

Approach Paper

**Strategic Directions to Achieve
Vision 2030**



February 2006

**Government of Pakistan
Planning Commission
Islamabad**

Vision 2030

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

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Foreword

The National Economic Council (NEC) meeting chaired by the Prime Minister of Pakistan on 27 May, 2005, approved the Vision Statement and authorised the Planning Commission to prepare a long term perspective planning document highlighting the strategic directions which need to be followed to achieve this Vision. A necessary condition for the successful implementation of a visionary plan is the continuity for a long period of time, of a single visionary or a group that shares the same vision to translate it into reality. Implementation of a series of five year development frameworks formulated in the context of a 25 year Vision would restore confidence of the nation in its thinkers, planners and implementers to deliver the promises and demonstrate the practicality and usefulness of implementing medium-term 'goals', in addition to strengthening the culture of ownership and participation. These medium term steps, i.e., five year development framework with periodic flexibility can turn into a successful long journey towards realizing the 'vision'.

This paper outlines the approach to be followed in attaining Vision 2030, which symbolizes the broad development strategy to be pursued by Pakistan under a long term perspective plan for the next twenty five years. In this context, the Medium Term Development Framework (MTDF) 2005-10 represents the resumption of the process of five year planning in Pakistan, and would serve as the first of the five medium term plans within the Vision 2030 perspective. The objectives, goals and targets of the perspective plan would be achieved by sequential launching of a series of five year strategic frameworks.

Vision 2030 may appear too ambitious or even unrealistic to some because of the cyclic nature of our economic growth caused by inconsistent policies since independence, but we firmly believe that keeping in mind our natural resources and latent potentials, strengths, and entrepreneurship and drive of our people, it is definitely achievable. The achievements of Pakistan in some key areas and excellent economic performance of some periods in the past, particularly during the last 5 – 6, years provide ample reasons for optimism. When this Vision is promoted and guided by strategic leadership from the front, which inspires the best out of

people (as witnessed in the recent earthquake disaster), this nation can and would, Insha'allah, achieve the Vision and join the comity of nations as a model Islamic state with all the hallmarks of just and compassionate modern society.

The morphology of dynamic and economically viable societies of the world suggests that such societies invariably define their long term vision first, and then mobilize their collective synergies to achieve it. The pursuit of a long term vision by a developing country such as Pakistan, therefore, becomes even more important to keep on track their development process along a defined trajectory.

Pakistan is part of the fast emerging and rapidly evolving process of globalisation which implies integration of each economy into the world economy. Being a constituent of the global village, Pakistan has to adopt and adapt the knowledge-based and technology-driven modes of production to secure the highest standards in the output of goods and services. The signing of the Uruguay Round Agreements and the establishment of the WTO has put the legal, economic and technical infrastructure of Pakistan under immense pressures for keeping intact its historical competitive edge and the overall, albeit small, share in the global output and trade. These pressures are likely to grow over time and for that reason a clear strategy would need to be defined and implemented to meet the resulting demands.

Vision 2030 envisages "a developed, industrialized, just and prosperous Pakistan through rapid and sustainable development in a resource constrained economy by deploying knowledge inputs". To achieve this Vision, Pakistan will have to overcome the binding constraint of limited resources - financial, scientific, technical, technological and human. All the stakeholders in the country will be called upon to meet the pre-requisites of sustainable development which, inter alia, includes consistency and continuity of economic policies, transparency in governance, development of physical, technological and intellectual infrastructure, well-defined linkages between wage structure, productivity and taxation, an educated and enlightened working class, and continuous coordination between universities, R&D institutes and industry.

The realization of Vision 2030 would involve a stupendous national effort. The prime objective of this effort would be to transform an economy characterized by

low saving-investment ratio, low growth, low taxes, low productivity and low technology into an economy of high saving-cum-investment, high technology-cum-productivity and high-cum-sustained growth rates, but without sacrificing considerations of compassion, equity and justice.

All our energies would have to be devoted towards sustaining macroeconomic stability, reduction of poverty and unemployment, food security, social and regional harmony and the greatest good of the greatest numbers. This is an immense task but we have to face up to this challenge to safeguard our national security and sovereignty in a world where only the fittest will survive. In particular realisation of the Vision would require specific emphasis on:

Education: Developing a system of delivery of quality education at all levels and a completely new system of quality technical education of international standard.

Justice: The availability of a safe and secure environment with easy access to justice and the institutions for provisions of security and efficient, timely dispensation of Justice.

Health: Availability of good, affordable health care and an effective regulatory regime for the provision of quality health care.

Governance & Management: Strengthening of capacity in management of projects, institutions and organizations.

Institutions: Establishment of quality institutions and the state has basic responsibilities for the provision of justice, security, education, health, sanitation, water, and other essential services.

Finances: Availability of necessary resources is critically dependant on significantly increasing the tax to GDP ratio and promoting a just and non-regressive regime of taxation.

The Approach Paper recognises the risks and limitations in attempting to define *our way of life in the year 2030* and appreciates the nature, diversity and enormity of the challenges. It outlines a comprehensive analytical *process* to determine the appropriate responses, and to provide authority, legitimacy and credibility to the foresight exercise.

This process requires consistent inputs from *all* stakeholders – including the various tiers of government, the civil society, as well a broad range of experts, so

that the Vision is truly national. This broad national consensus, involvement, and sense of ownership is essential to make the foresight exercise widely acceptable, so that it stands the test of time and change of governments, and the desired impact on policies and strategies for socio-economic development can be realized. It is therefore planned that the techniques employed are rigorous, the data are acceptable, and its analysis and results are determined objectively.

This draft Approach Paper is essentially work in progress. Planning Commission eagerly looks forward to suggestions for improvement from all concerned with the long term development of Pakistan.

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Islamabad:
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1. Introduction

The Medium Term Development Framework (MTDF) 2005-10 lays down the Vision of a “developed, industrialized, just and prosperous Pakistan through rapid and sustainable development in a resource constrained economy by deploying knowledge inputs.” It is important to appreciate the various dimensions of the Vision with a view to ascertaining the strategic directions for achieving this goal and developing management and institutional capacity.

1.1 Need for a Long Term Vision

Any exercise to define a vision for the country as well as the key areas in which attention is to be paid, must commence with a realistic assessment of ground realities and an impartial, quantitative and objective assessment of the current state of the people, the economy and global imperatives. Moreover, capacity of the country to change and forge new directions would be important in determining targets and the time frame over which they are to be achieved. And all this has to be managed within certain global imperatives, which are dynamic and changing at such a fast pace that only a carefully crafted national Vision and set of strategies will enable survival and sustainable growth in the long run. Few, if any, institutions exist and operate well in Pakistan, indicating that there is a tremendous lack of capacity in implementing the vision of a “Developed, industrialised, just and prosperous Pakistan.” The vision should certainly be there, however, it will be necessary to develop the management and institutional capacity for making progress towards the targets envisioned.

Vision 2030 requires the following national objectives to be achieved within one generation:

- (i) Build a nation whose development is measured not by just economic growth but also by the *quality of life* of its people, reflected not only in high income levels at the national and individual levels and substantially lower poverty levels, but also in higher indices for health, education, life expectancy, social safety nets, excellence of public institutions, and infrastructure. By 2030 Pakistan will have evolved into a mature, tolerant, democratic society, which is developed economically,

Pakistan is currently placed 135th in the quality of life of its citizens, with low public investments and indices for education, water, health and sanitation
Human Development Report, 2005

culturally, ethically and imbued with Islamic values of moderation and enlightenment. It will also be at peace with itself and with the rest of the world, within a framework of assured sovereignty and security.

- (ii) Become an efficient and balanced, industrialized nation within 25 years, which is internationally competitive and innovative, environment friendly, and technologically driven. This will be indicated by a higher share of manufacturing in GDP and exports, as well as increased diversity of products and high technology content.
- (iii) While investment levels shall be considerably enhanced for economic growth, the major source of increased output shall be the improvement in productivity. Higher value added shall be generated with the same level of inputs by inducting knowledge inputs, better governance structure, improved quality, indigenous and export sales through standardized brand names. *The economics of knowledge must therefore underlie appropriate policies for growth.*
- (iv) There will be far greater competitiveness and flexibility generally, and many more regional hubs and centres will have been established in Pakistan.
- (v) Minimising wastage will be an important tool for enhancing efficiency and preserving inter-generational equity while exploiting current resources.
- (vi) While per capita incomes shall increase at a rate of around 6 percent and per capita income by 2030 would rise to \$3000 at the constant dollars (2005 prices), and \$12,000 at PPP, Pakistan's total GDP would rise to \$700 billion (2005 prices).
- (vii) Establishing a just and prosperous economic system for reducing poverty, by moving beyond the accepted Millennium Development Goals, will be an important objective. This is reflected in a common and *shared destiny* and vision, based upon respect for the rule of law, equal opportunities for all, supplemented by rich cultural diversity, and compassion for the less fortunate. The right to equitable development of every citizen will be protected irrespective of geographical and ethnic origin, creed, gender or age.

The Vision 2030 exercise is ultimately about changing the mindset of the people so that the nation aspires to become a core nation of the 21st century. It will be a nation that has achieved competence in technology through its assimilation and improvement, a nation

which draws upon its strengths to become modern, developed, and affluent, and yet remains uniquely Pakistani in character.

With this in mind, a systematic analysis and foresight exercise would be carried out into the possible long-term global transformations, and its linkages with science, technology, economy, environment, and society, with a view to understanding the nature of the state of Pakistan and its people in 2030, and outlining the strategic directions to provide a concrete reality to Vision 2030 in both its physical and intangible forms.

1.2 Future outlook of the world economy

Economic globalisation and dispersion of information and technology will have occurred by 2030 to such a massive extent, that it will change the scale and nature of human enterprise. Climate change and depleting natural resources of water, land and usable energy, would have initiated increasing competition for their access and ownership, that it will increase Pakistan's vulnerabilities in its transition towards a high level of sustained growth over the long term. Future societies will be urban concentrations and growth of large cities, which will have dynamics and imperatives of their own in all spheres of human activities. They will be centres of economic activity and growth and influence, which will require whole new sets of relationships with society at large and individual human beings. The way we live and work and educate ourselves, or compete and trade, and the manner in which we grow old and become sick, would have been completely transformed during the next 25 years

Pakistan must respond to such challenges effectively, since *all* nations now aspire to become knowledge economies. This calls for a *change in mindset* incorporating 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.

1.3 Why 2030?

The year 2030 is important for Pakistan in several aspects. It gives time for one generation to transform the society and a number of countries have shown that transformation of the economies is possible over the time period. It allows a child that

enters the educational stream today to become an important productive member of the society. It is the year when most analysts predict the beginning of an inexorable decline in oil production and substitution with alternative energy sources would have taken place. It is also the year when we would have passed various demographic transitions including the demographic dividend (or frustration) in the first part and then aging of the population with all the social and economic consequences of a nuclear and fragmented family unit. Over the period we not only have to place Pakistan firmly along the proper alignments, but cross various critical milestones.

2. Challenges and Opportunities for Pakistan: The Global Imperatives in 2030

Globalisation has unleashed enormous forces through the 'death of physical distance'. Physical proximity is no longer relevant for carrying out human activities, be it international trade, business, education or manufacturing. The environment in the year 2030 will be highly competitive, but the rewards for those who can position themselves for competitive advantage

will also be greater. They will not only survive, but grow rich and powerful. Only those countries which are competitive and can generate knowledge and innovate will be able to steer their own course and decide for themselves; they will become rich and

How can 'latecomers' catch-up with the developed countries?
? If one country succeeds in an innovation-driven growth path, others will wish to do so also but will find it increasingly difficult to catch up, because these countries have moved further up the technological frontier.
? Unless the considerable *changes in the conditions for entry* are recognised, new aspirants will find it difficult to do so.
? If countries differ in terms of initial productivity levels, *but not otherwise*, then they will converge towards the same level of productivity and the same rate of productivity growth. If countries differ also in other respects (population growth, and the propensity to save), convergence towards the same growth of productivity will still be achieved, *but long run productivity levels will differ*.

powerful, while others will be marginalized. They will also have better control of their own future and sovereignty, whether economically, politically or culturally.

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 will have more information* at their fingertips and capacity than most countries have today.

Politically and socially, the Pakistani nation state will be under greater pressure from globalisation as well as from several other centres of political and economic power in the world. While Pakistan no doubt needs a wider world view and role to improve its effectiveness as a nation state, this will only be achieved if it is firmly embedded within its historical and cultural traditions.

2.1 The State and the Economy

By 2030 the world economies would be more or less fully integrated after a period of transition dominated by regional blocs, which would have resulted, among things, in a

major re-location of manufacturing activities and a fair share of design and services from developed to the present developing countries. 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 most conspicuous features of the globalised economy of the future. In some newly industrialised Asian countries, such activities have generated major global players and conglomerates, who offer complete end-to-end services in the supply chain, whether as manufacturers of piece parts and systems, or providers of manufacturing related services

Opening of markets in the wake of *trade liberalization* would imply 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. Attracting and retaining re-location activities and funds, and developing into regional or global hubs, would be major goals of companies and national policies. Pakistan therefore needs to put in place the infrastructure and matching of transnational agents' skills.

Pakistan's ranking has improved over the last year, though still low in some indicators

Competitive Index	2004 (out of 104)	2005 (out of 117)
Growth competitiveness index	91	83
Technology index	87	80
Business competitive index	73	66
Macroeconomic environment index	67	69
Public Institution Index	102	103

WEF Report 2005

Even though Pakistan has improved its international rankings in many key areas in the recent past, much more would have to be achieved through consistent and far reaching innovative strategic policies to attain the desired goals.

2.2. The Institutions of State and Government

As the scale of economic activity expands, better institutions will become absolutely necessary. It is now well-recognised that governments are inefficient and opaque not because they do not know any better or it is expensive to achieve this, but because vested interest or creators and power centres *want* them to be so.

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 being sharply distinct, but overlapping and complementary. Collective action and government is ultimately shaped by beliefs held by societies.

The institutional transformation must lead to trust between the state and the people on the one hand, and among different linguistic, ethnic, religious groups on the

The trend toward extremely high capacity, speed, affordability, and mobility of information will have enormous political and social implications, leading societies to evolve either *more responsive and transparent governments* or regress towards more oppressive ones.

other. This trust will come through participation in the process of decision making as well as sharing of national wealth. Our institutions must embed national aspirations *within* the requirement of the 21st century, but they must be flexible enough to distinguish core aspirations from non-core activities.

At the national level, a critical consensus has developed which states that no reforms or re-structuring can be successful, and no Vision will be achieved, *unless a major change is brought about in the competence and quality of public servants.* Extensive administrative reforms, improved service structures and opportunities for growth which attract and retain good persons, and establishing better interaction across tiers of government and as well its various organs will therefore be an essential part of the vision exercise.

The test and metrics of institutional transformation will be the *outcomes* they produce, within the context of a fast changing, economically agile, well informed society. The excellence of institutions will finally be reflected in the measures of efficiency and transparency, tempered with compassion and the sense of participation of its people. In any civilized country the state has

The most difficult exercise in Vision planning and forecasting will be to :

- ? Propose practical measures needed to improve, stabilise and even re-invent the institutions of Civil Service, Legislature, Judiciary and Security
- ? Suggest strategies which can enable wide ownership of the institutions which evolve and take root.

basic responsibilities for the provision of justice, security, education, health, sanitation, water and other essential services. Compensation to public servants must take into account ground realities and the market forces of supply and demand.

2.3 Understanding and Managing Pakistani Society in 2030: Issues of Culture and Identity

Unless social and political institutions are strengthened, imbalances and tensions within the social milieu would hold the country back. Like most successful countries, Pakistan too will be multi-ethnic, multi-cultural and multi-religious, and will face the challenge of integrating migrants into its social milieu. The cultural and political dimensions of language are paramount in creating synergies or discord among peoples. In this context of alienation and the 'other' within a society, developing and implementing a strategy to facilitate the transition away from tribal-ethnic nomadic lifestyles for people in less developed areas-which is sensitive to their culture and traditions-assumes great significance. At the societal level, changing demographic variables, depleting resources of *usable* water, energy and land, coupled with massive urbanisation, are major challenges.

Pakistan needs to confront several *hard societal choices* in order to successfully overcome the transition to a developed nation. For enlightenment and moderation to take roots, it is

It will be important to:

- ? Critically re-examine the future role and responsibilities of the state in providing the basic social services of education, health, energy needs, and security
- ? Weave a thread of administrative and social cohesive partnership with its citizens.

imperative to achieve synthesis among the streams of religion, cultural roots, *and* scientific methodology. The basic thread in the discourse of Vision 2030 will remain the creation of a just society, without which Pakistan will not flourish and prosper.

Currently, 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 faltering at best, and the policing structure can bear a bitter social harvest. For implementation of the vision, following shall have to be managed properly:

Governance & Management:

- a. Lack of capacity in management of projects, institutions and organizations fundamentally limits Pakistan's ability to implement good ideas.
- b. Merit should be the only factor that decides appointment and promotion of employees of state institutions.

Justice:

- c. The availability of a safe and secure environment with easy access to justice is a basic right of every citizen, and is also a pre-requisite to economic development.
- d. The Institutions for provisions of security and efficient, timely dispensation of Justice must be significantly strengthened.

Education:

- e. This is by far the most important issue to be addressed in the Vision 2030 plan.
- f. Pakistan faces a tremendous challenge in developing a system of delivery of quality education at all levels.
- g. We must address the issue of language of education. English is, and will remain extremely important, but will be a foreign language in Pakistan. While its importance cannot be denied, fundamental progress in basic and technical education may only be possible by giving due importance to Urdu.
- h. We also need a completely new system of technical education without which no industrial development in Pakistan can take place.
- i. A complete system for quality assurance in the delivery of "International standard" education at all levels must be implemented.

Health:

- j. Viability of good, affordable health care is also the basic right of a citizen.
- k. Pakistan requires an effective regulatory regime for the provision of quality health care.

Migration

- l. Economic migration and dispersion from rural to urban areas, within Pakistan or abroad, is closely related to issues of social health and well-being.
- m. The impact of absent male wage earners on the family unit, female empowerment - and society at large - needs urgent examination, within the broader Vision.

Gender:

- n. The role of women in the future workplace and the vulnerability of women living longer than men in an aging population with fragmented families would merit special attention in the Vision exercise.

2.4 The State and Security

Pakistan's population is neither so small as to make it irrelevant in world affairs, nor is it too large to drag it down. There is potential for Pakistan to be an important player in matters of global security instead of being a target. Vision 2030 will devote a special section on threat analysis, strategic forecasts, and propose a national vision on security and strategic matters, in the backdrop of current and future potential threats, rivalries and alliances.

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. It would ensure equal opportunities to all the citizens. A holistic concept of human security will inevitably include disaster preparedness. Such an internal concord would be the best protection from external forces and events.

2.5 The Private Sector

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.

In this context, privatisation of strategic assets in energy especially in the context of looming energy shortages in the world market and different countries trying to control the world supplies may have to be re-examined. Separation of ownership from responsible corporate management practices must be reinforced.

The Vision 2030 would address these issues and come up with a well-defined and coherent policy package for the strengthening of competitive edge of the private sector, which has to play its role as an engine of growth.

3 Energy for Growth

Human enterprise and economic growth has always been, and always will be, dependent upon energy which cannot be created but only transformed into a more usable form, from existing matter or energy. The amount of usable energy available for human use is diminishing fast, and unless development and transition to alternative sources operating at sufficiently large scales is assured and completed by 2030, the world will continue witnessing a fierce competition for access and ownership of existing traditional energy sources, i.e. oil and gas.

Pakistan's development vision for an expanded economy, increased industrialisation, and elevated standards of living will demand enormous amounts of energy; and the links between *sustainable development and energy* will require major efforts for long term energy security.

? Currently, the per capita energy consumption is low (14 million BTUs as against 92 million BTUs for Malaysia).

? The total primary energy consumption is presently 55 MTOE, which is expected to rise to 360 MTOE by 2030.

Ref: MTDF 2050-10

Pakistan currently depends heavily upon its reserves of natural gas for industry, power generation, and commercial and household use, which will start declining by 2010. It will therefore be necessary for Pakistan to focus on energy conservation and shifting the balance of energy production from oil to nuclear, wind, solar and other alternate energy sources.

While many new technologies and sources of energy are currently being investigated, the *development* and introduction of such systems will need to be completed earlier than 2030 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 (add health costs), hydro-electric plants in the Northern Areas (contribution *to* and danger *from* seismic activity), nuclear (waste handling, de-commissioning, 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 (grow more sugarcane or use the water for something else) etc. An emerging trend suggests the possible shift from gasoline engine vehicles to hybrid 'flex-fuel' vehicles which can run

on at least two fuels (from gasoline, CNG and bio-fuels) and electric storage. All these studies will remain important tasks for the Vision 2030 exercise.

Realizing the critical importance of “Energy” in rapid and sustainable growth, the government set up a Task Force to prepare a comprehensive report. Based on their Report and presentation, the President and Prime Minister approved the Energy Security Plan (ESP), 2005-30 on 15th February 2005. The ESP is included in the MTFD 2005-10 .

It will, therefore, be important to stay on course for implementing the Energy Security Plan. Depending upon the actual progress, the Plan should be regularly reviewed and updated to keep the economy on the high growth trajectory.

Table 1: Power Generation Plan, 2005-

	Nuclear	Hydel	Coal	Renewable	Oil	Gas	Total	Cumulative
Existing (2005)	400	6460	160	180	6400	5940	19540	
Addition								
2010	-	1260	900	700	160	4860	7880	27420
2015	900	7570	3000	800	300	7550	20120	47540
2020	1500	4700	4200	1470	300	12560	24730	72270
2025	2000	5600	5400	2700	300	22490	38490	110760
2030	4000	7070	6250	3850	300	30360	51830	162590
Total:	8800	32660	19910	9700	7760	83760	162590	

Table 2: Energy Mix Projections, 2005 - 30

	Current 2004		Short Term 2010		Medium Term 2015		2020		Long Term 2025		2030	
	50.8	%	79.4	%	120.2	%	177.4	%	255.4	%	361.3	%
Oil	15.2	30	20.7	26	32.5	27	45.5	25.7	57.9	22.7	66.8	18.5
Natural gas	25.5	50	39.0	49	53.0	44	77.9	44	114.8	45	162.6	45
Coal	3.3	6.5	7.2	9	14.5	12	24.8	14.0	38.3	15	68.65	19
Hydro	6.4	12.7	11.0	13.9	16.4	13.6	21.4	12.1	30.5	12	38.9	10.8
Renewable	0.0	0.0	0.84	1.1	1.6	1.3	3.0	1.7	5.58	2.2	9.2	2.5
Nuclear	0.4	0.8	0.69	0.9	2.2	1.9	4.8	2.7	8.24	3.2	15.1	4.2

4. Natural Resources: Water, Food And Arable Land

Pakistan's food production system, due to poor use of modern management technologies, is heavily dependent on its natural resources i.e. water and land which are prone to stagnation and degradation because of mismanagement in use. The land has suffered from erosion, nutrient depletion, waterlogging and salinity and poor biological activities while water shortage is the result of mismanagement in conveyance and application techniques, apart from increased demands.

For its economic and political stability, Pakistan must ensure autarky in food, matching its population in the future as well as having exportable surplus in selected commodities - with value addition, where feasible. This requires optimal cropping patterns for higher yields to achieve a sustainable increase in the production of food crops and other agricultural commodities (livestock, fibre crops, trees etc.) while maintaining and enhancing the quality of our water and land resources.

The scope of expansion of land and water resources being highly limited, the strategic approach will be to take steps to increase production per unit of land/water. The main ingredients of the approach will be the development and introduction of new technologies based on indigenous research, increase in inputs (especially fertilizers, farm power, better seeds), empowerment of small farmers, and improved marketing system.

The following approaches may be considered to achieve the above goals.

1. Revamp, upgrade and expand the existing research and training base in crops, livestock and forestry and link it with farm and market needs.
2. Increase cropped area by 1% per annum by developing water resources and improves culturable wastelands.
3. Put more emphasis on livestock, horticultural crops, medicinal crops and value addition of exportable products through processing and better post harvest techniques.
4. Increase production of fertilizers especially phosphatic fertilizers and micronutrients by at least 2-3 times by 2030.

5. Use of gypsum in salt-affected soils and land irrigated by tube wells will be ensured.
6. The supply of farm power will be increased by 4 times from existing 0.25 HP per cultivated hectare to 2HP along with the requisite accessories, training, and repair facilities.
7. The marginal land e.g. riverine, range lands will receive due attention.
8. The use of IT for dissemination of information at farm level about weather conditions, market trends, and new technologies will become an important tool for change, partially replacing the existing Agricultural Extension activities.
9. Strict laws will be promulgated to ensure quality of farm inputs, outputs, natural resources, and to stop use of prime agricultural land for housing schemes.
10. Integrated pest management (IPM) and integrated plant nutrition management (IPNM) will receive special attention for an environment friendly agricultural production.
12. Agriculture at farm being an integrated system (crops, animals, poultry, machinery, trees, irrigation practices, farm fisheries), a better coordination in the administrative departments will be brought by bringing structural changes in the administrative set up of these departments.

5. The Changing Face of Competition: The Global Knowledge Stream

The major economies in the 21st century are knowledge based economies characterised by high levels of skills & education, lifelong learning, and innovation. Technology (and the knowledge on which it is based) is now an intrinsic part of the economic system, and has become the third and major factor of production in leading economies.

Economies and societies based upon the knowledge paradigm have certain common attributes, including a focused investment in education and training (especially technical education), and lifelong learning and development, with requirements of a large number of

scientists and technicians to maintain and improve the technological infrastructure. Other characteristics of these economies are:

- ? Excellent public institutions which provide the legal and regulatory framework to enable the private sector to play its role in economic development.
- ? An efficient and low cost, national and international telecommunications network
- ? R & D in all areas of human knowledge, focusing on emerging technologies
- ? Enhanced industrial and commercial competitiveness with improved productivity generated through information-intensive, value-added businesses
- ? Products or services with high-embedded knowledge or knowledge intensity.

Competitive national advantage and the road to riches and affluence is heavily determined, first, by the excellence of public institutions; second, by knowledge, information and skill levels as well as competence in and assimilation of technology;

? 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*.

? In all cases of countries trying to 'catch-up', significant *institutional adaptations and innovations were needed to be implemented* due to differing local conditions.

Pakistan has taken the first initiatives towards implementing the knowledge economy, with major investments of Rs 332 billion during 2005-10 as reflected in MTFD 2005-10

third, by the scale, costs and efficiency of physical infrastructure and human capital, and finally, by the macroeconomic environment.

Vision 2030 requires Pakistan to have crossed the threshold on the path of building a knowledge-based society. However, *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. Nearly every developing country is also planning to become a ‘knowledge’ economy. **Pakistan will therefore have to compete hard to catch up with those who have gone before, and those who are trying to get there .**

Issues that would require study during the Vision exercise include:

- ? Enablers of the ‘knowledge economy ’ and actions needed to make a transition into knowledge outcomes which will accentuate the change from an input-driven to a productivity-driven growth economy, and cause a quantum jump in the quality of all human life and activity.
- ? The intensity and nature of present and future competition from other knowledge economies on Pakistan in the global and regional context, and related measures.
- ? The nature of restructuring and reform of the educational system, to match skills with demand for assured quality and flexibility, and lifelong learning.
- ? Determining the areas in which Pakistan has a competitive advantage due to its young workforce, its climate and geographical location as well as other factors.
- ? Building strategic alliances with “Capital Providers” that both offer and chase new investments for the development of new products and services initiated by the knowledge workers.
- ? The Vision exercise will focus on identifying how Pakistan can make use of falling trade barriers, increased technological progress and diffusion, declining communication costs, and the new evolving relationships between Pakistan’s public and private sector, to attract higher levels of FDI.

- ? An important aspect of the study will be the measures needed to strengthen the *legal and regulatory infrastructure* for IPRs, speedy access to justice and resolution of commercial disputes and world class quality standards.

One important outcome *and* basis for increasing competition is the phenomenon of induced immigration. Legal frameworks notwithstanding, knowledge and information flow to places where demand is highest and the barriers are lowest. Attracting and retaining keen minds and intellects from among its own people and from other nations could form an extremely useful study.

5.1 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 be respected for their scholarship and erudition equally in the humanities, sciences, and engineering. How do we realise this Vision?

The following issues are pertinent:

- ? The need to focus on being a nation of highly skilled, productive and innovative people to meet the objectives underlying Vision 2030.
- ? A major increase in public expenditure will be required to enhance the scale and quality of education in general and the scale and quality of scientific / technical education in Pakistan in particular. The present public expenditure of 2.6 percent of GDP is still lower than the minimum of 4.0 percent recommended by UNESCO.
- ? Development of a system of regulation of the quality of education provided by Public and Private schools. Adherence to recognized international standards for the provision of education at all levels is a fundamental pre-requisite to the development of “knowledge workers.”

? One result of *low investments* and skewed priorities 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 about one in three of secondary and higher secondary schools in public sector are adequately *equipped* with science laboratories in the country. The provision of education and skills which are relevant to local livelihoods and needs for food, water, health and agriculture, remains an even greater challenge for rural populations.

? The problem is accentuated by 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*.

? *Higher education* has suffered equally in the past, with tertiary enrolments (percent of population age 17-23 years) of about 4 percent compared to 10.5 percent in India and 28.2 percent in Malaysia. The situation has now been reversed and the higher education sector is receiving significant additional funds to ensure adequate provision of high quality education that is relevant and important for the future development of

? Enrolment is steadily shifting towards private institutions on the premise that they provide better education, even though this may not be necessarily true.

? Share of total enrolment in private schools has reached 30 percent at the primary, 23 percent at secondary and 64 percent at higher secondary level. Both kinds of schools are however deficient in key facilities.

? Barring some notable exceptions, the state of private universities is highly unsatisfactory.

Pakistan. It is necessary to ensure continued increase in funding until 1% of GNP is devoted to this sector.

? Development of a system of quality assurance that focuses on the processes for the provision of quality education in our educational institutions is key to the development of world-class academic institutions.

Beyond these issues, the major task for Vision 2030 is to prepare forecasts for the nature of work, its availability, and skills required, for the transition period and beyond. This involves developing appropriate profiles for school leavers, technicians, graduates and teachers over a minimum 10 year perspective, and 25 years if possible.

5.2 Science, Technology and Innovation

A society without innovation and based the use of technical skills only, for production and services, will not flourish for long. After the initial economic growth, *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.

The great game in the 21st century is knowledge, of which science and technology are the most visible symbols. High technology, based on science and good practice, will be the key driver of not just economic growth and development, but all human enterprise in this century. Apart from *creating* change, and the *possibility* of creating change, it also offers tools for *managing* change. In Pakistan, as in the rest of the world, science and technology (S & T) can contribute not only to improved welfare and security, and production of global public goods, but also towards an equitable and sustainable development.

On the index of availability of scientists and engineers, Pakistan's rank is 61 out of 93 countries
WEF Report, 2005

It is imperative to *integrate science and its philosophical underpinnings* into society, for a full exploitation of its potential benefits as the vehicle for development and societal transformation. Science and society will continue to co-evolve. The nature of this evolution will however be affected by the extent to which governments set funding priorities.

- ? The crucial role that basic sciences (mathematics, physics, chemistry and biology) play in laying the foundations of various applied sciences and engineering, and hence in national progress, must be duly recognised. Societies whose governments recognize the dependence of the development of successful novel technologies on broadly supported basic research are more likely to be healthier and economically prosperous in the future than those who do not.
- ? Because of the unpredictability of the details of the new science and technology that will evolve, the details of social evolution are also unpredictable.

- ? A major obstacle in embedding scientific culture in society remains faltering enrolments and standards and fewer jobs, as against those who want to manage and sell products. It is crucial to match the ‘deliverable’ i.e. the student coming out of our institutions and needs of the market place.

The Vision 2030 study will look to establish a system of research and innovation in Pakistan that is capable of forecasting breakthroughs in technology or maturation of current emerging technologies, and their likely impact on Pakistani society. It will suggest an action plan, so that not only can surprises be avoided, but high technology can be harnessed efficiently.

5.3 Thrust Areas

Currently, four technologies drive the techno-socio-economic revolution of the 21st century: 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 focused on developing our capabilities in:

- ? New sources and technologies for energy
- ? Technologies for sustaining the use of land, water and food
- ? The automated workplace; sensors and the new machines
- ? Biology and health sciences
- ? New materials and material processing
- ? Design, simulation and modelling
- ? Technologies for information and communications and transport
- ? Space and marine sciences

In every case, generating and retaining world quality and broadly educated persons will be critical to the entire process of transition required for 2030.

It will be necessary to carry out regular Technology Forecast exercises every five years in order to identify and review key emerging technologies and processes that the country needs to enhance its competitiveness.

5.4 Improving Productivity

Raising productivity is absolutely essential not only for economic growth but even to remain competitive in the world economy, and an exclusive reliance on factor accumulation would no longer suffice.

The experience of developed countries shows that almost two-thirds of increase in per capita income can be attributed to increase in productivity which is mainly contributed by innovations and human capital. In Pakistan, the growth rate

Pakistan's per capita Manufacturing Value Added is US\$79, compared with US\$78 for India, US\$ 359 for China, US\$ 865 for Brazil, US\$ 1516 for Malaysia, and US\$ 4858 for Korea. These are based on 2002 data.

UNIDO, IDR; 2005

Pakistan's manufacturing sector has grown much faster since then

exceeded 6 percent only during the period when TFP growth had been high; in 1960s, TFP grew by 3.4 percent and in 1980s by 2.5 percent. However, TFP gains in Pakistan reflect the extreme form of inefficiencies in the base, rather than improvement in productivity level resulting from human resource development. Further improvements from this source are likely to be limited. Vision 2030 will look at options and policies that allow a fair portion of growth to come from improvement in total factor productivity.

It is necessary to move out of the 'low skills equilibrium' which traps both individuals and employers in a 'low expectations and low productivity' environment. A focused policy thrust, supported by adequate resources, will be sought for raising the threshold levels of the technology and skills base which will result in better productivity and quality. However, this needs to be accompanied by diversification and improvement of physical and social infrastructure, standardization, and certification to match the growth requirements.

The entire process for increasing productivity needs to be based upon the realisation that most people who actually *do* work (farmers, workers on building sites or the factory floor, and those who work in trade) are hardly educated and may not even be literate; they certainly have little access to formal training, and whatever skills they possess are a result of informal apprenticeships. The

Developing a domestic knowledge base and core competencies is critical to industrial growth strategies

MTDF 2005-10 stresses the importance of introducing technical streams in schools

which will not only increase the *ability* to learn better skills, but will also *discourage drop-out* because of the possibility of employment at the end of the education process. The MTFD also emphasises the importance of employable skills and improvement of technical and managerial skills at the level of the SMEs where most job creation actually takes place

The focused policy would include studies on:

- ? Major investment to increase enrolment numbers, diversity, and quality of technical and vocational education. Currently, less than one percent Pakistanis in the age cohort of 15 - 23 years takes up vocational and technical education after leaving school compared with about 70 percent in Germany.
- ? Re-introducing technology streams in secondary school education to gradually aim for enrolment figures of 50 percent as in UK and Australia, would be an important first step.
- ? Starting major training and re-education programmes in SMEs for improving quality of processes, products and management, coupled with incentives for those who undertake such upgrades.
- ? Working on the assumption that the traditional vertical division of labour within a team, whereby some low skill agents (workers) undertake routine tasks and some high skill agents (managers) specialize in knowledge intensive tasks, can now take place across countries, a framework will also be generated that puts agent skill heterogeneity and matching at the centre of the analysis.
- ? It will be necessary to raise awareness about, and determine the real costs faced by ordinary people and businesses, specially those related to opportunity costs and the loss of valuable time, which erode the competitive advantage of lower salaries and wages.
- ? Reform labour policies in order to promote better productivity and better employer-employee relations.

5.4 Reviving the Entrepreneurial Spirit

An important corollary of fostering productivity and innovation is the need to create the enabling environment as well as the mechanism which will foster and reward innovation and enterprise, and help translate them into products and processes. It is essential therefore to support enterprise, specially when it is combined with skills, instead of stifling it to the extent that the entrepreneur looks for opportunities elsewhere. This requires creating strong integrated linkages between technology needs of industrial sector and patterns of R&D; science & technology; technical education, and information technology. These could take several forms such as Venture Capital, technology Parks and High-Tech industrial estates near the engineering and technical universities, and incentives to the private sector to promote investments in pioneering technology based industry and services. It will also be necessary to examine the impact of potential breakthroughs in science and technology, and measures to harness them to the national Vision, through regular Technology Forecast exercises.



Lahore School of Astrolabe Makers – family of Qaim Mohammad -was famous in the 16/17th Centuries.

The national entrepreneurial tradition is best exemplified by the family of Qaim Mohammad in Lahore which made advanced astrolabes for export to the Mediterranean. This type is famous for the fact that it offered the *unusual option of a solar calendar* in addition to the usual lunar calendar and other geographical data. These exquisite devices were tailored to customer demands, and not offered simply offerings as “exportable surplus”.

5.5 Industrial Diversification

The manufacturing and industrial sector of Pakistan is suffering from various structural problems resulting in slow growth rate of output and exports, low levels of investment, high concentration of the manufacturing industries, allocative, technical inefficiencies, poor quality of products, low levels of R&D activities

Manufacturing is growing faster at around 12 %, raising its share of GDP from 14.7% to 18.2% during 2000 – 05. This share is further expected to reach 21.9% in 2010 and 30% by 2030.

Ref: MTFD 2005-10

resulting into slow growth rates of productivity making the Pakistani products uncompetitive in the world market. The 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 percent of the total manufacturing value added. On the other hand industries based on the modern technologies such as machinery, both electrical and non-electrical, and automobile industries accounted for just 4.4 and 4.7 percent of value added respectively. Even though chemical industries accounted for around 15.2 percent of manufacturing output most of the chemical industrial output is concentrated in low-tech and low value added industries. The three sectors with the largest share in world trade are electronics and electrical machinery, pharmaceuticals and automobiles in that order with the last classed as medium technology have small share but fortunately all of them are doing well in Pakistan in recent years, with improving scales and supporting vendor industries.

Share of medium and high technology in overall Manufacturing Value Added is approximately 35% for Pakistan compared with around 58% for India and China, 61% for Korea, and 65 % for Malaysia.

Share of high technology goods in manufactured exports remains low at 1 %, compared with 5% for India, 23 % for China, 32% for Korea, and 58% for Malaysia

WDR 2005

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 must give way to an export led strategy, and to diversification away from traditional industries and services.

Empirical evidence suggests that diversification is unlikely to take place without directed government action and policies to embed private initiative within a framework of public action that encourages restructuring, diversification, and technological upgrade beyond what can be generated by market forces alone. The vision 2030 document will evaluate instruments available to the state which facilitate increased productivity *and* diversification. It will also:

- ? Identify the locomotives of growth in world economy and their changing compositions in the next 25 years.
- ? Devise an export led industrial growth strategy.
- ? Study threats to domestic businesses and industry from the point of identifying appropriate re-structuring and business improvement required.
- ? Examine the incentives and policies needed for pioneering industries, whether they are ‘new’ products, processes or technologies, so that the range of activities are expanded. This should be clearly distinguished from incentives for SMEs which relate to size, rather than growth of specialization.
- ? Propose strategy to move up the value added chain, relocation of industry including the choice of industry, and measures required to attract their re-location, and to develop Pakistan’s niche areas.
- ? Creating industrial zones, estates, and corridors, where skills and physical and administrative infrastructure can be clustered and matched for greater efficiency. Standards, certification and testing facilities to enable product ratings and approvals based on international quality benchmarks and accreditations.
- ? Enabling access to industrial technology and foreign investment through alliances, or sub-contracting from within or outside the country, by implementing appropriate *legal & regulatory frameworks* for IPRs, and for fast, efficient and transparent dispute resolution.
- ? Minerals and other strategic resources will be key components of future world growth.
- ? Establishing strategic linkages and alliances for funds and markets. It is necessary to generate detailed perspectives on *regional linkages* in industry and

? Pakistan’s ranking in ITA (Industrial cum Technological Advance) index was 42, compared with 35 for India, 16 for China, 27 for Brazil, 2 for Malaysia and 4 for Korea.

? ITA decomposed into Industrial Advance index (IA) showed Pakistan at 19th position, compared with 36 for India, 4 for China, 2 for Malaysia and 42 for Brazil. Korea was at the top.

UNIDO, IDR, 2005

services, and on the nature and benefits such regional blocs are likely to provide in the transition to a truly global economic village. The Vision exercise will examine incentives and infrastructure required for foreign companies to set up their operational or regional headquarters, regional distribution centres, and international / regional procurement centres, rather than simple country wide representative offices.

- ? The paradigm to affect service industry on how to make Pakistan ready and willing to play a larger role in the new regime and provisions under General Agreement on Trade in Services (GATS), especially in the area of banking, financial services, and transport & communications.

6. Critical Elements of the Macroeconomic Framework

Strategies for growth, poverty alleviation and employment are basic to development process which needs to be bolstered with sound planning, and greater human participation and ownership. A self-consistent macroeconomic framework, in the context of the long term Vision, will outline the main contours of the economy during the intermediate and terminal periods of the vision. It will provide the basis for consistent projections in other areas of the economy, namely, social and infrastructure sectors, in terms of setting sector priorities, financial availability, and demand for their services/products during the vision period.

Macroeconomic stability is a critical pre-requisite for ensuring continued investment and availability of required resources both from domestic and external sources. It is equally necessary for pursuing programmes and policies for further improvement in living standards and quality of life. Finally, the formulation of a neatly-defined macroeconomic framework will help spell out the types of changes/improvements - quantitative and qualitative - needed in different institutions that impinge up economic and social development.

6.1 Economic Growth

An approach to Vision 2030 must begin with a clear understanding of Pakistan's economic growth. The analysis has to explicitly explain the factors behind Pakistan's failure to break from the low-level equilibrium of economic and social well-being, and from the traditional-cum-feudalistic

modes of production and distribution, rapidly adopt the modes associated with the industrialized and growing countries the world

Pakistan per capita GDP (at constant market prices of 2005) is expected to near quadruple by 2030, advancing from Rs.43,000 in 2005 to Rs.164,000 in 2030. This is based on average annual growth rates of 7% and 1.4% in GDP and Population respectively.
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over and why despite half a century of development efforts, Pakistan continues to be trapped in a syndrome of low savings, low investment, low growth, low taxes and low productivity.

Economic development is a complex phenomenon as it is the outcome of myriad economic and non-economic determinants such as labour (quantity as well as quality), stock of capital, natural resources, level of technology, the size of entrepreneurship, the nature of infrastructure, the quality of governance and civil service, rule of law, quality of statecraft and government policies in fiscal, monetary, trade and planning fields, the political environment and the strength of institutions. Some of these have already been highlighted earlier. The focus of Vision 2030 therefore has to be on decomposing the development experience of the fast growing economies of the world into its critical sub-components and then assigning the appropriate weights to the economic and non-economic determinants, in relation to Pakistan.

6.2 Strategies for Growth and Investment

The main contours of the various macroeconomic models 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.

The Vision 2030 exercise will:

- a. Draw upon lessons from previous and current development efforts in Pakistan and elsewhere, specially about elements of pro-poor growth
- b. Prepare a blueprint for societal needs and strategic benchmarks for economic growth, poverty reduction, and social transformation in 2030
- c. Prepare macro-economic scenarios for Pakistan 'catching-up' rapidly with advancing countries through detailed modelling and simulation of various social and economic parameters which are probable and realistic enough to emerge during the next 25 years.
- d. Examine options for major strategic stances, diversification options and new initiatives for economic growth.

There is international consensus that the national competitiveness environment can be divided into four main categories:

a. Economic Performance

Domestic Performance
International Trade
International Investment
Employment
Prices

c. Business Efficiency

Productivity
Labour market
Finance
Management Practices
Attitude and Values

b. Government Efficiency

Public Finance
Fiscal Policies
Institutional Framework
Business Framework
Societal Framework

d. Infrastructure

Physical Infrastructure
Education
Health
Technological Infrastructure
Scientific Infrastructure

Each of these will be examined in the context of Pakistan of the present and the future, weaknesses highlighted, and actions proposed to mitigate them.

While economic growth is a sine qua non for higher level of economic development, when combined with social and infrastructure development, it both feeds into and feeds upon the remaining four areas. 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.

The vision would identify the strong points that have to be taken forward into the future; and the weak points that need to be either rectified or eliminated. It will further look at imperatives emerging from expected global scenario, and apply the desired share of the dream and vision for Pakistan in 2030. The Macroeconomic framework of Vision 2030 will reflect a mutually consistent state (present or future) of five key macroeconomic variables and their inter-connections:

- a. Economic Growth
- b. Distribution, Employment, and Poverty
- c. Inflation / Monetary developments.
- d. Foreign trade and capital flows.
- e. Public Finance

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.

6.3 Resource Mobilisation

Vision 2030 will enhance its legitimacy if a well-defined strategy is proposed and implemented to augment the national resource base by bringing about structural reforms in its 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.

The manufacturing sector contributes 68 percent to the national exchequer with 18 percent share in GDP and the major manufacturing sector such as textiles contribute relatively little. If the tax-GDP ratio has to grow all the sectors and the manufacturing activities would have to contribute.

In terms of revenue generation, sales tax has been the most prolific tax. Its share has increased in tax receipts from 23.4 percent in FY 99 to 40.6 percent in FY 05. The growth of sales tax in future will depend on expansion of its base particularly in extending the tax net to the services sector. Services sector in Pakistan is the dominant sector contributing 52.4 percent in GDP but it does not contribute its expected weight in revenue

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

? In Pakistan, however, the tax-to-GDP ratio has remained below 10% despite tax reforms; this reflects not only the inelasticity of the tax system but also its inefficacy (tax avoidance and evasion) and inequities.

generation. During FY 05, the sales tax/CED collection on services amounted to Rs 27.9 billion out of which Rs 20.4 billion were collected from only *one* sub-sector of services i.e. telecommunications services. The overall tax base needs to be broadened not only with a view to raising the existing low tax/GDP ratio to at least 16 per cent by 2030, but also for relieving the extra burden on the taxed part of GDP to save it from becoming sick and uncompetitive.

6.4 The Private Sector

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 percent.

In this context, privatisation of strategic assets in energy (looming shortages) may need to be re-examined. Separation of ownership from responsible corporate management practices must be reinforced.

The Vision 2030 would address these issues and come up with a well-defined and coherent policy package for further motivating the private sector which has to play its role as an engine of growth.

6.5 Foreign Trade

Pakistan has not been able to break out of the circle of high concentration of exports; textiles still accounts for two-thirds of exports. While share of engineering goods in world trade has hovered around 63%, Pakistan's share of this is infinitesimally small; engineering goods make up less than 1%. Issues of trading competitiveness are intimately linked with productivity and diversification of manufactures and services.

Pakistan's foreign trade has been gradually liberalised, its level of integration with the rest of the world is around 30 percent of GDP in 2004-05. What would be desirable ratio of trade: GDP for Pakistan and what is probable will be an essential part of the Vision 2030 exercise.

? *The value of per capita manufacturing in exports 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 %, compared with 19.7% for India, 45.6 % for China, 51.5 % for Brazil, 76.2% for Malaysia and 70.6% for Korea.*

UNIDO, IDR 2005

The services sector plays a pivotal role in sustaining the growth of Pakistan's economy, with a share of over 52 percent of GDP, and 44 percent of employed labour force. Its share in exports is also increasing with higher levels of outsourcing of software, financial, and manufacturing services on the back of a fast improving electronic connectivity whose unit consumer costs are falling. Further, a whole new array of manufacturing services have emerged recently spurred by growth of large sale manufacturing rapid and consumer demand. Major expansion in banking and financial sector is also raising the profile of services offered for export.

7. Income Distribution, Poverty Reduction and Employment Generation

Eradication of poverty, reduction in inequalities of income and improvements in quality of education are the crucial objectives for formulating the Vision 2030.

7.1 Income Distribution

Whereas economists in the past argued that economic growth and equity are incompatible, empirical studies point to a negative relationship between initial inequality and subsequent economic growth. Some actually go further in their endorsement of equity as an appropriate policy goal, suggesting that growth and equity are mutually reinforcing. In order to realize the goal of more equitable society, *Vision 2030 would have to thoroughly investigate and discuss the interventions for improving income distribution in a twenty-five year period.* These include (a) land redistribution, (b) widespread promotion of small scale enterprises and decent wage and (c) emphasis on human development at an accelerated pace. While the first intervention begins to have a visible impact on income distribution in the medium term, the impacts of latter two interventions are marginal and in case of human development fairly long-term.

7.2 Employment

Employment generation will follow the growth path adopted in Vision 2030. However given its emphasis on knowledge economy, sectoral composition of employment will further gravitate towards services sector. An essential pre-requisite to generate meaningful employment and decent work opportunities in transforming the economy into knowledge economy is to *match* the education and skill profile of the prospective job market entrants with the changing demand profile of the various sectors. Further, it becomes imperative to manage more productive employment for the nearly 30 million illiterate youth in the country and to bring them into the economic loop. *Vision 2030 would undertake such a detailed exercise on the demand side and then strategically intervene to match with the relevant supply of manpower through investment in education and vocational training. Additional measures will be necessary as such a strategy of employment generation may or may not be pro-poor.*

7.3 Poverty

The definition and measurement of poverty have evolved over time. The periodic changes in the definition stem from the variation both across time and space in the description of what constitutes socio-economic well-being. Earlier definitions focused on the cost of meeting basic needs necessary for maintaining minimum standard of living. The cost of minimum nutritional requirements is the most important component of the basic needs approach to the measurement of poverty. This definition has been strengthened by including socio-economic indicators of well being such as high rates of morbidity and mortality, prevalence of malnutrition, illiteracy, high infant and maternal mortality rates. Recently, the definition of poverty has been further broadened. New definitions incorporate problems of self-esteem, vulnerability to internal and external risks, exclusion from the development process and lack of social capital. The new additions to the definition of poverty capture the qualitative aspect of socio-economic well being. These definitions also influence the design of pro-poor policies for economic growth, public expenditures, safety net programmes and tools for assessing the impact of programmes and projects on poverty reduction. *Vision 2030 would have to dilate and debate not only on what combination of the quantitative and qualitative aspects of well-being to incorporate, but what aspects to prioritise in order to realize the vision.*

Generally poverty is a result of many and often mutually reinforcing factors including lack of productive resources to generate material wealth, illiteracy, prevalence of diseases, natural calamities such as floods, drought and man made calamities such as wars. With increasing urbanization expected in the coming decades, the number of poor in urban areas, mainly the unemployed and those engaged in the informal sector, will grow faster and thus turn poverty into an urban from the currently observed rural phenomena.

A cow in the EU attracts about two US dollars a day in subsidy in 2005 – more than poverty line numbers for a large number of human beings on earth.
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At the international level, an unequal economic and political partnership, as reflected in unfavourable terms of trade and other transactions for developing countries is also a major cause of poverty in developing countries. Some causes of poverty are not direct,

for example, traditions and norms which hinder effective resource utilisation and participation in income generating activities.

The following tentative goals for poverty reduction and income distribution are suggested for Vision 2030. These targets need to be debated and made consistent with overall growth and investment (including social sector spending) targets to be finalized during the process:

- i. Alleviation of poverty by 2030 is the major goal. Experiences of various countries show that reducing poverty below ten percent becomes a challenge and ‘pockets’ of poverty remain due to social and cultural rigidities, poverty would be reduced through targeted programs.
- ii. The trend of worsening income distribution ought to be reversed. Vision 2030 should, therefore, aim to further improve and achieve the GINI Coefficient between 0.30 and 0.35 by the year 2030.
- iii. The share in the national income of poorest 20 percent of the population has ranged from 6 to 8.5 percent in the last 50 years. Vision 2030 would aim to increase this share to around 8 to 10 percent.

8. Urbanisation and Infrastructure for the 24 Hour / 7 day Society

The level of urbanisation and the level of development are closely related, with urbanisation levels as high as 80% in the most developed countries. In 2005, urban dwellers in the world exceeded those living in rural areas for the first time in human history, and in Pakistan, too, the pace of this transformation is quite high. The urbanisation of Pakistan will pose new challenges, since the appalling state of most urban centres will only worsen if the development challenges are not recognised and dealt with in a planned and systematic manner. However an efficient management of urbanisation, can also provide powerful opportunities for economic and social progress, if more and more settlements can 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, and infrastructure.

? 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.

? Pakistan is the most highly urbanized country in South Asia today; in 2030 some 60% of Pakistanis will be urban dwellers – almost 130 million people compared with nearly 50 million today.

? Managing the economics and ecology of megacities and large metropolitan centers requires a complete shift in strategy paradigms as enunciated in MTFD 2005-10

Urban poverty, whether economic, skill based, socio-cultural, or political, is a unique feature of present times. Massive urbanisation in future can beget even greater social instability and severe alienation in the midst of rising urban poverty and expectations. Preserving social cohesion through a holistic approach toward urban planning and development will therefore be a major task. The Vision 2030 exercise will examine all trends and factors which impede or facilitate a harmonious set of hierarchical and complementary human settlements.

Modernization and structural transformation of the economy favour secondary and tertiary sectors, with gradually reducing share for the primary sector. Vision 2030 will incorporate a comprehensive approach to development of rural and urban areas keeping demographic and social changes in mind. These include:

- a. Enhancing rural-urban complementarities and linkages to improve the respective functional efficiencies for productivity, growth and sustainable development
- b. Provision of infrastructure and services, including electronic connectivity not just for living but for working, learning, and leisure. Major series of National Trade Corridors across the country (North - South and East – West) are essential components of current and future growth strategies.
- c. Ensuring equitable and balanced development through strengthened local governments
- d. Growing role of public-private partnerships, balanced against demands of building up social capital and social responsibility.

8.1 Gre at Pakistani Cities of the Future

It is reasonable to expect that some of the major cities of Pakistan such as Karachi, Lahore, Hyderabad, Peshawar Faisalabad, and Quetta will have evolved into world class cities, with major contributions to national growth and productivity, attracting visitors and immigrants for education, work and leisure. This will call for a harmonious set of hierarchical, and complementary human settlements around

What should Karachi look like in 2030?

- ? One of the *great* cities of the world, noted for its quality of life.
- ? It should have a diverse yet socially cohesive population of around 30 million (including its suburbs), pulsing with commerce and industry, and creative ideas for design and culture. It shall also host a vibrant migrant community.
- ? Its schools and universities will be eagerly sought by people from across the globe for their educationally stimulating environments, while its health care facilities shall be famous for their diagnostic and therapeutic procedures, the competence of the doctors and staff, and their low operating costs.
- ? 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 should be a major hub for travel by sea and air, in order to service the millions of travellers coming for business, education, leisure, and health. It shall sit at the southern end of a major transport corridor stretching from Central Asia through Afghanistan

them, developed within strategic master plans that emphasise the needs of the common citizenry and the less privileged, instead of being elitist in its approach.

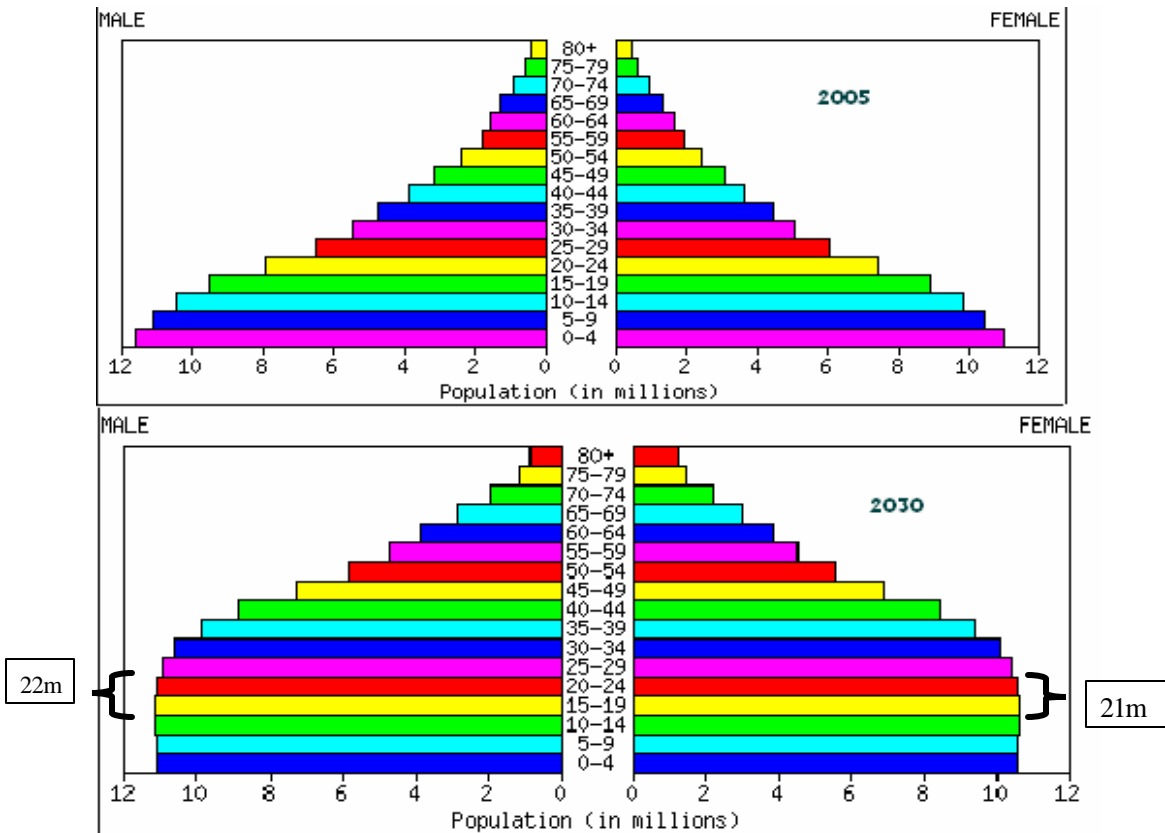
Developing some of our major cities into great hubs of trade and commerce would require different levels and intensities of infrastructure and connectivity to the outer world: low cost and efficient mass transit, by land, air and sea. How to become a global player through such functions would be an important part of the Vision exercise.

What shall Islamabad look like in 2030 ?

- ? Islamabad shall be a truly 21st century city - a medium sized city of gracious suburbs, parks and watercourses, wooded hills, and clean air - offering a unique quality of life to its citizens and visitors.
- ? 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. Each such urban mini-cluster should be self sufficient, and each should be famous for its offering of one or two particular products or services.
- ? Apart from an excellent infrastructure in housing, education, health, water, communication, its public transport facilities shall be unique in their efficiency, costs, and environmental sensitivity.
- ? Like ancient Taxila and Gandhara, it should have become be the 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.

9. Demographics: Growing Old and Rich Together

Human fertility issues generate heated debates, but these are closely related to the social and economic environment. Population stabilisation is also closely related to female labour force participation rates, infant mortality rates, son preferences, etc.



- ? With the decline in fertility rates and growth rate of population, the proportion of the population in working age group would rise. Such a phenomenon has resulted in demographic dividend in Far East Asian countries. However, an illiterate unemployed group of 30 – 40 million youth can create serious problems if efforts are not made to equip them with appropriate skills and meaningful employment. as obvious from the figures above
- ? *Ageing of the population* and care of the aged become important for Pakistan in 2030; with women being most vulnerable because of longer life expectation. 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 S & T.

- ? Since preventive care and treatment of infectious diseases will remain Pakistan's main concern, issues related to the nature of re-structuring needed to make these services available and affordable will need careful analysis.

80% of all persons in USA aged over 65 years have at least one chronic condition, and 50% have at least two.

- ? 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, would need to be carefully studied because of important social and political implications.

- ? There would be need to study a variety of issues related to demographics and skill levels and skills-mix.

- ? 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 is no doubt 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 with what skills?

10. Conclusions

The Approach Paper outlines the salient features of the Vision 2030 exercise which are aimed at providing the national guidelines and strategies needed to make Pakistan a developed nation within one generation. This will be judged by basically only one parameter - quality of life of each and every Pakistani, which will allow Pakistan to become a core nation state of the 21st century. This is the premise within which the framework for implementing Vision 2030 has been established.

The Approach Paper emphasises the four levels at which the Vision process will be placed. These are the nature of the state, the economy and society and the global imperatives in which the process will be embedded. It also illustrates issues related to energy, water, infrastructure, 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 approach paper highlights the role of a professional and competent Civil Service and measures needed to reform them and upgrade their capabilities and competence; without this essential component, the Vision cannot be implemented no matter how well it is formulated. The major source of future economic growth shall be improvement in productivity levels. Higher value added shall be generated by inducting knowledge inputs, better governance structure, improved quality, indigenous and export sales through standardized broad names. The economics of knowledge would underlie appropriate policies for growth and in this context Pakistan's seats of learning would be respected for their scholarship and erudition equally in the humanities, sciences, and engineering.

The institutional transformation will be the outcomes within the context of a fast changing, economically agile, well informed society. The state would have the basic responsibilities for the provision of justice, security, education, health, sanitation, water and other essential services.

Alleviation of poverty by 2030 is the major goal. Growth shall be accompanied with reduction in income inequality and raising the share of poorest 20 percent of the population from 6 percent to around 8 to 9 percent.

In summary, the Approach Paper presents 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. It highlights the current position of Pakistan according to international indicators, stresses the opportunities and threats from competition, and poses several questions whose answers will enable Pakistan to grasp the preferred future as stated in its Vision. Finally, the process framework for arriving at these solutions is proposed in the Annexe.

The Project Framework And Process: Executing Vision 2030

Forecasting has always been a complex task. It becomes even more daunting for the kind of exercise proposed here for Pakistan, because of the extensive inter-relation of issues within Pakistan, the region, and across the world. The difficulty is further enhanced by the fact that we will be using the parametric framework and wisdom of the year 2005, to define our way of life in the year 2030. We have to forecast, at the same time as we dream and plan, while allowing for flexibility and lateral movements.

It is therefore planned to analyse and predict a wide array of alternative futures. These will be accompanied by a matrix of strategies and policies to be adopted, which will be continually refreshed through a series of regular scrutiny.

1. The Tools

The *first foresight tool* will be to gather several panels of specialists and distinguished persons (15 – 20 panels, 5-6 persons in each) drawn from a variety of backgrounds - academia, industry, business, planners, social activists, political and literary figures - who would bring their experience and authority to the process.

Second, these groups will be asked to work within *global perspectives*, because only a global model within which Pakistan is ensconced and which allows the factoring in of current momentous transformations and inter-relationships (economic, political, social and technical) and possible future *surprises*, will enable Pakistan's profile in 2030 to emerge with reasonable accuracy and consistency.

Thirdly, extensive use will be made of the Delphi technique to forecast trends and priorities and thus provide foresight

Fourthly, all these activities will be augmented by lectures and discussions, conferences, and workshops that will lead to a more substantive view of specific issues of interest.

Chatham House rules will be followed. This will allow free and unabashed discussion sessions, since the aim is to dissect the issues threadbare on the road to a long term vision.

Fifth, since the stakeholders must include all regions of Pakistan; conference / seminars will be held at each of seven places in the beginning (May 2006) and near the end of the Project (March 2007).

Sixth, one international conference will be called during the last quarter of the Vision project, in order to touch base with others who have worked in this area in other countries.

2. The Processes in Vision 2030

The Vision 2030 exercise will follow the following sequence:

- a. Examine the key global parameters in 2030, in order to provide the appropriate backdrop, within which Pakistan will have to work. This will most likely involve the use of intermediate points in many instances
- b. Lay out the Pakistani parameters of Vision 2030. This will include physical targets and outcomes, and why they were chosen.
- c. Identify specific challenges Pakistan must face and overcome, in order to achieve its Vision for 2030. These will include both endogenous and exogenous factors, (social, economic, technological, and political) in matters of competition and national security.
- d. Prepare a macroeconomic and institutional framework, with costs thereof and resource mobilisation to achieve these goals
- e. Perform iterations *a.* to *d.* until consistency is attained.

3. Some Broad Themes

The list of subjects and issues will include (but will not be restricted to):

- i. Societal transformations, and the forces which will mould and shape them

- ii. Change in the nature and content of human enterprise, in agriculture, manufacturing and services, as well as trade in goods and services
- iii. Poverty, employment, and equality of opportunity
- iv. The nature, content and medium of education and communication
- v. Physical and social security, and leisure in 2030
- vi. Demographics, its dividend during transition, the family unit, ageing, and migration
- vii. The urban landscape in 2030; the city of the future as a self sustaining entity
- viii. Competition for diminishing resources of food, water, and energy; their access and management
- ix. Social re-organisation and pathways for better harmony
- x. The nature and instruments of nation states and national governments, and how international institutions will impinge upon them.
- xi. The nature and form of political and strategic forces and threats operating in the region.
- xii. An overarching economic framework, and strategies for growth and investment
- xiii. Enhancing competitiveness, productivity and diversification

Each of these subjects will be placed in the context of opportunities, challenges and threats which Pakistan will face. From this context, will appear a matrix of options, stances, and strategies, for achieving the national Vision 2030.

4. A Holistic Approach

The Vision 2030 exercise will have a holistic approach. It will also be an exercise in foresight, with as many details and probable options worked into each issue.

This is exemplified by the following simple example of Islamabad / Rawalpindi / Taxila having a probable combined population of 15 million people in 2030. Most of

this increase will be through migration and change of employment from agriculture to industry and services.

Within the perspective of urban planning and the attendant parameters, the way people will commute is considered here.

- ? Assuming, current practices do not change, 12 million persons will travel daily to the place of work or learning. If travel is within a radius of 5 Km (good urban planning!), then it will be 120 million man-Km units daily.
- ? Can we predict the nature and form of public transport in 2030, given present technologies and present trends, considering that it takes nearly 15 - 20 years for a technology to mature after its discovery? Will this transport 'vehicle' be locally made?
- ? Of course all services and non-manufacturing activities could be done *from home*. What is then the cost of such hardware and software connectivity.
- ? How does one handle education , since children must also interact with other humans as part of their social and psychological makeup.

This is a small example of the detailed forecasting and foresight generation that will need to be done in the Vision 2030 exercise.

5. Consultation with Distinguished Persons, Specialists and Stakeholders

The Planning Commission will work closely with stakeholders and professionals from government, industry and business, the civil society at large, political entities and the development practitioners, through a series of intensive interactions in small groups. These will be carried out in the form of invited lectures from distinguished persons or a small panel of experts. It is hoped that this exercise will help identify a group of 75- 80 'wise persons' who will be expected to work and prepare a vision for the nation beyond the normal exercise of churning out numbers.

While consultations within Pakistan are being conducted, at least one major session and forum is planned in Islamabad with some well known luminaries and statesmen,

international experts, Nobel Prize winners and visionaries to benchmark the input from local stakeholders within global perspectives.

Specifically, the following is proposed :

- ? Prepare 15 panels of 5 - 6 persons each, drawn from various walks of life in the country.
- ? Invite specialised lectures and presentations from experts in various areas.
- ? Invite a group of distinguished visionaries to Pakistan and carry out a week's forecasting exercise in 2005 and/or 2006 in a mountain retreat. Other invitees can include poets, political thinkers, and military strategists.

The Vision 2030 exercise should focus not only on providing information but also on changing mind-sets and building new networks; this process will be as important as outcome.

5 Lessons from Previous Foresight Exercises in other countries

Many countries have been regularly carrying out foresight exercises, which helps them plan for surprises. A large body of literature has built up detailing methods and tools employed to analyse all possible options, so that the most probable ones can be identified. Some common lessons and advice to wise men and panel members from these exercises are:

- a. There is *no simple correlation* between program objectives and foresight methods; studies should be designed and methods chosen carefully for each context and purpose
- b. Work *with* uncertainty.
- c. *Involve all* the stakeholders, not just 'experts' from the technology field(s).
- d. Choose team leaders *very* carefully.

A well selected Steering Committee or a Programme Leader can have a dramatic effect on successful outcomes or otherwise.

- e. *Must link* the foresight process with desired outcome, i.e. be mindful of the social and economic implications of the work - stakeholders are both producers and users of research.
- f. *Draw upon a wide range of expertise* in the experts' panels. For example, experts in a sub-field are often found to be more optimistic than those from neighbouring fields, perhaps because they are (subconsciously) acting as advocates for their sub-field;
- g. Be *realistic about time* available and what can be achieved.

Summary :

- ✍ Look for *wide* participation ,
- ✍ Provide *deep* interaction and
- ✍ Ask all involved to have a *long-term view* of benefits.
- ✍ Be *irreverent*