those who have gone on this path before Pakistan, and significant institutional *adaptations and innovations* need to be implemented because conditions for latecomers such as Pakistan are no longer the same. China offers the example most near to us in time, but even here the social and political institutions were different when China embarked on its transformation.

However, a common thread can be identified in the form of human capital – numbers and quality - and investments in knowledge and technology through formal education, training, and on-the-job learning, embodied in the workforce.

Pakistan will need to make the accumulation of knowledge and collective competence the major driver of its economic growth.

The knowledge economy is not restricted only to high-technology activities such as machinery, biotechnology, telecommunications, space research, and advanced

financial services. In developed economies (US, EU and Japan), majority of workers are knowledge workers, and they include architects, bank workers, fashion designers, teachers, media workers, policy analysts, and those engaged in industry and infrastructure maintenance. Even traditional activities such as agriculture need a new generation of knowledge workers. All these people provide the foundations of a competitive society, and will need primacy of attention.

## 8.1 The Challenge of Competition

Almost all the developed economies of the world can now be identified as “knowledge economies” to some extent or the other, and they are taking further steps to consolidate this position by trying to become even more knowledge intensive and competitive, as this is one of the major processes available for them to expand their economic envelope. *Even when their productivity growth has slowed down, the rate of increase in the skill bias in technology has not.*

One important effect of globalisation and competition, and which Pakistan must face squarely, is that while new jobs will be created, some existing jobs may be lost. However, job loss and creation are not expected to occur in the same sectors, firms or regions in a country, nor do they occur at the same time.

In Pakistan, there is mismatch between the demands of a skilled and flexible workforce and the available numbers. If left unattended, this is likely to create unemployment and worsen under-employment.

Demand based skills development is a major thrust of Vision 2030. It asks Pakistan to embark emphatically on setting up the environment for “technological congruence” (such as market size and factor supply) and social capabilities. This requires general increases in education and skill levels, and the rise in the share of resources devoted to public and private sector R&D, which are critical in allowing late-comers to catch up with those who have gone before.

### 8.1.1 Building Competitive Advantage

Pakistan must quickly put in place the infrastructure and instruments for matching of trans-national skills, to deal with the emergence of the 24 hour / 7 day working society, and to cater for relocation of manufacturing and design from developed economies. Apart from the excellence of public institutions and quality of macroeconomic policies, the driving force will remain flexible, skilled and innovative technical personnel; and fast and efficient physical and electronic connectivity.

*First*, while services and industry constitute nearly three quarters of our current national wealth, two thirds of the people live in rural areas. While it is accepted that future economic growth is expected to take place in its urban areas, particularly the mega-cities and other large urban centres which need to be planned within the framework of these transformations to make them more competitive in the global and regional context, we must undertake major initiatives to bring in the vast numbers in rural areas into the knowledge and technology streams. Within rural communities, it is the women who outnumber the male workers by two to one, and must be made the focus of programmes for literacy and skills. Of course, urban settlements need to have their strategic master plans for development of urban infrastructure in order to facilitate the desired efficiency gains in business and commerce.

*Second*, the state cannot follow indefinitely the old models of protection, rebates, freight subsidies, to spur economic growth. What the state can and must do is to concentrate on its core responsibility for, and provision of high quality education, skills and health, through better delivery and wider coverage. This intervention to develop human capital would be reinforced, and expanded. This will be one of the major functions of the state under Vision 2030.

*Third*, Pakistan's needs to build institutions that produce students who are informed, critical, and active citizens of the modern world. Attention needs to be focused on education and skills (especially technical education), matching skills with demand, quality, and flexibility.

*Fourth*, the dimensions of human capital should include not only the kind of skills we need today, but should also allow for the change in activity expected in future. A major emphasis will be placed on design activities, and generation of critical numbers and quality of researchers in all areas of human knowledge, focusing not just on emerging technologies but equally on the social sciences, which will foster understanding of the human dimension of such a major transition.

*Fifth*, there is need to carefully enforce and strengthen the *legal and regulatory infrastructure* for IPRs, speedy access to justice, and resolution of commercial disputes. The local spirit for innovation would be enhanced through better enactment and enforcement of the laws, accompanied by world class quality standards.

*Sixth*, small and medium enterprises (SMEs) will be the prime vehicle of employment generation and poverty alleviation. Government intervention will be targeted at lifting them out of the low skills, low expectations trap. Business trust will be enhanced through better contract enforcement, as part of the overall enabling environment.

*Seventh*, the public sector will be directly engaged in ensuring the continued achievement of social and distributional objectives, including the critical responsibility of implementing strategies to narrow the knowledge gap.

*Eighth*, Public private partnerships will be encouraged in areas such as energy, roads, airports, ports and shipping, water and sewerage. The private sector has already established a strong presence in education and health; it is however expensive and elitist. The state must continue to improve and expand provision of these basic services to the citizens.

With these enablers in place, industrial and commercial competitiveness will enhance, with improved productivity through information-intensive, value-added processes. Well before 2030, several local enterprises will reach the technological trajectory where they become generators of knowledge and skills.

## **8.2 The Quest for Excellence: Education and Skills**

Pakistan hopes to become a developed country within one generation. A clear manifestation of this vision will be the evolution and maturation of our educational system to the level where scholars from our own and other countries eagerly seek admission into our schools, colleges and universities, for graduate and post - graduate studies as well as for technical and vocational education.

Our seats of learning would need to attain the state where they command respect for their scholarship and erudition equally in the humanities, sciences, and engineering.

*We must balance this Vision for Pakistan against the reality of its major failure to educate all its citizens.*

- i. The first reality is low investments and skewed priorities in education and skill generation. We cannot spend only 2.7 per cent of GDP on education<sup>1</sup>, and expect to become a vibrant knowledge economy. The first result of such starvation is missing or inadequate infrastructure and teachers, which just does not allow for students at the secondary or higher secondary levels to acquire either the insight, or skills, or competence for most jobs. Currently only one in three of secondary and higher secondary schools in public sector are adequately equipped with science laboratories in the country.
- ii. The second reality that is the divide between the prevalent school structure and differences in levels of infrastructure and facilities, media of instruction, emoluments for teachers, and even examination systems between public and private sectors. The rich send their children to private run English medium schools which offer foreign curricula and examination systems; the public schools enrol those who are too poor to do so.
- iii. The third reality is that we are providing only perfunctory opportunities in education and skills for rural populations, which is relevant to local livelihoods and needs for food, water, health and agriculture. Even At the national level, only 1.5 per cent of school leavers are enrolled in vocational and technical streams, whereas this number approaches 50 per cent in Australia.
- iv. Higher education has suffered equally in the past, which has resulted in current enrolments of population aged 17-23 years of about 5 per cent compared to 10.5 per cent in India and 28.2 per cent in Malaysia. The neglect of higher education in Pakistan can be gauged from the fact that public expenditure per student fell from 300 per cent of GNP per capita in 1987-88 to 90 per cent in 2001 -02; and is only now beginning to rise again.
- v. Because of lack of ownership following devolution, college education was neglected. Their health is essential for providing school teachers and entry into the postgraduate stream.  
  
We have been losing our best brains and talents to foreign countries, as part of a global race for talent and competence, especially in high-tech industries. This will not be arrested or reversed through *legal frameworks, because knowledge and information flow to places where demand is highest, the barriers are lowest, and merit is appreciated*. Attracting and retaining keen minds and intellects from among our own people and from other nations would be necessary (the immigrant - generally more productive and innovative - has always been part of our historical process).
- vi. More recently many corporations have started moving better jobs offshore, capitalising on high-grade workers with local knowledge; but here too they will move on to other countries after facing talent shortages.

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<sup>1</sup> This is 3 to 4 times less than that spent in Malaysia, Iran, and Korea in percentage terms, and an order of magnitude less in absolute per capita terms

- vii. Even governments have got the talent bug, and rich countries have progressed from simply relaxing their immigration laws to actively luring highly qualified people. The challenges and opportunities for Pakistan are very real.

### 8.2.1 Achieving the Knowledge Goals

Vision 2030 looks for an academic environment which promotes the thinking mind. Education is not just about economics and growth accounting. It is a powerful tool for social mobility, it helps preserve our heritage – be it spiritual, physical architecture, or the fine arts.

The following strategies will be followed to generate the environment which encourages the thinking mind to emerge from our schools:

- i. *Enhance the scale and quality* of education in general and the scale and quality of scientific / technical education in Pakistan in particular.
- ii. *One curriculum and one national examination system* under state responsibility is the goal under Vision 2030. This will remove the social apartheid which is beginning to emerge in Pakistan because of the divide between different educational systems.
- iii. *Increase public expenditure on education and skills generation* from the present 2.7 per cent of GDP to 5 per cent by 2010 and 7 percent by 2015.
- iv. *Remove* all infrastructure deficits in schools pertaining to teachers, laboratories and libraries.
- v. *At all tiers of education*, this requires well paid teachers - teachers who have a minimum level of competence and self-esteem.
- vi. *Focus on colleges will be increased*. This is where most teachers will be produced, and also where the stock of people entering business, services, infrastructure is generated
- vii. *Re-introduce the technical and vocational stream* in the last two years of our secondary schools. Its economic potential and likely impact for employment and SME improvement are enormous. *It is also an incentive to complete schooling*.
- viii. *Gradually increase* vocational and technical education numbers to 25 – 30 per cent of all secondary enrolment by 2015 and 50 per cent by 2030. Evidence shows that the ratio of vocational to general enrolments at the secondary and higher secondary levels is 30 – 60 per cent for the wealthy and innovative societies, and under 10 per cent for the less developed.

Pakistan's stress on vocational and technical education is reinforced by Ireland's example in becoming a hub for high technology goods and services - a shift away from a rural economy to one with the highest growth of industrial productivity and technology content in Europe. The key driver of this transition has been the change in educational attainment in the Irish work force, from predominantly primary education in 1972 (50 percent of the work force) to one with higher tertiary skills in 2002, when primary educated share was only 8 percent.

- ix. In addition to upgrading the existing universities in public and private sector, the major effort underway to increase numbers and quality at universities in all disciplines needs to be sustained, as well as starting several new engineering and technology universities with foreign collaboration. We expect enrolments in our universities to reach 8 per cent (2 million students) by 2015 and 20 per cent of the 17 – 23 age group, or 7 million, by 2030.
- x. The curriculum and its delivery must be modified, so that a graduate can aim for an equally rewarding career in teaching, research, industry and management. The skills base of the graduate (whether from the social or physical sciences), would be broadened through supplementary modules / programmes in universities.
- xi. The rigorous methodology on which science is based is ideally suited for the emerging form and content of modern industry. This is specially true in the future environment of highly competitive markets where even the theoretical physicist can, and does, help improve quality of industrial work and processes.
- xii. Education also has an important economic dimension, and its is important to accept a holistic approach to education which not only includes complete enrolment (and completion of studies) for 10 years, but also allows alternative pathways for latecomers – those in the 20 plus age group. This is essential to broaden the skill base of workers in the knowledge economy through regular return by older workers to formal education.
- xiii. It is necessary finally to revive our tradition of providing land endowment as 'wakf' to public institutions for the upkeep and operational expenses of our institutions of higher learning. This was done centuries ago for Shalimar Gardens, and the Wazir Khan and Mahabat Khan mosques in Lahore and Peshawar). Our traditional madrassas also worked through aukaf.

Universities will be granted land which will act as their endowment to be judiciously exploited, as has also happened with Oxford and Cambridge (probably the richest landlords in the UK) and the land grant universities in USA.

### 8.3 Science, Technology and Innovation

A society without innovation and which is primarily concerned with use of technical skills only for production and services, will not flourish for long. After the initial economic growth, the *envelope of prosperity and quality of life* can only be increased through research, which helps to promote *both planned and unplanned pathways* for development. It is the unplanned application of fundamental research which generally has greater impact.

Pakistan must take active part in the great game in the 21<sup>st</sup> century, of which science and technology are the most visible symbols.

“Today, the Third World is slowly waking up to the realization that in the final analysis, creation, mastery and utilization of modern Science and Technology is basically what distinguishes the South from the North.

On science and technology depend the standards of living of a nation. The widening gap in economics and influence between the nations of the South and the North is essentially the Science and Technology gap.

Nothing else – neither differing systems of economics and governance, nor differing cultural mores, nor differing perceptions of religious thought, - can explain why the North (to the exclusion of the South) can master this globe of ours and beyond”.

Abdus Salam, Nobel Laureate, 1991

### 8.3.1 The Teacher for the 21st Century

Teachers are the long pole in the tent of education, whether at the level of school, technical and vocational institute, or in higher education. Having a series of good teachers can dramatically affect the achievement of any student.

The teacher numbers are inadequate in schools and colleges, and their background lacks both solidity and diversity; they are also paid very little. From a policy viewpoint the primary objective would be to attract better teachers, and secondly to improve their overall quality. Better salaries and better infrastructure and facilities will produce the desired result.

Teachers must be enabled to acquire a decent measure of ‘self-esteem’. This has happened in universities. It must now be implemented with even greater emphasis at the level of the school, the college and the vocational / technical schools.

### 8.3.2 Research and Emerging Areas

Research in Pakistan has improved recently, but it is still hampered by lack of critical mass and insufficient skills in design, and instrumentation. While the issue of critical numbers is being addressed through greatly enhanced funding for faculty development and PhD enrolment by the HEC, the focus on quality needs to be further strengthened. It is important to strengthen the mechanism whereby research funds are allocated. This is required under normal circumstances, but it becomes even more imperative after the major investments made in building up institutional and human resources during the past few years. Greater competition for funds, better diligence in peer review, deeper accountability of allocations and research quality, and incentives for private sector linkages and applications need reform and strengthening.

The private sector will play an increasing role in economic activity and needs to be incentivised through schemes such as matching grants and tax subsidies for research and quality accreditation. The public sector research laboratories also need to be brought into the national industrial network through focussed applications as well as greater use of patents and income sharing from such outcomes.

Even though it is tempting to direct funding towards projects that provide early *practical* returns – directed, target and applied research –during a time of financial constraint, it is essential not to deny funding and support for a broad base of fundamental *untargeted* research because of the likelihood of fruitful results through unplanned

applications. It is important to support individuals and small groups working at forefront of their disciplines, or those in emerging areas.

Currently, four technologies drive the techno-socio-economic revolution of the 21<sup>st</sup> century. These include energy, materials, biology, and computational power. Based on a detailed national match of societal needs and activities, and potentials in natural sciences and engineering, special attention will be focussed on developing our capabilities in the following areas, among others:

The global economy has always been and always will be one hundred per cent dependent upon energy. Some forms of energy are preferable to others, but with the inexorable decline of oil, and gradual shift to electricity as prime mover, new forms and technologies for energy generation and storage, and traction equipment will assume paramount importance.

Pakistani scientists and engineers can play an important part in building up a broad research base in energy and its new technologies. Because the energy crunch is already here, this sector offers opportunities for industrial growth as well as employment. Nuclear energy is becoming attractive again, and so is renewable energy. We will expand our existing knowledge base in nuclear power and build up the same in renewables to meet a growing part of our energy needs in this century.

It is time we mapped the natural resources of the country exhaustively – the Indus and its hinterland – water, pollution, ecology, the delta and the mountainous region, the wonderful biology of the Arabian Sea, and of course the country's minerals.

*Similarly, Pakistan should pay serious attention to issues of global warming.* Pakistan must take part in expeditions to Antarctica and other parts of the globe to better understand the impact of climate change through development of better models as part of a global endeavour.

*Can we reach the moon by 2030?* Even if we cannot, we must try to be worthy of such a venture by preparing ourselves with the knowledge to exercise the option. This requires preparing broad based space programmes by generating critical numbers and excellence across the various universities and institutions. Space research is expensive, and it will be important to work together to leverage the various isolated centres of excellence in the country; however, excellent science can be done at reasonable cost using micro and mini-satellites each with payloads for a few experiments. We should also start building at least one major radio and optical observatory in Pakistan.

We must also create niche areas of excellence in fields such as grid computing, image processing, and cyber security, which have a major role in the new economy, where security and authentication of data is extremely important. Micro-fluidics, sensors and materials, conducting polymers, lasers, and plasma physics are other important areas for this century.

### **8.3.3 International Dimensions of Research**

An important aspect of internationalization of R & D is the 'outsourcing' of research (scientific as well as in the social sciences) as a form of service activity. It will be 'fragmented' so that certain segments can be located where they can be performed most efficiently (cost and output); this is happening at an ever increasing scale since several developing countries can now offer the very demanding skills, knowledge and support systems, which had traditionally been met only in developed countries with strong national innovation systems.



Here the example of China is quite illuminating. It has moved rapidly from a low cost manufacturing zone to one which favours innovation and research in just one generation, and overtook Japan in 2003 to reach the number two spot after the USA in exports with high technology content. Currently, it spends nearly 80 percent of what Japan spends on scientific R&D.

While Pakistan's current shortages of scientists and engineers will initially require it to obtain technology transfers embedded in the form of modern machinery and equipment, or in joint ventures with MNCs, it must move up into a new trajectory of generating its own knowledge systems. International collaboration is important for the technology creation process itself.

A major trend is for countries (in fact *Institutes* in countries) to collaborate in major 'big science' projects, which are too expensive and demanding of human resources to be managed by a single country. Pakistan has made a small but interesting contribution in the building of LHC (together with design and fabrication of modules for the CMS), and in deciphering the human genome. This experience should now be extended to ITER, the proto-fusion generator and other major projects in space, earth, and marine sciences.

#### **Some Current Nodes of Excellence in ICT**

If you want eBanking, go to Sao Paulo, Moscow for pattern recognition, Beijing for speech recognition, Helsinki and Stockholm for mobile communications, Seoul for LCDs, Tokyo for high density DVDs, Taiwan for organic LCDs, Boston for gene diagnostics and distributed storage systems, Austin for optical networks....

What innovations and centres of excellence will Pakistan be noted for in 2030?

## **8.4 The Social Sciences**

The social sciences have been neglected in Pakistan perhaps more than the general sciences or engineering and medical education. The result is that there are many more graduates in business studies than in economics, more HR managers than geographers, more students of strategic studies than history, and very few scholars in anthropology or the languages. This has produced a serious social and cultural deficit.

Major efforts are required to move away from the hard, economically attractive educational programmes to those that are needed by society. This requires focussed interventions by the state. The current investment climate in education offers an excellent opportunity to channel enrolments into those areas which are necessary for society but may not be popular. This will involve special incentives ('free ships', cash awards, and higher salaries), with the state bearing all costs from schools to universities of all such programmes as is being done for the basic sciences such as mathematics.

There is great shortage of economists and political scientists, as well as academics in many of the soft areas of socio-cultural and development studies, such as languages, gender studies, anthropology and archaeology. Maintaining and enhancing the cultural 'infrastructure' of Pakistan is as important as maintaining its physical and technical infrastructure.

The power that knowledge brings must be used wisely.



## Energy for Growth

With adequate human capital assured, it is possible to examine the important factor of energy, which will affect our growth trajectory in the coming years.

The world is running out of usable energy. Unless development and transition to alternative sources operating at sufficiently large scales is assured and completed by 2030, the world will witness fierce competition for access and ownership of energy sources.

Pakistan's development, too, will demand enormous amounts of energy. The links between *sustainable development and energy* will require even greater efforts for long-term energy security. The matter has acquired urgency because Pakistan depends heavily (50 per cent) upon its reserves of natural gas<sup>1</sup> for industry,

Current per capita energy consumption is low (14 million BTUs as against 92 million BTUs for Malaysia).

A target of 162,000 MW of power generation by 2030 is projected in the Energy Security Plan, 2005.

power generation, and commercial and household use; these reserves will start declining within the next decade if no new major discoveries are made. Ensuring availability of usable affordable energy is therefore the bedrock of our current and future development.

### 9.1 The World Scenario

Earth's endowment of conventionally reservoirized crude oil is a large but finite volume. Production from it may well peak within this century. All or very nearly all of Earth's prolific petroleum basins are believed to have been identified and most are partially to near-fully explored. Nearly all of the largest oil fields have already been discovered and are being exploited, and production is clearly past its peak in some of the most prolific basins.

Pakistan's appetite for energy is a part of Asia's growing demand for reliable flow of reasonably priced oil and gas. Without ensuring the security of such supplies, development programmes will collapse. Asia's oil consumption is expected to surpass N. American consumption by 2010, reaching nearly half of total world demand by 2020. This realisation has generated an intense race for buying into reserves in present and future oil and gas producing fields.

Expansion of production by the major oil suppliers is estimated to require capital investment in Africa and the Middle East alone of \$45 billion a year over the next three decades, up from the current \$8 billion a year. That amount is more than Middle Eastern countries alone can spend and still provide education, health care, and other

<sup>1</sup> Medium Term Development Framework (MTDF), 2005-10

social services to their rapidly growing populations. Foreign partners will be needed to bridge this funding gap and spread the investment risk.

## 9.2 Pakistan's Energy Directory

With a primary commercial energy consumption of 55.5 MTOE in 2004-05, Pakistan ranks 30th in the world in terms of amount of energy use (BP, 2006). However, the per capita energy consumption (0.36 TOE) is one fifth of the world average of 1.77 TOE. The mix of primary energy supply in 2004-05 was: gas 50.3 percent; oil 29.8 percent; hydro 11.0 per cent; coal 7.6 percent and nuclear 1.2 percent. The current installed electricity generation capacity is 19,400 MW and the generation mix is: gas 50.8 per cent; hydro 30.0 per cent; oil 15.8 per cent; nuclear 3.3 per cent and coal 0.2 per cent (HDIP 2005).

During the period 1980 to 2005 in Pakistan, the ratio of growth rate of primary commercial energy to growth rate in GDP was 0.97, but has increased to 1.02 during, 2001-05. This ratio is expected to fall with improved efficiencies of transformation and distribution, which will be necessary as economic growth fuels higher demand for energy (oil, gas and electricity), but it is currently higher than one.

Based on historical and current trends in economic growth, Pakistan envisages 7.2 per cent energy growth up to 2010 and 8.8 per cent thereafter, or a total energy need of 361 MTOE by 2030<sup>2</sup>.

The use of coal, nuclear and new renewable energy sources of wind and solar is very small compared to the present world average shares. In addition to the above mentioned commercial energy use, some 21 MTOE of traditional fuels (fuel wood, crop residues and animal wastes) are also used by the households and industry. The use of these traditional fuels is expected to decline with time due to increased availability of commercial fuels like LPG and natural gas, which are more convenient. However, this decline will require reduction in prevalence of poverty. Access to electricity in the country is quite high (80 per cent in 2004-05) but the proportion of consumers using less than 60 units per month per household is also very high; the per capita electricity consumption (402 kWh) is less than one-sixth of the world average of 2,516 kWh<sup>3</sup>.

Pakistan is the cleanest energy producer in South Asia, but this may change with the projected increase of share of coal in electricity production.

### 9.2.1 Fossil fuels

Pakistan has onshore and offshore sedimentary area of 827,268 km<sup>2</sup>. The conventional recoverable oil and gas resource potential of Pakistan, based on volumetric yield method, has been estimated as 3,622 MTOE (27 billion barrels) of oil and 6,850 MTOE (282 trillion CFT or 8.0 trillion m<sup>3</sup>) of gas. This oil and gas potential corresponds to 0.75 percent and 1.79 percent respectively of the corresponding world resource potential.

Some 3 percent of the estimated oil and 15 percent of the estimated natural gas potential resources have been discovered so far in Pakistan (Table 9.1), from some 620 exploratory wells drilled over the past 40 years. Allowing for cumulative production, the remaining recoverable proven reserves of oil are only 41 MTOE while

<sup>2</sup>The Energy Security Plan, 2005; see also MTDf 2005-10

<sup>3</sup> IEA 2006.

that of natural gas are significant, i.e. 612 MTOE <sup>4</sup>.

The cumulative oil and gas exploratory effort in Pakistan so far has been very small, 0.75 wells against the world average<sup>5</sup> of 10 wells per 1000 km<sup>2</sup>. Half the number (302 wells) have been drilled during the last 14 years (22 wells per year) resulting in net addition to reserves of oil (13.7 MTOE, or 101 million barrels) and gas (125.3 MTOE or 7.1 trillion CFT). This exploration intensity is too small and is being multiplied manifold.

**Table 9.1 Oil, Gas, and Coal Resource Potential of Pakistan, as of 30 June 2005**

Category	Oil MTOE (billion barrels)	Natural Gas MTOE (trillion CFT)	Coal MTOE / (billion tonne)
<b>Resource potential</b>	3,622 (27)	6,849 (282)	82,695 (185)
<b>Proven recoverable reserves</b>	113 (0.84)	1,023 (51.532)	886 (1.98)
<b>Cumulative production, so far</b>	72 (0.54)	410 (18.714)	~89 (~0.20)
<b>Remaining recoverable reserves</b>	41 (0.31)	612 (32.819)	797 (1.78)
<b>Annual production</b>	3.2 (66,079 barrel/day)	27.9 (1.345)	2.1 (4.587 million tonne)
<b>Reserves : production ratio</b>	13 years	22 years	~ 400 years

**Notes :** Proven recoverable reserves of coal reported above assume a recovery factor of 60 per cent for the measured resources of 3.30 billion tonnes.

The Energy Security Plan proposes to increase the exploratory effort by a factor of 9 (or 990 exploratory wells during 2005-30), which is a cautious number as compared with other countries; even this modest effort is expected to significantly increase the annual production levels of gas and oil. Offshore exploration will be intensified.

Because of rising oil prices, those sources which were once considered uneconomical, will now be attractive for exploitation; this may result in a geographical shift in global production.

In Pakistan, even with much increased oil and gas exploratory effort, most of the oil requirements will continue to be met from imports, while the increased indigenous gas supplies may or may not be able to meet the increased demand.

The planned import of natural gas as liquefied natural gas (LNG) and also through pipelines is aimed at bridging the gap between demand and supply. Here, the trade/transport/energy/industry corridor being designed from the new port of Gwadar to the north of the country and beyond to China and Central Asia will play an important role.

<sup>4</sup> HDIP, 2005

<sup>5</sup> Canada drilled nearly 22,000 wells in 2005 ( WorldOil.com, Feb. 2005)

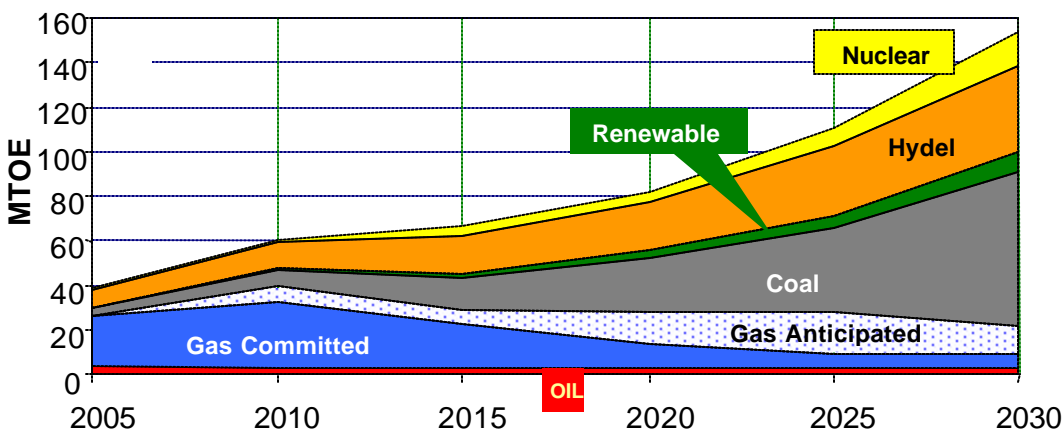


Figure 9.1: Indigenous Energy Supply Projections

### 9.2.2 Coal

Pakistan's coal resources are estimated at 185 billion tonnes (82,700 MTOE, or 2 per cent of the world coal resources), 95 per cent in the Thar coal field in Sindh. This coal is of lignite rank having high moisture content and low heating value. So far only 3.3 billion tonnes of coal resources are in the 'measured' category, and considering a recovery factor of 60 per cent these correspond to some 2.0 billion tonnes of recoverable coal reserves. *However, this coal is equivalent to the combined oil reserves of Saudi Arabia and Iran.*

As part of the strategy of increasing local energy content, a major emphasis is being placed on exploiting coal resources for large-scale use in power generation, and possibly for the production of coal bed methane. In one of the four blocks at Thar being investigated for large scale mechanised mining (6 million tonnes per year, capable of fuelling a 1000 MW net capacity power plant), coal price at the mine mouth has been estimated as US\$ 3.40–4.22 per GJ (US\$ 20-24 per barrel of crude oil). Though 3-4 times higher than the cost of good quality coal in major coal producing countries, electricity generation cost is economically viable, considering that the present domestic natural gas price is US\$ 3.8/GJ for power sector and cost of imported furnace oil (without taxes) is more than US\$ 6.0/GJ (assuming furnace oil price at Gulf being US\$ 250 / tonne).

Earlier attempts to exploit Thar coal reserves were unsuccessful as the private lessee was expected to mine the coal as well as generate electricity at the mine head. Now mining has been unbundled from power generation, and the Thar Coal Mining Company (TCMC) established with Federal and Provincial shares, which will eliminate a considerable amount of risk by taking responsibility for the infrastructure in the area, while the private sector can be given management even with minority shares.

### 9.2.3 Uranium

Nuclear power offers Pakistan another important source of energy. The Energy Security Plan includes a target of 8,800 MW from this source by 2030. At 85 per cent capacity factor, the demand for natural uranium will be 1,600 tonnes per year in 2030. Exploration and mining of uranium in Pakistan will be intensified to meet projected

requirements as far as possible.

A matter of concern is that the current known international resources of uranium are believed to be sufficient to fuel the worldwide nuclear capacity requirements only up to 2050. However, the life of uranium resources can be extended through reprocessing of spent fuel which may happen by 2030, in the form of fourth generation fast breeder reactors.

Pakistan has built up a critical base of manpower, technology and expertise in this sector over the last thirty years, with ability to design and build small reactors. It will be necessary to expand upon this by initiating research in fast breeder reactors.

Nuclear power plants are attractive in the context of the future world energy scenario. The new designs are safer, but worries about waste management or proliferation still persist. Pakistan has proposed a new regime whereby such plants are treated as any other power plant being set up by the private sector, which can build, operate and own these plants under full IAEA safeguards, while selling the electricity generated at mutually negotiated tariffs. The supplier would be fully responsible for fuel and waste management.

#### **9.2.4 Hydropower**

The identified hydro power potential of Pakistan is 46,000 MW (MTDF 2005-10), out of which only 14 per cent (6,500 MW) has been exploited so far. There are plans to develop the hydro resources on a large scale through storage and run-of-the-river projects. Feasibility studies of several projects have already been prepared, while studies of several additional projects are in progress or planned. Hydro is one of the major economic energy supply options in Pakistan for increasing the energy security of the country.

It is emphasised that for the time horizons of around 100 years, hydro storage projects are 'non-renewable' due to the silting of these reservoirs. For example, over the last 30 years, the storage capacity of Tarbela dam has been reduced by 27 per cent due to silting.

Small hydro projects can also make significant contribution to the national energy supply. Some 300 micro and mini hydroelectric plants, installed by the private and public sector in the northern hilly areas, are supplying electricity to areas not connected with the grid, and more have been approved recently. The potential for further development of such hydro projects would be fully utilised by 2030.

### **9.3 Alternative Energy**

For several years, climate change has been attributed to human activity and the resulting emission of greenhouse gases (IPCC, 2007). Consequently, there has been growing focus on alternative forms of energy.

The contribution of alternative energy in the overall energy mix in Pakistan is negligible at present; however, the first wind farms are in the implementation stage. These projects will be eligible for carbon credits to reduce the tariff.

The Alternate Energy Development Board (AEDB) has been established to facilitate development of renewable energy projects. At least 5 per cent of the total electricity generating capacity of the country (i.e. 9,700 MW) is targeted to be based on these

sources by the year 2030. AEDB would also develop and implement off-grid electrification programme for rural areas. In addition, under the remote village electrification programme, the first 400 villages (54,000 homes) will be electrified through wind and solar sources by 2010.

### 9.3.1 Wind Energy

Since 2001, global wind capacity has nearly doubled to 47,760 megawatts and is cheaper than natural gas even without subsidies; on good sites, wind is even closing in on coal. The world's global sales of wind power equipment are projected to reach \$49 billion a year by 2012. The global wind industry now employs well over 100,000 people, and Germany alone expects to have more than 100,000 wind energy related jobs by 2010.

Pakistan has some excellent sites to exploit wind energy. A section of the coastal area of Sindh has been identified as having wind power potential of 50,000 MW. The annual average wind speed, at 50m height, at Gharo, Mirpursakro and Talhar sites in Sindh is 6.5 m/s and the capacity factors for wind turbines at these sites are estimated to be in the range of 23-28 per cent.

With improved site studies, wider wind mapping, better project planning, R&D and learning cost of wind energy projects can be reduced to acceptable levels of around US 6.0 cents/kWh and even below.

Wind energy has the disadvantage of being intermittent, but it is ideal for 'pump storage' whereby it can be used for pumping water back into a reservoir of say a hydropower plant during periods of lean use.

### 9.3.2 Solar Energy

Pakistan has not so far used its solar potential to save on conventional energy, although its central and southern parts can be used for solar thermal power plants in addition to water / home heating in the north where gas is currently used for heating purposes. The solar potential can be gauged from Jacobabad in southern Pakistan which is an excellent location for solar energy, as it receives 2,142 kWh of solar irradiation /m<sup>2</sup>/year, which works out at 230KWh /m<sup>2</sup>/year.

Despite the high generation cost of solar power at present, the mid-term prospects are promising due to the expected technological improvements and economies of mass production of PVs. Recent developments point to nearly 41 per cent efficiency of sunlight conversion which could reduce the cost of generation to the order of 8 – 10 cents per unit, (as in oil-based plants).

### 9.3.3 Bio fuels

An important goal will remain the gradual replacement of gasoline engine vehicles with hybrid vehicles, which can run on at least two fuels (from gasoline, CNG and bio-fuels), and electric storage). Biofuels (ethanol and bio diesel) are strong contenders for provision of efficient and sustainable energy, as they are originally based on the photosynthesis process, and can be classified essentially as a renewable solar energy source. High oil prices and healthy margins, coupled with the promise of lowering greenhouse emissions have resulted in fast growing investments in the sector.



Can we expect biofuels to fulfil their promise? Biofuels are produced from living organisms or from metabolic by-products (organic or food waste products) are made from renewable crop materials. The sector is in a state of flux, and is driven by questions of feedstock price and availability, and technology efficiencies as well as national priorities related to energy security. Land and feedstock will be critical to the success of this type of fuels, provided the potential risks of competing with land meant for food are resolved.

Pakistan has started work on both the bioethanol (sugar-ethanol) and the cellulose biomass – bacteria route. The latter appears interesting in the long run as a large amount of marginalised and degraded ‘salinised’ land can be used to grow grasses which can feed both animals and provide cellulose for conversion.

Pakistan will need to watch the potential negative impact of biofuels production. Already, there is a backlash in Mexico because of corn shortages resulting from rising demand for bioethanol. The environmental concerns of growing ‘energy’ crops is also increasing; these include the burning of Indonesian forests for palm oil, or unknown consequences of toxic vegetable oil when the fast growing jatropha plant is used for biodiesel. Recently controversies have emerged in Texas, USA, about increased NOx emissions from biodiesel, which may lead to a possible ban.

#### **9.4 Alternative Pathways for Promoting Energy Security**

Apart from increased exploration within the country, other routes are available and will be actively pursued. The first is built around reducing losses in existing systems and practices (electricity transmission and distribution - T&D) which were 25.4 per cent of net supply in 2004-05; these are quite high by world norms, and there is substantial potential for reducing them. This suggests a greater focus is required on reducing such ‘non-technical’ ‘losses’ rather than financing the generation of more electricity; this route will also diminish future energy demands.

If energy T&D efficiency is improved, together with the efficiency of end-use devices; a lower ratio (say 0.9) of growth rates of primary energy to GDP is possible and this can reduce long-term energy requirements as projected in the Energy Security Plan.

We also need to carefully study possible future trend-breakers such as electric / hybrid vehicles which might be in far greater use by 2030, which would require more electricity generation.

Pakistan will also need to work on the second pathway for promoting stability of supplies and pricing in the region through several actions as expounded in the Energy Security Plan. The salient features of this approach would be:

- a. Diversification of the energy mix, by expanding the share of coal, nuclear and renewable energy from its current combined share of 20 per cent to 36 per cent by 2030, even as the amount of energy grows from 55 MTOE to 361 MTOE in 2030.
- b. Increase in storage capacity, so that the strategic reserves which currently stand at 29 days of demand or less are brought closer to the United States’ 60-day supply by 2015 and Europe’s 90 days by 2030. This is also a hedge against price volatility/market panics which can be heightened by major refinery fire or other supply disruption
- c. Improved and expanded oil-gas distribution networks, both within the country and internationally.

- d. It will be necessary to build on the emerging trend for increased energy cooperation whereby buyers and sellers expand investments in each other's energy infrastructure. Pakistan will actively pursue exploration in oil and gas fields abroad as well as investing in infrastructure (port and shipping) for handling enhanced use of LNG.

Many new technologies and sources of energy are currently being investigated. As part of Vision 2030, the development of such systems will need to be completed as a matter of priority in order to meet the looming oil crunch. In all cases, the true costs will need to be worked out for all competing forms of present and future energy – coal and its derivatives (health costs), hydroelectric plants in the Northern Areas (contribution to and danger from seismic activity), nuclear (waste handling, decommissioning, and availability of fissionable material), solar cells (monopolies, and toxic wastes from production), fuel cells (secondary source costs), wind energy (low availability and storage issues which it shares with solar), fusion (time factor), ethanol (more sugarcane/biomass).

A necessary and logical corollary is that Pakistan must reconsider disinvesting and selling off its energy reserves. These reserves are too strategic to be off-loaded by government, Their ownership has nothing to do with their management. Pakistan's policy will be to retain its own resources while adding to them by investing in foreign resources.

## 9.5 Energy and the Environment

The demand for energy in the developed world is expected to grow at about 2.2 percent until 2030, while Pakistan expects an energy expansion by a factor of over seven by 2030. This will raise the environmental stress several notches, because of expected increased use of fossil fuels, particularly coal; even hydro resources can have significant environmental impacts. Increased energy use is often incompatible with the absolute need to stabilise carbon emissions.

Restricting greenhouse gas emissions will require big emitters industries such as cement, oil refining, power, pulp and paper, and steel to manage the impact through carbon trading and sequestrations, all of which involve costs. Services related to transport, railways, aeroplanes and parcel delivery are also big emitters, to the extent of nearly 20 percent of the total.

Abatement strategies<sup>6</sup> (nearly 22 percent each ), would need to be based on renewable energy for power and better efficiency and co-generation in the manufacturing industry, with nearly another quarter possible from improving building efficiencies and transport fuels. The biggest single impact is expected from preventing deforestation (nearly 25 percent).

The development of hydropower resources will include some large storages (Bhasha-Diamer, Kalabagh, Kurram Tangi, Munda, and Akhori) and several run-of-the-river projects. It also involves the resettlement of displaced people. With adequate awareness and experience of resettlement, future storage and hydroprojects will be developed with mitigating measures to ensure minimum environmental and human impact.

<sup>6</sup> A Cost Curve for Greenhouse Gas Reduction; Enkwist et al, McKinsey Quarterly, 2007

Coal mining and coal combustion in power generation can have severe local, regional or global environmental impacts. The Thar coal field is planned to be developed in an environmentally sensitive manner, taking into account best international practices and appropriate control devices and practices to limit the emissions of particulates and noxious gases.

*Carbon capture and sequestration will need to be actively pursued to make coal use more eco-friendly. The target for 2030 will be to attain 90 percent carbon dioxide capture, and 95 percent storage permanence at less than 10 percent increase in the cost of energy services.*

## 9.6 Financing Energy Programmes

While future projections for Pakistan's energy needs may appear reasonable, their financing will require extensive investments from the private sector. Pakistan has initiated much needed reforms in this direction and has unbundled generation from distribution, with Independent Power Producers (IPPs) and Power Purchase Agreements (PPAs) becoming the norm. However, the outcomes have not been wholly positive, and power blackouts ('load-shedding'), inefficient management, and distortions in the tariff structure continue to plague the system. Privatisation of Karachi's generator and distributor, KESC, has not been accompanied with improvements in manning efficiencies or reduced T&D losses. Industry is still charged higher than the domestic consumer or the agricultural sector. How then can energy generation be financed?

First it is necessary to reduce T&D losses substantially. This will bridge the supply gap at a much lower cost than simply starting new generation units. Better management of the unbundled entities, specially the distribution companies, (DISCOs), will also be needed to enhance system efficiency and reduce the demand on finances.

## 9.7 Regional Cooperation

Asia is hungry for energy; Asia also has areas and regions which are sparsely populated and could possibly spare energy for consumers in other countries.

Pakistan is building a major North-South Energy / Trade / Industry Corridor, along both banks of the Indus but primarily on its Western bank for linking the Arabian Sea with China, Afghanistan and Central Asia in the North. Oil and gas pipelines and storage hubs along the route are being investigated. Transmission of electricity from Central Asia is also being talked about, as well as a gas pipeline from Iran to Pakistan and then on to Asia. Other countries in South and West Asia could also contribute to the energy pool in the form of gas, LNG, and electricity. Will a regional Energy System and Energy Trade become a reality?

## 9.8 Key Energy Strategies for the 21<sup>st</sup> Century

*Some key activities in line with the Energy Security Plan are:*

- ? Development of hydropower resources as they are cheap and eco-friendly. This will not only provide more energy but also regulate the flow of water to the sea.
- ? Extensive use of coal-fired plants based on indigenous and imported coal, with

strong policies for making its use eco-friendly. Carbon capture and sequestration will be aggressively promoted.

- ? Meet fully the oil and gas exploration targets set in the Energy Security Plan, which is the most effective path for enhancing energy self-reliance in Pakistan.
- ? In line with global trends, Oil and Gas Development Corporation and other local oil and gas exploration companies should be facilitated in entering into *joint ventures* for overseas projects for securing oil and gas reserves.
- ? Promote *efficient use* of energy, which will be critical in reducing the stress on expansion of energy supplies and on the environment. This will be complemented by energy conservation and demand management measures.
- ? Encourage *efficient power generation* through combined cycle power plants, integrated coal gasification combined cycle plants and advanced nuclear power plants.
- ? Make *buildings more energy efficient*, specially for reduction of air-conditioning loads in summer. Solar heating will be promoted for winter use.
- ? Reduce vehicle emissions through accelerating the use of *mass transit systems* in major cities to meet the mobility needs of the public as well as *hybrid vehicles*.
- ? Accelerate the current *programmes in alternate energy* (specially for wind), which have the potential to provide more than 5 per cent of the electricity supply needed in 2030 as incorporated in the Energy Security Plan.
- ? *Build up the local power engineering industry* for power plant equipment, steam turbines, and generators.
- ? Initiate research in *emerging thrust areas* such as fusion, fuel cells, and hydrogen for energy generation and storage
- ? Broaden the *data base* through regular census and surveys in order to fine tune energy planning.

## **Rural and Urban Development**

Pakistan was a predominantly rural country at independence, and the rural population still constitutes about two-thirds of the total population. However, it is now the most urbanized country in South Asia, with some 58 million people living in cities. This number is increasing at rates of 3.3 percent (nearly three times faster than in rural areas) as a result of the structural transformation of the economy and migration to urban areas in expectations of better employment opportunities and higher incomes. The urbanization will increase even more rapidly as the share of industry and commerce increases. The urban population is therefore expected to rise by another 70 - 80 million by 2030, or nearly two-thirds of the total population. Karachi and Lahore will be among the world's leading mega cities.

There are about 50,000 villages in the country with populations below 10,000; around 448 small towns with population less than 100,000; 40 medium size towns with population above 100,000; 7 metropolitan cities of Faisalabad, Multan, Gujranwala, Hyderabad, Peshawar, Rawalpindi and Quetta with population in excess of 1 million; and the two mega cities of Karachi and Lahore.

Infrastructure and services in both rural and urban areas are deficient and substantial improvements are needed. However, the quality of life in rural areas is much lower than in urban areas and it continues to lag in the availability of physical infrastructure, education and health facilities, safe drinking water supply and sanitation and other social services.

### **10.1 The Rural Context**

While the agricultural sector contributes some 22 percent to GDP, its overall impact on the national economy is far greater. When this sector's growth is high and broad-based, it generates sufficient income and employment opportunities in the non-farming communities within the rural areas as well as in urban industry and commerce. However, evidence <sup>1</sup> suggests that while the small farmer is unable to bear the financial burden of adopting new technologies and land management practices without state intervention, it is the rural artisans, women, and landless workers who are even less protected and are the poorest of the poor in Pakistan. Policies and strategies therefore need to be worked out for these non-farming communities, as much as for the small farmer.

Rural and urban poverty are closely linked through the migration of artisans and small land holders who are attracted to urban areas because of emphasis and growth of industry. However, jobs are scarce in industry because of absence of appropriate skills, and most migrants end up in the construction and informal sectors. Majority of urban slum dwellers are recent migrants.

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<sup>1</sup> Human Development in South Asia, Mehub ul Haq Development Centre, 2002

## 10.2 Rural Development

The rural sector is the backbone of Pakistan's economy and its performance is tied up with the well being of rural population. Rural poverty remains high, with low level of quality of life indicators. The positive features include the emergence of empowered local governance and greater funds availability under various Social Sector programmes. In the past, public sector initiatives in the rural areas were hampered due to a lack of strong and broad institutional base at the local level, and absence of participatory process in local development. With the implementation of the devolution plan, these issues are beginning to be addressed but considerable capacity building is still required.

### 10.2.1 Rural Non-farm Interventions

The policies for the non-farm sector in rural areas should cover trade, services and manufacturing sub-sectors of the rural non-farm economy. A well-developed infrastructure, efficient rural financial markets, education and extension programmes specifically designed to fulfil the needs of non-farm population are important on the supply side to enable the non-farm rural sector to play its role in rural transformation. Promotion of small-scale rural industries, usually within the framework of area development or rural development projects e.g. strengthening or modernizing existing rural handicrafts will be an important instrument.

It is highly desirable to include rural industrial components in the development paradigm, which would increase income and employment opportunities for the rural poor, while helping to stimulate and diversify the local economy, which in turn would provide more job opportunities for the poor in their own areas. This will require a robust programme for micro-credit projects to promote the non-farm micro-enterprises for the poor.

Since women outnumber men in farming and dairy activities, it will be essential to prepare female trainers for extension services in order to improve the capacity of rural women. An important initiative is the recently launched AHAN project (Aik Hunar-Aik Nagar or 'One' product – 'One' village) which is expected to provide an important instrument for upgrade of skills and marketing of village enterprises. It will further improve the linkages with the small farmer, who generally stays away from large industry.

Non-farm activities and incomes will be further strengthened through encouragement of co-operatives, which can promote small-scale industry thus helping poor non-farm households to improve their livelihood. The initiative for more efficient use of water for agriculture (land leveling, or sprinkler irrigation) is one example of new activities which will require a higher set of skills for operation and maintenance, and are therefore eminently suitable for seeding of new rural micro-businesses. Community development will follow community mobilisation.

### 10.2.2 Rural Development Strategy

For development of rural areas, a holistic approach will be adopted with the following focus:

- ? Enhancing the asset ownership of the small farmer by improving access to land, water and livestock.

- ? Enhancing activities in the non-farm sector, including agro-processing, provision of agricultural inputs and supply of basic consumer goods and services.
- ? Facilitating private sector participation and involvement in value addition of agricultural products.
- ? Promoting rural industrialization, including “One Village, One Product” movement.
- ? Deepening and intensifying market development, including input, output and rural financial markets.
- ? Household food security.
- ? Provision of rural infrastructure including rural roads, clean drinking water supply and sanitation, education and health facilities and village electrification.
- ? Human resource development.
- ? Wider participation of rural population in the development of their communities through their own associations/organizations together with local government.

### 10.3 Devolution and Development

Apart from infrastructure development, recent innovation in governance is likely to affect the future of both the urban and rural areas in Pakistan. Under the devolution plan, a new system of municipal governance has been laid out in Pakistan.

The salient features include emancipation of women (30 per cent of the 130,000-odd municipal representatives are women), devolution of power for local decision making, and the formation of Citizen Community Boards (CCBs) to engage the community in the decision making process. These developments are monumental from Pakistan’s perspective. These changes together with the much needed capacity building measures will be important instruments for achieving Vision 2030 .

The devolution plan recognizes an explicit role of the community in addressing the infrastructure deficit. The community-based infrastructure development has shown great success and promise in Pakistan, and community based waste management and water supply and sanitation systems are examples of successful implementation of municipal service delivery.

Large scale replication of these projects is planned to address the infrastructure deficit in Pakistan. With the implementation of the devolution plan, the rural-urban dichotomy has been removed, and a consistent, balanced, improvement is expected across all areas of the country. All devolved activities are to be undertaken in accordance with the functional assignments of district governments, tehsil municipal administrations (TMAs) and union administration. The devolution plan also provides for city districts and towns in a city district. In accordance with the Local Government Ordinance 2001, the provincial departments of public health engineering and local government and rural development as well as development authorities are to be fully decentralized to the TMA level, with the provincial role restructured to effectively perform policy making, regulating and guiding local governments. All the vertical programmes and parallel structures of the federal and provincial governments are being fully aligned with the new local government structures, with important effects in meeting the goals set out in Vision 2030.

While settlement patterns have varied across countries, efforts to significantly restrain migration or urban growth have largely proven to be unsuccessful. The development of smaller towns can reduce the migration to metropolitan areas and megacities to an extent, but it will be effective only if employment opportunities are created together with investment in social infrastructure. The policies that determine the “terms of trade” between urban and rural areas should ensure that price distortions do not unintentionally encourage migration.

Vision 2030 does not ask for development of the urban areas at the expense of rural populations, but treats rural and urban development as complementary. Strengthening linkages between urban centres and rural areas is therefore necessary to ensure that the two remain mutually reinforcing. Towns and cities provide markets for rural products and jobs to absorb surplus rural labour. If marketing systems are improved for both agricultural products and inputs, production, employment and the scope for private enterprise in rural areas and cities can be increased. Efficient infrastructure and services can facilitate complementary rural-urban development with diversification and commercialization of rural economies. If properly strengthened, the rural-urban dynamics can help ensure that investments in services, facilities, infrastructure and productive activities are located strategically in towns to serve a wide area.

A holistic approach will be adopted to enhance the efficiencies of urban and rural areas, and will cover the entire socioeconomic spectrum. The national development agenda will provide adequate infrastructure and services to improve the quality of life of the residents, environmental improvements (air quality, water and sanitation), and strengthening the management capabilities of all settlements. The involvement of all tiers of government will be essential to meet the Vision goals; implementation at the local levels and policy interventions and oversight for those functional areas which still remain with the provincial and federal governments.

#### 10.4 Cities as Engines of Growth

The level of urbanisation and the level of development are closely related, with urbanisation levels as high as 80 per cent in the most developed countries. In 2006, urban dwellers exceeded those living in rural areas for the first time in human history (the linear mega-town growing along Shenzhen in China now has as many people as London, but took only 20 years to reach this level). In Pakistan, too, the pace of this transformation is quite high. Efficient management of urbanisation will require more and more settlements to grow into their equilibrium size - optimal and functional hierarchies of settlements - determined by benefits of lower cost of producing and delivering public goods and services, economic enterprise, and infrastructure.

Cities are increasingly becoming engines of national growth, centres of economic activity, knowledge, and influence; this will generate cultural change involving new sets of relationships within society. Urban

“More and more of the economic power is concentrated in mega-cities with more than 10 million inhabitants”

Kalus Klenfeld, CEO, Siemens, 2006

centres are also generally several times more productive than rural areas because of the clustering of innovation, knowledge and infrastructure.

Greater global urbanisation is also leading to an increase in urban poverty. Massive urbanisation in future can beget even greater social instability and severe alienation. Preserving social cohesion through a holistic approach towards urban planning and development, with a focus on improving quality of life for all will be a major task.



Urbanisation offers some positive opportunities to Pakistan which must be exploited, chief among them being the fact that their economic dynamics will make them important engines of growth, specially with a middle class of at least 130 million, most of whom will be in the 15 – 35 age group, will most likely be skilled and enterprising, and will have money to spend.

Further, as built-up area expands (human dwellings and their ancillary facilities; roads; administrative, business, commercial and industrial; storage; energy production areas), it can eat into its hinterland as has happened in all of Pakistan's major cities in recent years. This has to be carefully managed.

While it is planned to develop our major cities as hubs of trade and commerce with higher levels and intensities of infrastructure and connectivity to the outer world compared to the present, the proposed programmes will need careful attention to detail.

Vision 2030 calls for increasing the share of industrial sector from the current 18 percent of the economy to 30 percent by 2030. This, coupled with an increased focus on the services sector, would lead to a major structural transformation of the economy. While there will be a significant increase of internal trade, it is anticipated that there would be a quantum jump in exports from the current over \$ 16 billion to around \$ 250 billion by 2030. There would also be a corresponding increase in imports. The structural transformation of the economy will result in increasing levels of urbanization. It is expected that the level of urbanization will increase from about 34 percent at present to over 60 percent by 2030. Accordingly, the current urban population of about 55 million would more than double to between 120-130 million in 2030, with almost four-fifths of future population increase in urban areas.

It is important to channel this ongoing urbanization towards a positive impact on economic efficiency, the size and shape of cities and their relationship with the rural hinterland. *It is planned to develop a National Spatial Strategy within the framework of Vision 2030 to safeguard the areas of national interest and provide guidelines aimed at maximizing efficiency of human settlements and other productive efforts and enhancing rural-urban complementarities.*

Currently some 85 percent of Pakistan's population is located in about 20 percent of the country's area east of the Indus River and in close proximity of border with India. The current urban centers, which are already congested and polluted, would not be able to absorb the envisaged enhanced economic activities and trade. Accordingly, as a part of the National Spatial Strategy, it is envisaged to diversify the growth of population and urbanization.

A National Trade Corridor (NTC) improvement programme has already been launched. The objective is to reduce the overall trade-related transport and logistics cost, thereby decreasing the cost of doing business and lowering the indirect losses being incurred, resulting in trade competitiveness and industrialization. Adopting a holistic approach, the NTC improvement programme covers the systems, procedures, and investments related to ports and shipping, energy logistics, highways improvement and trucking modernization, trade facilitation, railways restructuring and modernization and aviation and air transport modernization.

It is estimated that about 80 percent of the national trade lies within the north-south axis of this trade corridor, which connects Gwadar and Karachi to Peshawar and borders with Afghanistan and China. Vision 2030 envisages a broader long-term strategy to cover the entire country with corridors covering trade, transport, industry and energy. These corridors will be linked with establishment of new cities; logistic

centres (for retail and wholesale trade); special economic zones, industrial and technology parks; and cold chain/food processing centres.

Planned new cities, particularly on the west of Indus (with bridges across the river), in conjunction with economic activities along the motorways and expressways, complemented by links to rural service and production centres, would enhance competitiveness of trade and efficiencies of upgraded infrastructure.

A programme of upgrading of infrastructure within the existing urban centres and existing intercity networks will also be undertaken. Analysis will also be carried out of the cropping patterns to enhance efficiencies in the production chain linked with food processing centres. *The national spatial plans will be linked to provincial and local plans within a long-term regional planning framework to connect cities with the rural suburbs through the provision of facilities, amenities and other infrastructure and services. This will enhance the thrust towards rural urbanization to minimize the congestion, pollution and other typical environmental hazards in large cities.*

The functioning of the mega cities and large cities will be improved through metropolitan economic planning across the entire urban region, bringing together the national, provincial and local government agencies, business and community leadership to formulate comprehensive plans and carryout coordinated targeted investments. Among other things, investments in urban and rural areas will be enhanced through public-private partnerships and other innovative modes. This will facilitate private sector involvement in value added services and products, and promote industrialization with intensified marketing and financial mechanisms. A focus will be the provision of local infrastructure including roads, clean drinking water, sanitation, basic health and education and electricity to enhance the quality of life of the residents. In rural areas, the asset ownership of the poor will be enhanced by improving access to land, water, livestock and basic consumer goods and services. The economic base of the less developed areas would be diversified through development of resource-based industries and other economic activities based upon potential strengths of these areas.

## 10.5 Urban Services

With rapid urbanisation coupled with inadequate investment, the quality of urban infrastructure has deteriorated. Less than 1 per cent of wastewater is treated in Pakistan. The rest is thrown into ravines, streams, and rivers which have turned into sewers and impact negatively on downstream users.

The metropolitan governments recover fewer than 50 per cent of the solid waste generated in the cities. The rest is left to rot on the streets. Even the waste that is collected is mostly dumped in open fields or is incinerated. The dumped waste pollutes the groundwater and the incinerated waste creates air pollution.

Lahore, a sprawling metropolis of seven million, has fewer than 150 traffic lights, which are measures of insufficient traffic management. The result is severe traffic congestion. In the federal capital, Islamabad, even the well-off communities face chronic water shortages. All these indicators are even more acute in Karachi in terms of water, sanitation, pollution, and slums.

The infrastructure deficit and the associated urban decay are only one manifestation of much more complex structural dynamics and constraints.

Our urban planners have seldom followed pro-poor strategies in the past. The rich get subsidized sewers; the poor live in often appalling sanitary conditions. Yet a lot can be done with some grit, and vision, as shown by the Orangi Pilot Project in Karachi; this provides sewerage services to over a million poor people and provides many lessons which can and are being emulated on a larger scale.

Non-market actors in real estate business are acquiring prime real estate and tracts of peri-urban lands for rent seeking and are making increasing demands on urban space, by displacing less powerful users. Land acquisition, zoning and development, house construction and financing schemes for the betterment of the general public will be rationalized.

#### **The Key Lesson from Orangi:**

Poor people also want good quality services just like rich people. Orangi also showed how poor people can transform their environment and reduce costs and corruption to a small fraction of 'standard' costs by technical innovation and self-help.

It also showed the importance of high-quality technical support, and why eventually, there must be a partnership between the informal sector (which can handle much of the local infrastructure better than the municipality) and the government (which must build the bulk collection and wastewater treatment facilities).

### **10.5.1 Urban Water Supply and Sanitation**

The strategy for urban water supply would be based on meeting rapidly increasing demand for household and industrial water, increasing investments in new water delivery systems, upgrading and managing the existing systems more efficiently, ensuring provision of potable water to poor households, recycling of water, where feasible, and enhancing cost recovery. The sanitation improvement options would cover wastewater management and disposal of human wastes through cost efficient and affordable means, including improvement in the management of septic tanks. For solid waste, the strategy would be to develop integrated solid waste management systems, sanitary landfills, and to minimize waste through refuse recovery and electricity generation

### **10.5.2 Urban Land Management**

Land supply has a critical role in supporting quality of life in urban areas. The efficiency of urban land markets will be improved through (i) appropriate and affordable land use, building standards and regulations; (ii) improving procedures for land transfers (including cadastral mapping, titling, and registration); (iii) measures to stop land being held vacant for speculative purposes; and (iv) improving information to the public on land market indicators.

### **10.5.3 Urban Transport**

Urban transportation is crucial to improving the quality of life and economic performance of urban areas. The challenge is to make investments in urban transportation sustainable through coordination, both in terms of physical provision and

economic and financial policies, and by comprehensively addressing related issues such as a city's balance in the locations of employment and housing. Urban transport investments would incorporate concepts of demand management and appropriate roles for the public and private sectors. An economically efficient transport market based on optimal pricing will be developed.

## **10.6 Management of Megacities and Metropolitan Areas**

Pakistan will see the rise of large urban centres and mega cities which will propel the growth of national economy and make important contributions to national output by 2030. The benefit will be derived from agglomeration economies and are a focus for much of the trade and services arising from the global economy. High productivity in the mega cities arises from their function as a major meeting point in the movement of people, goods, finance, and information, providing opportunities for specialization in and interaction between socio-economic, research, education and technology activities.

With increasing contribution of the urban economy to national development, the management of urban areas, particularly the metropolitan areas and the mega cities of Karachi and Lahore, will play a key role in the country's economic development in the decades ahead.

Their growth is taking place in a period of major economic and technological change, dominated by the emerging global economy, a revolution in information technology and an increasing emphasis on market-based decision making. These external influences mean that the metropolitan/mega cities will have to enhance their urban management capabilities and improve integrated development of urban infrastructure and services to provide a better quality of life for their residents.

The Vision calls for adopting a metropolitan economic strategy explicitly designed to bring together the public and private sectors across the entire urban region to formulate and carry out a coordinated set of targeted investments involving comprehensive planning and united action through close collaboration amongst government, business and community leadership. The economic strategy, as opposed to the conventional view of local economic development, involves all of the important aspects of public and private resources and institutions, and is necessarily comprehensive and broad-based.

The framework would incorporate vision, policies, and strategies, together with a prioritized program and action plans for implementation.

This strategy will be complemented by proposals for strengthening institutions for better urban management to create efficient land markets and to generate new financing and user charges to tap the increasing wealth.

All this will call for strengthening the teaching of urban management and municipal engineering at university level, together with high quality technicians and para-professionals to maintain and upgrade infrastructure and services and to manage urban poverty.

## **10.7 Financing Urban Development**

Municipal finance has emerged as a core issue in the functioning of cities, which require an increasing proportion of monetary, material and human resources to fulfil

civic aspirations. New approaches would be required for financing of major infrastructure projects in large cities including financing in part by profits generated by property development. An entrepreneurial approach, with involvement of the private sector, will be adopted on a citywide basis to promote metropolitan cities to potential investors. Accessing the capital markets through municipal or other bond issues, with or without government guarantee, would also need to be considered. This would be complemented by price reforms to meet the cost of efficient service provision, manage demand and generate cash to catalyse new investments.

## 10.8 Pakistani Cities of the Future

With all the changes which will take place in Pakistan and the world, our cities of the future will very likely be different and certainly bigger than they are at present.

- ? **Karachi** will be one of the *great* cities of the world, with a diverse yet socially cohesive population of around 30 million, pulsing with commerce and industry, and creative ideas for design and culture. It will also host a vibrant immigrant community. It will be a regional hub for electronics, pharmaceuticals and biotechnology industries, as well as medical and financial services because of its excellent physical and electronic infrastructure. Karachi's top hospitals will be famous for their diagnostic and therapeutic procedures, based upon the competence of doctors and staff, and diagnostic infrastructure. It will have excellent air and sea links, as well as electronic and satellite connectivity with the world, making it a regional financial and industrial centre, attracting high levels of professionals and multinational activity.
- ? **Lahore** returns to being a city of intellectual activity and entertainment. Half a dozen foreign universities will have made it their first overseas campus; together with its older well known Pakistani universities, they will offer a variety of studies to people from across the world. The Mall will have a large number of theatres and restaurants, with the walled city and historical monuments becoming a haven for tourists and students. Its industrial estates, technology parks, and shopping centres will rival the best in the region. Its cultural and art festivals will attract a large numbers of domestic and international tourists.
- ? **Nankana Sahib** will become an international centre for religious tourism. It will have a large infrastructure for the pilgrims, as well as shopping malls and major discount outlets for local and foreign tourists, and other visitors from nearby towns.
- ? **Quetta** will be an important commercial city on the route between Central Asia and West Asia on to Gwadar. It will be the principal centre of mineral beneficiation in the country, with regional headquarters of several international mining companies. It will be as famous for the orchards and forests in its hinterland, as also for sheep farming and equestrian sports.
- ? **Peshawar** will vie with Quetta for pride of place on the land routes from Central Asia; it will be the major city between the Indus and the Caspian. It will also be the regional trade and energy hub, on the route from Gwadar to Western China and Central Asia. The excellence of its climate, and educational and medical facilities, will have made it a centre of medical tourism, while also drawing several pharmaceutical manufacturers to the area.

**Islamabad** will be a medium sized international city of gracious suburbs, parks and watercourses, wooded hills, and clean air - offering a unique quality of life to its residents and visitors. Like ancient Taxila and Gandhara, it should have become a seat of learning, and the intellectual and cultural centre of the region based upon the excellence of its public schools, universities, its think tanks, libraries, and museums, and sports facilities, blending and accentuating its Islamic Heritage with the natural beauty of its surroundings. It shall have several small townships around it, stretching in a 20 km wide swathe from Taxila to Rawat, which should have grown to their optimal size within the hierarchy headed by Islamabad.

*A nostalgic look back by an old resident of Rawalpindi:*

Fifty years ago, there were perhaps a few dozen motor cars in Rawalpindi, and one more or less knew who was the owner. The President could be found outside the bookstore in Saddar on an evening, and you could walk up and shake his hand without being hassled by security guards. Most people traveled by bicycle, or the horse drawn tonga, or public bus, which always left its stop on time. Intercity transport was again a bus or train, and Rawalpindi generally used to be declared the cleanest and best kept railway station in Pakistan. The railways goods service would deliver your parcel to your home for a nominal fee.

There were no gas heaters and no TV, and all children spent an hour or two outdoors every day. The power behind Pakistan's prowess in athletics was a retired Brigadier, who would sit outside the lawns of Flashman's Hotel, and ride around on a green bicycle. Our cricketers and hockey players also were quite human, and deemed it an honour to don Pakistan's colours and be paid fifty rupees for the pleasure of playing for their country.

Penicillin had only recently appeared, and doctors were affordable and friendly while they sterilized their syringes. There was no HIV or AIDS. Water was piped in and was clean and safe.

One would spot the odd pistol or gun slung across someone's shoulder (licences were de rigueur then!), and the most horrific crime was one involving knife fights.

The sound of the muezzin was mellow and enthralling, specially when you returned home from several years of studies abroad in a farangi land, and there were no sectarian riots. Women were just beginning to shed their burqa.

Some 10 million refugees had earlier streamed into a country of 60 million people (East and West Pakistan combined) from India in one of the worst human disasters of history, and there were no cries for international help. Everything was managed ourselves.

Going to Murree was considered the height of sophistication, and young army officers were envied for their ability to see the whole of Pakistan.

*So much has changed over the last fifty years. What would Rawalpindi look like in 2030?*

## The State and Security

The sovereignty and security of Pakistan will need to be addressed at two levels – internal and external. As Pakistan marches towards prosperity, preserving and protecting its physical and the larger virtual space will become extremely important in the midst of certain emergence of new global players in the 21<sup>st</sup> century. A whole new set of strategic alliances is being quietly forged in Asia, on the premise that these new players will have a large impact on all institutions, global, regional or national.

Nation states such as Pakistan will be under great pressure politically and socially from several centres of political and economic power in the world. The paradigm of the 'post-modern' or 'indispensable' nation may force many parts of the globe to regress to new pattern of dependence or exploitation. Here the role of non-state entities and international organisations and their influence on relatively weaker states can be especially important.

Fortunately for Pakistan, size and strength will matter to protect and preserve the national space.

There is potential for Pakistan to be a bigger player in matters of global security instead of being a target. Pakistan is strategically placed in a region of great significance. It will place greater demands on national leadership to mobilise the country's many innate strengths.

Domestically, Pakistan needs to ensure not only food and energy security, but also an equitable distribution of all forms of wealth, larger opportunities to its citizens and greater political stability. An internal concord would be the first protection from external forces and extraneous events.

Pakistan and its surrounding region *inter alia* face three major threats. The first is regional instability caused by the ongoing wars in Iraq and Afghanistan; the second involves quest for hegemony and power by the older powers as well as some other emerging power centres. These pressures will be exacerbated by the third factor, the scramble for energy and raw materials, which Asia is experiencing, and which will be increased as global resources draw down.

Pakistan has always looked for peace so that its economic space and the fruits of development can be shared by all its citizens. Promotion of peace and dialogue is therefore a vital element of its foreign policy.

Pakistan will continue its quest for peace and stability in the region and among its neighbours as an important condition of development. Regional trade is increasing and Early Harvest / FTAs have been negotiated which will be further expanded. However, economic linkages may not always override political considerations if longstanding disputes remain unresolved.

It is reasonable to expect that the Pakistani state in 2030 will have evolved as part of the international order of forward-looking states, where intra-national issues will be

resolved through dialogue and negotiations rather than coercion and insidious or underlying desires for hegemony. *With peace in the region, Pakistan can get on with the business of building a prosperous state.*

### 11.1 Issues of Sovereignty and Security

The security outlook for South Asia and the broader Asia-Pacific region is generally positive and stable. However, the situation in Afghanistan and Middle East is clouded with uncertainty. Relations among the major powers will continue to improve while regional states will be more occupied with issues of economic cooperation and development. Pakistan and India, too, will continue on the path of dialogue and cooperation for consolidating mutual trust and confidence. These two countries - the largest economies in South Asia are experiencing significant social and structural transformation.

### 11.2 Regional and International Cooperation

Pakistan will be an active and important partner in regional and international security. Vision 2030 looks for closer cooperation with SAARC & ECO and charts a new direction towards partnership with ASEAN and the Shanghai group. Economic Integration with SAARC and ECO will be strengthened and expanded through collaborative approaches.

We expect that with visionary leadership in the region, the core issue of Kashmir, which is part of the unfinished agenda of partition, will have been amicably resolved, thereby unleashing forces of economic progress and political stability in the region.

In 2030 we expect to see vibrant, socially cohesive and effective regional arrangements, whereby hunger, deprivation and poverty are overcome, civil society is duly empowered and gives special attention to vulnerable groups and social justice and rule of law prevail. The gap in development will have been narrowed, and multilateral trading would remain fair and open. The deepening and broadening of economic integration would have been accomplished in agriculture, manufacturing and services, as well as in energy.

- ? **Energy** The potential for instability is intimately tied up with policies to control energy. The potential for great game in the next century will be around issues of access to energy needed to fuel high growth rates in Asia and to maintain quality of life in the West. Potential global energy corridors and transit facilities through Pakistan will have great significance.
- ? **Non-Proliferation** The Non Proliferation Regime would have matured by 2030, and it is reasonable to expect considerable progress towards complete nuclear disarmament by recognised and non-recognised nuclear weapon states. Nuclear power will be more widely available within a new waste management regime.

### 11.3 The World

It is possible to predict that the countries of the world will have stabilised their relations *inter se* within a reformed and more representative UN. There will be greater peace within and outside the borders of nations. Humanity would have started to get to grips



with its core problems of sustaining the planet's ecology and resources, and in expanding its gaze into space. In that global vision, nation-states as well as significantly placed institutions all have an equal stake.

### **Pakistan: the Next 10 Years**

Pakistan looks forward to a decade of peace in the immediate future to lay firm foundations for attainment of Vision 2030.

Pakistan will be an interesting place to live in during the next three decades. Its people will be better fed, better educated and more skilled than in the recent past. Education at all tiers will be the prime focus so that a competitive and thinking mind will emerge while remaining uniquely Pakistani.

By nurturing human potential and exploiting its geo-political position, Pakistan will move into a totally new environment of prosperity and productivity. It will also become more integrated in the region and the rest of the world.

Its major new arc of activity will lie in an extensive corridor for trade, transportation, energy, and industry, stretching from Gwadar at the mouth of the Persian Gulf to the northern reaches of the country and beyond to China and Central Asia.

Goods, energy, and services will flow from North to South and vice versa, as also East-West to the Gulf region and South Asia.

Pakistan will offer economic activities in trade, transportation, energy, and manufacturing to every group or nation that wants to invest in a rapidly growing, strategically positioned economy.

An open economy with many international stakeholders will also be an excellent incentive for peace expansion of potential influence in the region.



## Some Reflections

Pakistan's Vision for the year 2030 is drawn up on the premise that Pakistan can and will break out of the cycle of high expectations amid poor performance. It further suggests that this can be done with felicity and certainty within one generation.

This development and prosperity will be judged by basically only one parameter – the quality of life of each and every Pakistani, and their ability to reach their true potential, within assured security and opportunity. This is the basis of the social contract which matters at present and which is proposed to be forged between the state and the people. If this covenant is arrived at and sustained, Pakistan can become an important nation state of the 21<sup>st</sup> century. This is the premise within which the framework for implementing Vision 2030 has been established.

The future is uncertain and any forecasting exercise would need to deal with this uncertainty as best as possible. However, by identifying the range of futures available to Pakistan, a preferred future can be worked for. These would provide the strategic directions for implementing the Vision, with reality checks at intervals to make adjustments in scenarios and enhance development effectiveness accordingly.

At the same time, there are *some* elements of the future which *can* be forecast today with a little more assurance. These are discussed in the Vision 2030 document as indicators, and to provide a format for the Vision process without subverting its directions and analysis, or being prescriptive at this stage. The ultimate aim has been to reach a broad national consensus through collective wisdom on social and development challenges on the horizon. We believe that the conclusions and recommendations arrived at are rigorous and objective; they can create wide ownership and passion which will be complemented by strengthening of institutions. This is the benchmark for the Vision 2030 document.

Pakistanis will be better educated, better fed, and better served by the state in which their participation will be far greater than in the past, because of much improved instruments of state and government. Worry will remain about the nature of the state in terms of size and intrusiveness, on the shoulders of the unfolding information and scientific / technical revolution. However, science and society will continue to co-evolve in this century. Science will provide the instruments for change in our work and workplace and for managing change; science however will continue to provide more singularities and disruptions through unplanned pathways as it has done throughout human history, specially the last 100 years.

The Vision document emphasises the four levels at which the Vision process has been placed. These are the nature of the state, the economy, the society, and the global imperatives in which the process will be embedded. It also discusses issues related to energy, knowledge, science and technology, and changing demographics from the viewpoint of global demands for competition, productivity, and diversification. All these are placed within the boundaries of sustainability of the environment and the human habitat, and intergenerational equity.

The Document summarizes some initial thoughts on critical elements of the macroeconomic framework, indicators of growth and quality of life, removal of inequalities and enhanced regional balance, poverty reduction, expanding social opportunities and enhancing national identity and security.

This Vision document is the result of consultations with wise men and women drawn from civil society at large, as well as from different tiers of government and civil society. The discussions have been rich and even passionate at times; opposing views were debated and expressed. There was general consensus about what Pakistan can aim for, even though there was difference about how to get there.

No matter what the background, everyone agrees that Pakistan must change. It must change to manage the reality of global competition. It must also learn to manage the shift in the centre of economic and political gravity to Asia. Size does matter in the long run, and Pakistan too is a potential player on the world arena.

Pakistan's is currently ranked at 39<sup>th</sup> globally in terms of the absolute size of its economy; this translates to approximately 22<sup>nd</sup> in terms of Purchasing Power Parity (PPP). With sustained growth until 2030 of 7, 6 or 5 percent, the ranking in absolute size could rise to 20<sup>th</sup>, 23<sup>rd</sup> and 26<sup>th</sup> respectively by 2030. These numbers appear even better in PPP terms when the rank could be 10<sup>th</sup>, 12<sup>th</sup>, and 14<sup>th</sup> respectively. Since Pakistan has maintained an average growth rate of slightly under 6 percent for the past 25 years, there is reasonable grounds for optimism, especially as Pakistan is beginning to move up the 'S' curve.

The most interesting impact of the Vision process is the 're-discovery' of Pakistan's young people – vibrant and confident, possessing higher expectations and skills that their forbears, and no longer willing to settle for second best. They had somehow been forgotten in our lost decades, but in 2030 they will be the ones who will have wrought the changes which we all wish for. They will also be more demanding of quality of government and assured equality under law, a sustainable habitat and environment, and better delivery of services. They are already more pluralistic and inclusive than the older generation, and have the confidence to take what they like or want in cultural terms; they also carry lesser historical baggage. They are the instrument for achieving our Vision for a productive, progressive just and stimulating Pakistani society in 2030.

**اعدلوهواقرب للتقوى**



## **Annexures**

- Annexure I      Major Themes for the Vision 2030 Project**
- Annexure II     Members of the Vision Themes**



## Major Themes for the Vision 2030 Project

- A. The Global Imperatives and Societal Transformation: 2030 and Beyond**
- 1. *The Techno-Economic - Knowledge Revolution***
    - i. Economic Integration
    - ii. Dispersion of information and technology
    - iii. The changing nature of work and the workplace
  - 2. *Resources, Sustainability, and Global Climate Change***
    - i. Energy
    - ii. Water, Land and Food
    - iii. The human habitat: ecological economics and global warming
  - 3. *The Demographic Transition***
    - i. The threat
    - ii. The dividend
  - 4. *The 24 / 7 Society***
    - i. The city of the future as a self-sustaining unit
    - ii. Urban and rural economics
    - iii. The social unit of the future and social cohesion
    - iv. Dynamics of poverty and income distribution
  - 5. *The Global Monoculture***
    - i. Language and culture
    - ii. Diversity and Identity
    - iii. Leisure, travel, migration
  - 6. *The Nation State: Issues of Sovereignty and Security***
    - i. Regional co-operation
    - ii. International dimensions

## Major Themes for the Vision 2030 Project

### B. The Just and Sustainable Society

#### 1. *Social Re-engineering for Development: Building social capital*

- i. Pathways for promoting greater justice and harmony
- ii. Trust, reciprocity, and collective action
- iii. Issues of exclusion and empowerment
- iv. Income distribution

#### 2. *Fostering Synthesis and Social Cohesion in a Multi-ethnic Pakistan*

- i. Religion, culture and science
- ii. Language, ethnicity and tradition
- iii. Migration (internal and external inflows/outflows)
- iv. Gender balance in development

#### 3. *The Quality of Life*

- i. Ensuring food, shelter, transportation and security
- ii. Providing education, skills, health, and employability
- iii. Access to, and dispensation of justice
- iv. Governance and participatory development
- v. Enabling access to information
- vi. Preserving the habitat



## Major Themes for the Vision 2030 Project

### C. The Innovative Society: Knowledge, Technology, and Competition

#### 1. *Education, Science, and Skills: The Quest For Excellence*

- i. Its nature, content and medium
- ii. The teacher of the future; nurturing creativity and the thinking mind
- iii. Embedding science and its methodology in society
- iv. Mastering emerging areas
- v. Becoming the regional knowledge hub
- vi. The infrastructure for education

#### 2. *Building Competitive Advantage*

- i. Productivity and flexibility for the automated workplace
- ii. Sectors for special attention
- iii. Generating entrepreneurial infrastructure & opportunities
- iv. Building brands and IP; quality and certification
- v. Managing the information revolution

#### 3. *The Enabling Infrastructure for the 21<sup>st</sup> Century*

- i. Multi-modal physical infrastructure
- ii. Electronic connectivity and electronic security
- iii. Quality and the technological infrastructure
- iv. The legal and regulatory environment
- v. Administrative infrastructure

## Major Themes for the Vision 2030 Project

### D. The Prosperous Society

#### 1. *Employment and Poverty Reduction*

- i. Opportunities, education and skills for the future workplace
- ii. SMEs and matching of transnational agent skills
- iii. Welcoming the skilled immigrant

#### 2. *Natural Resources for Growth*

- i. Scenarios for energy security
- ii. Developing large scale, new sources of energy
- iii. Optimal use of *water*, food and land

#### 3. *Health Care and Social Welfare*

- i. Re-defining the role of the state in providing basic services
- ii. Managing the epidemiological transition from infectious to chronic diseases
- iii. Developing and financing the social protection systems

#### 4. *Security and Leisure*

- i. Physical, economic and social security
- ii. Sports, culture, and tourism; domestic and international

## Major Themes for the Vision 2030 Project

### E. Critical Elements of Macroeconomic Framework

#### 1. *Strategies for Growth*

- i. Developing the macroeconomic framework
- ii. Resource Mobilisation
  - ? Savings
  - ? Investments
- iii. Matching globalisation dynamics
  - ? Trade of goods and services
  - ? Building comparative advantages
  - ? Regional dimensions of development and strategic linkages
- iv. Employment and productivity
  - ? Government Efficiency
  - ? Business Efficiency
  - ? The public-private partnership

#### 2. *Key Sectors for Economic Transformation*

- i. The second green revolution
- ii. Manufacturing and SMEs; diversification, re-location, and regional hubs
- iii. Strengthening new services: financial, medical, tourism, and design
- iv. Natural resources and minerals
- v. Preparing for the economics of the future city

## Major Themes for the Vision 2030 Project

### F: The State

#### 1. *Transforming the Institutions of State*

- i. Understanding and managing society
- ii. New structures for the 21st Century
- iii. Devolution, participation and the legal framework
- iv. The public sector and public-private partnership

#### 2. *The Instruments of Government*

- i. Re-defining the nature and delivery of services
- ii. Enhancing government efficiencies
- iii. Enhancing effective implementation
- iv. Dispensation of justice
- v. Information and transparency

#### 3. *The New Class of Professionals*

- i. Improving the competence and quality of public servants
- ii. Building capacity for strategic planning and effective implementation
- iii. Service structure and opportunities for professional development

#### 4. *The State and Security in an Uncertain World*

- i. Impact of multilateral and international Institutions
- ii. Global and regional options
- iii. Crisis management and disaster preparedness

## Members of the Vision Themes

### The Vision 2030 Team

**Dr Shaukat Hameed Khan**  
Member, Planning Commission

Project Director,  
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### Committee Members, Planning Commission

- |    |                          |                                 |
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| 2. | Dr. Kauser Abdulla Malik | Member, Planning Commission     |
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1. Dr. Ishrat Hussain, Chairman NCGR, PM Secretariat, Islamabad
2. Mr. Shoaib Sultan Khan, NRSP, Islamabad
3. Mr. Parvez Butt, Secretary M/o Science & Technology, Islamabad
4. Dr. A.R. Kemal, Ex-Director, PIDE, Islamabad
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