Roadmap For Economic Growth of Pakistan

Islamabad Policy Research Institute

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Acknowledgements

This volume is based on papers presented at the two-day national conference on "Roadmap for Economic Growth of Pakistan" held on October 22-23, 2014 at Marriott Hotel, Islamabad. The conference was jointly organized by the Islamabad Policy Research Institute (IPRI) and the Hanns Seidel Foundation (HSF), Islamabad. Both organizations shared the financial burden of holding the conference.

We are grateful to the authors of the articles published in this book. We are thankful to the Chief Guests who presided over the various sessions of the conference and to the scholars, students and professionals who accepted our invitation to participate in the conference.

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Acronyms

CPI	Consumer Price Index
GDP	Gross Domestic Product
FDI	Foreign Direct Investment
LDI	Long Distance International
HDI	Human Development Index
NER	Net Enrolment Rates
NFC	National Finance Commission
FBR	Federal Board of Revenue
SRO	Statutory Regulatory Order
M&E	Monitoring and Evaluation
NTT	Net Trade Theory
NEG	New Economic Geography
RPPs	Rental Power Plants
HME	Home Market Effect
TAPI	Turkmenistan-Afghanistan-Pakistan-India
IMF	International Monetary Fund
IRCC	Intergovernmental Panel on Climate Change
GSC	Government Sponsored Corporation
PES	Public Enterprises
PCOR	Public Committee on Restructuring
BASAS	Bilateral Air Services Agreements
WAPDA	Water and Power Development Authority
SBP	State Bank of Pakistan
BOD	Board of Directors
PSDP	Public Sector Development Programme
GOP	Government of Pakistan
MAF	Million Acre Feet
OFWM	On-Farm Water Management

JICA	Japan International Corporation Agency
UAF	University of Agriculture
WMRC	Water Management Research Centre
R&D	Research and Development
HDR	Human Development Report
MDGs	Millennium Development Goals
OSAT	Open Source Appropriate Technology
PSD	Private Sector Development
WEF	World Economic Forum
GCI	Global Competitiveness Index
VCD	Value Change Development
M4P	Making Market Work for Poor
LED	Local Economic Development
ADB	Asian Development Bank
PPP	Public Private Partnership
SMEs	Small and Medium Enterprises
SAP	Structural Adjustment Programme
SAFTA	South Asian Free Trade Agreement
CGE	Commutable General Equilibrium
WTO	World Trade Organization

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Introduction

Ambassador (R) Sohail Amin,
Muhammad Hanif, Maria Syed and Muhammad Nawaz

Pakistan's economy has not been doing well for the past few years. A number of factors are responsible for this situation.

Firstly, due to global financial crisis, Pakistan's exports have declined substantially. During the past few years, floods have also caused a loss of billions of rupees. External inflows have a close bearing on Pakistan's economy. Acute power shortages have slowed down economic activity and consequently economic growth. Insufficient revenue generation and lax collection have been old woes that continue to constrain the gross numbers. Since the onset of the 'war on terror', the national economy is estimated to have incurred a huge loss of approximately US$ 100 billion. Add to this the liability of the poor performing State-owned enterprises.

Economic planning is crucial for development efforts. Think tanks which observe the performance of the economy from the outside and are in a position to make objective assessments can offer their analyses and intellectual inputs to the government for any correction that the course of its policies might need. This two-day national conference on 'Roadmap for Economic Growth of Pakistan', held on October 22-23, 2014, was organised by the Islamabad Policy Research Institute and the Hanns Seidel Foundation with this objective in view. Renowned economists and policy experts of Pakistan attended it and deliberated on the current state of the country's economy to chart out a roadmap for its economic growth. The conference analysed the underlying reasons for the poor state of the economy and discussed the challenges it faces and the strategies to them.

This book contains the 11 papers presented at the conference. It is organized into two parts. The first part includes the welcome address by President IPRI, Ambassador (R) Sohail Amin, opening remarks by Mr. Kristof Duwaerts, Resident Representative HSF, Islamabad, inaugural address by the Chief Guest, Dr. Asad Zaman, Vice Chancellor, Pakistan Institute of Development Economics (PIDE), Islamabad, and the concluding address by Prof. Dr. Eatzaz Ahmed, Vice Chancellor, Quaid-i-Azam University, Islamabad. The second part contains the papers presented at the conference.

In his paper titled "**Economic Performance in Recent Past**", **Dr. Imran Sharif Chaudhry** states that Pakistan's economy has suffered various internal and external shocks since 2001 yet it has shown resilience.

He then analyses the economic performance of the country through the criterion of eight macroeconomic indicators: sectoral growth, investment and saving; inflation; fiscal sector; public debt; trade and payments; infrastructure development; and human resource. He highlights major achievements of the outgoing fiscal year that include improvement in tax collection, reduction in fiscal deficit, inflation contained at single digit, improvement in economic growth, record rise in worker remittances, grant of GSP plus status by EU, launching of Euro Bond, auctioning of long pending 3G and 4G licenses, significant increase in foreign exchange reserves, strengthening of Pakistani Rupee and creation of new history in stock market. He is of the view that development in social sector would follow achievement of short and long term economic goals.

Dr. Vaqar Ahmed in his paper on "**Fiscal Challenges and Response**" explains the two specific issues under fiscal policy which directly impact the growth process: low capacity of the state to raise public sector revenues and inability to cut down government's expenditure. He takes up the issue of tax reform and explains how various forms of tax exemptions, lack of capacity in tax administration and the missing political will to broaden the tax base have marred the revenue situation. He analyses the structural issues impeding the effectiveness of development expenditures in the country. He puts forth some policy recommendations on improving revenue collection and effectiveness of government expenditures.

Prof. Dr. Naheed Zia Khan's paper on "**Problems and Prospects of Foreign Direct Investment in Pakistan**" analyses the long-term implications of FDI on sustainable development. She examines the qualitative changes in Pakistan's society by analysing the economic, social and environmental impact of FDI. She is for FDI inflows provided the governance issues are addressed to redress the imbalances in distribution of gains. Her paper identifies the market and government forces which together can improve the competitiveness of Pakistan's economy as a host country for FDI.

In her paper on "**Meeting the Energy Requirements**", **Dr. Rehana Siddiqui** explains that rising population, higher energy intensity of output growth and mismanagement in demand and supply has led to energy crisis in most developing countries, particularly in South Asia. Power shortage in Pakistan is adversely affecting the production systems (the output losses varying between 30-60 per cent) and the quality of life of the population. Her study calls for efforts to resolve the current crisis both on demand and supply side. The focus of the demand side efforts should be to improve energy efficiency and energy conservation. The supply also needs to be

increased through an appropriate energy mix which is cost effective and that can meet the short term and long term energy needs of the country.

Dr. Ashfaque Hasan Khan in his paper on the subject of "**What Ails Pakistan's Public Finances**" gives an extensive overview of the issue and holds that fiscal discipline is essential for preventing macroeconomic crisis and realizing full growth potential and social development of the country. However, fiscal profligacy and failure to mobilize adequate resources to finance ever-growing public expenditure have emerged as the key economic issues of the country. For the past several years, the gap between budgeted revenue target calculated by the Federal Board of Revenue (FBR) and the actual revenue collected has been increasing. He notes that during budget planning, expenditures are finalized first, particularly development expenditure by making sure that projects of influential leaders receive adequate funding in the budget; and revenue is treated as a residual divorced from the level of economic activity or GDP. He suggests that in order to have financial discipline, expenditure should be treated as a residual and the chances of slippages should be minimized.

Prof. Dr. M. Arshad in his paper on "**Strategies for Enhancing Agricultural Growth and Food Security**" states that food production and security for the ever increasing population is becoming a great challenge for scientists and policy makers. Increased crop production in Pakistan is a great challenge along with improvement in producing quality and controlling the adverse impact of agricultural practices on natural resources and environment. Anticipating climate change and adjusting agricultural practices and technologies accordingly can assure food security for future generations. In this context his paper lays great stress on advancing research and developing adaptable technologies.

Dr. Bashir Ahmed Khilji's paper on "**Undertaking Structural Reforms and Reform of Public Sector Enterprises**" focuses on public enterprises and the privatization process in Pakistan. Explaining the rationale behind privatization process he holds that development through private enterprises remains the mainstay of public policy. The privatization commission has been created for this purpose. It is hoped the privatized units will achieve the desired profitability.

Dr. Allah Bakhsh Noon and **Muhammad Shafeeque** in their paper on "**Impact of Water Management and Climate Change on Economic Growth**" stress upon adopting water management practices to improve water availability and productivity at the farm. These practices include mainly watercourse improvement, precision land levelling, bed planting, and high efficiency irrigation systems, which have the potential to save water in the range of 20 to 70 per cent, increase crop yields by 20 to 30 per cent and increase farmers' net income by 20 per cent. They further add that

success of these practices, however, lies in creating awareness among farmers, providing back-up support and on the field intensive training to farmers. They warn that Pakistan is most vulnerable to climate change facing glacier retreats, floods, droughts and rise in temperature of 2^{o}C by 2050, which may result in severe reduction in river flows in the coming 40 years of the order of 40 to 50 per cent.

Dr. Bushra Yasmin in her paper on "**Tapping the Human Capital**" says that human capital accumulation and research and development (R & D) have been recognized not only as engines of growth but together as a sector that attracts other stimulating factors likes physical capital and investment beside serving as a positive externality that restrains the diminishing returns to scale due to its spill over effects. Conclusively, the effective use of physical capital depends on the quality of human capital for which technically, professionally and administratively trained people are required. Tapping the human capital in Pakistan by stimulating various contributing factors is a dire need. The budgetary allocation on education as percentage of GNP has remained very nominal i.e., around 2 per cent in the current decade. From the investment perspective, due attention is needed to be paid to gender and regional disparity in school attainment, quality of education, the missing link of industry-academia linkages, employability and tapping the labour force opportunities for youth that captures an overwhelming population proportion in Pakistan.

Dr. Usman Mustafa's paper focuses on "**Appropriate Development Strategy and Role of Private Sector**". The paper analyses government policies over the years, discusses the constraints to private sector development and strategies to overcome these problems. The paper further emphasizes the role and significance of 3Ps projects, their risks and ways of their successful implementation. He holds that business by Public Sector Enterprises is a recipe for disaster. Pakistan is witnessing the inefficiencies, overstaffing and tremendous financial losses in the enterprises run by Government. They have become liabilities and in order to run them government is bearing millions of rupees as "bailout packages".

In his paper on "**Tapping Potential Sectors of Growth**", **Prof. Dr. Ather Maqsood Ahmed** reviews the sectoral performance in Pakistan in historical perspective to identify the possible avenues of growth. He thinks that Pakistan has been an under-achiever in all the three sectors of the economy – agriculture, industry, and services. The agriculture sector has the potential to grow provided there is investment in human capital and appropriate technology is acquired and used. The manufacturing sector requires diversification of the base, its opening up to international trade and use of technological advances in the field. The growth potential of the services sector can be exploited if there is a holistic review of the numerous

services and the regulatory and taxation structures are streamlined accordingly.

Prof. Dr. Abdul Saboor, in his paper on "**Policy Imperatives of Trade Liberalization and Regional Integration for Pakistan** discusses how the comparative advantage in trade and regional integration can lower consumer costs, increase efficiency, accelerate growth and alleviate poverty in a country like Pakistan. With the changing dynamics of international trade policies and their implications on agriculture sector, several research interests have emerged to assess the comparative and competitive advantages among leading countries of SAARC including Pakistan's comparative advantage in farm exports over a period of three decades. The paper concludes that as per indexing specifications, Pakistan has significant comparative and competitive advantage in trade of cotton and rice followed by India and Bangladesh. India may attain top position in cotton, lint and rice. Pakistan would have to struggle to achieve the targets followed by Sri Lanka and Bangladesh. The dream of sustainable productivity and agriculture growth can only be materialized if public policy keeps track of the competitive and comparative configurations of major crops in South Asia.■

Welcome Address

Ambassador (R) Sohail Amin
President IPRI

Dr. Asad Zaman, Vice Chancellor, Pakistan Institute of Development Economics,
Mr. Kristof Duwaerts, Resident Representative, Hanns Seidel Foundation,
Excellencies,
Distinguished Scholars,
Ladies and Gentlemen.

Good Morning!

I welcome Dr. Asad Zaman, Vice Chancellor, Pakistan Institute of Development Economics, who has kindly accepted our invitation to be the Chief Guest at this conference. I also warmly welcome the distinguished scholars and economists from various centres of excellence who are participating in this conference as speakers.

It is a matter of great pride for Islamabad Policy Research Institute and our partner Hanns Seidel Foundation for having been able to arrange such a gathering of outstanding scholars and economic experts. The timing of this Conference is very appropriate since the government as well as the people of Pakistan are focused on the measures being taken for the economic development of Pakistan.

Pakistan is an important South Asian country with a vibrant society of 180 million people. To become an internally strong democratic welfare state and to play an important role for peace and development in the region, Pakistan needs economic progress.

According to some economists, our economy has not been developing as desired, due to various factors. In the aftermath of the global financial crisis, Pakistan's exports have suffered together with substantial decline in Foreign Direct Investment inflows. Persistent power shortages have been slowing down economic activity, depressing output levels and substantially reducing the growth rate. The chronic insufficiency of revenue generation continues to deprive the economy of any internal support. It is estimated that Pakistan's counter-terrorism efforts have caused Pakistan economic losses of more than 100 billion US dollars.

Ladies and Gentlemen,

Despite these serious constraints, the prospects of the economy reviving in the future look good. According to British Economist Jim O'Neill, Pakistan's economy has the potential to become the 18th largest economy of the world by 2050 from its current 44th position.. The signs of economic recovery are also being seen positively by the rest of the world. One positive indicator is the response of international investors to Pakistan's issuance of Eurobonds, reflecting renewed confidence in the country's economy. Inflation has slowed down. The value of rupee has appreciated against the dollar. Economic growth has been projected at 4.14 per cent, the highest growth rate in the last six years. During current fiscal year, Rs. 157 billion have been allocated for the Pakistan Development Funds.

There is consensus among economists that Pakistan needs to enhance its economic growth at a faster pace by addressing four main issues:

(i) Restoration of law and order,
(ii) meeting energy requirements,
(ii) developing infrastructure, and
(iii) efficiently utilizing our human capital.

This will help in attracting foreign investment, increasing value added industrial and farm output, increasing revenue generation and enhancing exports.

It is necessary therefore that Pakistan develops a long-term vision of economic growth and formulates a perspective plan of action with identifiable goals. The present government whose principal agenda is economic growth would certainly appreciate policy inputs from the country's think tanks. We hope therefore that this conference which has been organised with this end in view would come up with useful recommendations for policy makers.

Ladies and Gentlemen,

I once again thank the speakers and particularly the speakers who would be acting as Chairpersons to preside over the four sessions of the Conference, spread over two days. Papers read here will later be compiled in the form of a book which Islamabad Policy Research Institute will publish after the conference.

Thank you.■

Opening Remarks

Kristof W. Duwaerts,
Resident Representative, HSF, Islamabad

Pakistan's economy is not too bad, ranking 26th out of 188 nations, as per the IMF listing, in terms of GDP in 2013. In the past, Pakistan's economy has proved to be resilient. This country has not faced as many financial and economic hardships as other Asian nations during repeated waves of recession or international financial crises over the past decades. At a population growth rate of nearly 2 per cent per year, Pakistan has the 5th highest number of new citizens per year in the world in absolute terms after India, China, Nigeria and Indonesia. Therefore a comprehensive strategy is needed to address the challenges of population growth.

Many countries often face a dilemma whether a strong economy is a prerequisite for sustainable peace, or sustainable peace is a prerequisite for a strong economy. Obviously the two are mutually dependent and reinforcing, but a gradual strengthening of the economy is more conducive for stable peace. For example Federal Republic of Germany through its concentration on economic stabilization in the immediate post-war years, managed to become one of the economically stable nations in the world. Since then, Germany has continued to be the economic powerhouse of the European Union (EU) despite many setbacks in the recent past.

Pakistan faces many challenges. At the forefront stands the low literacy rate, energy deficiency, unemployment, as well as the exodus of young educated elites. Still, any of this is reversible. It is hoped that the conference would contribute towards formulating a roadmap. Pakistan has the potential of becoming the 18th strongest economy in the world by 2050. The country has vast resources, the potential for attracting major national and international investments, and has a huge powerbase which is made up of its young population.■

Inaugural Address

Dr. Asad Zaman
Vice Chancellor, Pakistan Institute of Development Economics (PIDE), Islamabad

Dr. Asad Zaman, Vice Chancellor, Pakistan Institute of Development Economics (PIDE), QAU Campus Islamabad, was the chief guest at the inaugural session of the conference. He thanked IPRI and HSF for inviting him to this important conference on the country's economy. In his presentation he said that it was not difficult to identify the solutions to Pakistan's economic malaise. What was needed was a well charted out strategy. Basically, the problems were "soft constraints" rather than "hard constraints" for economic development. The "hardware indicators" included energy, security, industry, technology, FDI, and exports, while the "software indicators" were community based human development. If the efforts were made only on hardware developments and software developments were ignored, this policy would not be very effective. Therefore, both these aspects needed to be addressed for economic development. Dr. Asad asserted that technological or physical constraints did not prevent Pakistan from development and progress. It were the mental constraints which slowed progress. But it was possible to devise a proper strategy by putting efforts in the right direction. The root problem was lack of self-confidence at the national level.

Dr. Asad rejected the idea of some economists on which both Marxists and Capitalists seemed to agree that development was just a matter of accumulation of capital. In fact what was needed was simultaneous coordination at various fronts for economic development. He also contested the prevailing concept that economic growth was imperative to reduce poverty through its trickledown effect. What happened during economic growth was that wealth tended to accumulate in the hands of few. He believed that improving human lives resulted in development which led to sustainable economic growth since people then become the drivers of growth. The government had to facilitate people to live a dignified life. In turn, people would provide ingredients for development and growth. He stressed that the importance of human development was visible from the fact that the first pillar of "Vision 2025" was human development. He was of the view that the most effective way to develop the potential of the people of Pakistan was through addressing their basic needs: nutrition, health and education. These issues were not beyond the capacity of Pakistan

to handle but the problem was lack of knowledge and political will. There was a need for cheaper and feasible intervention, which could bring dramatic improvement in the lives of the people as well as the economy.

Dr. Asad cited the findings of a team of economists (Duflo and Banerjee) who hold that poverty is not 'one big problem' but a combination of a thousand small ones. As such no single item plan could wipe out poverty, whether foreign aid, some mega project, privatization etc. Poverty had to be attacked from different fronts which it was not possible for a government or the private sector to do — managing thousands of small projects, the only viable solution was the allocation of adequate resources to the people for undertaking small projects which would help them to address poverty. This was not being done in third world countries, although large amounts of resources were not required. For example about $40 billion was needed for basic education, clean water, sanitation, basic health and nutrition globally. It was a small amount to spend on, whereas, ironically, $ 3 trillion was spent only during the Iraq war and more than a trillion spent to bail out the financial institutions. In the light of this, despite existing financial constraints, Pakistan could allocate the required resources to solve the poverty problem by encouraging and supporting small businesses to be carried out by the people themselves.

He said malnutrition was one of the biggest problems. It had a huge effect on low income segments resulting in low height, low physical strength and IQ level. The problem also lay with people who spent extravagantly on optional items like weddings and funerals, unhealthy rich food and tobacco. In case of Pakistan, over the past decade, though infant mortality had gone down in line with national standards, neonatal mortality had remained stable or increased. To achieve the Millennium Development Goals we needed focus on an infant's survival in the first month of its birth. Unskilled midwives who deliver babies outside hospitals need necessary skills. Dr. Asad also explained how micro nutrition problems could be tackled at a very low cost through provision of iodine and iron supplements to the mothers. Similarly, coarse grains were also a cheap intervention that provided a lot of calories and proteins, which were also affordable by the poor as in Thailand, China, Brazil and Vietnam.

Dr. Asad noted that life style changes were necessary by injecting awareness among people as lack of information was basic reason of numerous problems. In this regard, Community-driven initiatives need to be encouraged and government should provide background help to facilitate and support these projects. He cited the example of projects like Akhtar Hameed Comilla project, Orangi Pilot project and others. People are told those were their problem and they had to solve them by themselves;

government would only provide assistance. Resultantly, capacity building of communities would change the social fabric.

He also identified some problems in the health sector been out of ignorance. Effective and cheap preventive measures could be adopted such as improving water supply quality to avoid diseases that polluted water causes.

Dr. Asad concluded that the government's privatization plan and NGO's initiatives alone were not sufficient and there was also a need to change the prevailing bad social norms about poverty, health and nutrition. He emphasized that vision, inspiration and motivation were needed at political level to solve health, social and development issues.■

Concluding Address

Prof. Dr. Eatzaz Ahmad,
Vice Chancellor, Quaid-i-Azam University, Islamabad

Prof. Dr. Eatzaz Ahmad, Vice Chancellor, Quaid-i-Azan University, Islamabad, who was Chief Guest at the concluding session, thanked IPRI and HSF for inviting him to the conference and said that there were two basic tenets of economic growth which included savings and productivity. Savings not only provided more resources for productivity but could also be invested to build human and physical capital. Once the resources were generated for productivity, it was important to understand the utilization of these resources. He explained that growth depended on accumulation of physical capital, labour, and human capital. Moreover, variables like human capital, physical capital, energy inputs, governance, finance, law, corruption, religious values and politics were also factors in growth theories and growth models.

He further stated that in spite of inflation in Pakistan, if one compared the per capita income of today with the per capita income during 1950-60's in terms of standard of living, it was evident that today's per capita income had substantially improved living standards. But it did not mean that poverty had been eliminated but one had to be more pragmatic. Today's type of poverty was different as compared to the period of 1960's. During the 1960's one could talk about food poverty, whereas today, people were ready to live without enough food but could not live without mobile phones and transport. So these things had become the necessity of life and show better living standards. Thus from today's perspective poverty was there though its quality had changed.

Moreover, he noted that when growth took place, it also changed the composition of the economy. For instance, during the 1960's Pakistan's economy had more than 40 per cent share of agriculture, about 30 per cent of manufacturing, and less than 30 per cent of services. But now the share of agriculture was about 20 per cent, manufacturing 20-25 per cent and services about 55-57 per cent. However, the quality of consumer goods (food) had not been increased as much as availability of services. This had made Pakistani economy more vulnerable to shocks. Dr. Eatzaz further stated that financial sector had developed due to economic growth but to sustain that more effective monitoring and coordination was required in managing the economy.

Dr. Eatzaz identified bad governance and corruption as the main causes of the present economic woes of Pakistan. He recommended implementation of the models suggested by the economists for economic growth and development. He was hopeful that despite difficulties, country's economy would grow in the future as well.■

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Recommendations

Recommendations: Deliberations during the conference brought forth a number of recommendations which are summarized below:

- To become a progressive economy and an internally strong democratic welfare state, Pakistan must improve its law and order situation, address the energy crisis, enhance human development and develop infrastructure.
- Pakistan should take initiatives for sustainable economic development addressing the issues of lack of education and population growth. National and international efforts are required in this respect.
- Element of excessive spending at the societal level needs to be discouraged and norms of simple living need to be adopted.
- In order to enhance economic efficiency simultaneous coordinated progress is required on many fronts like the hardware of energy security, industry, technology, FDI, exports etc. and the software of economy such as human development and poverty alleviation.
- The government should invest in health and education sector by increasing the number of public schools and providing clean water to the people. The purpose should be to improve the quality of life of citizens which will in turn increase their productivity and help in poverty alleviation.
- More funds should be allocated to social development. In the last budget, very little was allocated to social development; 0.5 per cent to health and less than 2 per cent to education. To increase the living standards and the quality of population should be the real aim of economic growth. There is also a need to look into the alarming situation arising out of population growth, specially the increase in urban population.
- The tax system needs to be reformed. Taxes are imposed on/and collected from the poor, while the rich hardly pay any tax. This practice needs to be curbed and an unbiased tax system should be enacted. A similar policy should govern the public and private sectors. All multinationals must be made to pay taxes. The policy of exemptions and picking favourites must end.
- Budgeting policies must have continuity. The legislation must ensure that policies once announced remain valid for more than the life-span of a government and are introduced and changed only after a public debate before a select committee of the Parliament.

- The practice of taking loans (from foreign/international donor agency) should be made transparent. Loans to start mega projects should be made public and should be accepted after a debate has been conducted and consensus reached. A debate should be initiated on the utility of Planning Commission of Pakistan. The Planning Commission should not approve those projects for which funding is not available or which are not economically viable.
- Pakistan needs to broaden its tax base and also debate the agriculture tax on large land holdings while protecting the small and medium land holdings. Government should create an investment friendly environment in order to boost the economy and industrial activity. Pakistan needs to create space for the growth of new entrants in the private sector by removing the hurdles in their entry and their smooth operation.
- Fiscal indiscipline needs to be minimized. There is a need to introduce responsibility to stop reckless spending, do away with discretionary powers at all levels and ensure appointments on merit.
- Forecasting budgetary targets is essential for sound fiscal management. FBR should improve its ability to counter the budgetary flaws. To further strengthen the institution's efficiency, the culture of political appointments/nepotism needs to be eliminated.
- The current practice of treating revenue as residual must be reversed. At present, the forecast of revenue earnings for budgetary purposes is done on a hypothetical basis to match the funds required for development projects. In fact, projects should be prepared keeping in view a realistic target of revenue collection.
- Government should create an investment friendly environment in order to boost the economy and industrial activity. In this regard, laws should be made conducive and encouraging for foreign investors and to attract FDIs.
- A relatively under-developed infrastructure means that investment opportunities are abundant. If managed properly through currency swaps and bilateral trade deficit retention agreements, these could quickly bring in the much needed Foreign Direct Investment (FDI).
- In FDI Pakistan should give priority to enhancing its technological capacity rather than just focusing on acquisition of technology.
- There is a need to introduce technologically advanced methods for producing energy. Aging power plants have resulted in lower efficiency; they need to be improved/or replaced. Government should consider inviting foreign expertise in converting coal into

energy, adopting an integrated energy model, trained manpower and should follow the Korean model.

- There is a need to find an appropriate energy mix which is cost effective and can meet the short term and long-term energy needs of the country. Further reduction in power losses can be achieved by keeping a check on the illegal use of power.
- The yield gap between the potential and the present level of agricultural productivity should be made up through acceleration of seed production, timely supply of inputs, introducing innovative products and following best agronomic practices. The value addition of agriculture produce can lead to improving not only the economy but also food security.
- Pakistan should take all necessary measures to save erosion of soil and provision of rich fertilizers to make up deficiencies of soil created by effects of climate change such as loss of organic matter and rich top soil to increase crop production.
- Private sector participation must be encouraged at all levels. The objective is to have a conducive environment wherein both the public and private sectors can function side by side, and contribute towards the development of the country.
- Water management practices of laser land levelling, bed planting, water course improvement have the potential to save water in the range of 20 to 40 per cent and increase in net return to the farmers by 20 to 30 per cent. Such management practices should be encouraged.
- Rainwater harvesting in urban as well as in rural areas needs to be promoted for irrigation and for recharging groundwater.
- Pakistan has been ranked as the 3rd most vulnerable country to climate change effects. Climate change will have tremendous effects on its water resources especially the Indus river flows originating from melting glaciers. Building of water reservoirs and developing heat resistant crop varieties can help mitigate the climate change effects on agriculture.
- Tunnel farming offers good opportunity to the farmers especially having small land holdings. They can earn their living comfortably even from one acre of land if they can grow off-season vegetables. If proper marketing is guaranteed this technology can offer a lot of employment opportunities in the rural areas along with improvement of their livelihood.
- The economic benefits are significant if the harvested rainwater is properly used to recharge groundwater, grow vegetables and field crops.

- A skilled and globally competitive labour force is required for economic development. If the potential of the large young population is properly harnessed the advantages can be numerous like availability of cheap labour, entrepreneurship development, involvement of Pakistan's diaspora, developing low cost public support programmes, and long term skill development. Technical education should also be made easily accessible. Further, research organizations like universities must develop linkages with the industrial sector.
- Inconsistencies and weak implementation regarding policy and planning needs to be addressed. Demand-driven and skilled manpower of international standard should be developed.
- Agriculture, Industry and Services are the engines of economic growth. Agriculture sector has been resilient and strong throughout. This strength must be incorporated into the national industrial grid. This will bring about greater results. In addition, investment in human capital along with the application of appropriate technology would also be useful.
- The manufacturing sector requires investment in human capital, international trade transactions, financial development of the economy, and the use of technological advances in the field.
- Pakistan needs to focus on revival of comparative and competitive advantages. Policies relating to trade and regional integration should be amalgamated to form a good mix of various policies such as monitory policy, fiscal policy, investment policy and trade policy.■

CHAPTER 1

Economic Performance in Recent Past

Dr. Imran Sharif Chaudhry

Abstract

The performance of Pakistan's economy has been very volatile and fluctuating since its inception. The rider clause of our economic history is that the economy has been suffering from shocks of different nature and intensities albeit it has survived due to inbuilt resilience. The aim of this paper is to analyse the performance of Pakistan's economy in the recent past from 2001 to 2014. Eight socio-economic indicators have been selected for this purpose. The performance patterns and trends are established through descriptive and graphical analyses. In addition, a thorough analysis of the primary sectors of the economy — industry, agriculture and services, has also been carried out with findings. At the end, policy implications have been listed for chalking out a roadmap for Pakistan's economic growth.

Keywords: Economic performance; Growth; Inflation; Public debt; Trade and Payments; Pakistan

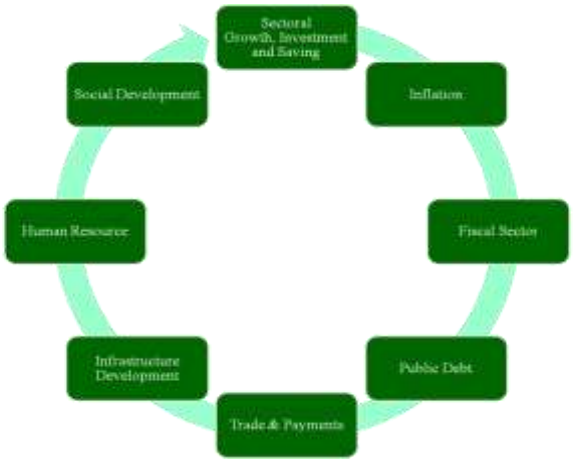
Introduction

The economy of Pakistan is the 26th largest in the world in terms of purchasing power parity (PPP), and 44th largest in terms of nominal GDP. However, Pakistan has a population of over 186 million (the world's 6th largest) making its GDP per capita as $3,149 ranking the country 140th in the world (Ahmed, 2010). Pakistan was ranked as 146th on HDI in 2014. Pakistan is a rapidly developing country and is one of the eleven declared countries that have a high potential to become the world's largest economies in the 21st century. However, after decades of internal security situation and social instability, as of 2013, serious deficiencies in basic services such as railway transportation and electric power generation had developed. A sound and sustained economic performance in an economy depends on balanced sectoral growth and right economic policies. The growth rate also depends on internal and external economic shocks, political stability and internal law and order situation in a country (Fischer, 1993). Besides that, the demand management policies based on sound

public finance play a primary role in supporting economic growth. Sound public finance minimize the distortion in taxation nets, ensure price stability and enhance the rate of return on investment by lowering the real interest rate; all these factors ultimately promote economic growth (Barro, Robert & Gordon, 1983). An economy with unstable fiscal position can recover by taking corrective measures to strengthen the external sector conditions by reducing the deficit and volatility of exchange rate (Malik & Ahmed, 2010). No doubt, the macroeconomic performance of a country helps the policy makers to find out the sluggish economic indicators and to design an effective policy to enhance their performance. This study will focus on the powerful macroeconomic indicators as shown in figure 1 to analyse the economic performance of Pakistan in the recent past.

Figure-1

Major Macroeconomic Indicators for the Analysis of Economic Performance



To examine the trends of sectoral growth, agriculture, manufacturing and services sectors have been considered. For resource mobilization, investment and savings behaviour have been examined. To observe the price stability or inflation rate, the study will examine the GDP deflator and Consumer Price Index (CPI) (King & Mervyn, 1997). To examine the effectiveness of fiscal sector, the study will examine the trends in revenue, expenditures and overall account deficit. The performance of trade and payments will be examined by observing exports, imports, work remittances, trade deficit and current account deficit. To analyse the

performance of human resources the study will consider population growth rate, labour force and employment. Finally, social sector development will be examined by using the performance of education and health determinants. To measure the macroeconomic performance this paper will give a brief review of existing economic indicators as follows;

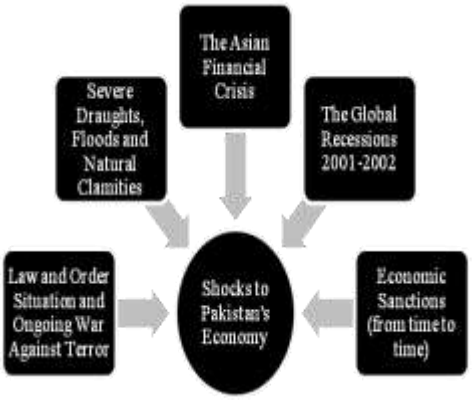
The second section will give a brief summary of major macroeconomic indicators in Pakistan. The third section will shed light on the performance of the financial sector. The fourth and fifth sections will describe price stability and performance of the fiscal sector respectively. The current situation of public debt will be discussed in the sixth section. Trade and payments and infrastructure development will be reviewed in section seventh and eighth respectively. The performance of human development and social development indicators will be explained in section ninth and tenth. Finally, eleventh section will provide some concluding remarks.

A Review of Macroeconomic Performance in Pakistan

Historically, Pakistan's overall economic output (GDP) has grown every year since the 1951 recession. Despite this record of sustained growth, Pakistan's economy had, until a few years ago, been characterized as unstable and highly vulnerable to external and internal shocks (Alahdad, 2012). However, the economy proved to be unexpectedly resilient in the face of multiple adverse events concentrated into recent years (2001 to 2014) as shown in figure 2.

Figure-2

Shocks to Pakistan's Economy



In Pakistan, the economic performance of major economic indicators during the sixties relied on the initiative of sound economic management and on the inventiveness of the private sector. The role of public sector was increased during the period of seventies by the shifting of management towards nationalization. The period of the eighties saw structural reforms, liberalization, privatization and stabilization measures (Alesian & Summers, 1993). Even in the eighties, Pakistan was considered among the higher macroeconomic performance economies in South Asia with an average growth rate of over six per cent (Khan & Senhadji, 2001). However, in the early nineties the performance of macroeconomic indicators worsened unprecedentedly in low level of investment, double digit inflation rate, poor tax to GDP ratio, poor governance of institutions and poor social sector indicators. While in the second half of the decade economic sanctions and tension on Afghanistan border were the major reasons that hit the performance of major macroeconomic indicators (Malik & Shahid, 2006).

The structural reforms which were introduced in the 1990s were continued in 2000s for recovery of the macroeconomic indicators. A number of bold and unpopular decisions were taken by the government like increase in petroleum prices and withdrawal of a number of subsidies to balance the fiscal situation (Kukreja, 2003). Despite that, in the early period of 2000s the improvement in macroeconomic performance remained short lived due to external and fiscal imbalances and the 'war on terror' after the event of September 11. In addition, unemployment and poverty remained major challenges to Pakistan's economy (Ahmed, 2011).

In 2001 to 2004 a three years' standby agreement for Poverty Reduction and Growth Facility was executed to fulfil the conditions of the IMF. In addition, different structural reforms concerning privatization, restructuring the financial sector, bank reforms, deregulation of the economy and liberalization were introduced to put the economy on the road to recovery (Uppal, 2011). Major emphasis was given to the liberalization of foreign exchange regime and privatization of telecommunication, banking and energy sectors. All these efforts improved macroeconomic stability which made the stock market attractive and developed the confidence of foreign investors (Meltzer, 1987). As a result huge public sector investment especially in housing and physical infrastructure and in water and power sector was observed. After the event of September 11 the alliance of Pakistani forces with American forces to fight against terrorism also helped the economy. For instance, the writing off of various external debts, approximately US $1.5 billion annual relief in debt service charges and rescheduling of 12.5 billion multilateral and bilateral external debts rescued the meagre macroeconomic indicators (Faisal, 2004). The access to

European countries and United States' markets helped to enhance the exports and balance of payments. To examine the macroeconomic performance the study will focus on the financial sector, price stability, the situation of fiscal policy, public debts, trade and payments, infrastructure development and social sector development in the country.

Sectoral Growth, Investment and Saving Behaviour

Sectoral Growth Rate

The outgoing year witnessed global recovery and the global outlook indicated some signs of optimism during the second half of 2013. In South Asia, Pakistan's economic performance has been improving quantitatively and qualitatively and has made the highest achievement since 2008-09. The economic growth of Pakistan depends on all sectors of the economy. Major achievements of the outgoing fiscal year 2013-14 include improvement in tax collection, reduction in fiscal deficit, inflation contained at single digit, improvement in economic growth, worker remittances touch new height, achieving of GSP plus status by EU, launching of Euro Bond, auctioning of long pending 3G and 4G licenses, significant increase in foreign exchange reserves, strengthening of Pakistani Rupee and creating new history in stock market. Inclusive growth is one of the top agenda of the present government to reinvigorate the economy, spur growth, maintain price stability, provide jobs to the youth and rebuild the key infrastructure of the economy. The GDP growth accelerates to 4.43 per cent in 2013-14 as compared to last year growth which was 3.70 per cent. All sectors of the economy have shared the economic growth (Pakistan Economic Survey; 2013-14).

Agriculture Productivity

The contribution of agriculture sector in GDP is almost 21.0 per cent and this sector is creating almost 45 per cent employment opportunities. The sector has a growth rate of 2.1 per cent against the growth of 2.9 per cent last year. The main reason for decline in its growth rate was the reduction in cotton production and other minor crops due to unfavourable weather conditions but somehow compensated by the better output of rice, sugarcane, wheat and maize crops. The important crops include all major crops like wheat, maize, rice, sugarcane and cotton which registered growth at 4.44 per cent, 7.27 per cent, 22.79 per cent, 4.27 per cent and (-) 2.00 per cent respectively (Pakistan Economic Survey; 2013-14). The growth rate of Livestock is 2.88 per cent against 3.99 per cent last year. The growth rate of the Forestry sub-sector was at 1.52 per cent as compared to 0.99 per cent last year. The Fisheries sub-sector has 2.03 per cent contribution in

agriculture; it registered growth at 0.98 per cent as compared to 0.65 per cent last year (Pakistan Economic Survey; 2013-14).

Manufacturing Sector

The major source of tax revenues for the government is the industrial sector which significantly contributes in provision of employment opportunities to the labour force. Its contribution is 20.8 per cent in GDP. Revival of the industrial sector started with remarkable growth of 5.8 per cent as compared to 1.4 per cent last year as a result of the implementation of comprehensive policy measures on fast track to revive the economy. Manufacturing is an industrial sub sector contributing 64.92 per cent production of the overall industrial sector with the present growth of 4.55 per cent compared to the growth of 3.53 per cent last year (Pakistan Economic Survey; 2013-14).

Services Sector

The growth rate of the Services sector is 4.3 per cent as compared to 4.9 per cent last year. The performance of this sector has been satisfactory and all components of services i.e. general government services, finance and insurance, housing services, transport, storage and communication, wholesale and retail trade and other private services have played a positive role in its growth. Pakistan like other developing countries is a consumption oriented society. In nominal terms the private consumption expenditure reached 80.49 per cent of GDP whereas public consumption expenditures stood at 12.00 per cent of GDP. Total consumption expenditures have reached to 92.49 per cent of GDP in outgoing fiscal year compared to 92.14 per cent in the last fiscal year. Sectoral growth rate is shown in figure 3. The increase and decrease in the growth rate of GDP is shown in figure 4 (Pakistan Economic Survey; 2013-14).

Figure-3

Growth Rate (at Constant fc) Per cent

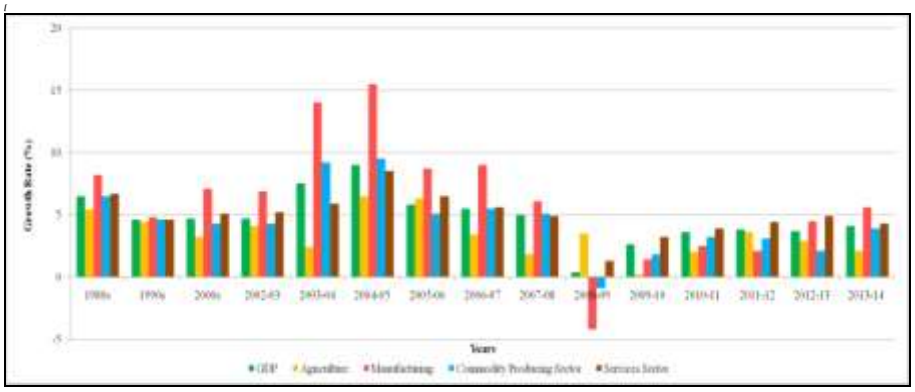
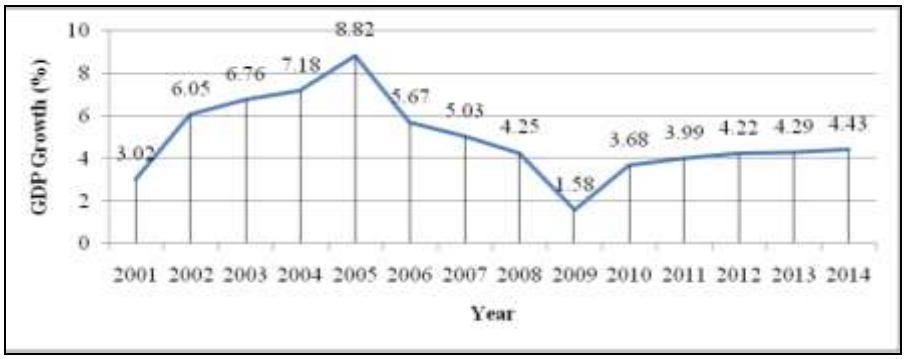


Figure-4
Percentage Increase/Decrease in GDP Growth Per Annum

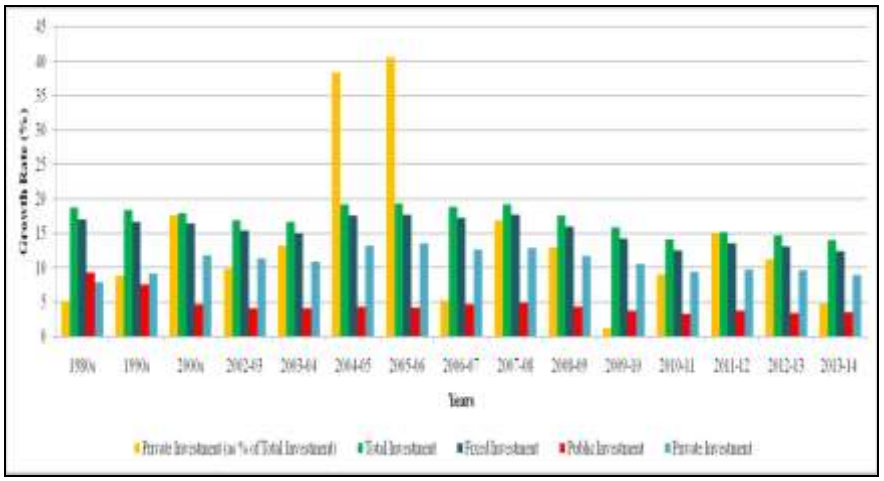


Investment

During the last few years Investment has been hit hard by internal and external factors. The growth rate of total investment is 14.8 per cent as compared to 14.6 per cent last year. Public investment recorded an impressive growth rate at 3.5 per cent as compared to 3.3 per cent last year. Total investment which was recorded at Rs.3276 billion in 2012-13 increased to Rs.3554 billion in 2013-14. Public investment which was recorded at Rs.748 billion in 2012-13 is reported at Rs.877 billion in 2013-14. Public investment as a per cent of GDP increased to 3.5 per cent against 3.33 per cent last year (Pakistan Economic Survey; 2013-14). A number of initiatives are being taken by the present government to create investment friendly environment in the country and various steps are also being taken to overcome energy crisis, and improve the law and order situation. The auction of 3G and 4G licenses, and other investment friendly incentives have been given to investors. During July-March, 2013-14 credit facilities to private sector increased to Rs.335.8 billion as compared to Rs.139.8 billion in the comparable period last year (Pakistan Economic Survey; 2013-14). The trend in investment growth rate is shown in figure 5.

Figure-5

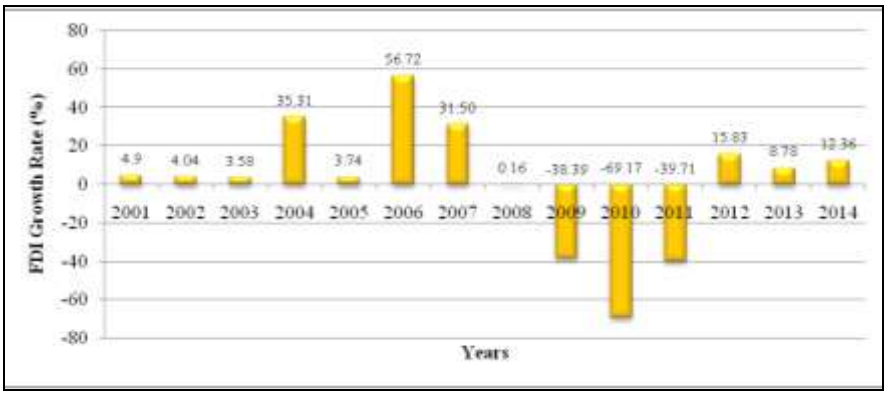
Investment Growth Rates



Foreign direct investment (FDI) in Pakistan has shown a sinusoidal behaviour as shown in figure 6. Pakistan has achieved FDI of almost $5200 Million in the financial year 2007-08, which boosted the GDP to a great extent (Haque, 2011). Foreign investment had significantly declined by 2010, due to Pakistan's political instability and weak law and order situation. Foreign investors seem to have lost their confidence in Pakistan and since 2011 improvement in this situation is awaited. For restoration of such confidence, the law and order situation needs to be improved. The trend line indicates that with prevalence of existing conditions, the FDI values will increase in the future but will remain within the moderate range ($4000 to $5000 Million). The performance of government with regard to FDI depends on the investment environment (Gul, 2014). Towards this end, government has involved foreign firms in the latest initiatives. Few Chinese and Turkish firms have started their initiatives in energy and infrastructure sectors which will accrue economic dividends. However, more efforts are required to attract more FDI for boosting the GDP of the country. In the current year, FDI growth has increased by 3.58 per cent from the previous year.

Figure-6

FDI Growth Rates



Savings and Remittances

The government is making arrangements to explore new markets to export its manpower and providing incentives for the increase in remittances to enhance its growth. In terms of the largest recipient of remittances in the world, Pakistan is ranked on 7th number in the world and is the second largest recipient of remittances in South Asian region. Pakistan is also one of the 20 countries of the world where remittances cover more than 20 per cent of imports and also remittances are equivalent to more than 30 per cent of exports. The inflow of the remittances for the period of July-April 2013-14 stood at $ 1,289.46 million as compared to $ 1,156.98 million during the corresponding period last year, which is 11.45 per cent higher over the previous period (Migration and Remittances report, World Bank; 2014).

Historically, Pakistan has had a fairly comprehensive policy stand particularly in terms of liberalization and integration with the world economy. But constant reliance on international financial institutions and bilateral donors such as U.S., Japan, Saudi Arabia and China has made the policy makers tread a tight rope path with little scope for indulgence. A country with normal domestic savings rate of 15 per cent of GDP and a tax-GDP ratio of 9 per cent would always be constrained in pursuing a self-propelling growth trajectory. The ill-starred undesirable view of the private sector, foreign investment, multinational corporations and privatization prevalent in the country would always keep us below our potential. China with 1.2 billion people, could have relied upon its bulky internal market but has risen as the world's number one exporting nation and the largest beneficiary of foreign investment. The most urgent policy reform needed is in the area of fiscal policy — both revenues and expenditures'

rationalization. As shown in figure 7, public saving of 5 to 6 per cent of GDP has become the core source of low domestic savings. National savings are 12.9 per cent of GDP in 2013-14 against 13.5 per cent in 2012-13. Domestic savings stand at 7.5 per cent of GDP in 2013-14 compared to 8.3 per cent of GDP in 2012-13. Net foreign resource inflows are financing the saving-investment gap (Pakistan Economic Survey; 2012-13). Per capita income grew at the rate of 3.5 per cent in 2013-14 as compared to 1.44 per cent last year which is shown in figure 8.

Figure-7

Savings Growth Rates

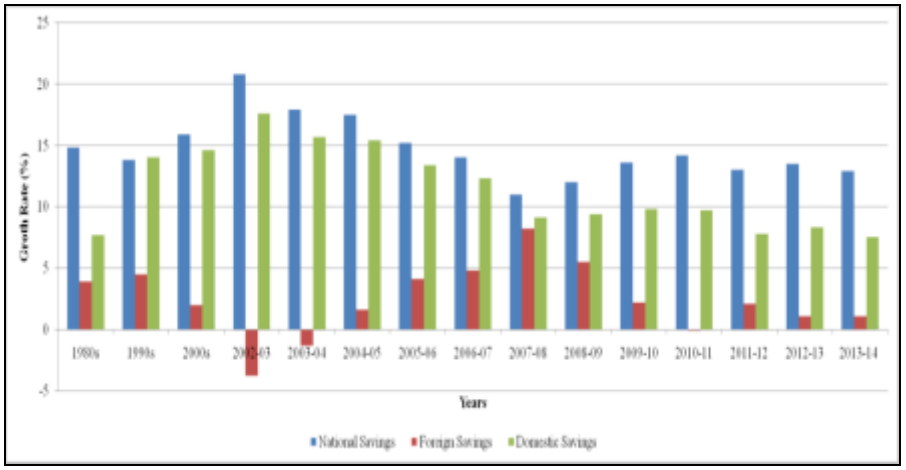
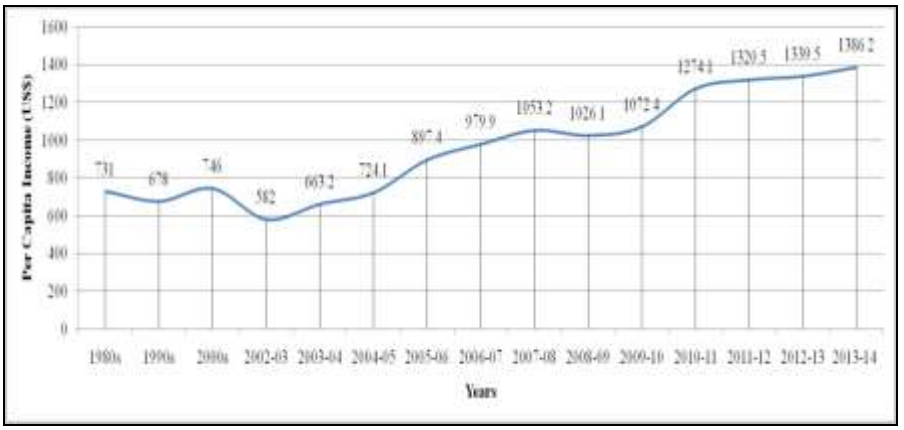


Figure-8

Trend of Per Capita Income

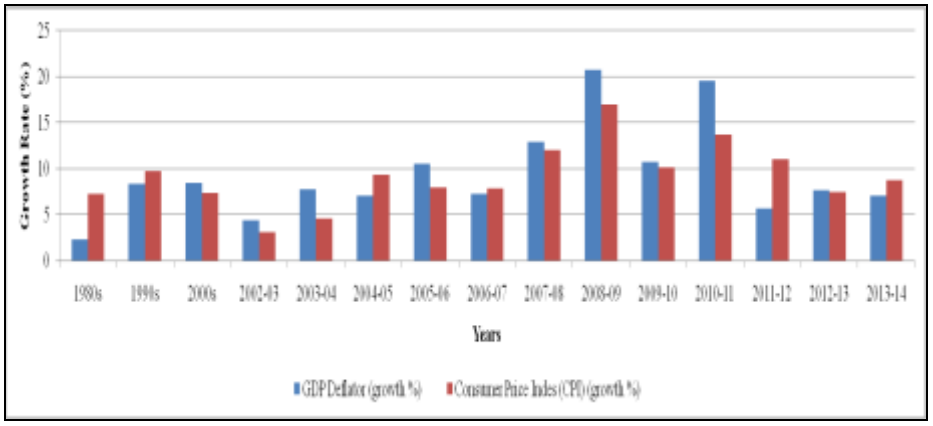


Inflation in Pakistan

The inflation rate as shown by the changes in Consumer Price Index (CPI), averaged at 8.7 per cent during July-April 2013-14 against 7.7 per cent in the comparable period last year. The increase in food inflation during the existing year has driven up the general inflation increase. On a regular basis in July-April 2013-14 it is assessed at 9.3 per cent while non-food stands at 8.2 per cent, as against 7.1 per cent and 8.2 per cent in the corresponding periods last year. CPI food items have shown a declining tendency in the prices of gram pulse, mash pulse, vegetable ghee, cooking oil and mustard oil. The core inflation on average basis during July-April 2013-14 stood at 8.3 per cent against 9.9 per cent in the previous year. The trend of GDP deflator and CPI is shown in figure 9 (Pakistan Economic Survey; 2013-14).

Figure-9

GDP Deflator and Consumer Price Index



The Performance of Fiscal Sector

The fiscal performance will be examined on the basis of fiscal development which includes performance in tax revenue, non-tax revenue, current expenditures and development expenditures.

Fiscal Development

The fiscal deficit persisted around yearly average of 4.5 per cent of GDP while the primary balances remained on the higher side. The monetary policy remained expansionary during 2000's i.e. huge PSDP during these

years; however, decrease in debt servicing charges as a result of debt rearrangement did aid in reducing this fiscal deficit. This deficit was funded by bank borrowing i.e. 5.8 per cent, non-bank borrowing i.e. 62.4 per cent and from peripheral resources i.e. 31.8 per cent. The current account balance remained surplus around an annual average of 1.9 per cent of the GDP. The exports varied around 18.4 per cent of the GDP per annum. However, the imports continued liberal and rose at a faster rate i.e. 40 per cent yearly. The growing oil prices also raised the import bill. The trade gap increased but ever-rising remittances since September 11, 2001 kept the current account balance in the positive (Pakistan Economic Survey; 2000-01).

The current administration soon after coming into power in June, 2013, took immediate measures to develop the fiscal condition through expenditure management strategy and raising tax and non-tax revenues during fiscal year 2013-14. Under cautious expenditure management strategy, several initiatives have been taken including 30 per cent cut in existing budget of ministries except pay and allowances, phasing out of electricity subsidies and announced restructuring of bleeding PSEs. In an effort to increase resource utilization efforts in the country and increase tax to GDP ratio from the lowest level of 8.7 per cent to 15 per cent in the next few years, a widespread strategy is being created which encompasses three broad categories: a) broadening of tax base, b) removing anomalies in the taxation system and c) cultivating tax compliance. As a result of these efforts, preliminary gains started to appear as fiscal deficit fell to 3.2 per cent of GDP during July-March 2013-14, against 4.7 per cent in the analogous period of last year (Pakistan Economic Survey; 2013-14).

Total spending of Rs. 5,297.2 billion was assessed for the full year, comprising of Rs. 3,963 billion of current expenditure (74.8 per cent of total) and Rs. 1,334.3 billion of development expenditure and net lending (25.2 per cent of total). Throughout July-March 2013-14, total expenditures were controlled at 3.7 per cent against 20.4 per cent growth in the same period of 2012-13 (Pakistan Economic Survey; 2012-13). Total revenue increased by 16.6 per cent during July-March 2013-14, and stood at Rs. 2,477.4 billion against Rs. 2,124.9 billion in the same period of 2012-13. Tax revenues amounted to Rs. 1,786.2 billion against Rs.1, 527.8 billion in the same period in the previous year, and thus dispatched a growth of 16.9 per cent. Noteworthy growth in tax revenues was chiefly on account of significant rise in federal tax collection by 16.3 per cent. While non-tax revenues posted a significant growth of 15.8 per cent during July-March 2013-14, which amounted to Rs. 691.2 billion against Rs.597.0 billion in the same period of last year. Fiscal accounts experienced some interval on account of reduced subsidies, which remained lower than last year as it

reached Rs. 201.8 billion during July-March 2013-14 against Rs. 270.0 billion in the similar period of 2012-13. Following a development of 24.3 per cent in rural tax revenues and 13.9 per cent in federal transfers, the provincial surpluses posted a higher growth and reached Rs. 257.9 billion during July-March 2013-14. During July-April 2013-14, FBR collected an amount of Rs. 1,744.8 billion as provisional tax against Rs. 1,505.5 billion in the analogous period of 2012-13, reflecting a growth of around 15.9 per cent. Throughout the first ten months of the existing fiscal year, among the four federal taxes, utmost growth was witnessed in direct tax at 18.9 per cent followed by sales tax at 18.8 per cent and federal excise at 14.0 per cent. Through July-April 2013-14, direct taxes continued as a major source of FBR tax revenue collection, subsidizing 37.7 per cent of total FBR revenues. Net collection was projected at Rs. 658.1 billion against Rs. 553.5 billion in the equivalent period of fiscal year 2012-13. Indirect taxes increased by 14.2 per cent in the first ten months of current fiscal year and accounted for 62.2 per cent of total FBR collection. Net collection was estimated at Rs. 1,086.7 billion against Rs. 951.9 billion in the similar period last year. The growth rate of fiscal revenue is shown in figure 10 while the assessment of expenditures is highlighted in figure 11. The fiscal deficit against revenue and expenditures is shown in figure 12 (Pakistan Economic Survey; 2013-14).

Figure-10

Growth Rate of Fiscal Revenue

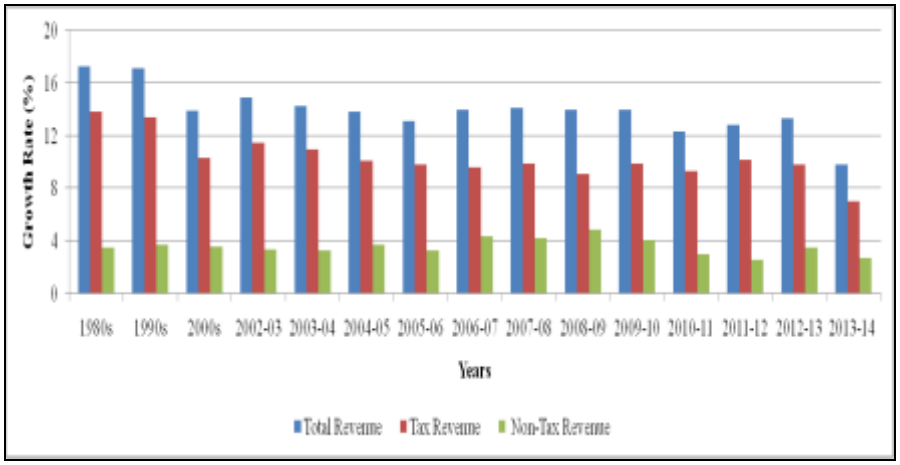


Figure-11

Growth Rate of Expenditure

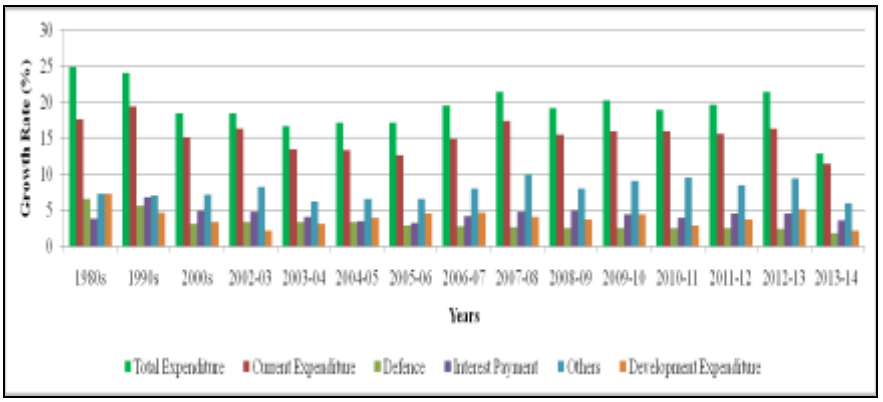
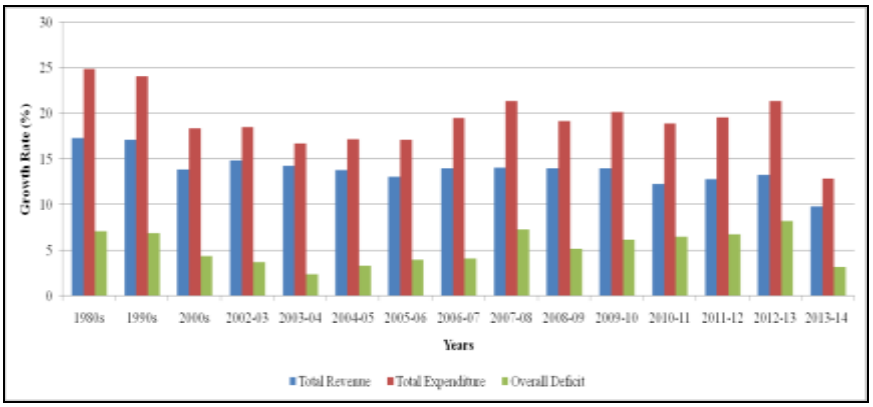


Figure-12

Growth Rate of Overall Deficit



Public Debt in Pakistan

The external debt has increased to $37 billion in 2005 that is 36.6 per cent of the GDP as related to 50.2 per cent of GDP in 2000. Public debt stock extended to Rs.15,534 billion at the end of March 2014, representing an increase of Rs.1,168 billion or 8 per cent higher over last fiscal year. The primary source of growth in public debt during first nine months of the existing fiscal year was domestic debt that stood at Rs.10,823 billion representing an increase of 14 per cent over end June 2013. The external debt stood at Rs. 4,711 billion by end March 2014, representing a reduction of Rs.138 billion as compared to end June 2013. This waning in external

debt during first nine months of current fiscal year is chiefly credited to net repayments and appreciation of Pak Rupee against US Dollar (Pakistan Economic Survey; 2013-14).

Government took subsequent measures to successfully accomplish its public debt during first nine months of the current fiscal year: Developed its first Medium Term Debt Management Strategy (2014-18) to take informed financing decisions based on the evaluation of cost-risk tradeoffs. Trading of government debt devices was resorted to broaden the investor base and have a liquid government securities market. Pakistan positively tapped international capital markets after a gap of 7 years and elevated US$ 2 billion against the initial expectations of US$ 500 million. This operation represented the largest ever international bond offering for Pakistan. With amplified foreign inflows, the government was able to lessen the pressure on domestic resources while strengthening the foreign exchange assets vis-à-vis improving exchange rate parity which also assisted in reduction in external public debt.

Figure-13

Trend of Public Debt

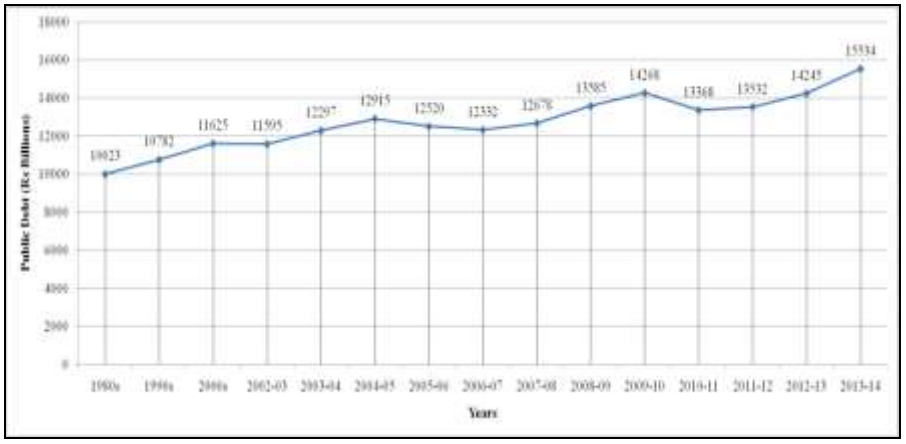


Figure-14
Trend of Internal and External Debt

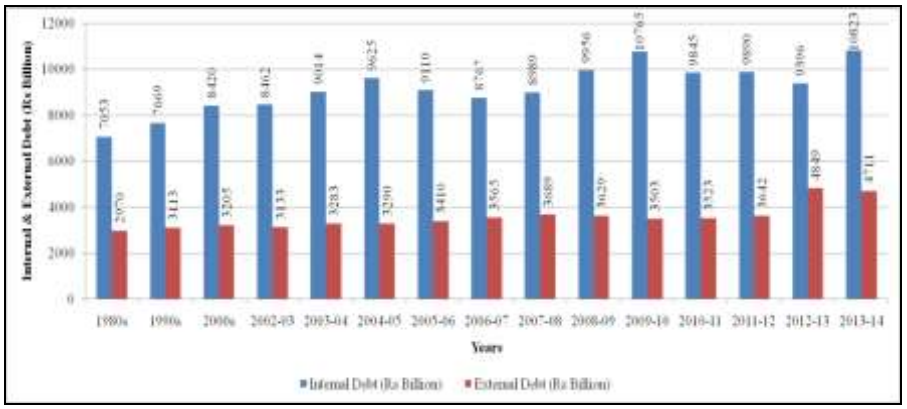
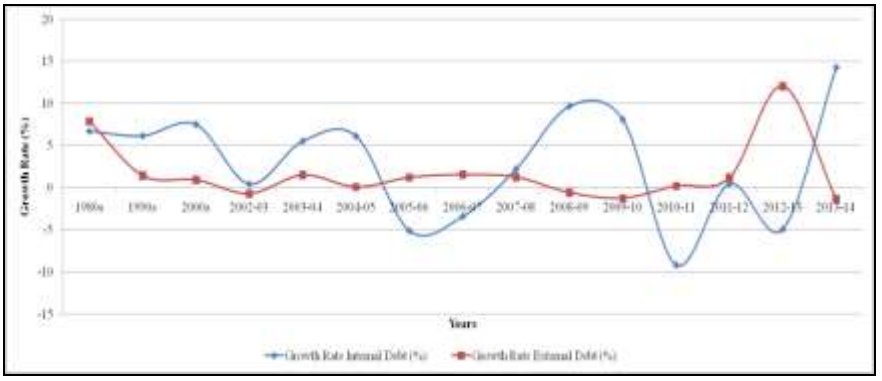


Figure-15
Growth Rate of Internal and External Debt



Trade and Payments

Exports during the first ten months (July-April) of the current fiscal year touched US$ 20,997 million rising from US$ 20,143 million in the same period last year thus showing a growth of 4.24 per cent. While imports during the first ten months (July-April) showed a growth of 1.2 per cent associated with the same period last year and reached $37,105 million against $36,665 million in the same period of the previous year.

Trade account balance noted a slightly higher deficit during July-April 2013-14 compared to same period last year. Trade account deficit increased by 2.8 per cent in July-April 2013-14. Services account deficit persisted higher and stood at $2,171 million during July-April 2013-14, as

compared to $931 million last year. Higher services account scarcity was the result of lower receipts under alliance support fund during July-April, 2013-14, compared to the same period last year. On the other hand, it is expected that the receipt of CSF amount of $375 million in May 2014 will expand the current account deficit (Pakistan Economic Survey; 2013-14).

Worker's remittances presented a healthy growth of 11.5 per cent and reached $12,894.6 million during July-April 2013-14 as against $11,569.8 million in the analogous period of last year. Current account deficit progressively rose during current financial year (July-April) to $ 2,162 million (0.9 per cent of GDP) from $1,574 million during July-April 2012-13 (0.7 per cent of GDP) due to higher deficit in the services account. Capital and financial account developed and rose by a substantial amount of $4,998 million during July-April 2013-14 as compared to a deficit of $440 million in the same period last year.

Figure-16

Growth Rate of Exports, Imports and Workers' Remittances

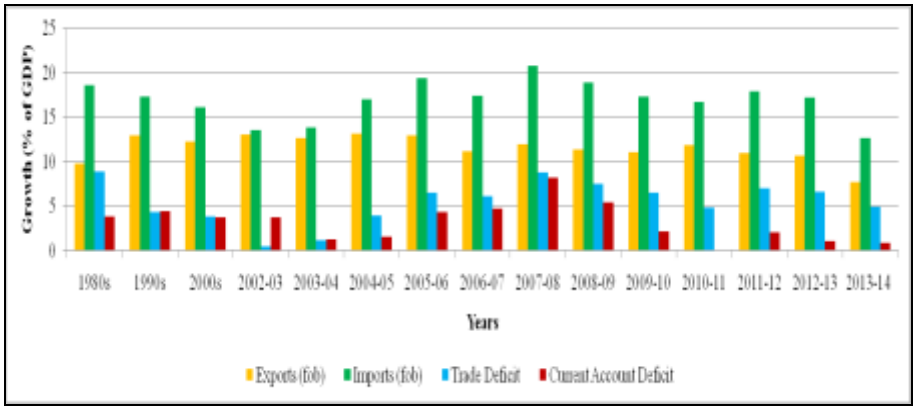
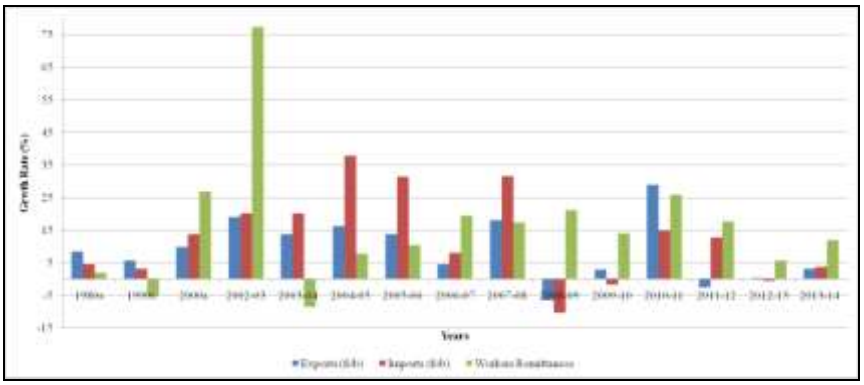


Figure-17

Trend in Trade and Payments



Infrastructural Development

Infrastructural development will be analysed by examining the situation of energy sector, transport and communication in Pakistan.

Pakistan's Energy Sector

In addition to human resource development Pakistan's recent economic downturn can also be partially ascribed to infrastructural deficiencies and partially to energy shortages. In this case, it is not only inadequate investment in physical infrastructure but also poor planning, flawed incentive structure and mismanagement of the generation, transmission and distribution companies in the power sector that have led to load shedding and unreliable supply to the industry. For example, Thar coal, an indigenous and economical source of feedstock has not been utilized to augment power supply in the country. The reforms that have been overdue in the power sector for almost a decade have yet to be implemented despite many public commitments.

Government discharged the circular debt (Rs 480 billion) directly after taking oath which added 1752 MW of electricity into the system. In order to resolve the dispute on perpetual basis, the government organized National Power Policy (2013) which was announced to deliver an affordable energy in the country through efficient generation, diffusion and distribution system. It is anticipated that the policy will set Pakistan on a flight of rapid economic growth and social development. The foremost targets of this policy for year 2017 are: To fully exclude load shedding; To decrease cost of generation from 12c/unit to 10c/unit; To reduce

transmission losses from 25 per cent to 16 per cent and to recover collection of bills to 95 per cent

Throughout 2013-14 energy ingesting was 40,185 million TOEs compared to 40,026 million TOEs in 2012-13 showing a growth of 0.4 per cent. The present fiscal year has observed so far much improvement in economic activity due to better availability for usage on account of comparatively smaller losses in transmission and distribution as compared to last year. During July-March 2013-14, local crude extraction remained 23 million barrels while almost 44.9 million barrels were imported.

In the course of July-March 2013-14, the total national production of coal continued at 2,125 million tons, while 1,712 million tons of coal was imported. Pakistan's coal normally ranks from lignite to sub-bituminous. Coal ingestion has been varying since 2000. About 39.1 per cent of total coal consumed in the country has been employed by brick kilns industry and 56.1 per cent by cement factories, showing decrease of 3.46 per cent and increase of 1.83 per cent, correspondingly. More or less the entire cement industry has shifted from furnace oil to coal based heating, hence utilization of ingenious coal is gaining momentum (Pakistan Economic Survey, 2013-14).

For the period July-March 2013-14, the installed capacity of electricity was 23,048 MW with hydro 6,858 MW, thermal 15,440 MW and nuclear 750 MW. Thus the hydropower capacity accounts for 29.7 per cent, thermal 67.0 per cent and nuclear 3.3 per cent. Nonetheless, electricity generation is almost 50 per cent of installed capacity. There was a rise of 11 per cent in electricity generation during July-April 2013-14, compared to the same period last year.

Thirty-five wind power IPPs holding LOIs issued by AEDB are at various stages of project development, while 49.5 MW by FFC Energy Limited and 56.4 MW by Zorlu Enerji (Pvt.) Ltd in Jhampir, District Thatta, Sindh have attained commercial operations date (Pakistan Economic Survey, 2013-14).

In solar energy, 24 LOIs for growing capacity of almost 792.99 MW on-grid solar PV power plants have been issued. A Solar Village Electrification Programme was originated under PM's directive. Three thousand Solar Home Systems have been installed in 49 villages of district Tharparkar, Sindh. Another 51 villages in Sindh and 300 villages in Balochistan have been permitted for electrification using solar energy and will be executed soon. The agenda for power Co-Generation has been permitted by ECC for bagasse/biomass based sugar industry projects. In the next two, three years 1500-2000 MW of power is expected to be generated.

Transport and Communication

The biggest shock to the economy, however, came in July-August this year which has resulted in movement of 20 million people, damage or destruction to 1 million houses, set-up, railways, bridges, roads, irrigation system and power grids. The World Bank-Asian Bank initial calculation shows the damages due to the floods have cost roughly $10 billion — a burden that cannot be absorbed by a country of the resources that Pakistan has. Of course, the enormous restoration and reconstruction programme, if partly financed by infusion of additional money from the international community can kick start the economy and provide a badly needed stimulus that will halt the erosion in the living standards, offer job opportunities to unemployed and help the internally displaced persons. How soon and effectively this can happen depend upon the response capacity of the government, private sector, civil society organizations and international community.

Pakistan's total road network is around 263,775 kms which carries over 96 per cent of inland freight and 92 per cent of passenger traffic. The length of NHA road network is around 12,131 kms comprising of 39 national highways, motorways, expressway and strategic roads. Government of Punjab and the Federal government have mutually started twin cities Rawalpindi-Islamabad Metro-Bus service project on March 23rd, 2014 with a total cost of Rs. 44.21 billion. The Metro Bus Project is expected to take 10 months to complete. The length of 8.6 km of Metro Bus corridor in Rawalpindi area will be of elevated structure whereas 14 kms in Islamabad will run on ground.

The network of Pakistan Railway encompasses 7,791 route kilometres, 423 locomotives, 1,700 passenger coaches and 16,179 freight wagons. Government is taking new initiatives to improve the routine of Pakistan Railways by repairing/purchasing locomotives, enhance HSD oil reserves up to 12 days to streamline train operations. For the duration of financial year 2013-14, 63 kms of track has been rehabilitated and 57 kms double tracked.

Since 2002, the performance of Pakistan International Airlines (PIA) has been on downward trend. Government is taking initiatives/steps to improve the performance of PIA by contracts re-negotiation, route rationalization, re-deploying aircraft on more profitable domestic and international routes (Pakistan Economic Survey, 2013-14).

Pakistan National Shipping Corporation (PNSC) provides transportation services for crude oil requirements of the country. It has nine vessels of several kinds/size with a total deadweight capacity of 642,207 tonnes. During July-March, 2013-14, PNSC companies earned a revenue of

Rs.11.37 billion as against Rs. 8.21 billion over the corresponding period of preceding year, a growth of 38.5 per cent.

Telecom revenues during July-March 2013-14, was amounting to Rs.345.5 billion which made this sector very attractive for further investment. Tele mass has been enhanced and facilities have reached to 78 per cent of population and cover 92 per cent of the total land area of the country which is better in compared to regional countries.

The introduction of 3G/4G spectrum would help in expediting socio-economic progress of the country. It is considered that auction of 3G /4G spectrum is the major achievement of the government in Telecom Sector and has earned it a revenue of $1112.8 million. PTA has issued a licence to CM Pak for Long distance International (LDI), Local Loop in all 14 Telecom regions of Pakistan and Trans World Infrastructure Services for Infrastructure growth.

For the period of July-March 2013-14, the Telecom sector received a revenue of Rs.345.5 billion against Rs. 323.0 billion during July- March 2012-13. Investment in the Telecom Sector amounted to US $ 530 million during July-March 2013-14 against US $ 251 million during July-March 2012-13. Cellular Mobile subscribers were 136.5 million at the end of March, 2014.

In the course of July-March 2013-14, an amount of Rs. 161.37 billion has been collected through National Saving Schemes and Pakistan Post has received commission amounting to Rs.806.8 million (Pakistan Economic Survey, 2013-14).

Figure-18

Energy Generation from Different Sources

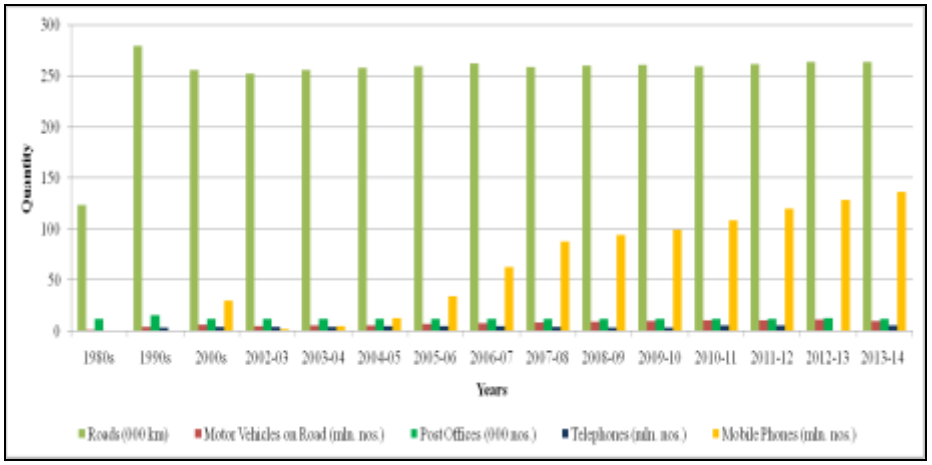
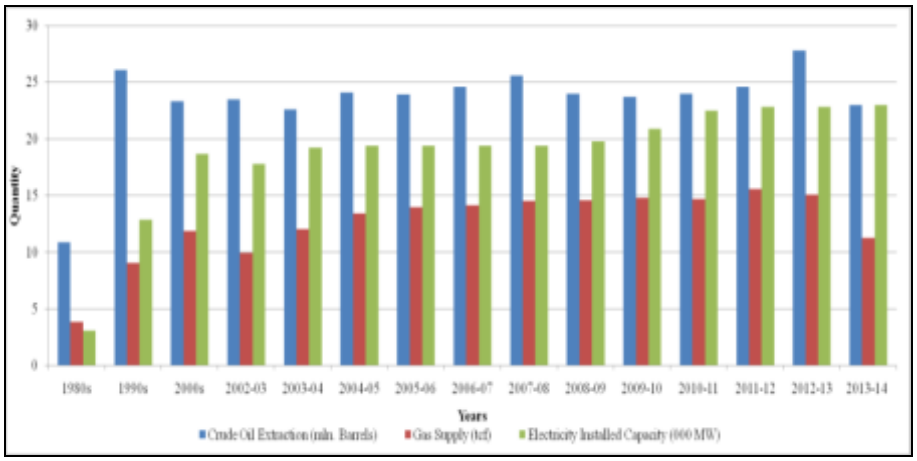


Figure-19

Trend in Transport and Communication Development



Human Resources in Pakistan

The biggest setback has, nevertheless, been the dearth of attention over the past sixty years to human resource development. All pointers of education, health, nutrition, access to drinking water, sanitation, etc., show a gloomy picture. Only one half of the country's population is literate. Net enrolment rate at 55 per cent and the primary school completion rate at 47 per cent are far below those achieved by countries of the region. Only 4 per cent of the population has degree level education. Public spending on education stands at the bottom among South Asian peer group having the lowest public expenses that have remained below 2.5 per cent of GDP. Health signs are no better. Maternal mortality, infant mortality, child malnutrition are all comparatively weak. Just like education, Pakistan stands at the bottom in terms of public expenditure on health — 0.55 per cent of GDP. Only 35 per cent of the population is using tap water for drinking while 25 per cent uses pumps. Only 59 per cent of the population has access to sanitation. Such poor indicators of human resource development place even stronger pressure on the capacity for reasonable and sustainable development.

Population growth rate has shown development and it fell from 1.97 per cent in 2013 to 1.95 per cent in 2014. Total population is projected at 188.02 million during the year 2014. The Fertility Rate (TFR) declined to 3.2 children per woman in 2014 as compared to 3.3 in 2013. Infant Mortality Rate decreased to 66.1 per thousand in 2014 from 67.0 per thousand in 2013. Urban population has increased to 72.5 million in 2014

from 69.8 million in 2013, despite the fact rural population has increased to 115.5 million in 2014 from 114.4 million in 2013.

The total labour force has enlarged from 57.2 million in 2010-11 to 59.7 million in 2012-13 with 56 million employed during 2012-13. The unemployment rate rose to 6.2 per cent in 2012-13 as compared to 6.0 per cent in 2010-11(Pakistan Economic Survey, 2012-13).

The Prime Minister launched a youth backing package which comprises of the Interest Free Loan Scheme, Business Loan Scheme, Youth Training Scheme, Youth Skill Development Scheme, Free Laptop Scheme and Fee-Reimbursement Scheme for Students from less developed areas.

Figure-20

Trend in Population of Pakistan

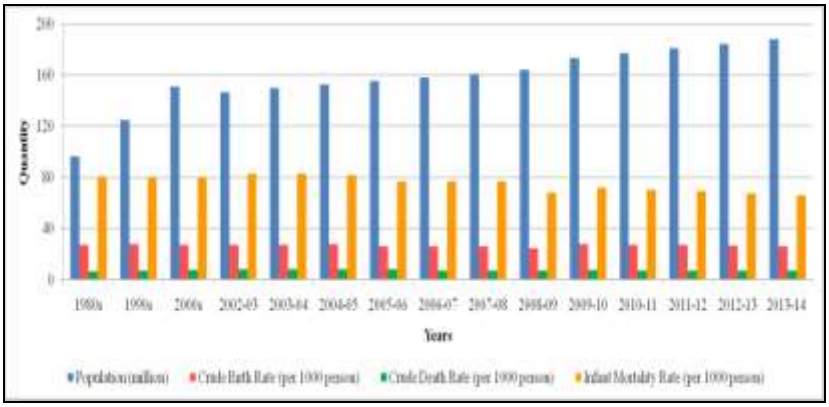
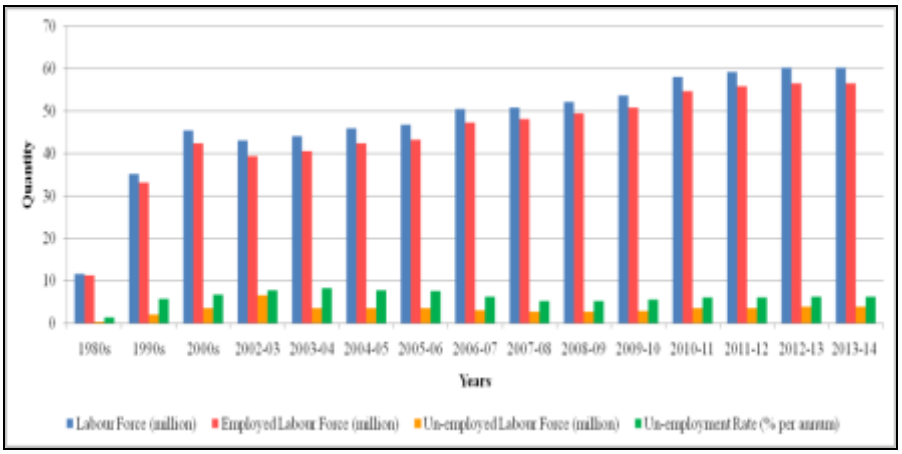


Figure-21

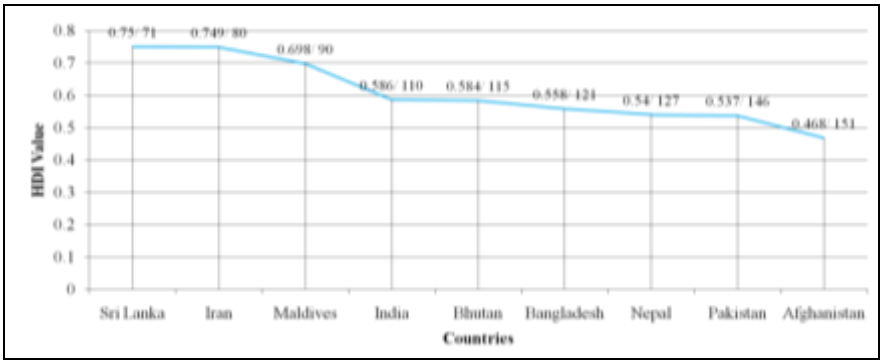
Trend of Labour Force and Employment



A lot is yet to be done for development in the social sector such as education, health, employment and income. Pakistan is ranked 146 out of 187 countries on HDI as shown in figure 16. Pakistan is just above Afghanistan in the South Asian Region. Government needs to focus on improvement of HDI ranking by taking prudent measures in education, health, employment and income sectors.

Figure-22

HDI Ranking of Pakistan



Social Development in Pakistan

Social development will be examined by observing the performance of education and health outcomes in Pakistan.

Education

According to the latest Pakistan Social and Living Standards Measurement Survey 2012-13, the literacy rate (10 years and above) is projected at 60 per cent as compare to 58 per cent in 2011-12. Literacy remained much higher in urban areas than in rural areas and higher among males. Province-wise data suggest that Punjab leads with 62 per cent, followed by Sindh with 60 per cent, Khyber Pakhtunkhwa 52 per cent and Baluchistan 44 per cent. Government of Pakistan is presently spending 2.0 per cent of its GDP on education sector and is totally committed to increase it to 4.0 per cent of GDP by 2018.

Net Enrolment Rates (NER) at the national level during 2012-13 remained at 57 per cent. At the national level, the total number of enrolment during 2012-13 stood at 41.1 million as compared to 40.3 million during the same period last year, an increase of 2.0 per cent. For the period of July-March 2013-14, a total of 6,677 youth received Vocational & Technical

training under the President' Fanni Maharat Programme and Prime Minister's Hunermand Pakistan Programme while 2,687 are still under training. HEC is also subsidizing different scholarship programmes to enhance academic qualification at various levels on merit basis in line with specified criteria. During the period 2008-13, a total number of 7,731 scholarships were awarded under different programmes of HEC.

The federal government has launched a scheme to support the students from less advanced areas. Under this innovative and special scheme, apart from tuition fee, the federal government have paid other academic, incidental, or mandatory fees charged by educational institutions as one-off or on a per semester basis of Masters, MS/M-Phil and PhD students of selected/backward areas. Under the programme, Rs.1200 million will be paid as fee for 35,000 students. The progress portfolio of HEC, includes 129 on-going development projects in the Federal PSDP 2013-14 and Government of Pakistan has included 33 new development projects at an estimated cost of Rs. 26.3 billion, having an allocation of Rs. 2.6 billion for current year 2013-14 (Pakistan Economic Survey, 2013-14).

Figure-23

Gender-wise Literacy Rate and Number of Schools/Vocational Institutes

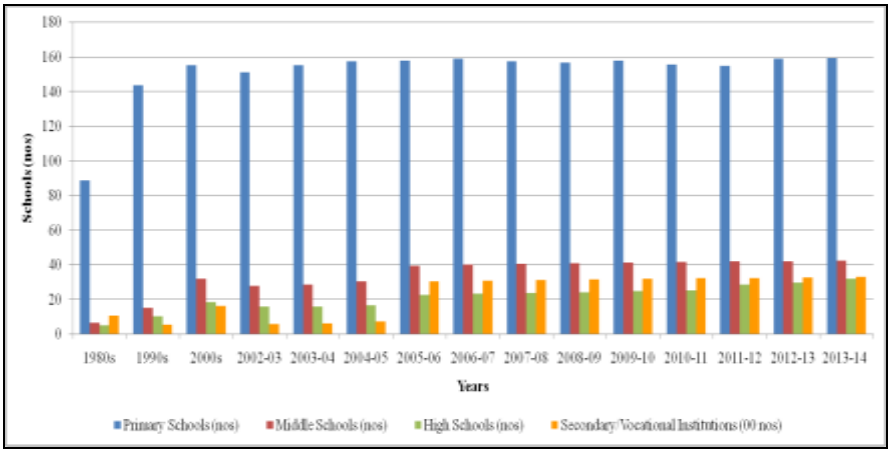


Figure-24

Trend of Literacy Rate

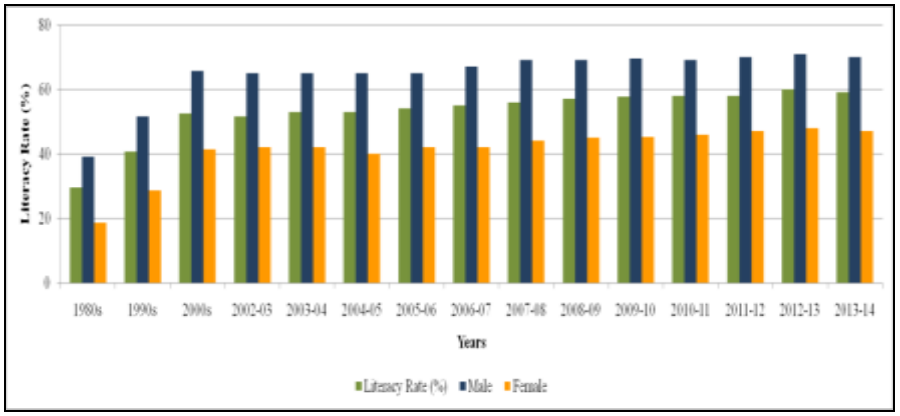
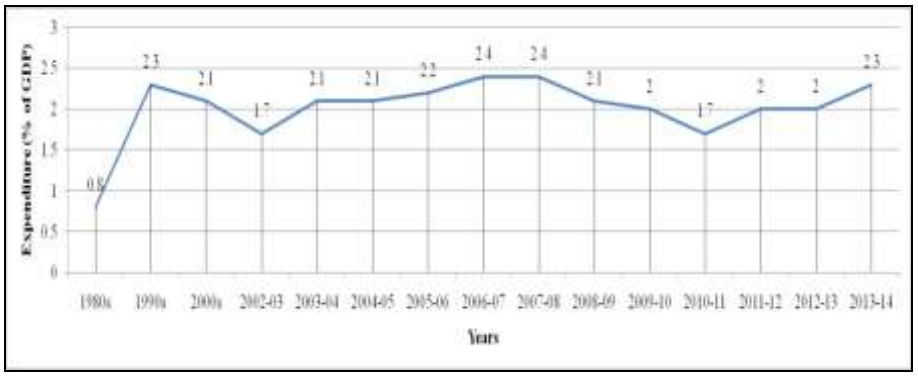


Figure-25

Trend of Public Expenditures on Education



Health

There are 1,096 hospitals, 5,527 basic health units and 687 maternity and child health centres and 5,310 dispensaries in Pakistan and their number is on the increase. The number of doctors has improved to 167,759, dentists 13,716, nurses 86,183 and hospital beds 111,953 in the country during 2013-14 compared to 160,880 doctors, 12,692 dentists, 82,119 nurses and 111,726 hospital beds last year. The population and health services ratio worked out at 1,099 persons per doctor, 13,441 persons per dentist and 1,647 persons per hospital bed. It was 1,123 persons per doctor, 14,238 per dentist and accessibility of one bed for 1617 persons in 2012-13 (Pakistan Economic Survey, 2012-13). A number of health programmes cover

diseases like Malaria, TB, AIDs and Food and Nutrition. For the current year a total outlay for health sector is budgeted at Rs.102.3 billion which covers Rs.27.8 billion for development and Rs.74.5 billion for current expenditure which is equivalent to 0.40 per cent of GDP during 2013-14 as compared to 0.35 per cent in 2012-13.

Figure-26

Doctors and Health Centres in Pakistan

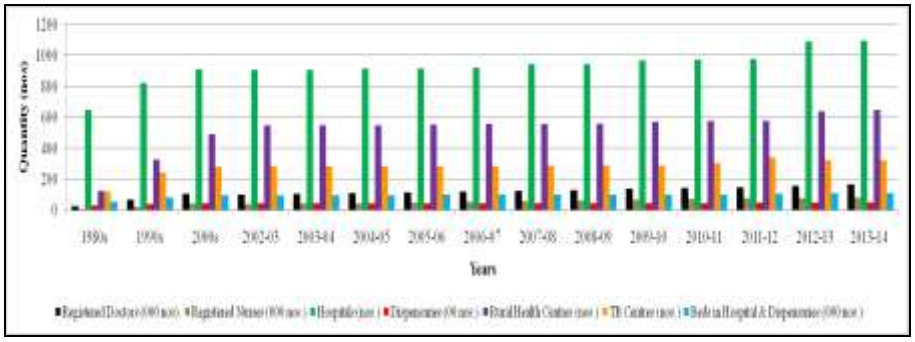
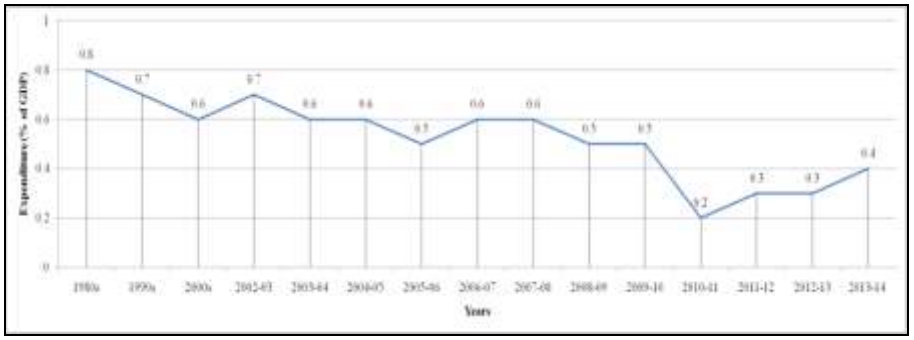


Figure-27

Trend of Expenditures of Health



Conclusion

Pakistan has recorded rapid economic growth; there has been reduction in unemployment and poverty until 2007-08. During this period, a number of developments took place that changed the conditions conducive to development. The increase in food and fuel prices, all over the world, spread over 2007 and 2008 were not adjusted in Pakistan at the extreme level. The deficit was financed by monetary expansion particularly borrowing from the Central Bank. Inflationary pressures increased and the beginning of the circular debt set in.

The transition from the previous government to the newly elected government was not smooth and there was political crisis in the wake of the assassination of former Prime Minster, Benazir Bhutto in December 2007 whose effects persisted for several months. The political uncertainty took a heavy toll on the economy and resulted in capital flight which created severe pressures on macroeconomic management. Moreover, the newly elected government instead of continuing with sound policies and altering those which were not desirable in the past made public declarations that confounded the investors. This unexpected split and complete dismissal and rejection of the past policies accelerated the crisis of confidence. The foreign exchange reserves began depleting at the rate of $1 billion per month and exchange rate started depreciating at an alarming rate. In 2008 inflation reached its peak level. Affecting fiscal and current accounts. Foreign investments fell sharply, i.e. by 51 per cent in FY 2009 on top of 35 per cent in FY 2008. Access to international capital market disappeared. The widening of current account and declining of capital receipts led to a severe reduction in domestic liquidity, a further impetus to domestic inflation and a further depletion of the foreign exchange reserves. A vicious cycle set in. On the contrary, strong hands were required on the steering wheel of the economy to get it out of the turbulent waters i.e., widening macroeconomic imbalances and deteriorating living conditions. In November 2008, a macroeconomic stabilization agreement was signed with the IMF and the things began to improve.

Pakistan has also been unfortunate in suffering one shock after another in the last decade. First, the contribution in the war against terror inflicted huge socio-economic, financial, human and psychological costs on the country. In simple economic terms, the inflows from the US of about $10 billion are only one fourth of the $43 billion of the losses to the economy incurred so far. This money has also come in dribs and drabs with a lot of scrutiny, hesitation and with a sense as if charity was being provided. Second, the 2007 global price climb in oil and commodities caused a major blow to the economy. A three-fold price hike in petroleum products from $55 per barrel to $150 over a period of 12 months proved devastating for the balance of payments situation of an oil importing country such as Pakistan. As if this was not sufficient the global economy went through a calamity and recession of the magnitude that has not been witnessed since the depression of 1930s. Pathetic global demand and deferment of capital flows did not help Pakistan in its external accounts.

Finally it is concluded that Pakistan was considered as one of the four fastest growing economies in the Asian region with its 6 per cent average growth per year during 2000-2007. As a result poverty rate was reduced by one-half, 13 million new jobs were created, debt burden was halved, foreign

exchange reserves were raised and investors' confidence was restored. While signing the agreement with IMF on November 20, 2008 PPP government pointed to the major economic transformation that had taken place in the last decade (2000 -2007) with a real GDP rise from $60 billion to $170 billion and per capita income from $500 to over $1000. The status of Pakistan was uplifted from low-income to middle income country (Memorandum of Economic and Financial Policies (MEFP) for 2008/09-2009/10). However, the growth rate of the economy had remained around 3 per cent during the five years period of the last government. As per the revised estimates presently the growth rate has risen to 4.1 per cent. Pakistan has the slowest economic performance in South Asia. This slowest growth has brought back the bitter memories of the last 'lost decade of 1990s' when economic growth plunged to between 3 per cent and 4 per cent, inflation was in double digits, poverty rose to 33 per cent, and the total public debt as percentage of GDP was the highest in the South Asia region — 99.3 per cent of its GDP, nearly around the entire GDP of Pakistan. When the PPP assumed power in 2008, the tax-to-GDP ratio was 10 per cent and the target was 15 per cent by 2013. At present, the ratio is less than 9 per cent which may rank Pakistan among the worst in the world. In 2008, investment to GDP ratio was 23 per cent and at present it is 12.5 per cent which is the worst for more than 30 years. Public debt has doubled in the last four years. Pakistan is facing extreme energy crisis of its history and so far no improvement is evident. The state institutions such as Pakistan Steel Mill, the Railways, PIA and PEPCO are making huge losses, almost Rs. 400 billion every year.

Policy Implications

Accelerating progress in human development remains the key underpinning for sustained economic gains. The Net Enrolment Rates in education have been increasing but still lag behind other South Asian countries. Infant and under five mortality rates represent a similar story. Gender disparities persist in education, health and all economic sectors. Pakistan has one of the lowest female labour force participation rates in the region. Nutrition also remains a significant cross-cutting challenge, as 44 per cent of children under five are stunted. Despite the worrying state of education and health, especially amongst the poor, resource allocation as a percentage of the GDP has remained low. Pakistan is ranked as one of the lowest spenders on education and health in the region (at about 2 per cent of GDP). At the current rate of progress, it will be difficult for Pakistan to meet the MDG targets on health and education by 2015.

Over the past couple of years, greater decision making authority has been assigned to provincial governments. The Eighteenth Constitutional Amendment has devolved a number of key functions to the provinces. In total, functions in seventeen federal ministries have been devolved, including Agriculture, Education, Environment, and Health. In addition a greater share of revenues has been passed to the Provinces through the National Finance Commission Award (NFC) in order to enable them to perform these functions. As expected, the devolution has posed institutional and capacity challenges at the provincial level, and meeting these challenges will require concerted efforts to enhance sub-national capacity and institutional development, which varies across provinces. Moreover, the devolution is yet to be transferred to gross root level.

Weak investment climate, infrastructure gaps, sovereign credit worthiness concerns, and large fiscal deficits continue to pose obstacles to a sustained improvement in investment activity and economic performance. Electricity and gas shortages for the industrial and agricultural sectors, macroeconomic challenges including fiscal deficits and high inflation, and security uncertainties, have hampered productive business activities. While industrial activity had picked up in the previous quarter to 6.5 per cent higher than a year earlier, inadequate electricity and gas supplies continue to stagger this positive trend in the industrial sector.

The biggest worrying factor is the exponential growth of domestic and external debt which has risen to Rs. 14.8 trillion. The IMF is expecting a budget deficit between 7 and 7.5 per cent of the GDP in the coming fiscal year. That is 3 per cent higher than the target deficit and does not include the 'quasi fiscal' deficit caused by losses in public enterprises, nor the 'floating debt' that creates government liabilities. Both of which are relatively high for Pakistan. With the exchange rate spiralling downwards, we are looking at a situation with capital flight; inflows are drying up and external liabilities setting in.

Keeping all these aspects in mind, the contours of the roadmap for future can be chalked out as under:

i. If potential of large young population is properly harnessed the advantages can be numerous like cheap labour, entrepreneurship development, building on Pakistan's foreign Diaspora, low cost public support programmes, long term skill development measures, etc. In the future ahead, Pakistan needs to focus on human development. Development in social sector will accrue achievement of short and long term economic goals.

ii. Relatively under developed infrastructure means that investment opportunities are abundant. If managed properly through currency

swaps and bilateral trade deficit retention agreements, these could quickly bring in the much needed Foreign Direct Investment (FDI).

iii. Pakistan is the 'least' traded country on a per capita basis within South Asia. While on one hand it is a concern, on the other it is an opportunity. Even a small increase in trade can bring about much larger growth and employment implications.

iv. The fiscal deficit though now quite high, is in reality mainly confined over a relatively few areas. Fix Energy and a major problem stands solved.

v. Pakistan is blessed with advantageous geographical location. Two largest emerging economies, China and India, are our neighbours. Our position as a conduit to Central Asian and East European access and in reverse to the warm waters is a major advantage. As India shifts its focus from consumption to investment over the next decade they need to trade and need Pakistani routes like never before.

vi. Agriculture has been resilient and strong throughout. Strength of agriculture needs to be locked into the national industrial grid. This will accrue greater results.

vii. Pakistan has immense strategic importance. The window is between now and end 2014. We need to cash this opportunity.

viii. With a bit of help from our international Pakistani Diaspora and friends the potential in the international financial markets is significant.

ix. The tax to GDP ratio needs to be enhanced, it requires clear thinking and a prudent strategy.

x. Import compression and export push can have quick effects on the current account deficit.

xi. Improved security and law & order can bear quick economic fruits. Restoring investor's confidence is essential step of future economic stability.

xii. A macro resolve is essentially required to ensure that our debt is declining at a faster rate. Self-reliance measures are required to be instituted.

xiii. Our connectivity with the global markets is still low, which means that solutions lie at looking inwards and not outwards. And the returns would in comparison be quicker.

xiv. We need to curb fiscal indiscipline, introduce responsibility, stop reckless spending, do away with discretionary powers at all levels and ensure appointments on merit.

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CHAPTER 2

Fiscal Challenges and Response

Dr. Vaqar Ahmed

Background

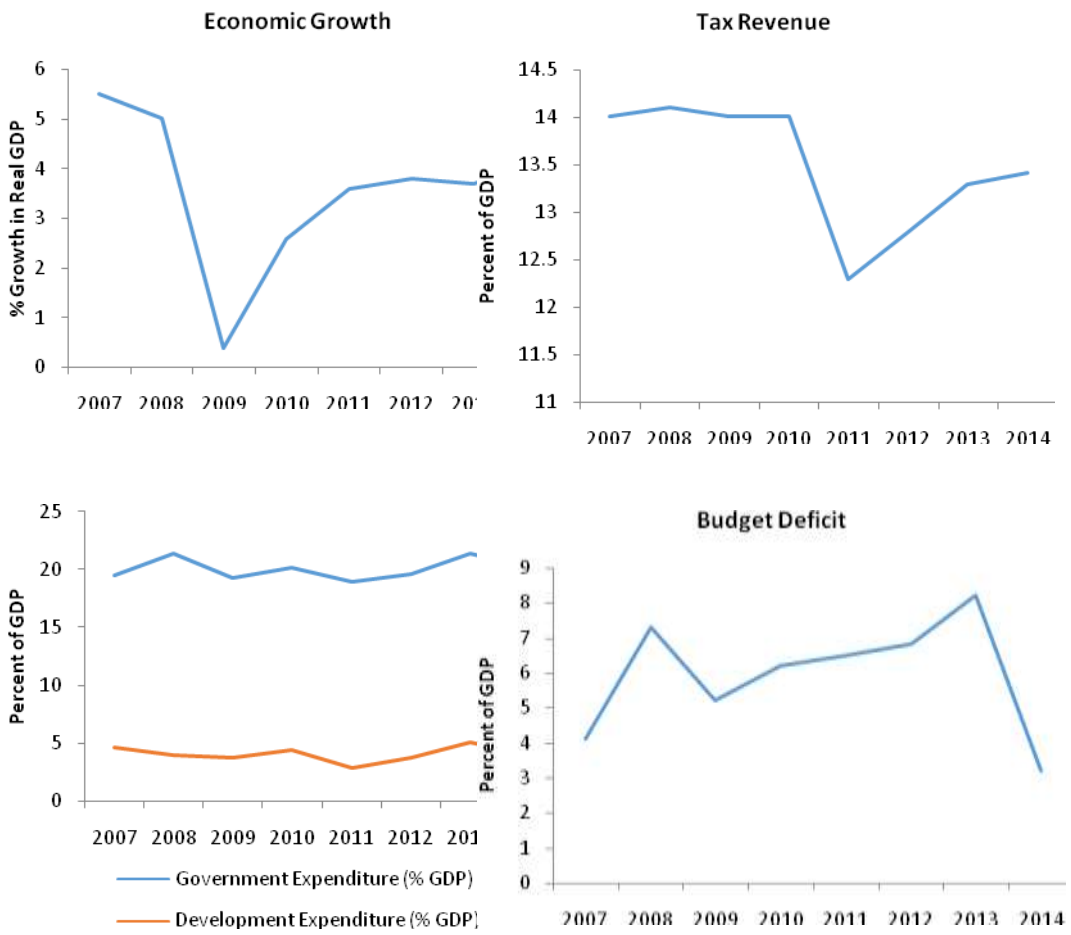
Pakistan's fiscal balance is currently challenged on account of two key issues namely — low capacity of the state to raise public sector's revenues and inability to cut down government expenditures. With a growing debt liability it is important to note that the additional costs of debt servicing will also continue to be a burden on the Pakistan economy in terms of pressures arising from higher interest rates, overvalued exchange rate and continuous upward pressure on consumer prices.

This issue is exacerbated by the low economic growth levels seen in Pakistan since 2007 (Box 1). The national income in the country has not even grown at a rate which can absorb the growing number of labour force in the country. This impacts the budget as the low levels of output imply depressed revenue collection and in turn reduced fiscal space to fund government's current and development expenditures. With an on-going IMF programme, Pakistan has committed to keep its deficit under check and on several occasions since 2007 it is the development expenditure on infrastructure and social sectors that faces a cut in order to meet the deficit targets set with the IMF.

Unlike the 1980s and 1990s Pakistan has financed the recent fiscal deficit relatively more through domestic sources of borrowing. The share of external borrowing has been on a decline. However, this has implications for the domestic financial sector. The loanable funds that were supposed to be available for the private sector for production and trade activities were acquired from the banking sector by the government. In fact the commercial banks found lending to the government relatively less risky and remained averse to lending capital to the private sector. The small and medium enterprises were particularly hit hard due to the difficulties in acquiring funds for this working capital.

Box-1

Economic Growth, Government Revenues and Expenditures



Source: Economic Survey of Pakistan 2013-14

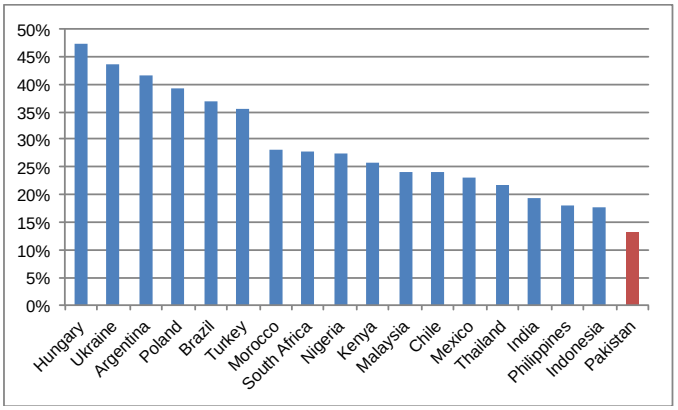
In this policy note we look at two specific issues under fiscal policy which directly impact the growth process. We will take up the issue of tax reform in the next section and will explain how various forms of tax exemptions, lack of capacity in tax administration and missing political will to broaden the tax base is keeping domestic resource mobilization weak. The third section will then explain the government's expenditure priorities where we will give particular attention to structural issues impeding the effectiveness of development expenditures in the country. Finally we conclude with some policy recommendations on improving revenue collection and effectiveness of government expenditures.

Tax Reforms

In 2013, the World Bank had noted that the total revenue collected by tax and other sources, was 13 per cent of GDP[1] — lowest across emerging economies (Figure 1). Over 80 per cent of government revenues are earned by imposing taxes. This is around 10 per cent of GDP out of which 9 per cent of GDP is collected through Federal Board of Revenue (FBR)[2] — lowest collection by any Federal government excluding oil-producing countries (Ishtiaq 2013).[3] State capacity to collect taxes has also weakened. The tax to GDP ratio declined from 14 per cent in the mid-1980s to 10 per cent.

Figure-1

Revenue to GDP Ratio in Emerging Economies (2013)



Source: World Development Indicators 2013

Despite increased fiscal administration powers with the provinces in a post-18th Amendment milieu, most provinces have struggled to increase their own tax receipts in recent years. On average 0.4 per cent of GDP is collected by the provinces. Politicians at the provincial level do not wish to see increased taxes in their constituencies. Second, provincial tax collection in rural areas lacks institutional capacity to audit incomes and wealth. This in turn makes it difficult to validate the tax liability.

[1] World Development Indicators

[2] Average of past 5 years. For 2012-13 the FBR collected tax equivalent to 8.3% of GDP

[3] Ishtiaq, Nohman (2013) Tax Reforms in Pakistan, Policy Symposium on Tax Reforms in Pakistan. Sustainable Development Policy Institute.

Various governments in Pakistan allowed tax exemptions and preferential treatments to select sectors and even organizations. These exemptions were provided through Statutory Regulatory Order (SRO) by the FBR. Independent studies have estimated the loss from such exemptions to be around PKR 800 billion. If tax evasion, estimated to be 4 per cent of GDP is added to this amount, the leakage in revenues is equal to the annual government borrowing.

The distorting aspect of SROs is that these are being issued without parliamentary approval and can over-write the federal budget provisions approved by the parliament at least for a temporary period. There is also no binding to report value of these exemptions to the Parliament.

The process of tax collection has also been described as non-transparent and prone to rent-seeking. The Tax Administration Reform Project started in 2005 has largely failed to achieve its objectives. Tax administration continues to suffer from inefficient and fragmented human resource, lack of automated systems, and misuse of discretion by officials. A weak tax monitoring also results in high levels of tax avoidance.

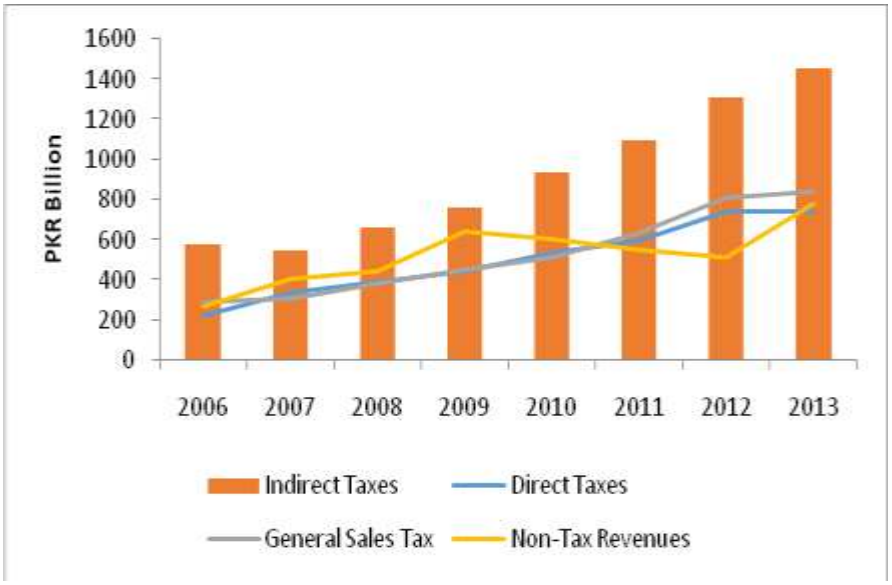
Another challenge is that of a narrow tax base. Out of 58 million work force in Pakistan, a meagre 2 million are registered taxpayers, and in 2013 only 0.7 million had paid taxes. An unfortunate statistics is that 61 per cent elected public representatives in the National and Provincial Assemblies did not pay taxes in the year they contested the elections. There were 51 per cent of Senators who did not pay tax and 62 per cent Cabinet Ministers who had not filed tax returns.

A key reason of elite not paying taxes is weak enforcement. There is no example where someone convicted of not paying taxes in Pakistan has ever gone to jail. FBR in 2011 had access to 3 million people who were frequent foreign travellers, had multiple bank accounts, and multiple vehicle and property registration in their names, however had not paid taxes. Such cases have never been awarded exemplary punishment.

It is important to note that the manner in which the government raises its revenues has implications for the poorest of the poor. We observe in Figure 2 that the growth in direct taxes (supposed to be progressive and less burdensome for poor) has been much lower than the indirect taxes. Even non-tax revenues earned by the government are now posting a higher value than direct taxes. The general sales tax is the main contributor to the indirect taxes which makes this type of taxes along with non-tax revenue measures, regressive and having a higher burden on the poor. This also implies that the role of fiscal policy in mitigating inequality also diminishes.

Figure-2

Composition of Consolidated Federal & Provincial Government Revenues



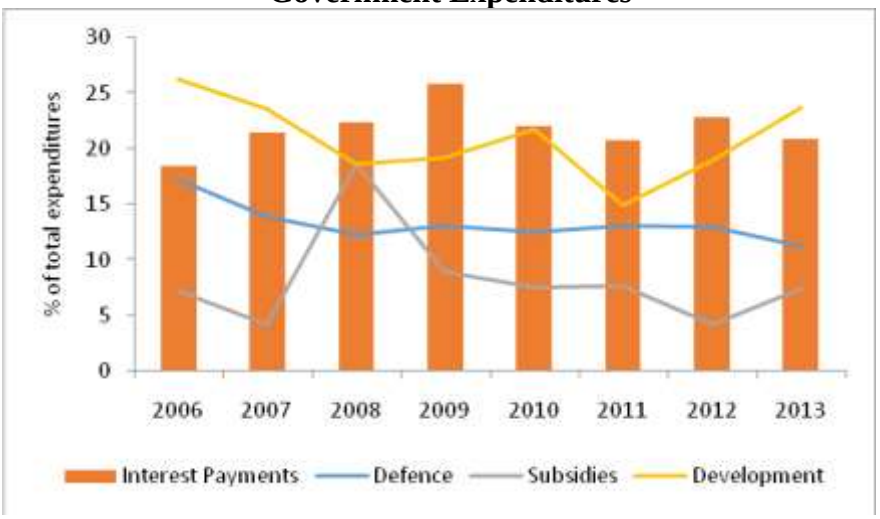
Source: Economic Survey of Pakistan

Government Expenditures

It remains a challenge for the government to balance the recurrent and development priorities in the country. We see in Figure 2 that interest payments have occupied a majority share since 2006. While the defence spending has been on a decline since the same year, however, it still occupies a little over 11 per cent of the total government expenditure. The subsidies allowed for commodity operations and energy has remained volatile. A large amount of this outlay is politically motivated. The current and past governments have not been able to fully eliminate the circular debt in the energy sector. These expenditures collectively are responsible for unplanned spending on infrastructure and social sector priorities. It is usually these sectors, which face a cut in their allocation or disbursements owing to increases in governments' defence, administration or subsidy related budgets.

Figure-3

Government Expenditures

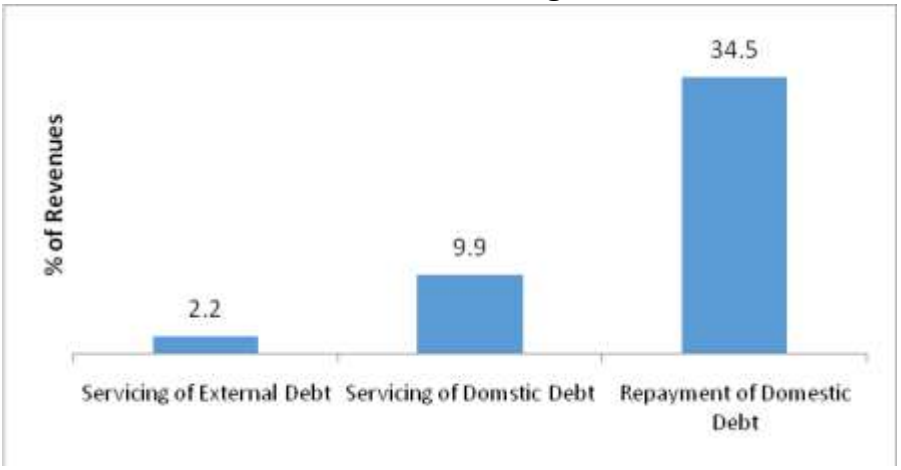


Source: Economic Survey of Pakistan

The debt crisis is coming back into picture and IMF has asked Pakistan to appoint a dedicated directorate to monitor debt levels and restructure the expensive debt. Figure 3 indicates that almost 47 per cent of total revenue is lost to repayment and servicing of external and domestic debt. This is 40 per cent of recurrent government expenditures. The domestic debt to GDP ratio is now as high as 43 per cent.

Figure-4

Public Debt Servicing 2014



Source: Economic Survey of Pakistan

In the remaining part of this section we will limit our discussion to the leakages in the public sector development programme — a crucial element for promoting human development and inclusive growth in any country. One of the key reasons for non-optimal spending of development budgets is the lack of monitoring and evaluation (M&E). Both technical and human capacity to monitor projects is missing in federal and provincial planning and development departments. The entire planning machinery is understaffed and technically under-capacitated. While the manifestos of all governments talk about outcomes based budgeting, none have acted upon this proposal. The result based management of projects with emphasis upon outcomes and long term impacts is missing.

The throw forward in development budget (i.e. approved projects awaiting cash flow) should be reduced through alternate financing modes, such as a) public private partnerships, b) built to operate and transfer, and c) built to operate and own schemes. Throw forward in public sector development programme (PSDP) is over PKR 3 trillion mostly because of cut in PSDP, increased number of new schemes and lower resource mobilization for projects. With the current rate, projects approved today could on average take around 17 years to complete.

Bypassing of Planning Commission or the provincial planning bodies in project approval and award has become a norm. There is an absence of rigorous feasibility studies and appraisal in several major projects initiated in political haste. What is missing here is a strong financial and technical appraisal, b) social analysis reflecting beneficiary population, dislocation, resettlement and livelihoods c) economic analysis, estimating EIRR, B/C ratio, NPV and domestic resource cost, and d) risk analysis, including time delays, cost variations, design and content modifications.

Policy Recommendations

On the taxation side there is an immediate need to phase out exemptions and related preferential treatment given to select sectors. The government has already committed to the IMF that it will get rid of the SRO regime. This commitment should be expediently implemented. Any future SROs should be subject to the approval of parliament. This will allow public representatives to monitor any loss accruing due to tax expenditures. The value of such exemptions and preferences should be regularly calculated and presented as part of the budget.

On tax administration side FBR should be allowed full autonomy including control over its human resource and management. The functional expertise should be improved across all levels in FBR. A medium-term strategic plan should drive this department and this plan should be

monitored on the basis of well-defined key performance indicators. At the provincial level, the revenue authorities should gradually take control of functions currently exercised by excise, revenue and board of revenue departments. There should be a specific focus on broadening of tax base through agriculture tax, property taxes and taxing new sources of incomes in services sectors.

On the expenditure side the social sector development is now a domain of provincial governments. It is, therefore, important that the provinces should avoid politically driven projects that lack any economic reasoning. The priorities committee of the finance department must see that duplication of new projects is avoided. As the Federal government continues to fund some higher education initiatives and provide for vertical programmes of health and population, it is important that the inter-provincial coordination should be improved in order to ensure monitoring and cost-effective implementation of such programmes across provinces.

There is also a need to minimize leakages in PSDP and projects under provincial annual development plans. The project management costs in public sector are high and should be rationalized by having human resource from the private sector which is trained in project delivery. Dedicated professionals must be appointed as project heads instead of civil servants working on additional charge basis. The consultancy charges that largely go to foreign countries should be checked by the Economic Affairs Division and must be rationalized. All public sector projects should have exemption from the general sales tax.

CHAPTER 3

Prospects and Problems of FDI in Pakistan

Prof. Dr. Naheed Zia Khan

Abstract

Foreign Direct Investment (FDI) underscores the process of globalization in present times. The outcomes of FDI for the host countries, specifically in developing parts of the world, are widely debated. This paper focuses on Pakistan's experience as the host country for FDI. The most recent FDI operations in Pakistan are analysed using available evidence. The analysis reflects on long-run implications of FDI for sustainable development of Pakistan. The latter encompasses the qualitative changes witnessed in Pakistan's society by analysing the economic and social and environmental impact of FDI. It is argued that short-sighted compulsions of successive governments in Pakistan have frequently overwhelmed strategic policy decisions which appear to have tilted the balance of pecuniary gains in favour of foreign investors. This is specifically the case in the power sector. However, while considering its economic impact, the analysis largely favours FDI inflows provided the governance issues are addressed to redress the imbalances in distribution of gains. The qualitative impact of FDI on the other hand is considered to warrant serious heart searching with long run economic viability, social fallout and environmental sustainability in perspective. The study identifies the market forces and government forces which together can improve the competitiveness of Pakistan's economy as a host country for FDI which will help achieve sustainable development targets.

Introduction

Voluminous literature exists on FDI. A sizeable part of the published work on this topic is empirical, relating FDI inflows with possibilities of increased economic growth of the developing countries, almost everywhere eager to welcome foreign investors. The latter on the other hand are understandably driven by prospects of increasing the

size of their industrial empires. Indeed, since ever the advent of neo-liberalist era, FDI everywhere exhibits a regimen governed by the rules of new trade theory (NTT) and new economic geography (NEG).[1] This study, however, is not designed to incorporate theoretical sophistications now in vogue while writing on contemporary economic issues. The approach adopted in this work is direct and layperson friendly, not requiring acquisition of knowledge pertaining to the formal discipline of economics.

The literature on economics registers many hard currency effect of FDI inflows to developing countries. Bhagwati (1994) expected the host country to learn new and more productive technologies by watching the operations of multi-national corporations (MNCs), in the presence of favourable economic environment including public policy initiatives and incentives. This argument appears to rest upon the notion of contagion effect of technical progress in the host country [Findlay (1978)] made possible by FDI. Similarly, Bengoa and Robles (2003) considered FDI a trustworthy stimulant for investment in research and development (R&D) activities of recipient countries.

On the other hand, a vast array of empirical studies has probed into the relationship between FDI and economic growth. Quite a few studies exist on the data for Pakistan. Most of the works in this line have based their findings on statistical analysis involving regression estimations and other econometric techniques which provide a quantitative measure of the relationship of FDI with economic growth. Taken together, the suggestions derived from inferential statistics, though operationally conclusive, appear to be illusive. For example, while Ahmad *et al.* (2003) suggest a significant and positive relationship between FDI and economic growth in Pakistan, a negative and insignificant relationship is reported between the two variables by Falki (2009).

Notwithstanding the well documented and well known gimmick of *emperor clothing*, the author acknowledges the contribution made by numerous other studies which have empirically estimated the relationship between economic growth and FDI in Pakistan.[2] That said, this work does

[1] NTT and NEG refer to development of new models of international trade. The two main focuses of NTT include role of increasing returns to scale and network effects. On the other hand, models of NEG address the factors determining spatial structure of an economy, largely by focusing on the interplay between across space transaction costs and various forms of increasing returns to scale. *Paul Krugman* is credited with leading the development of both NTT and NEG theories which earned him a Nobel Prize in economics in 2008 [See, Krugman (1979 and 1998)].

[2] *Emperor clothing* is the term used for theoretically and/or analytically inconsistent econometric models which only the so called highly accomplished *experts* can

not intend to follow the tautology of contemporary formal research writing requiring to produce a long list of empirical citations which variously beat around the bush. Therefore, this study proceeds to analyse the salient features of FDI in Pakistan to help consider the long run implications of virtually unconditional invitation extended by the country to the foreign investors. The argument is structured round four parts. Part I provides an overview of Pakistan's positioning in the world league table with respect to major internal and external sector variables. Part II looks at the major highlights of FDI in Pakistan. This is followed by Part 3 which analyses the implications of FDI in top five sectors favoured in Pakistan by the foreign investors during the last two years. Finally, Part IV addresses factors underscoring the competitiveness of Pakistan's economy.

Part I

The first half of 1960s was perhaps the only era in Pakistan's history characterised with the strength coming to her economy. Subsequently, the country's economy has been largely subjected to dire forecasts by the national and international pundits. The economic history of Pakistan, however, has recorded both upturns and downturns. Notwithstanding the unique internal dynamics of Pakistan, inviting external vested interests of various shapes and shades, the country appears to have fared well in terms of economic performance. Table 1 and 2 list the figures, pertaining to major macroeconomic indicators, providing world ranking of internal and external sectors of Pakistan's economy respectively.

The information registered in Table 1 draws upon the country comparisons of nations around the world.[3] Pakistan fares respectable on account of the size of her economy represented by the gross domestic product (GDP), while the growth rate of the latter is also reported to be satisfactory in comparison with the world league table. However, the country's performance in terms of per capita income is quite low which is partly explained by the large size of her population, the variable occupying highest rank among all internal and external macroeconomic variables reported in Table 1 and Table 2. Pakistan's score on gross national savings also appears to be very poor. Not only the country ranks quite low in the world league table, its performance in terms of gross national savings as

formulate for the *experts* to understand like their counterparts *wise* in the old fable of emperor's new clothes.

[3] The total number of countries varies with variable category. For example, rank and size of GDP and its growth rate is reported for 229 countries, while the corresponding figures for gross national savings are listed for only 155 countries.

percentages of GDP falls far behind the corresponding figure of over 30 per cent for India and Bangladesh and nearly 27 per cent for Sri Lanka.

Table-1

Pakistan's Economy in World League Table
Internal Sector: 2013

Variable	Rank	Value/Count
GDP	27	574 billion US$
GDP Growth Rate	88	3.6%
Population	6	1.93 million
GDP per capita	177	31,00 US$
Gross national Saving	120	12.7% of GDP
Public Debt	57	54.% of GDP
Taxes and other Revenue	202	12.6% of GDP

Source: The World Factbook-CIA.

The small size of national savings, unfortunately, itself provides the justification for wooing the foreign investors who apparently do not add to the external debt obligations of the country. Finally, the abysmal performance exhibited by Pakistan's economy is the country's ability to generate public revenue. Taxes and other revenue at 12.6 per cent of GDP compare very poorly with over 17 per cent for India, thus identifying structural problems in the tax administration and collection system of Pakistan. This aspect will be further probed while discussing the FDI in the telecommunication sector of Pakistan.

Table-2

Pakistan's Economy in World League Table
External Sector: 2013

Variable	Rank	Value (billion US$)
Imports	61	39
Exports	70	25
Foreign Debt	61	52.4
Foreign Exchange Reserves	73	11.2
Stock of FDI-abroad	74	1.7
Stock of FDI-home	68	24.3

Source: The World Factbook-CIA.

Pakistan's performance in the external sector of her economy, relative to the world league members, is reported in Table 2. The two foreign trade variables, imports and exports, register performance more or less commensurate with the potential of a small open economy. This is also largely true about the external debt and foreign exchange reserves variables, notwithstanding the melodramatic statements in the highly sensational print and electronic media of the country. Similarly, the focus variable of this study, FDI, appears to designate Pakistan as one of the many developing countries of the world with much less operations abroad relative to the willingness to welcome the Greenfield foreign investment home. This is particularly true in absolute terms, since the overseas direct investment of US$ 1.7 billion by Pakistani nationals poorly fares with US$ 24.3 billion directly invested in the country by the foreigners. Nonetheless, Pakistan's rank at 68 out of 109 countries scarcely identifies her a favourite destination for FDI. More importantly, the argument in the following reveals that there is a lot more to FDI in Pakistan than what meets the eye in terms of its stocks in the country.

Part II

The courtship between foreign investors and host governments is a well-documented phenomenon in developing countries. Pakistan, however, appears to lead the league with headlong and heedless attempts of her successive governments to attract FDI. The following list of concessions for FDI underscores the generous leverage extended to the foreign investors in Pakistan:[4]

- Remittance of royalty, technology and franchise fee to projects in:
    - social service
    - infrastructure
    - agriculture
    - fast food chains
- Ownership of 100 per cent equity by the foreign investor in the service sector for first five years of the project;
- Perfect destination for money laundering as the Federal Board of Revenue (FBR) in Pakistan has no concern with the source of funds for investment. However, the FBR will demand the requisite income tax to be paid on each specific investment;

[4] This information is retrieved from http://masoodandmasood.com/foreign-direct-investment-fdi-pakistan-law-lawyer-consultant-help/ (accessed November 5, 2014).

- Foreign investors can own 100 per cent equity in industrial projects without any permission from the government;
- Full repatriation of capital gains, dividends and profits permissible to FDI in all sectors;
- Facility for contracting foreign private loans with willingness to invest in the sectors on priority list of the government;
- Facility to investors in the manufacturing sector for limitless borrowing on the domestic market;
- Facility for all other investors to borrow on the domestic market equal to 50-75 per cent of their paid up capital including reserves;
- Facility to open a bank account without approval of the Board of Investment.

Insofar as the reliability of the above list of concessions remains doubtful because of the hazy source of this information, it might be misguiding to suggest that Pakistan is both a safe haven and heaven for foreign investors, a position unsupported by the meagre size of FDI stocks in the country. It is, therefore, important to carry out the analysis of FDI in Pakistan at the segregate level to have an idea of the major investor countries along with their preferences for investment. The latter, addressed in Part III, is expected to help reflect on the long run implications of FDI for sustainable development of the country. Figure 1 provides highlights of FDI in Pakistan, in two years to 2013-14 (July 1, 2012 to June 30, 2014), followed by Table 3 which lists top ten investor countries with largest inflows over the same period.

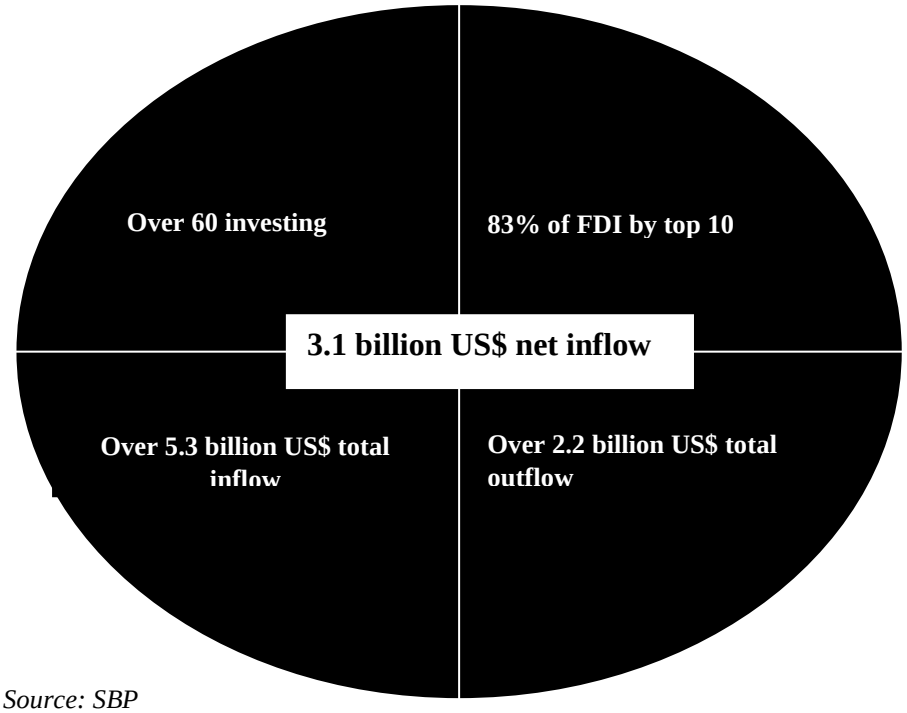
The data made public by the State Bank of Pakistan (SBP), for Financial Year (FY) 2013 and FY 2014, provide the absolute value of FDI inflow/outflow in 35 economic sectors of the country. The unit of currency/count is US$ in million. The figures computed by the author reveal an aggregate net inflow of US$ 3.1 billion, after adjusting for the aggregate outflow amounting to US$ 2.2 billion. These figures also include the investments reported in the *others* category of the exhaustive nominal scale of the economic sectors. However, the size of the net inflow in *all other* sectors is only US$ 67.6 million, with their total inflow and outflow of US$ 105.2 million and US$ 37.6 million respectively. The highlights in Figure 1 reveal that the top ten of over 60 investor countries accounted for 83 per cent of FDI inflow in FY 2013 and FY 2014. This important aspect is further explained by the figures listed in Table 3.

Of the top ten investor countries in Pakistan, United Kingdom (UK) and China ranked on the top in FY2013 and FY2014 respectively. The aggregate of the two years for both countries is 16 per cent of the total FDI inflow to Pakistan. This aggregate figure, however, hides more than what it

reveals when considering the change of country's government in FY2013-14 after general elections in May 2013. China, with 28 per cent of total FDI inflow to Pakistan in FY 2013-14, appears to favour more Pakistan Muslim League Nawaz (PML-N) government than its predecessor, the Pakistan Peoples' Party (PPP) government. On the other hand, UK's FDI inflow to Pakistan registers a sharp decline in FY2013-14 both in absolute and relative terms. This important aspect may also be explained in terms of preferences of the incumbent governments in wooing the investor countries. China, nonetheless, remains a significant source of FDI while considering Hong Kong's inflow to Pakistan also part of the Chinese investment. Table 3 also reveals that all but three of the top ten countries having FDI in Pakistan belong to the Western world and account for about half of the total inflows in two years to end of FY2013-1

Figure-1

Highlights of FDI in Pakistan (FY 2013 and FY 2014)



Source: SBP

Table-3

FDI Inflow to Pakistan: Top 10 Investor Countries

Country	Value(US$ million) and % of Total Inflow					
	FY2012-13		*FY2013-14*		*FY2012-14*	
	US$	%	US$	%	US$	%
United Kingdom	666	25	189	7	855	16
China	110	4	744	28	854	16
United States	319	12	271	10	590	11
U.A.E	302	11	188	7	500	9.4
Switzerland	158	5	330	13	488	9.2
Hong Kong	245	9	228	9	473	9
Italy	200	8	80	3	280	5
Norway	75	3	76	2.9	151	3
Austria	53	2	64	2	117	2.2
France	35	1	73	2.8	108	2

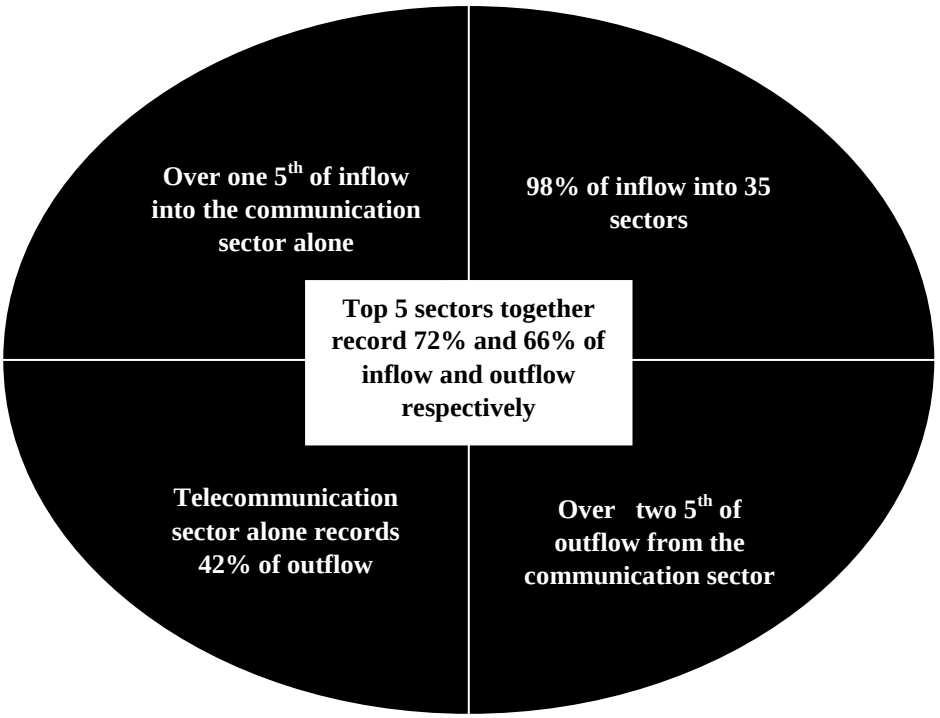
Source: SBP

Part III

Figure 2 provides important insight into the investors' preferences for FDI in Pakistan. It is observed that although 35 sectors invite almost all of the FDI, the bulk is invested only in five sectors which together record 72 per cent and 66 per cent of inflow and outflow respectively in two years to end of FY2013-14. Communication sector appears to overwhelm all others with over one fifth of the inflow and over two fifth of outflow. These accounts are highly revealing and warrant a closer analysis of the sectors favoured by FDI in Pakistan. Such an analysis begins with the information listed in Table 4 on FDI inflow and outflow in top five sectors of Pakistan's economy.

Figure-2

Highlights of FDI Sectors in Pakistan (FY 2013 and FY 2014)



Source: SBP

As mentioned earlier, the communication is the leading sector for FDI in Pakistan. This sector includes telecommunications, information technology and postal & courier services. Table 4 records a much larger inflow in FY2013-14, compared to FY2012-13. Although the opposite is true for the outflow from this sector, both absolute and relative size of outflow remain very high also in FY2013-14. A segregated analysis of the communication sector provides even more revealing information, as the telecommunication alone accounts for 94.5 per cent and 97.4 per cent of this sector's FDI inflow and outflow respectively.[5]

[5] Telecommunication includes: cell phones; landline telephone connections; wireless, payphone and internet services; and voice over IP.

Insofar as communication is considered to help decrease market distortions by increasing information available to producers and consumers, the FDI in telecommunication industry of Pakistan does not appear to represent the foreign investors' response to any policy initiative. On the contrary, it is the outcome of their response to the niche in the market offering sizeable producer surplus. Notwithstanding the unsustainable levels of outflow caused by the telecommunication sector, the arrangement suits the cash starved Government of Pakistan, as this sector presently represents one of the largest source of tax revenues, with 136.5 million subscribers for mobile phones alone in March 2014. That said, telecommunication remains the most important sector of the modern world and foreign investors' high priority accorded to this sector also serves Pakistan's vital strategic and economic interests. Moreover, the digital divide is widely considered to underscore the economic disparity between and within the nations in the present world. The higher size of FDI in telecommunication sector of Pakistan should be welcomed as long as it does not remain technological acquisition only and helps increase indigenous capabilities of the country in this and other sectors of the economy.

Table-4

FDI Inflow/Outflow: Top Five Sectors in Pakistan

Sector	**Inflow/Outflow(US$ million) [% of total inflow/outflow]**					
	FY2012-13		*FY2013-14*		*FY2012-14*	
	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow
Communication	192 [4]	574 [26]	933 [18]	350 [16]	1125 [22]	924 [42]
Oil and Gas Exploration	566 [11]	6 [0.03]	487 [9]	22 [0.1]	1053 [20]	28 [0.13]
Financial Business	389 [7]	75 [3]	238 [5]	81 [4]	627 [12]	156 [7]
Food	498 [9]	5 [0.02]	107 [2]	20 [0.09]	605 [11]	25 [0.1]
Power	163 [3]	136 [6]	230 [4]	184 [8]	393 [7]	320 [14]

Source: SBP

Oil and Gas exploration is the second highest priority sector for FDI in Pakistan. The foreign investors' preference to invest in this sector of the country corresponds to efforts all over the world to tap in potential fossil fuel reserves.[6] The gap in world's oil supply and demand is constantly increasing. According to estimates, there will be more than one per cent increase in world oil demand by 2030, with most of it coming from developing countries. Pakistan is finding it increasingly difficult to cope with the challenge of high oil prices. High import bill of oil increases the trade gap and offsets the benefits accruing to the country from workers' remittances. The outflow in this sector is presently very small and its future size depends on the successful efforts of the foreign investors to explore oil and gas in Pakistan. Recently, the government of Pakistan has issued 50 provisional licenses for exploration of oil and gas to eight local and two foreign firms having minimum investment commitment of US$ 371 million. Of the new exploration blocks, 21 are in Balochistan, 15 in Punjab, eight in Khyber Pakhtunkhwa and six in Sindh.[7]

The third largest sector favoured by FDI in Pakistan is financial business. This sector is fast growing and it must be acknowledged that the spillover effect of foreign firms in the financial sector of Pakistan has visibly improved the overall business environment of the country. Specifically, foreign firms have helped increase competition in the financial sector of Pakistan by introducing more advanced technology, better supervision and regulation. The outflow from the financial sector is understandably quite high both in absolute and relative terms. It is suggested that research must be carried out to understand the motivations of foreign financial firms to enter Pakistan's domestic market, the mode by which they do so, and the impact they have on financial sector development and stability in the country.[8] Such kind of research is particularly warranted with respect to foreign banks because, as given in Table 5 and Table 6, the relative size of their operation, taken in terms of percentage of total banks, has been historically much higher in Pakistan than that of the other

[6] According to Overseas Development Institute of UK, G20 nations, that includes the USA, China, India and the countries in the European Union, are spending $88 billion annually on fossil fuel exploration. http://thinkprogress.org/climate/2014/11/11/3591088/g20-spending-on-fossil-fuel-exploration/ (accessed November 30, 2014).

[7] http://www.dawn.com/news/1082218 (accessed December 1, 2014).

[8] A sizeable body of literature extends support to the foreign banks in a country for their role in enhancing domestic competition, increasing access to financial services, improving financial and economic performance of borrowers, and bringing greater financial stability (Clarke et al.(2003); Claessens (2006); Chopra(2007)).

countries in South Asia. However, more recent data shows that foreign banks operations in Pakistan exhibit a sizeable decline.[9]

Table-5

Foreign Banks as Percentage of Total Banks

Country	Year									
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Bangladesh	3	3	3	3	3	3	3	3	3	3
India	8	8	9	9	9	10	11	12	12	12
Nepal	25	22	15	15	15	15	15	13	13	13
Pakistan	19	14	13	12	12	16	31	36	40	40
Sri Lanka	0	0	0	0	0	0	0	0	0	0

Source: Claessens and Horen (2011).

Table-6

Percentage of Foreign Banks' Assets in Total Assets of Banks

Country	Year					
	2004	2005	2006	2007	2008	2009
Bangladesh	2	2	3	2	2	3
India	4	4	4	4	5	5
Nepal	22	14	20	16	14	13
Pakistan	29	23	48	50	51	53
Sri Lanka	0	0	0	0	0	0

Source: Claessens and Horen (2011).

The decrease in the foreign bank operations in Pakistan identifies the inbuilt vulnerability of FDI in financial business. The literature on this subject points out that foreign banks may wind up their operations in the host country if its economic conditions no longer promise the expected return on their investment. Similarly, the economic difficulties in the home country of a foreign bank may also warrant winding-up of foreign

[9] As of June 2013, only 7 of the 38 scheduled banks in Pakistan were foreign and assets/liabilities of foreign banks registered-23.25 per cent decrease. www.sbp.org.pk/publications/schedule_banks/June.../Title-Review.pdf (accessed December 2, 2014), (Table 2 and Table 3).

operations to help stabilize earnings at home. Another concern identified in the literature is that foreign banks cream-skim a developing country's financial market and take a disproportionate share of the best of local business away from domestic banks.[10] This argument carries weight in the perspective of Pakistan's experience where, by 1990, with less than one per cent of all branches, foreign banks were able to attract 19 per cent of all deposits and their profit was 60 per cent of the pre-tax profit of the country's entire banking sector.[11] That said, foreign banks have introduced some major innovations in the banking sector of Pakistan. These innovations have made career in banking more attractive for many aspiring young professionals. Moreover, foreign banks have also helped Pakistan's external sector by bringing in the much needed foreign exchange. For example, ABN Amro brought in over US$ 100 million in foreign deposits between 1990-92 and 85 per cent of City Bank's enormous deposit base was in foreign currency accounts.[12] Additionally, alongside pecuniary benefits of foreign banks for a developing country like Pakistan, there is hardly any doubt that non-pecuniary beneficial effects of foreign banks translate into work-ethic spill over to domestic banks. Finally, the prudential regulations in Pakistan must ensure that local commitments of foreign banks are sufficiently strong and they do not dominate the domestic market.

The food sector attracts the 4th largest inflow of FDI.[13] Almost all of the FDI in the food sector of Pakistan is directed to her domestic market and is heavily concentrated on food processing and convenience foods.[14] Processed food sector promises high dividends for FDI, as only 6 per cent of world processed foods are traded internationally while the industry accounts for three-fourth of the global food sales with an estimated value of US$ 3.5 trillion.[15] The two European firms, Nestlé and Unilever, are the leading brands in the processed food sector of Pakistan. There are also quite a few international fast food chains. Although food processing adds value to the agricultural products, FDI in this sector should be considered from

[10] http://www.econ2.econ.iastate.edu/faculty/bhattacharya/foreignbankspaper.pdf (accessed December 2, 2014).

[11] *Pakistan and Gulf Economist* (Jan-Feb, 1993).

[12] *Pakistan and Gulf Economist* (Jan-Feb, 1993).

[13] The reported size of FDI in this sector is exclusive of investment in food packaging, beverages, tobacco & cigarettes and sugar.

[14] Food processing can be divided into four major sectors including fruit and vegetables; meat, poultry, and seafood; beverage and bottling; and dairy operations. Convenience foods include items like, reconstituted fruits and juices, instant dried soups and other self-cooking meals.

[15] http://www.uaf.edu.pk/golden_jubilee/downloads/...1/dr.%20anjum.pdf (accessed December 6, 2014).

multiple perspectives focusing on its economic, social and environmental impacts. Research studies should be carried out to probe into the direct and indirect productivity impacts of FDI in the food sector of Pakistan including the possibilities for enhancing the participation of small and medium local enterprises. Environmentally oriented research studies also need to be conducted, as the less rigorous legislative and regulatory controls attract many foreign investors to the food sector of countries like Pakistan. Insofar as the health and safety of the consumers ought to be the fundamental concerns of the food processing industry, there should be increased pressure on both local and foreign producers to ensure the conformity of their activities with food safety standards. Moreover, both production and consumption of processed foods adds to the production of solid waste.[16] The absence of proper methods for disposal of both biodegradable and non-biodegradable solid waste results in serious environmental problems including human health hazards.

Another critical line of research in the food sector is targeting the social impact of FDI including changes in diet and consumption patterns, since these investments promote trends favouring highly industrialized global diets. The electronic media, now widely accessible to the populace in Pakistan, is adding utility perceptions as well as the status and glamour to the processed foods with serious implications for social psychology in a developing country like Pakistan where poverty headcount is still very large. In this context, research on the social impact of FDI in the bottled drinking water is particularly important, as a large number of rural and urban population in Pakistan is still denied access to safe drinking water. Consumption of unhygienic water is the major factor responsible for causing a number of diseases in the country. According to one estimate, 80 per cent of all illnesses and 40 per cent of deaths in Pakistan are caused by waterborne health problems.[17] Those who have the power and forums to raise voice and exert influence for directing public funds to provide universal access to safe drinking water can afford to purchase the bottled water and therefore complacently ignore civic responsibility of lobbying for this important social cause.

The power sector is the last but not least aspect considered in this paper for discussing the problems and prospects of FDI in Pakistan. World Bank helped provide the foothold to FDI in electricity generation industry of Pakistan. Three large multinational companies, International Power Plc

[16] Daily solid waste generation in Pakistan ranges between 0.283 and 0.612 kg per capita and the waste generation annual growth rate is 2.4% http://www.hepd.punjab.gov.pk/solid_waste (accessed December 6, 2014).

[17] 'Water-borne diseases major health threat' in *News*, Saturday, March 22, 2014.

of Britain and AES Power and Walter Power of US, virtually control electricity generation in private sector of Pakistan.[18] International Power Plc, the largest foreign investor, entered the power sector of Pakistan in 1994 with 17 per cent stake in HUBCO under World Bank guarantees.[19] With this modest beginning the British Company now owns and manages unmatched share of Independent Power Projects (IPPs) in Pakistan.[20] The Company's terms of power purchase agreements (PPAs) signed with Government of Pakistan (GOP), are highly secure and lucrative, providing assurance of generous returns on equity in foreseeable future.[21] The Company's Annual Report 2012 on Asian exposure records 12 per cent increase in revenue, from 1,598 to 1,784 million Euros, with 6 per cent increase in adjusted current income, from 305 to 324 million Euros [Khan (2014)]. The Report, however, does not list separate country accounts of revenue and income, but contribution made by investment in Pakistan can be inferred from universally unparalleled concessions granted by the GOP and sheer size of the Company's operations in the country.[22]

The US based AES Power is having only two IPPs, AES Lalpir and AES Pakgen, and 30 years PPAs signed with GOP. The firm will have a combined installed capacity of 1,900 MW by 2015, after completion of an under-construction 1,200 MW IPP.[23] The Walters Power International, also

[18] AES stands for Applied Energy Services.

[19] Hub Power Company (HUBCO), was the first of its size and kind in the entire world (GI Securities P. 12). The first HUBCO power plant is located at Hub, Lasbela District, Balochistan. This is the first power project in the private sector of Pakistan. It was initiated in 1985 and Within 12 years of its initiation, HUBCO became fully commissioned in 1997.

[20] The Company's annual report 2012 lists 36%, 17%, 17% and 69% shares in Kot Addu Power Company (KAPCO), HUBCO, HUBCO Narowal and Uch power plant respectively, while its shares in the under construction HUBCO Laraib and Uch II are reported to be 17% and 100% respectively [Khan (2014)].

[21] HUBCO's PPA commenced from the date of its first commercial operation in 1997 and will end in 2027. As per the terms of agreement, there are two main components of tariff structure including the capacity purchase price (CPP) and the energy purchase price (EPP). The former covers the debt service element, the insurance cost element and the fixed cost operating cost element. The Agreement's terms for EPP are even more generous as they provide the cover for fuel cost element along with the rupee variable and foreign currency variable operation and maintenance cost elements which, among other things, also include claimable custom duties on import of equipments on foreign currency variable operation and maintenance cost elements. [Khan (2014)].

[22] For 2011, of a gross total of 7,899MW, Pakistan accounted for half of the Company's electricity generation in Asia. http://www/annualreport2011.iprplc-gdfsuez.com/assets/downloads/pdfs/IP-2011-RR-Asia.pdf accessed on September 21, 2013, at 20:00 hrs.

[23] http://www.pakboi.gov.pk/pdf/Success%20Stories/AES_SS.pdf

based in US, is having ownership of at least two public sector and six private sector plants in Pakistan in partnership with Pakistan Power Resources (PPR).

The figures listed in Table 4 record the second highest level of outflow from the power sector both in absolute size and relative term which is taken as the percentage of total outflow. In two years to end of FY2014, the outflow from the power sector is 14 per cent of the total outflow recorded under FDI accounts. This is because the FDI in Pakistan's power sector is having the World Bank's and other International Financial Institutions' (IFIs) guarantees worth billions of dollars. Owing to these guarantees, Pakistan is obliged to submit to unprecedented terms of agreements including repatriation of profits. The situation has been made worse in recent years by adding the Rental Power Plants (RPPs) to an already uneven equation.[24] Finally, an overwhelming majority of IPPs in Pakistan are oil-based thermal power plants and are underperforming by wide margins because of the lack of fuel.[25] Indeed, the FDI in the power sector of Pakistan has largely benefited the foreign investors. The kind of support these plants have been given by the GOP means that the public sector carries risk, while foreign investors enjoy guaranteed rate of return on their investment.

Part IV

The latest figures made public by the SBP on FDI in Pakistan for two years to end of FY 2014, indicate a low priority accorded by the foreign investors to the large scale manufacturing sector in Pakistan, as only the top five sectors discussed above account for 72 per cent of total inflow. The analysis in the foregoing indicates that most of the investment in the top five sectors ensures investors' profits rather than underscoring the sustainable development prospects of Pakistan. It may, however, be argued that risk premium of FDI in Pakistan is likely to be higher because of the country's

(accessed September 22, 2013).

[24] Rental power technology offers to meet short term needs of electricity. The rental period is five to seven years. The power generating unit can be brought up in the form of a kit and takes 4 to 6 months to install. The RPP's single cycle standard incurs high fuel costs which keep on increasing. With a total capacity of 2734M, about 19 RPPs currently listed in Pakistan are reported to be inefficient and obsolete. The Karkey Karadeniz Electrik Uretum of Turkey is the most expensive ship-mounted power plant in the country, charging about 41 rupees per unit. ['The Crisis of Will', *Herald*, July 8, 2013].

[25] These plants provide more than one third of total electricity generation in Pakistan. The comparable figures for the RPPs was only 5% of what IPPs were producing in 2011[ICCI 2012].

internal security situation and formidable market distortions. This line of argument conforms with the World Economic Forum (WEF) 2013, which provides the Global Competitiveness Index (GCI) Report 2013-14, ranking Pakistan at 133 in her overall competitiveness position. Table 7 provides the information on Pakistan's ranking in some of the most critical areas of competitiveness. The ranking in the first three areas fares better than all others, though the overall competitiveness image appears to be unwelcoming for FDI. The Report identifies lack of property rights protection in Pakistan, as her public institutions are marred with inefficiencies, corruption and patronage. This, added to the alarming internal security situation, takes its toll on prospects of new businesses. The Report considers the widening public deficit, high level of inflation and low level of domestic savings as major factors responsible for Pakistan's lower rank in macroeconomic situation. Similarly, the infrastructure in the country is highly inadequate to attract and retain the businesses. More particularly, electricity shortages are causing serious operational problems to maintain even the existing levels of industrial output. Furthermore, insofar as human resource development is widely considered to underscore the differences in competitiveness, the quality of basic education is poor in Pakistan and the country's education enrolment rates are also among the lowest in the world. Finally, Pakistan's labour market suffers serious distortions, caused by many rigidities and inefficiencies, along with low female labour force participation.

Table-7
Global Competitiveness Index: 2013-14

Areas of Competitiveness	***Pakistan's Rank***
Financial development pillars	67th
Innovations	77th
Business development pillars	85th
Access to ICT	118th
Infrastructure	121st
Public institutions	126th
Electricity	135th
Basic education	137th
Labor market efficiency	138th
Female labour force participation	144th
Macroeconomic situation	145th

Source: World Economic Forum (2013).

Notwithstanding the existence of weaknesses in Pakistan's economy, such as those identified by the GCI Report 2013-14, it is important to understand that all such ranking is based on indirect and/or derived measurements. Such kind of measurements universally suffer reliability problems and even with maximum validity only provide approximate rather than true value of the variables. Given the present global scenario, Pakistan bashing is one of the favourite pastime of international agencies responsible for publishing reports on country comparisons. That said, Pakistan certainly needs to strengthen the strengths and weaken the weaknesses to attract foreign investors on terms and conditions favourable to the sustainable development prospects of the country.

Universally, market forces and government forces together determine the level and quality of a country's economic competitiveness. On the market side, the host market attractiveness largely depends on talent-driven innovations, inputs cost and availability, and suppliers network. On the other hand, the government is expected to provide:

- Efficient financial system;
- Judicious tax system;
- Adequate infrastructure;
- Legal and regulatory system;
- Investment in egalitarian education and healthcare systems.

Finally, even when both market forces and government forces are in place, the theoretical argument of Home Market Effect (HME) does not favour a small economy like Pakistan's, despite virtually unconditional support extended to FDI operations.[26] Specifically, the size of the internal market is the major attraction for FDI in the manufacturing sector. Countries with relatively larger local demand manage to attract larger shares of FDI in manufacturing, subsequently becoming net exporters of the goods thus produced [Krugman (1980); Helpman and Krugman (1985)].

Conclusion

Since after the advent of neo-liberalist counterrevolution, FDI is in vogue, specifically in developing countries like Pakistan. In the contemporary world, FDI extends from the making of physical products to the delivery of

[26] The phenomenon of HME refers to the tendency of large manufacturing firms, producing under increasing returns to scale, to concentrate their operations in large countries in order to save transport cost. Indeed, HME is considered one of the major building blocks of NTT and NEG models [see, Head et al.(2002)].

services. This study examines the major underlying currents of FDI in Pakistan. Properly understanding the sectoral dynamics of FDI in Pakistan is essential to enacting policies favourable to sustainable development targets of the country. During the last two years, catapulting into the top five positions in terms of attracting FDI inflow are the communication, oil and gas exploration, financial business, food and the power sectors respectively. Studies should be carried out to determine the FDI drivers in these five and other major sectors of Pakistan's economy. It is suggested that rather than going headlong for all kind of Greenfield FDI, Pakistan should be selective and must attract projects supporting technology adoption, integration and transfer to help improve her competitive advantage in the international market. Finally, there is no dearth of entrepreneurial talent in Pakistan. Finding the niche in the market, the indigenous entrepreneurs should be willing to invest in all those sectors favoured by the FDI even with half of the incentives and support that GOP extends to the foreign investors.■

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CHAPTER 4

Meeting the Energy Requirements

Dr. Rehana Siddiqui

Abstract

The energy requirements of countries depend on the size of the population and the structure of the economy. Rising population, higher energy intensity of production and mismanagement in demand and supply have led to energy crisis in most developing countries, particularly in South Asian countries. The major crisis faced by Pakistan is power shortage which is adversely affecting the production systems (the output losses varying between 30-60 per cent) and the quality of life of the population. This study indicates that efforts are required to resolve the current crisis, on demand and supply side, both. The focus of the demand side efforts should be on improving energy efficiency and energy conservation. The supply also needs to be increased. However, we need to find an appropriate energy mix which is cost effective and can meet the short-term and long-term energy needs of the country.

Introduction

The energy requirements of a country depend on the size of its population and its structure of economy. Rising population, higher energy intensity of production and mismanagement in demand and supply has led to energy crisis in most developing countries, including the countries in South Asia. All the South Asian countries are facing acute energy shortage. The electricity crisis that Pakistan has been facing in recent years, has adversely affected the production systems (the output losses varying between 30-60 per cent (Siddiqui, et al.(20)) and the quality of life of the population. This study focuses on the demand and supply sides, both, to resolve this crisis. The demand side efforts should be to improve energy efficiency and energy conservation while the supply also needs to be increased, by improving the efficiency of the existing infrastructure and by changing the energy mix which is cost effective and can meet the short-term and long-term energy needs of the country.

An analysis of the prevailing situation suggests that the energy crisis requires immediate attention from the government. Various agreements with neighbouring countries have already been put in place in order to meet the country's energy demand through direct purchase of electricity. At the international level, the Iran-Pakistan (IP) gas pipeline and the Turkmenistan-Afghanistan-Pakistan-India (TAPI) gas pipeline projects are already underway.

The shortage of energy is a major obstacle to economic growth and the current global energy situation indicates a need to take urgent measures to increase the supply and to manage the demand to fill the gap. In addition, efforts to conserve energy can play an important role in reducing the gap between energy supply and demand. In this paper we focus on expected future energy requirements of the country. In this regard we focus on both sides, e.g., issue of expanding energy resource by increasing its supply and the issue of energy mix to produce at a lower cost and improving access. The issue of energy demand management is also critical to reduce the existing shortage.

The energy sector has important linkages. Its provision affects economic growth and it can generate employment as its employment elasticity (electricity and gas) is 0.7 as compared to 1.12 for the transport sector. [Siddiqui (2004)] Therefore, the impact of petroleum products is expected to be larger on employment and consequently on poverty.

After the introduction, in this paper, we discuss the current trend in energy supply and demand in Pakistan in section 2. In section 3, we focus on the expected future energy requirements. Section 4 gives the options for achieving the desired targets. Section 5 concludes the paper.

Trends in Supply and Demand for Energy

The sources of energy are:

- Petroleum Products including Aviation Fuels, Motor Spirit, HOBC, Kerosene Oil, HSD, LDO, and Furnace Oil;
- Natural Gas
- Liquefied Petroleum Gas
- Coal
- Electricity from Hydel, Thermal, Nuclear, Solar, Wind, Biofuels.

Energy use is low in Pakistan as compared to many developing countries. The reasons could be lower availability, rising energy prices, and rise in energy efficiency, regulatory environment, environment, and energy policies. Table 1, reported below shows that energy has been expanding. The highest growth rate was observed in the supply of natural gas and coal.

This reflects increasing reliance on natural energy resources. Despite the rise in supply of natural gas, the shortages are rising. Similarly, the rise in supply of electricity does not meet the rise in demand resulting in long hours of load shedding in the country. Lack of policy implementation for electricity generation from renewable resources and out-dated and inefficient use of the existing power generating infrastructure are the main reasons for slow growth in supply despite the huge potential.

Table-1
Energy Supplies

Source	2001-2002	2010-2011	2012-2013	Growth rate (2001-2013)
Oil (m tonnes)	18051	21282	20403	1.11
Natural Gas (mcft)	923758	1471591	1505841	4.44
Coal (tonnes)	4409	7717	6889	4.06
Electricity (GWh)	72405	94653	96497	2.61
Hydel	18941	31811	29857	4.14
Thermal	51174	59153	61711	1.70
Nuclear	2291	3420	4553	6.24
Imported	0	269	375	16.61

The demand for energy responds to changes in income and prices. In addition, the energy use is also influenced by the changes in the structure of the economy and by the changes in energy intensity as a result of technological changes and reduction in losses. Over time the consumption of energy has increased in Pakistan. The growth rates of energy consumption are reported in Table 2 (petroleum products), Table 3 (natural gas), and Table 4 (electricity), below.

The consumption of petroleum products was highest during 1990-2002 and it slowed down significantly during the first decade of the 21st century. [Table 2]. The reasons are sharp rise in oil prices, poor economic growth and substitution of other sources of energy like natural gas and coal. For example, the unit value of imports for petroleum products increased indicating a sharp increase in prices of petroleum products which are linked with their international prices. This resulted in its rising share in the total import bill (i.e., from 23 per cent in 2005/6 to 33 per cent in 2012/13).

The sectoral changes in the consumption of oil and petroleum products are reported in table 2. The demand for petroleum products declined sharply, over time, in the agriculture sector. In the power sector, the demand for furnace oil declined mainly because of substitution of

natural gas and coal as the main fuel. The demand in the transport sector increased due to increase in the number of vehicles and shortage of gas. Thus the change in the sectoral shares has affected the total demand of petroleum products.

Table-2

Growth Rates of Consumption of Oil and Petroleum Products

Years	House-holds	Industry	Agriculture	Transport	Power	Total
1990-2002	-7.39	5.17	-0.40	5.22	9.80	5.72
2002-2011	-15.12	-3.18	-16.70	0.78	2.06	0.62
2011-2013	6.77	0.86	-12.17	4.95	-2.45	1.32
1990-2013	-9.86	0.80	-9.22	3.07	5.04	2.90

Note: Total includes 'Other Government' also.

The comparison of sectoral growth rates and change in the share of each sector in consumption of petroleum products, during 1990/91 and 2013/14, indicates that despite significant changes in sectoral demand the sectoral share did not change. The transport sector remained the main user of petroleum products in 2013/14. [see Figure 1 and 2].

Figure-1

Consumption of Petroleum Products (share)-1990:91

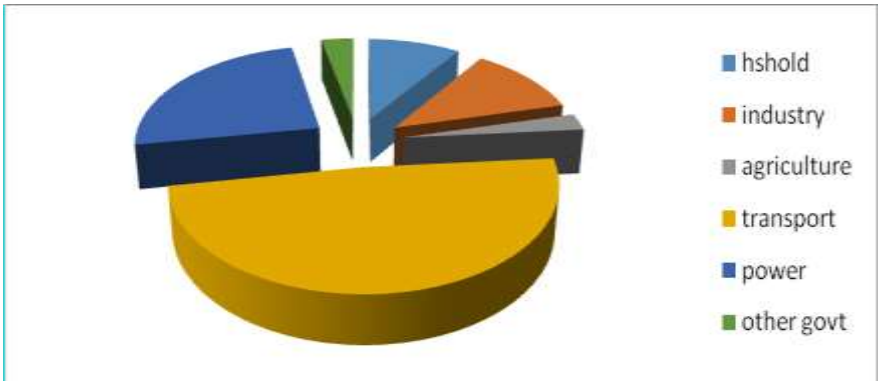
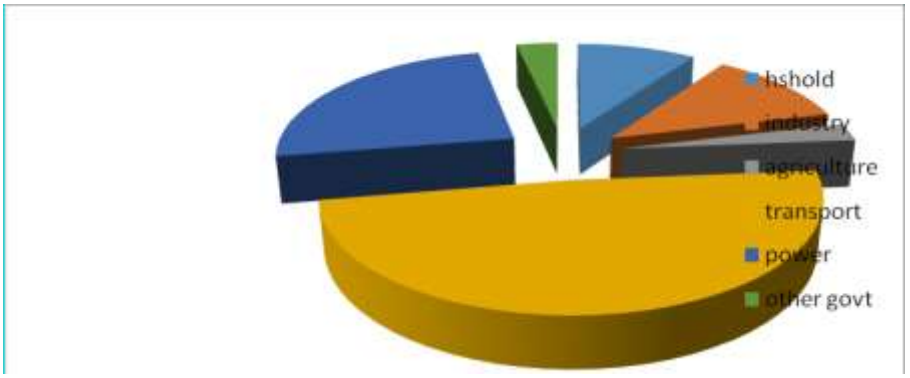


Figure-2

Consumption of Petroleum Products (share)- 2013:14



Natural gas is another source of energy supply in Pakistan. Its demand has slowed down in recent years. [see table 3]. This may be in response to supply shortages. However, the decline in industrial demand, i.e., cement and fertilizer industry, the major users of natural gas, was significant. Similarly the demand from the transport sector has also declined in recent years. The comparison of sectoral growth rates, reported in Table 2 and Table 3, indicates a fuel switching across sectors. For example, the household demand for petroleum products declined but it increased for natural gas. Similarly, in recent years the power sector dependence on natural gas increased and on furnace oil declined.

Table-3

Growth Rates of Consumption of Natural Gas

Years	House-holds	Commercial	Cement	Fertilizer	Power	Industry	Transport	Total
1990-2002	7.46	5.15	-6.24	4.85	4.66	4.47	0.00	5.01
2002-2011	5.00	5.70	-16.22	2.64	1.82	7.42	32.41	4.80
2011-2013	11.43	5.48	-42.75	-9.74	3.55	-1.28	-6.02	1.09
1990-2013	6.41	5.20	-13.48	2.41	3.13	5.06	24.01	4.36

Note: Total includes 'Other Government' also.

The comparison of growth rates of consumption and the sectoral share [see Table 3 and Figures 3 and 4] reveals negative growth for the cement industry which resulted in decline in its share during 1990/91 and 2013/14.

Figure-3

Consumption of Natural Gas (share): 1990:91

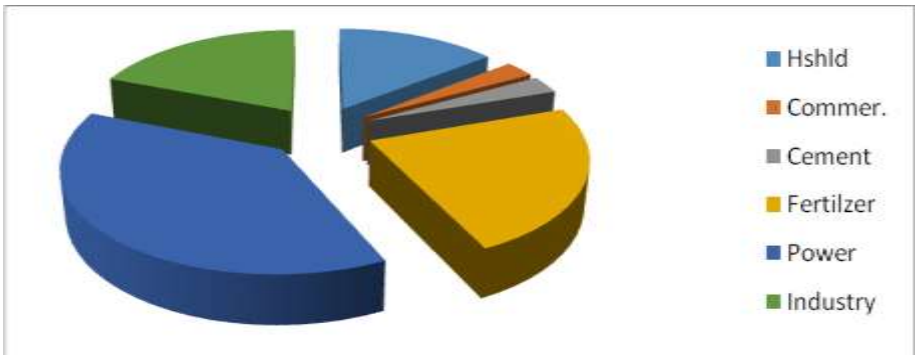
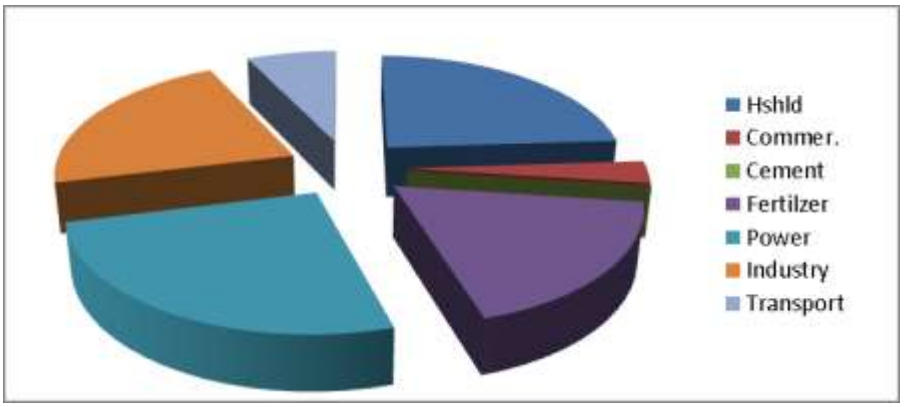


Figure-4

Consumption of Natural Gas (share): 2013:14



The third important source of energy is electricity/power. The electricity shortages are imposing a huge cost on the economy and on the quality of life. The cost, in terms of lost industrial output, has been significant, up to 60 per cent in Punjab. [Siddiqui, et.al., (2011)]. The comparison of supply and consumption growth rates, reported in Table 1 and Table 4, shows that the higher expansion in consumption of electricity led to load shedding in the country. In addition, the growth was relatively higher for the household sector.

Table-4

Growth Rates of Consumption of Electricity

Years	House-holds	Commercial	Industrial	Agriculture	Street Lights	Total
1990-2002	7.83	2.92	2.45	-1.32	0.00	4.32
2002-2011	4.55	7.35	3.91	6.00	7.61	4.62
2011-2013	0.32	1.91	2.54	-7.66	0.11	-0.20
1990-2013	5.41	4.63	2.99	1.37	5.87	3.87

Note: Total includes 'Other Government' also.

The comparison of the growth rate and sectoral share [see Table 4 and Figure 5 and 6] reveals that slow growth in consumption has resulted in declining share of agriculture and industrial use of electricity in 2013/14 as compared to their shares in 1990/91.

Figure-5

Consumption of Electricity (Gwh) (share) 1990:91 and 2013:14

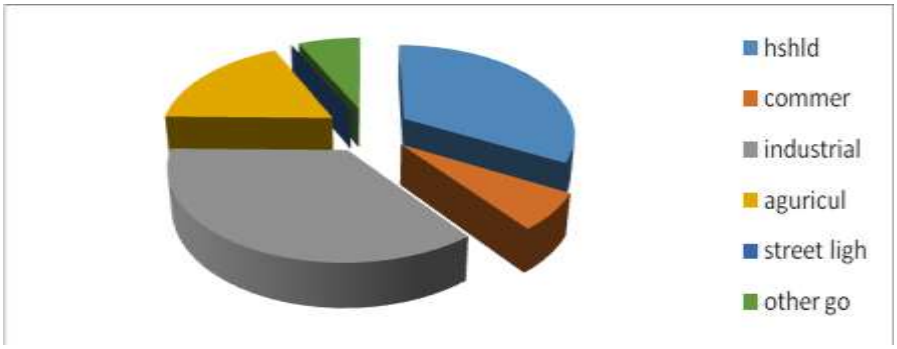


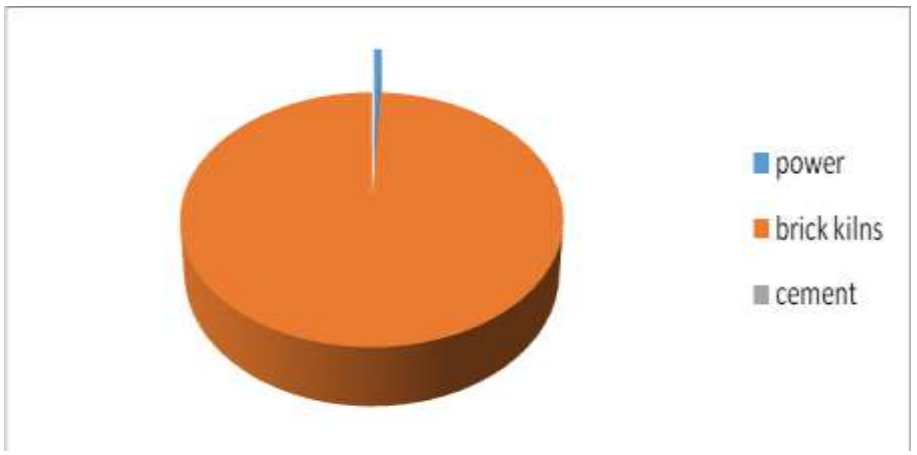
Figure-6

Consumption of Electricity (Gwh) (share) -2013:14

Coal is becoming an important fuel. Pakistan has the second largest coal reserves. The use of coal is rising in Pakistan. In the 1990s, more than 90 per cent coal was utilized in brick kilns, but in 2013/14 the share declined to 60 per cent and the share of cement increased from zero in 1990/91 to 36 per cent in 2013/14. [see Figure 7]. However, the quality of coal needs to be improved which requires either investment in research and development or resources for technology transfer.

Figure-7

Consumption of Coal (000 mtonne)- 2013:14



Future Energy Needs

Assessment of future energy needs is critical in order to reduce the adverse socio-economic impact of energy shortages. Pakistan's energy consumption in general has grown 80 per cent over the last 15 years, a big part of the energy crisis is dealing with massive inefficiencies in the system, such as huge numbers of customers who don't pay their bills and widespread theft and losses due to inefficiencies across the energy grid. The central challenge facing the country at the moment is to find cheaper and sustainable means of generating electricity and to reconfigure the energy mix for enabling power supply at an affordable price — a task, which is easier said than done. Energy crises seem to be undefeatable in Pakistan in the near future. Proper understanding and implementation of correct policies is necessary on priority basis. In this paper, keeping in view the time frame of Vision 2025, we develop following three scenarios to project energy for 2025:

Annual Plan 2014-15

Annual Plan 2014-15 focuses on development of infrastructure for electricity generation. The plan sets the target to generate 25000 MW additional units.

Trends in Energy Use

Based on the trend of growth rates of output (Gross Domestic Product-GDP) and energy consumption, reported in Table 5, the future energy needs are estimated.

Table-5

Growth Rates of Output (GDP) and Energy

Years	GDP	Petroleum Products	Natural Gas	Electricity
1990-91	7.71	9.76	4.47	7.17
1995-96	6.60	11.10	16.39	5.64
1999-2000	3.90	6.51	11.32	5.15
2002-2008	6.00	0.30	12.20	4.90
2010-2013	3.65	0.45	-0.26	1.08

The supply of petroleum products should increase by 20.46 million tonnes from 19.4 million tonnes in 2013. Since the growth rate of natural gas was negative in recent years, we are not estimating its future demand. The supply of electricity should go up from 76789 Gwh in 2013 to 193367.8 Gwh in 2025.

Growth-Energy Nexus

Based on regression for Energy-Growth Relationship, we estimate the growth elasticity for each energy resource. Table 6 reports the future energy needs based on this relationship. For achieving the growth rate of 7 per cent, the required growth rate of electricity will be 9.65 per cent per annum, against the actual at 5.25 per cent. The required rate for Petroleum Products will be 8.65 per cent against the actual at 3.5 per cent per annum during 1996-2005. Based on these growth rates, the demand for petroleum products is expected to exceed 20 million tonnes by 2025. The demand for natural gas will be around 40 mmcft whereas the demand for electricity to be greater than 193367.8 Gwh in 2025. In order to achieve these targets, a proactive action plan is needed. Otherwise, in the long run energy bottlenecks may hamper the growth potential.

Table-6

Energy Needs

	Petroleum Products (Required Growth Rate)	**Electricity (Required Growth Rate)**
Growth Elasticity	0.168	0.153
Target GDP Growth Rate		
5 per cent	5.20	4.75
7 per cent	8.65	9.65
10 per cent	20.73	20.04

Strategies and Policy Options

Two-fold strategies are required to tackle the current energy crisis. There is a need to draw plans and implement solutions for increasing supply and by introducing demand management through integrating energy modelling (i.e., IEM). In order to ensure energy availability at affordable prices, the following strategies and policy actions are recommended:

1) **Energy Mix:** There are two dimensions for the energy mix: the first is the optimal combination among the energy sources, i.e., petroleum products, natural gas and electricity; the second is the combination within various sources of power generation, i.e., hydel, thermal, nuclear, solar, wind and others. We need to opt for an energy mix that is cost effective and ensures energy security.
   The inter-fuel substitution can also play a critical role. The research shows oil substitution for electricity is low around 0.20 whereas electricity substitution for oil is higher at around 0.6. This implies, the impact is not symmetric. Thus, changes in the structure of the economy should be kept in mind while formulating policies regarding energy-mix.
2) **Pricing:** Currently the pricing strategies add uncertainty in the energy market which is transmitted to other sectors of the economy. The price of the petroleum products is linked with the international markets. This increases the vulnerability of the economy to international shocks. According to the Government of Pakistan (2014):
   "The price of oil was $ 10 per barrel in 1995 which increased to $ 110 per barrel in May 2014 showing an increase of almost 10 times as compared to prices in 1995. This also led to an increase in price of oil domestically, escalating to Rs.107 per litre in May 2014 from Rs. 9 per litre in 1995."
   Reducing the dependence on the petroleum products in the critical sectors of the economy either through efficiency improvement or through technology transfer and increasing investment in further exploration can be helpful in reducing vulnerability and improving competitiveness of the economy. Same strategies can be important for natural gas.
   Frequent changes in electricity prices increase the vulnerability of the economy. According to the Government of Pakistan (2014):
   "The cost of generating one unit at IPP thermal plant has increased manifold, i.e., Rs. 18/- per Kwh when produced on furnace oil and Rs. 24/- per Kwh when produced through diesel, while the average sale price of electricity is about Rs. 9/- per Kwh. In other words, every unit generated by an IPP involves a subsidy of Rs. 9/- to Rs.15/- per Kwh. This is the root cause of the growing problem of circular debt."
   Thus rationalization of the prices across different sources of energy and within different sources of electricity is required. In addition, the electricity tariff rated across users needs to be analysed to reduce the harmful effects of cross-subsidization.

3) The technological constraints are very real. The old infrastructure for electricity production and the use of out-dated technologies are leading to inefficient and high cost of power generation.
4) Reduction in power losses through better and effective governance is required. Currently the transmission and distribution losses vary across DISCOs. The IESCO (Islamabad) reports lowest losses around 10 per cent whereas SEPCO reports the highest losses, around 40 per cent. There is a need to give incentives, linking to reduction in losses, to different DISCOs. This could be in the form of allowing lower tariff for the areas with lower losses. However, this needs in depth analysis before implementation.
5) Finally ensuring Energy Security through enhancing domestic production capacity, reduction of imports, expanding the storage capacity, diversification of sources of supply, particularly imports is critical for meeting future energy needs.
6) Develop non-traditional sources of energy like electricity generation from solid waste, particularly the industrial waste from the sugar industry. Currently, in some areas the sugar producing firms are producing power from the waste for their own and for local communities.
7) The improvement in governance structure is important to reduce the gap between the supply and demand. It requires provision of incentives and penalties to reduce illegal exploitation of resources. This will help to reduce losses and make the relevant institutions more responsible.
8) There is an urgent need to develop policies with clear action plan. Recently the government has announced National Power Policy 2012-13. [Box 1 below**].** However, the policy-based action plan needs to be formulated with clear priorities. One important issue highlighted in the policy is alignment of various ministries dealing with energy sector. However, the action plan will be critical to achieve this objective.
9) One important aspect missing from energy policies is improvement in **environment.** This aspect is important, particularly in view of expected increased dependence on coal for electricity generation.

Box 1: The Ministry of Water and Power has developed **Power Policy** to support the current and future energy needs of the country and to set Pakistan on a trajectory of rapid economic growth and social development. It will also address the key challenges of the power sector in order to provide much needed relief to the citizens of Pakistan. To achieve the long-term vision of the power sector and overcome its challenges, following nine goals have been set:

i. Build a power generation capacity that can meet Pakistan's energy needs in a suitable manner.
ii. Create a culture of energy conservation and responsibility.
iii. Ensure the generation of inexpensive and affordable electricity for domestic, commercial and industrial use by using indigenous resources such as coal (thar coal) and hydel.
iv. Minimize pilferage and adulteration in fuel supply.
v. Promote world class efficiency in power generation.
vi. Create a cutting edge transmission network.
vii. Minimize inefficiencies in the distribution system.
viii. Minimize financial losses across the system.
ix. Align the ministries involved in the energy sector and improve the governance of all related federal and provincial departments as well as regulators.

Source: Government of Pakistan (2014).

Conclusions

The energy requirements of countries depend on the size of the population and structure of the economy. Rising population, higher energy production intensity and mismanagement in demand and supply have led to energy crisis in most developing countries, particularly in South Asian countries. The major crisis faced by Pakistan is power shortage that is adversely affecting the production systems (the output losses varying between 30-60 per cent) and the quality of life of the population. The study focuses on all energy sources and discusses the trends in energy use. The analysis of demand and supply indicates that efforts are required to resolve the current crisis, on demand and supply side, both. The focus of the demand side efforts should be to improve energy efficiency and energy conservation. The supply also needs to be increased, while keeping in view energy-environment linkage. Thus, we need to find an appropriate energy mix which is cost effective and it can meet the short-term and long-term energy needs of the country.■

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CHAPTER 5

What Ails Pakistan's Public Finances

Dr. Ashfaque Hasan Khan

Thank you very much for your very generous introduction. The theme of this conference is Roadmap to Economic Growth and I believe that without fiscal and financial discipline it is hard to revive the economy as well as to achieve higher economic growth. Financial discipline is the key to revive the economy and promoting higher economic growth. This is basically the agenda. But before that let me thank IPRI and also the Hanns Seidel Foundation (HSF) for giving me this opportunity to speak on a subject which is very provocative and I think it will generate a lot of questions because what I will be speaking is based on not only my academic background but my practical experience of handling the budget of Pakistan for more than a decade. Without wasting time let me move on to the topic. The importance of fiscal discipline, as I stated in my opening remarks, lies in preventing any macro-economic crises in the country and it is also essential for promoting economic growth. Pakistan, unfortunately, has witnessed macro-economic crises in the decade of the nineties as well as for the last seven years in a row and primarily this is because of fiscal indiscipline that we have promoted in this country. Now if we look at the experiences of other developing countries, it has been observed that prolonged periods of fiscal discipline promote economic growth and bring prosperity in the country. But we have been facing this difficulty for quite a long time, as I stated, in the decade of 90s and from 2008 onwards.

Now to promote fiscal discipline we must have the capacity to forecast our budgetary targets. There is no point in fixing irrelevant budgetary targets which from day one we know cannot be achieved. In other words the country is to be run for the entire fiscal year on ad-hoc basis. This has been our critical problem. Forecasting budgetary targets with fair degree of accuracy is an essential element of financial discipline in a country. If a country does not have the capacity to forecast even revenue for the next year why worry about the economy as a whole. So projecting budgetary targets with fair degree of accuracy is an essential element of sound fiscal management but Pakistan has been failing to forecast its revenue for the last several years. This is how we make our budget in Pakistan. There are inherent flaws in maintaining financial discipline of the country in the way we prepare the budget. Now most of you know what we

mean when we say "we are preparing our budget". What is the meaning of preparing the budget? It is nothing but finalizing the public sector development programme. That's it. When you say that the Ministry of Finance is preparing the budget it means we are finalizing the public sector development programme only. In order to understand that, let's look at this equation. What is a budget deficit? It is the revenue minus expenditure. This expenditure consists of current expenditure, development expenditure, and recurrent expenditure. The development expenditure is the public sector's development programme. So, revenue is our expenditure plus budget deficit which is our negative number. This is how I can rewrite our equation. Why am I writing this equation? Because when we say we are making the budget, we are only finalizing this part, the ED part, the public sector development programme. It means we finalize our expenditure first and when we say expenditure first, it is the public sector development programme first. And in doing so we do take into account projects of important people like Larkana Package, Gujrat Package, Gujar Khan Package, Multan package and so on. I am giving you the practical way we prepare our budget because unless we don't understand how we prepare our budget we will not come to what I am going to explain to you. So, we take into account all those important projects first and then we give allocation for the on-going projects and finalize, after lot of attrition, the public sector development programme. The ED part is thus finalized. What about current expenditure? It is known to everybody in the Ministry of Finance because the largest component of the current expenditure is interest payment. We know it is the outstanding stock of debt multiplied by average interest rate. We give you the interest payment which is the bulk of our current expenditure. We know the other current expenditure is defence expenditure. It would be around 2.4 or 2.5 per cent of GDP. We know that already or it will be about 12 per cent of the total expenditure. This fact is also known. We also know the third element of the current expenditure which is salary of the government servants that too we know exactly. The only slippages in current expenditure are the allocation to power sector subsidies. We underreport that all the time. So we know the current expenditure; we have already finalized the PSDP part; so we know the total expenditure, the ED part is complete. Now what would be the budget deficit. This is a target already given by the IMF. So this number is also known. So what is unknown is the revenue part. So in our budget we treat revenue as a residual item. It has nothing to do with economic activity and yet we always talk about tax to GDP ratio. Why are we talking about tax to GDP ratio. Because our tax collection has not been dependent on economic activity. Our tax revenue has no relation to the level of economic activity. We don't cast revenue on the basis of projected level of GDP. It is all residual.

Historically, 75 per cent on average is the FBR target. The chairman would say "no, no this is too much." That number is fixed. This year the fix number is the residual. It was bargained in Dubai. The target given to us was 3000 billion. The FBR chairman said "no no this is impossible. It cannot be over 2600. No more. You cannot match all these budgetary targets with this number. So after that he says 2800. Okay Sir done, 2800. This is the way we fix our budget number, our revenue number. Now what have been the implications then, when we fix our revenue without taking into account the level of economic activity. So the next slide is seen in the pitfalls of a sudden unrealistic revenue target. It is fixed at 28 billion and 10,000. When the provincial governments prepare their budget they take into the resources which will be given to them on the projected level of FBR revenue through the NFC Award. So they will make their own budget on the basis of the number given by the Ministry of Finance. So this is the fault of others, the provincial governments. So, naturally when the FBR review is over projected, unrealistic, the provincial government's budget will also be unrealistic because under the 18th Amendment there is provincial autonomy. We cannot ask provincial governments to cut down their expenditures. So once we have announced a budget of 2810 billion rupees of FBR revenue we have given this number to the provincial government — Punjab will get this much, Balochistan this much and so and so forth. But under AFC award, the actual revenue collection will be distributed with the exception of Balochistan. Balochistan will get the projected number. So, if 2810 is the gross, the over-stated Balochistan will get the same number. How can the federal government cut down its own share and give it to Balochistan. So the federal government's share has already been reduced and now it is further being reduced because Balochistan will get from the projected revenue of the federal government. So from the first month we see the slippages have started taking place. I think about 50 billion rupees' shortfall in the first quarter. So the slippages are already there and yet the provinces are not getting the number you are giving to them. Then do what we do. We count it in the budget deficit. We say that cash balance is positive so our budget deficit is reduced. We are forced to do it because this is the way we prepare our budget. This is what I am trying to explain. Now we have given incentives to provinces in fiscal years. If it is lying in your account as a cash balance we will give you restraint of 3 months; so there is a perverse incentive. Imagine that after 18th Amendment the social sector is totally being assigned to provinces in achieving the millennium development goals. It is now the responsibility of the provincial governments. And we are giving them incentive not to spend money. If you keep money in your account you will be getting profit to the extent of three months' interest. Now the other limit is the budget deficit

target. The federal government is bound to cut down its public sector development programme. Development spending is the victim of such activities. We are grateful to the IMF that despite ensuring the target they do not come and ask us to take additional budgetary measures, i.e., a series of mini budgets. This the way we decide things and IMF has not said anything on mini budgets till this time as well. It's good we have not been asked despite our failure and soon we will see how much deviation is taking place between actual and targeted revenue. So this is the time to show you the gap. Look at the gap. This is the budgeted number and this is the actual collection and you see the gap. The gap in 2013 was 435 billion. Why do we expect that the provincial budget will be in line? How in the middle of the fiscal year you can ask the provinces to cut down their expenditure. Under 18th Amendment there is provincial autonomy. They will set our expenditure plan. Slippages are bound to take place and this is exactly what has been happening. Now the question is why this is happening. Is it so difficult to forecast the revenue? The answer is no. You need capacity in the FBR as well as in the Ministry of Finance. Period. This is our budgeted number, this is the actual collection in 5 or 6 years in a row that we have collected, more than we have targeted. What was the reason? You know how to forecast revenue and that we have learned through our academic part. How to forecast revenue? This is not rocket science. Unfortunately with change of government when those people have left, neither the FBR has the capacity nor the Ministry of Finance to forecast revenue. They go for the numbers assigned to them, whether the numbers are realistic or unrealistic. They don't have the capacity to forecast themselves. So the current strategy lacks capacity and takes revenue as residual. There is no accountability for failing to achieve targets. Hence the FBR does not take targets seriously. This is how our public sector programme deviates. This is the deviation. So we cut down our development expenditure. Why we have been failing in this is because our capacity of forecasting revenue has been eroded. Leadership quality appears to have deteriorated in FBR. Frequent changes in the FBR leadership demoralize the rank and file in the institutions. No serious efforts have been made to enhance the capacity of the staff of FBR. Since they lack the capacity to forecast revenue they accept irrelevant targets assigned to them by the political leadership. The Bbottom line is our budget making is faulty. So what needs to be done. We have to enhance the capacity of FBR staff by inducting professionals as well as through training and re training the staff. Training and retraining of the staff in economics and avoiding the induction of medical doctors in FBR. Can you imagine when I was in the Ministry of Finance I observed people were being sent abroad. When they returned I asked for the list from the authorities; I saw the list had many medical doctors. Can a medical

doctor understand what is it? And what we have done to enhance his or her capacity? Nothing. Appoint a chairman preferably from within the FBR for a minimum period of three years and give confidence and stability to the leadership. The current practice of treating revenue as a residual must be reversed. If I know how to forecast revenue and if I know what is the budget deficit, I know the size of my purse ends I will cut my coat according to the size of my purse and fix my expenditure according to what I have. Domestically resource mobilization and the budget deficit are the targets given to me, so the budget deficit target is a borrowed target, it is a borrowed resource. Domestic mobilization will give me the total size of my purse and then expenditure will become residual. So in order to have discipline in our finances, make expenditure residual not revenue. So, in other words, treat expenditure as a residual and minimize the chances of slippages. Only then we can maintain financial discipline which is vital to promote economic growth and for economic stability.■

CHAPTER 6

Strategies for Enhancing Agriculture Growth and Food Security

Prof. Dr. Muhammad Arshad

Abstract

Food production and security for the ever increasing population is becoming a great challenge for scientists and policy makers. Growth in agricultural productivity faces severe constraints due to land degradation, climate change, scarce water supplies, lack of quality seeds, unbalanced use of nutrients, use of obsolete traditional practices, conventional cropping system, limited credit availability for the farmers, marketing system and competition for energy resources among agriculture, industry and urbanization. All these aspects demand serious attention of scientists and the policy makers. Meeting demands for increased crop production in Pakistan is a great challenge. Food security requires not only enhanced agricultural productivity but also improvement in produce quality while reducing adverse impact of agricultural practices on natural resources and the environment. Anticipating climate change and adjusting agricultural practices and technologies is a major factor that can assure food security for future generations. Furthermore, the key to food security lies in advancing research and transforming it into adoptable technology. For instance, achievement of higher yield coupled with efficient resource utilization is possible by combining genetic and genomic resources with existing physiological and biochemical knowledge. Multidisciplinary approaches involving effective use of water, integrated and balanced use of bio-organo-mineral fertilizers, integrated pest management, reduced post-harvest loss techniques, risk management strategies, best agronomic practices, precision agriculture and use of GIS system and effective national policies for credit and marketing systems can be helpful in achieving the needs of food, fodder, fuel and fibre for the growing population.

Today's Challenge

World population is continuously increasing and by the year 2050 it is estimated to cross 9 billion (Schmidhuber et al., 2007; Intergovernmental Channel on Climate Change, 2007). This increasing population will require more food and fibre which will put greater pressure on agriculture for future food security. In developing countries this situation will worsen as the net cereal deficit of these countries is 103 million ton (9% of consumption) as of 1997-1999 which is expected to rise to 265 million ton or 14 per cent of consumption in 2030 (FAG, 2004). To meet the demands of food and fibre, the introduction of high yielding varieties and efficient fertilizers in agriculture has become a necessity of present time. Increasing agricultural production by at least 25 per cent while keeping prices low and sustainable is the challenge of the hour. But at the same time increasing agricultural productivity may lead to greater environmental challenges. Agricultural sustainability greatly relies on the maintenance and availability of resources such as forests, water, nutrients and pastures (DFID, 2002).

At present, the use of high yielding varieties and fertilizers is causing depletion of nutrients and water, pollution and land degradation on a massive scale. Although there are numerous challenges but our main emphasis is global food demand which is expected to double in the next 50 years (Tilman et al., 2002) and even now there are more than 800 million people facing hunger and have limited access to food. So, when we are looking at the future, the big question in front of us is "Is it possible to meet such a large food demand without adversely affecting the environment?". Agriculture is a major source of income for the majority of the rural people in developing countries. In light of the past contribution of agriculture to food security and economic development, improvement in agriculture sector is necessary is crucial.

Agriculture Productivity

Agriculture productivity has a great impact on the economy of a country and it is an important pillar of industrial development (Adelman and Morris, 1988). Development in agriculture provides resources to other sectors of the economy. Krueger and Stern (1989) stated that countries with higher agricultural productivity and growth were successful industrializers and economically stronger in contrast to countries having lower levels of agricultural productivity growth. (Coelli and Rao, 2005; Weibe et al., 2000; Bravo- Ortega and Lederman, 2004; and Ludena et al., 2007). According to Stads and Beintema (2009) higher share of research and development

invested by high income countries as compared to low income countries has widened the gap. This has important implications for food security, agricultural productivity and poverty reduction in low income countries, because the countries with lower R&D investment are those that have agricultural land constraints and low net food imports. Due to minuscule investment in R&D in these countries, they hinder their ability to generate modem technologies and enhance efficiency in the agricultural sector. For poverty alleviation and future food security governments should implement economic policies that promote agricultural productivity. These policies should be included within an agricultural development framework that helps to transfer technology, increase efficiency, implement best agricultural practices and provides access to credit, inputs such as fertilizer and chemicals and market opportunities as well. Thus, through agriculture productivity improvement in economic status is possible.

Agriculture Sustainability

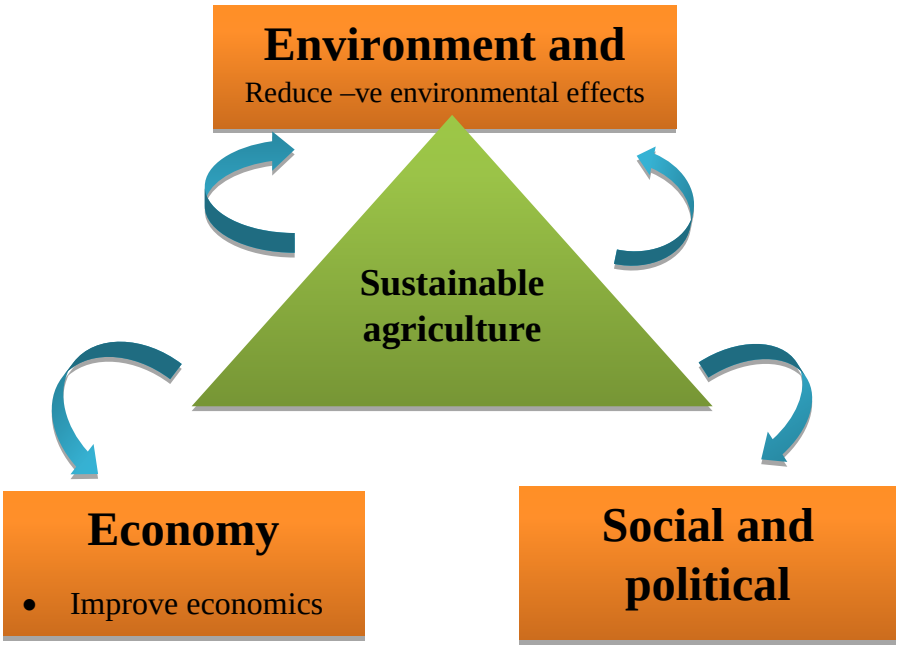
In 1798, Thomas Malthus perceived that exponential growth in population would ultimately overshadow our ability to produce food and eventually lead to starvation and war (Malthus, 1798). But during mid-20th century, rising food demand due to increasing population led to advancement in agricultural technologies. These advancements in agriculture sector prevented a major food shortage and saved the human population from so-called Malthusian trap. But debates on agriculture and resource management started in the 1950s (Carson, 1963) and ultimately in the 1980s, the Commission on Environment and Development which is chaired by Oro Harlem Brundtland, published an article "Our Common Future". The article highlights the control of poverty, natural resource management and sustaining of environment (World Commission on Environment and Development, 1987). As a result of this publication, "sustainable development" was defined as "meeting the needs of the present without compromising the ability of future generations to meet their own needs". This concept of sustainable development defines both the path and limits of growth. Following this a UN conference on environment and development was held in Rio de Janeiro in 1992 to internationally raise awareness regarding threats to agricultural sustainability.

Sustainable agriculture emphasizes developing technologies and strategies that minimize dependence on environmentally harmful and non-renewable inputs. Some examples of these sustainable solutions are organic permaculture, eco-agriculture, ecological and community-based, biodynamic, low-input, environmentally sensitive, farm fresh approaches (Pretty, 2003, 2002; Cernea, 1991; DFID, 2002). In order to popularize

sustainable agriculture, strategies must be simple and productive with emphasis on management of natural resources (DFID, 2002). Policies for increasing food production through efficient use of limited resources will encourage smaller farmers and will be a positive step toward future food security. Continuous and wide scale adoption of this system will help to manage the limited and non-renewable natural resources (Pretty, 2005) (Figure1).

Figure-1

Sustainable Agriculture



Food Security

Food security is defined as a state when "all people, at all times, have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (FAO, 1995). Sincere efforts are required to increase agriculture production in order to attain food security for increasing world population over the next half century (IFPRI, 1995; Crosson and Anderson, 1995; FAO, 1995). Investment in agriculture, nutrition and rural employment will boost income and ensure global food security. Experts suggest that the economic benefits obtained through agriculture are twice as effective in reducing poverty as compared to all other approaches (Crosson and Anderson, 1995). However, when we are talking about food security at local level, global projections

do not help necessarily because food production is not the same as food availability. Food availability is "production minus the sum of export and import". Even though, food production strongly influences food availability and security, however, the relationship is complex and many different factors are involved (Sen, 1994; Dreze et aI., 1995; Bowbrick, 1986). Presently, diminishing land productivity, water scarcity, low yielding verieties, higher prices of fertilizers, poverty, and higher food prices are the most common factors hindering food security (World Bank, 2012). Malnutrition and poverty are the most important factors which threaten millions of peoples in developing countries. Unsustainability in agriculture degrades natural resources and makes it difficult to meet future food demand.

Major Pillars of Agricultural Productivity & Food Security

Agriculture is the backbone of Pakistan's economy and accounts for 75 per cent of the domestic product (Ali, 2004). Agriculture sector meets the food demands of a growing population, provides materials for the industrial sector and employs a large proportion of the labour force (Pakistan Economic Survey, 2006-07). There is a need to enhance agricultural productivity through the introduction of high-yielding crop varieties, and use of balanced fertilizer, efficient pesticides and sufficient water for irrigation (Guha-Khasnobis, 2003). Yields of agricultural crops in Pakistan are still quite low compared to the developed countries. Technology raises agricultural productivity; it should be the major factor in creating these positive effects (Thirtle et al, 2003). Besides agriculture, no other sector offers equal potential to create employment and lift people out of poverty. Undeniably, the increase in agricultural productivity in various countries and consequential poverty reduction over the last few decades is a product of the adoption of new technologies.

Variety Development

The world in general faces serious challenges related to food, energy, environment and health. Advances in plant genetics have provided new knowledge and technologies needed to address these challenges. Plant genetics remains a key component of global food security, peace, and prosperity for the predictable future (Evenson and Pray, 1991). A great many lives depend upon the degree to which crop genetic improvement can keep pace with the growing global population, changing climate, and decreasing environmental resources. The basic technologies of plant genetic enhancement, including crop genetic engineering, are in place, and are

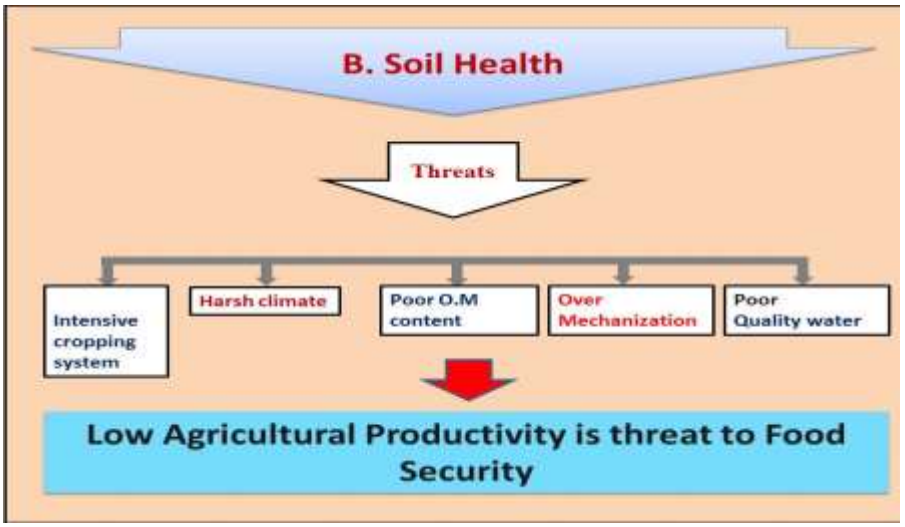
expected to play crucial roles in meeting the chronic demand of global food security (Rosegrant and Evenson, 1992). But genetically improved seed is only one part of the solution. Such seeds must be integrated into ecologically based farming systems and evaluated in light of their environmental, economic, and social impacts, in order for them to become a part of sustainable agriculture. However, there are some constraints related to the development of new varieties, such as the time and funds needed for such lengthy projects and patient government policies (Lipton, 2001). On top of that the variety approval system is very complicated. Increased production and food security can be achieved with the development of high yielding and input responsive crop varieties. There is a need to develop short duration verieties for multiple cropping. Post-Green Revolution expectations of yield improvement from the development and release of newer higher yielding varieties have been overshadowed by problems resulting from increased cropping intensity, use of poor quality groundwater, low fertilizer efficiency, and increased weed and disease attack. Nonetheless, development of new varieties is pre-requisite for enhancing agricultural growth and food security.

Soil Health

Soil health has recently gained attention as soil degradation from high cropping intensity, lack of organic matter additions and mechanization have reduced the yield potential (figure 2). Intensive agriculture leads to increased erosion, soil compaction, greater pest problems, and reduced crop output (Kendrick, 1961). Soil degradation is a common problem in many areas of the world. Higher disease and pest pressure, soil compaction, decreased infiltration rate, reduced water-holding capacity, low organic matter content and excessive run-off and erosion are common symptoms of poor soil health (Oguchi, 2004). By green manuring, addition of organic matter and balanced nutrition, the soil health related problems can be solved.

Figure-2

Soil Health Threats

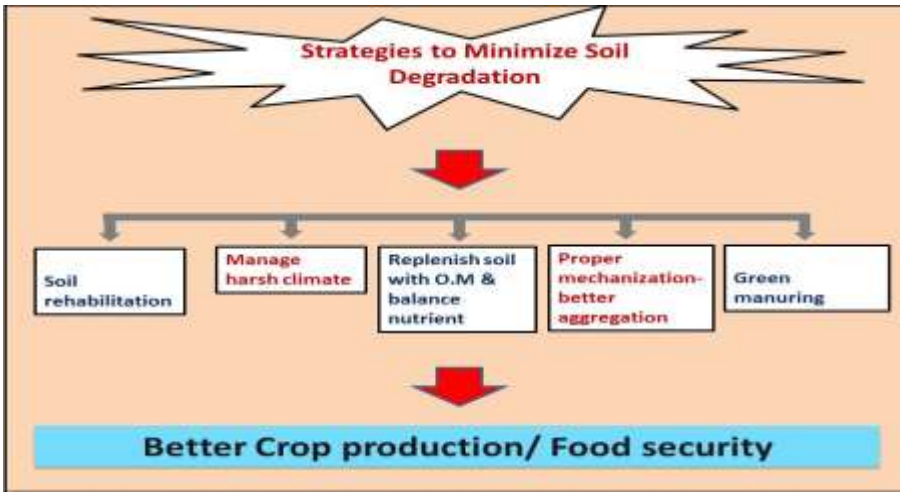


Inputs

Keeping all other factors constant, seed rate determines the plant population in a field and thus is an important yield determining factor (Khan, 1994). Seed should be certified and seed rate should be used according to the recommendations otherwise the yield will be affected. Good quality water and appropriate number of irrigations enhance the yield of crops. Similarly, plant protection measures including weeding, hoeing and application of pesticide to control pest and disease attack need to be adopted (Lipton, 2001). The occurrence of weeds, pests and disease on crops is an increasing problem in all areas of Pakistan and adoption of chemical methods is becoming more popular. Furthermore, balanced fertilizer application is a prerequisite for higher and sustainable yields. Farmers need to be educated about the fact that all nutrients contribute equally. Introduction of slow release fertilizers, nanofertilizers and polymer coated fertilizers shows much promise for sustainable agriculture (Dorward, 1989).

Figure-3

Strategies to Minimize Soil Degradation



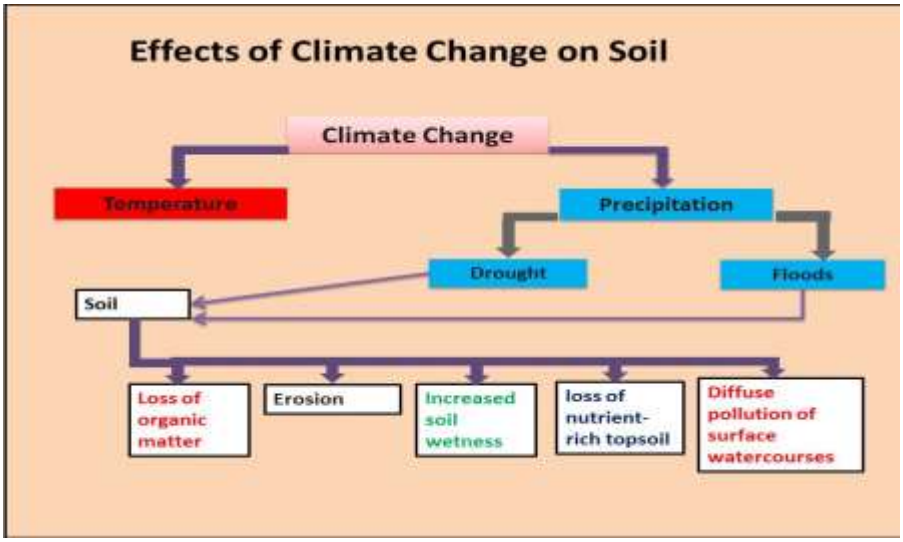
Climate Change-impact on Soil

Change of temperature and precipitation has been a global, regional and local phenomenon since humans developed agriculture. The most recent report of the intergovernmental panel on climate change (IPCC) indicates that the average global temperature will probably rise between 1.1 and 6.4 C by 2090-2099, as compared to 1980-1999, with the most recent rise being between 1.8 and 4.0 C (IPCC, 2007a). The awareness that the earth's climate is changing is now accepted universally in scientific community (Cooney, 2010; Corfee et al., 2007) and many scientists dispute that climate change is anthropogenic (Kulek, 2011; Carter, 2007; Blurnle et al., 199). Therefore, even if we can't agree on why this climatic change is happening, it should be possible to agree that "it is happening" and with climate change there will be effects on environment, including the soil (Figure 4). Increased temperature, elevated $C0_2$ concentration near the soil surface and high precipitation rates lead to increased biomass. More crop residues and higher temperature also stimulate the activity of soil organism. Increased soil temperature also stimulates chemical weathering. High rainfall as a result of global warming can wash out soluble nutrients at a higher rate from the soil surface resulting in soil erosion and nutrient loss. However, the expected climate change and its effects on soils can vary to a large extent. For example rising sea level will increase the flooding of coastal soils. Higher temperature in coastal soils may intensify the microbial formation of greenhouse gases. Permafrost soils may melt and their agriculture use may become partially possible. Secondly, changing climate will influence the

carbon and nitrogen cycles, which will in turn affect soil fertility (Hungate et al.,2003; Gorissen et al., 2004; Davidson and Janssens 2006; Wan et al., 2011) and will also affect the soil moisture level (Chiew et al., 1995; Backlund et al., 2008; Kirkham, 2011).

Figure-4

Effects of Climate Change on Soil



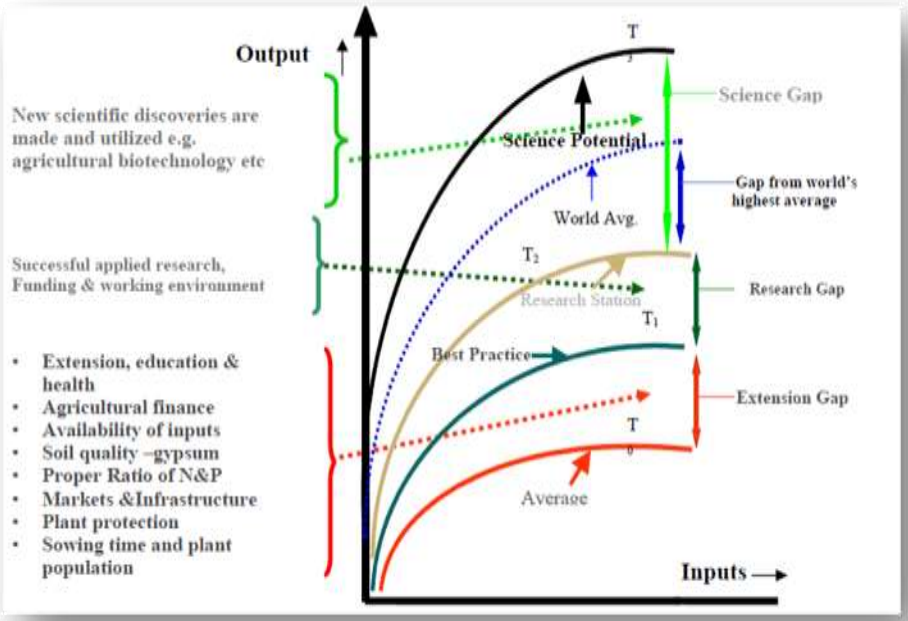
Bridging the Yield Gap between the Potential and the Pre sent Level of Productivity

Crop and livestock production dominate agriculture output and account for 56.5 and 38.9 per cent of total value added in agriculture during 2002-03 respectively. The share of major crops in total value added in agriculture is 40.6 per cent. The four major crops namely wheat, rice, cotton, and sugarcane contributed 37 per cent to the overall agriculture income and around 9 per cent of the GDP. Therefore, performance of these four crops has been crucial for agriculture production and overall performance of the economy. Fluctuation in yield performance of these major crops leads to unstable GDP growth rates. More diversification in agriculture sector is crucial both for stability of agriculture income as well as stable GDP growth. Contribution of minor crops has been relatively small. The national average yields of various crops are far below their potential yields realized at the progressive farms and demonstrated at research stations. Moreover, research potential yields are lower than the potential demonstrated in many of the developed and developing countries. Evenson (2002) discusses four

yield levels and three yield gaps associated with them (Figure 5). The yield first level is actually the realized yield on the average farmer's fields (T0). The second is "best practice" yield (Tl), which can be demonstrated using the best available technology. The third level is the "Research potential" yield (T2) i.e. it is the hypothetical "best practice yield" that would be expected to be attained as a result of successful applied research programme directed towards this crop. The fourth is the "science potential" (T3) which is again a hypothetical yield. The research potential yield is attained if new scientific discoveries are made possible using modern research tools and biotechnological approaches in applied research programmes.

Figure-5

Productivity Gaps in Agriculture
(Iqbal and Ahmad, 1999)



Associated with these four levels are three gaps (Table 1). First, the extension gap is the difference between best practice and average yield. The extension programmes are designed to shorten this gap. Second, the research gap is the difference between research potential yields and the best practice yield. Successful applied research programmes will help to reduce this gap. Third, the science gap is the difference between science potential and research potential yields. Agriculture productivity growth would thus require frequently a shifting of T3 and T2 yields, thus widening the research

gaps and continually bridging this gap by enhancing the best practice yield (T1) through applied research. This in turn would expand the "extension gap" to be continuously bridged through effective extension services.

Table-1

Various Levels Average Yields for Selected Agriculture Commodities and Associated Yield Gaps (Yields in Tonnes/Hectare)

Commodity	Highest Avg. (world)	Potential Yield	Progressive Farms' Yield	National Average**	Gaps (%)		
					Extension	Research	From world Avg.
Wheat	7.5 (France)	6.8	4.6	2.3	50.0	32.4	69.3
Cotton	4.0 (China)	4.3	2.6	1.8	30.8	39.5	55.0
Sugarcane: Sindh	120 (Egypt)	300	200	60	70.0	33.3	50.0
Punjab		300	130	40	69.0	56.7	66.7
Maize	9.9 (France)	9.2	6.9	1.7	75.4	25.0	82.8
Rice	7.4 (USA)	5.2	3.8	2.0	47.4	26.9	73.0
Rapeseed/ mustard		3.4	1.5	0.8	46.7	55.9	
Cow milk (tonne/Year)	5.5 (USA)	6.5	3.1*	1.2	61.3	52.3	78.2

* Sahiwal Breed Potential

* * National average Yields in 2000-01

Source: PCST (2003a); Iqbal and Ahmad (1999)

Improving access to institutional credit and quality inputs markets, health facilities; resource conservation and promoting the adaptation of tested technologies are the keys to a productive and sustainable agricultural system.■

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CHAPTER 7

Undertaking Structural Reforms and Reforms of Public Sector Enterprises

Prof. Dr. Bashir Ahmad Khilji

Evolution of Market Friendly Approach and Public Enterprises

During 1980s conservative governments of USA, Canada and West Germany etc. favoured the 'Neo-Classical' economic theory popularising privatization and free market approaches at the global level. Minimizing government's role in market mechanism became fashionable. International institutions like IBRD, ILO, IMF, UNDP and WTO also appreciated this system. A group of development economists like Lord Peter, Bauser, Deepak Lal, Harry Johnson, Jagdesh Bhagwati and others also argued that state intervention in economic activities does not increase the pace of economic growth. It was believed that privatization of state-owned enterprises, free trade and welcoming MNCs from developed countries accelerate economic activities. (Hamid.A 2013)

Today state intervention and public enterprises are considered as misappropriation of the resources of the economy. In this perspective, the public enterprises are being privatized in Pakistan like other developing countries of the world. Privatization supporters argue that it increases the currency in industrial and developing countries and is a tool to minimize the burden on national budgets. As in the private sector personal interest is the driving force, the privatization of public enterprises helps in minimizing their losses, maximizing their profit and converts these white elephants into productive units. Government as a policy maker and regulatory authority can put more stress on policy making and monitoring.

Economic development through private enterprise has remained the mainstay of the government of Pakistan from the late 1970s. Government has been following the privatization policy through the Privatization Commission which has privatized many ill and unproductive units of public enterprise.

Historical Background of Public Enterprises (PES) in Pakistan

Upto the 1970s public enterprises emerged as the main component of the economy of Pakistan and their number increased from 12 at the time of

independence to more than to 257 with the assets amounting to Rs. 276.7 billion. (Mehdi 1991).

The annual report on "Government Sponsored Corporation" (GSC) shows that 154 PES contributed 6.7 per cent of the total GDP and if Water, Railway, Civil Aviation and Telecom etc. are also considered then this figure increased to 13 per cent (auditors report 1989).

Analysis of Performance and Significance of PES

Assessment of assets utilization of PES is not so easy due to their multidimensional commercial and non-commercial objectives. All PES are mostly controlled by the government and their production, sales and profits are also influenced by the government. Below is an analysis of the financial performance of these enterprises.

a. The inflationary rate has remained 9 to 12 per cent and interest rate from 15 to 18 per cent. The enterprises were generating less than this return on assets which can be considered — a negative return on assets employed. There were only 6 out of 154 PES which in 1988-89 gave a return above 15 per cent and 10 out of 154 gave a return of above 10 per cent. Out of 154 PES 51 units working with about 12 per cent assets were incurring losses. Five units with Rs.2 billion assets were closed down.
b. In 1988-89 only 44 PES out of 356 companies were listed at Karachi Stock Exchange. These PES earned only 38 per cent net profit while corporate tax was 37 per cent (State Bank of Pakistan 1989).
c. During the Ayub period EPIDC and WPIDC were responsible to develop and sell PES to private sector which resulted in the development of the industrial sector.
d. During PPP government of Z.A Bhutto (1971-1977) flour mills, oil mills, education institutions, banks, etc. were nationalized and 48 corporations were established to control PES.
e. During General Zia's period the process of denationalization began to reverse the PPP policy.
f. Under PPP's Benazir government the process of privatization was continued.
g. During 1st and 2nd periods of Nawaz Sharif's government privatization process accelerated while most of the PES continued to make losses. (Economic Survey 1997).
h. During Gen. Pervez Musharraf's period the privatization policy was continued as the economy stabilised.

i. Then under PPP's Zardari government the privatization process continued without any remarkable achievement. Power shortages led to the closure of many industries.
j. At present the government is pursuing a market friendly policy. The process of privatization has accelerated and enough funds have been generated from this process. Efforts are being made to make the PES profitable and the sick units have been auctioned. PTCL, PIA, PES, and some banks, the Steel Mills, are being considered for partial privatization. Railways has become profitable. (Economic Survey 2014)

Weakness of PES

If the working and performance of the PES is analysed from beginning till now, it can be concluded that it has been negative. Their major deficiency is inefficient management, corruption and lack of national sprit. They have failed to perform to the required level. This calls for economic reforms in which privatization plays a major role (Nellis. J-1990). The weaknesses of PES are listed as under:

i. Ill- planning
ii. Corruption
iii. Lack of responsibility
iv. Favouritism
v. Political interference
vi. Lack of managerial experience
vii. Over staffing
viii. Labour union politics
ix. Lack of monitoring, evaluation and accountability
x. Lack of feasibility studies
xi. Insufficient working capital. (M.Tech 1990)

Issues of Privatization Programme in Pakistan

Although the Privatization Commission has been established for this purpose, but due to following constraints the privatization process has been slow.

i. The main problem is the supply of capital in programme implementation. The government is in search of investors to pick up controlling shares and guarantee the payment of all loans, but these are not available at the required level.

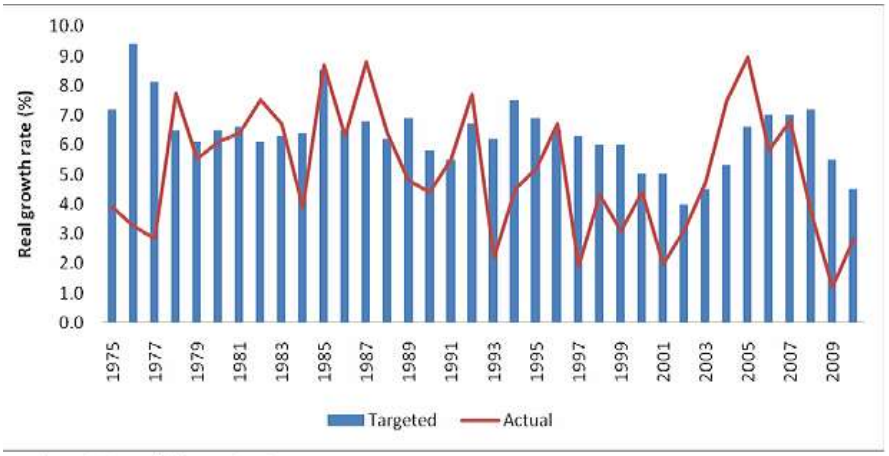
ii. The privatization programme is opposed by different groups who are directly affected by the programme.
iii. There are legal constraints which delay the process.
iv. Political instability is another hindrance in this process as when new governments take over, they pursue their own policies and programmes

Framework of Economic Growth (2011)

Economic growth in Pakistan is charted against targets in the following figure:

Figure-1

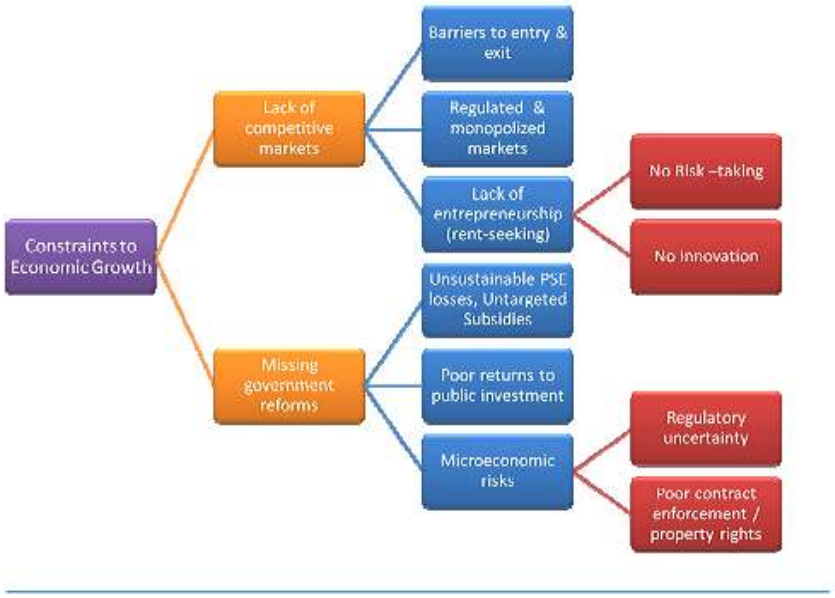
Targeted vs. Actual Economic Growth



urce: Economic Survey of Pakistan, various issues

Figure-2

Binding Constraints First



Framework of Economic growth-2011, Planning Commission of Pakistan

Reforms in Public Enterprises PE Sector (A Critical Analysis)

The following methodology will be adopted for PES development. The loss making PES will be classified according to three possible remedial measures that have to be driven firmly.

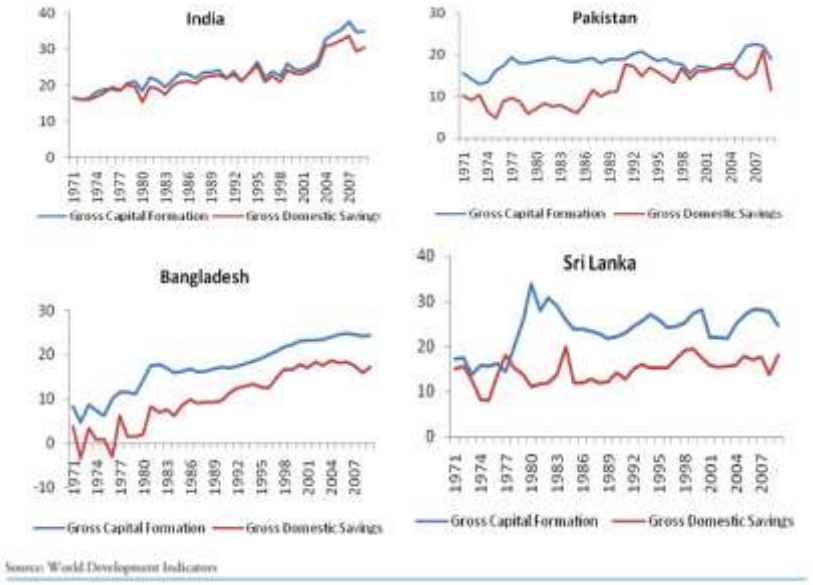
- First, the utilities (such as electricity and gas) need better management and improved regulation. In case of each utility two key issues of pricing and business process reengineering must be addressed. The top ten must be market trained professionals who can keep the corporate culture entrenched. The top most priority of these professionals should be to make this entity efficient to a maximum extent so that it becomes attractive for privatization at a later stage.
- Secondly, the category of PES which are directly privatisable. For example, we now know from decades of experience that government entities responsible for agricultural procurement and marketing have not only added to fiscal deficit but have also led to shortages of strategic food reserves. These must be privatized. Similarly, Privatization Commission website gives a vast list of

entities placed on the privatization list. The process needs to be fast tracked.

- There are PES that have outlived their purpose and must be considered for closing down. Institutions such as the Railway, PIA, Pakistan Steel Mill etc. have been restructured many times in the past. However, simply changing the corporate faces on the top has not made them financially viable. Even if these are privatized at the national level, they will have the exchequer under strain of fiscal deficit.
- An institutional framework for appointment of executive officer in PES has been approved by the Cabinet Committee on Restructuring (CCOR), the status of restructuring is as follows: The BISP has been developed as a targeted mechanism for addressing poverty.
- The government's attempts at delivering public service have often fallen well short of expectations.

It is necessary that in future a focused government that complements an efficient competitive market is in office. Restructuring the role of government is shown in figure 4 while figure 3 depicts patterns of growth in the region of South Asia.

Figure-3
Regional Economic Growth 1961-2009
(South Asia)



Source: World Development Indicators

Figure-4

Reorienting the Role of Govt

Source: Framework of Economic Growth 2011, Planning Commission

At present in every sector of the economy, the private sector entry as a direct market participant faces hindrance. The development of competitive markets is also problematic. So our growth strategy will, therefore, focus on several reforms of government to catalyse private investment.

Restricting Role of Government

No doubt that government should watch over protecting the public interest and provide necessary public goods, enforcement of laws and justice and accountability. Government may confine to policy and regulation and the remaining may be left to the market as per global practices as shown in figure 5.

Figure-5

Direction in Reforming Governance

Source: Pakistan frame work of Eco growth. 2011

Government may be careful with regulations as excessive regulation hurts business development. So the above fig shows which sector should be regulated and to what limits. Government's exit from public enterprise can be in three forms as:

i. Complete privatization
ii. Partial privatization
iii. Unbundling of supply chain

Policies Leading to PES Monopolies

As per the constitution the following factors strengthen the existing monopolies due to federal and provincial governments' policies:

- Infrastructure industries e.g., Railways, Gas, Marketing, Ports, Airports and Baggage handling, Civil Aviation, Post Offices, Electricity transmission and water supply in cities etc.
- Existing bilateral air services agreements (BASAS) creates monopoly of PIA by granting more rights for operating direct scheduling services between Pakistan and other countries.
- Sale of electricity by one state-owned PES (WAPDA) without any choices to the producer to choose its customers.
- Lack of public transport in cities is a pointer to restriction licensing with threat of creation of monopolies.

- Lack of fertilizer plants strengthens the monopolies of existing firms.
- Pharmaceutical prices fixation by government creates monopoly for present firms.
- Fixation of minimum paid up limit of capital requirement for banking and insurance companies leads to monopolies.
- Fixation of commodities for basic necessities by government with existing associations allows mafia to be stronger and expiation of raw material providers.
- Products of Pak steel mills.
- Setting of retail prices of fruits and vegetables leads to monopolies of existing business organizations.

The CCP autonomy has remained under threat due to lack of financial autonomy, weak competition, advocacy, lack of human capacity in CCP, and slow judicial order implementation for pending cases.

Unnecessary Subsidies

Many entities have been getting unnecessary and untargeted subsidies i.e. WAPDA, KESC, Trading Corporation of Pakistan, USC, PASCO, Oil Refineries, Wheat and Sugar retail spinning, Textile, Motorcycle industries etc. only due to political pressure not for poverty related agreements as shown in table given below.

Table-1

Subsidy by Federal Govt 2010

	July-June 2004-05	July-June 2005-06	July-June 2006-07	July-June 2007-08	July-June 2008-09	July-June 2009-10
PEPCO	22.2	19.5	41.9	113.7	91.1	146.6
KESC	13.8	17	16.6	19.6	18.7	32.3
FFC Jordan	0.3	1	1	0.9	0.2	0
Oil Refineries	13	11.2	25	165.9	67.7	11.2
Servicing of Outstanding Liabilities (GIK)	0.1	0.1	0.1	0.1	0	0.1
R&D Support to Textile Sector	0	0	0	17.5	2.3	0
TCP	6	9.3	2.8	45.7	26.6	20.2
PASSCO	1.4	1	0.1	0.4	0.3	0.6
USC	0	0	0.2	5.3	2.7	1.4
Others	0	5.2	19.8	0	2.8	0.3
Sale of Wheat, Sugar etc.	0	0	0	0.7	0.8	0.9
Total	56.8	64.3	107.6	369.7	213.3	213.5
Grants to Railways	4.2	4.8	6.9	7.3	9	18.4

Source: Planning Commission Calculations

Source: Government of Pakistan, Planning Commission 2011

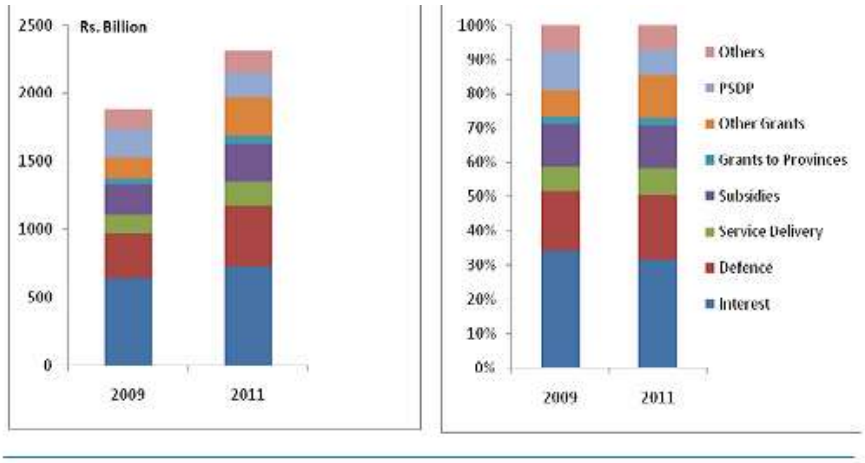
These unnecessary subsidies create inflationary expectations.

Inefficient Domestic Resource Mobilization

Pakistan has a narrow tax base with high enforcement cost (against cannon of tax) and the tax management is challenged by complicated compliance of procedures. The World Bank TRAP has yet materialized into a higher tax to GDP ratio, so tax revenue may be raised through tax base broadening and procedural reforms. For this purpose the MTBF in Finance division may be empowered and extended to provincial level; only thus can Pakistan move away from constraints as shown in fig-6 given below.

Figure-6

Bugedetry Expenditures



Source: Planning Commission ADP-2011

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The government can increase the domestic resource mobilization and development by the following reforms.

- Agricultural income may be included in direct tax net so that the exempt 65 per cent rural population may be brought in the tax net.
- Worker remittances may be included in tax net.
- Increasing exports income is exempt from tax except withholding tax, this income may be included in the tax net (Dawn Feb 6, 2011).(I Hussain, disconnects and mismatches, Dawn, February 6, 2011 .

- Income from speculative gains is also exempt, it may be included in the tax net.
- Owners of assets and beneficiaries e.g., urban property transactions often take place at a fraction of the actual market value. Rural land is exempt from tax, property or capital gains, tax rules on urban immovable property are kept low because ownership is concentrated among elites. So the overall tax gap for Pakistan was more than Rs. 600 billion (s.ahmad et.al 2010)

18th Amendment and NFC Award

The 18th Amendment to the Constitution of Pakistan and the new NFS award can impact at federal and provincial level. The change can be qualified in terms of provincial autonomy by abolishing concurrent list, strengthening the Council of Common Interests and devolving more and more responsibilities to provinces i.e., prepare their own MTBF, modes of better governance may be checked at provincial level and the provincial growth strategy and formulation of development plan at local levels. But the success will depend on how public service performs in coming years (PLDT-2011)

Managerial Development

It is recognized the world over that no public sector set up can be effective without competent and dedicated public servants and human resources issues have been identified as a major constraint for the economy as these can be substituted better with natural resources. (e.g., Papan, UAE & bronai) (Khilji-2013).

Well trained problem solving humans instead of ill equipped, poorly paid and sticklers for rules (NCGR-200, p/ 163-167). The reforms made by NCGR need to be urgently implemented.

- Lack of delivery accountability has led to substantial decline in quality of public service delivery. The current structure is decreasing real wages and non-meritorious promotions and rewards are weakening the system.
- Lack of information on civil service reform performance.
- Lack of coordination and cooperation and its management makes the process slow.
- Checks and balances are not up to required level which leads to corruption.

- Failure to acknowledge the labour markets and institutional constraints.
- The rulers-focused short/right sizing and procedural changes without reforming have no incentives. Reforms can only be successful if public sector HRM is reformed.
- At present there is no HR unit, department or ministry at federal and provincial level. While this is more important for manpower planning in future estimation, a think tank based on retired technocrats, for hundred year planning is necessary. In the present structure, 85 per cent of the salary bill goes to staff of grade 1-16.
- New recruitment for 16 grades may be stopped except of teachers, health workers, security forces and technocrats.
- Facilities of plots, houses, cars, land, membership of clubs and boards etc. may be stopped in favour of army officers and civil bureaucrats. Facilities in terms of perks to BS 20 and above alone cost the government Rs. 4.7 billion annually and it will come to 6 billion to add administrative costs as given in the following table.

Table-2

Monetisation of Perks

When state provides perks, it reduces productivity by not only adding to the overall expenditure (more bureaucracy is required for managing the perks) but by also encouraging rent seeking. Currently civil servants in Pakistan are receiving perks in addition to their cash pay. These perks include transportation, housing, plots, land, membership to clubs and membership of boards etc. In most cases even sanctioned entitlement of officers are discretion of the top boss who can choose whom to favour. The following case study focuses on transport and housing perks for officers of grade BS 20 and above.

Perks to BS 20 and above alone cost the government Rs 4.7 billion annually. Add to this the administrative expense and the figure will easily reach Rs 6 billion. Once monetised, the cash pay per officer will increase significantly (post monetisation scenario below). Given 100% compensation, annual cost to government will reduce from Rs 6 billion (current) to Rs 3.1 billion.

	Current Scenario			Post Monetisation	
Monthly (Rupees)	Cash Pay	Transport	Housing	Wages (100% Compensation)	Wages (50% Compensation)
BS 22	144,316	186,205	200,000	530,316	337,316
BS 21	119,019	171,164	150,000	440,019	280,019
BS 20	107,130	118,124	80,000	305,130	206,130

Govt of Pakistan, Planning Commission, 2011

- Technical and professional cadres need special attention, scientific contributions, researches and PhD degrees may be given weightage in promotions and selections.
- SBP, CCP and SECP autonomies may be widened to improve market imperfections.

- Pakistan Bureau of Statistics may be widened with improvement of its autonomy to provide more accurate data.
- The absentee rate of the doctors, teachers is 74 per cent because of lack of accountability.
- Government may institutionalize impact evaluation of programmes to know how successful different institutions are.
- Periodical trainings with quantifiable result may be given so that their skills may not erode and are in line with the global best practice (World Bank-1999).

Road to Prosperity by LCCI

So far the best the political leadership has done is to privatize institutions that have previously been white elephants. Privatization has increased the cost of living for the masses' e.g., privatization of PTCL, electricity and mineral resources. Corruption has neither stopped in PEPCO with 30 per cent electricity theft, same in PTCL, PIA, Railway, PNSC and Pakistan steel. So in fighting against corruption privatization has not been successful. So the solution is not privatization but complete transparency in PES. Penalty for corruption must be exemplary. Open bidding instead of concealed bidding, information for public security, in line with Islamic teachings, can reduce the corruption in PES.

Reforms as per Annual Plan 2012-13

The government is committed to creating a conducive political, legal and economic environment for building individual capabilities and encourage initiatives. Development activities under the government sector revolve around effectiveness, accountability, transparency, rule of law, knowledge management, organizational restructuring of institutional reforms, judicial reforms, law and order, professional developments and service delivery. The plan emphasizes improving good governance and improvement in PES overall as given below:

- An overall framework for restructuring of PIA, PSM, PEPCO, Railway, NHA, PASSCO, TCP and USC has been devised with the objective to curtail haemorrhaging, improve services delivery, reduce fiscal burden and to increase public sector savings.
- Following progress achieved in this plan:
    - A framework for hiring of professional CEOs has been approved by the CCRO of PES to create transparency.
    - BOD is empowered to appoint professionals and plans are being implemented

- Substantial progress has been achieved including restructuring BODs of DISCOs, NTDC, PGCS and CPPA.
- BODs of Pak Steel Mills have been reconstituted and CEO has been appointed.
- New BOD for PR was constituted with required criteria.
- Restructuring plan of PIA has been finalized.

Hoping that in future a framework for ensuring good functioning of PES will be developed which will envisage a transparent process under the task force.

Rules for Corporate Governance for PES 2013

These rules have been:

- Notified by Security and Exchange commission (SECP) will apply 130 PES after 90 days of their promulgation from mid June 2013 as follows: regarding empowering of BODs, transparency and accountability.
- Eight PES operating under various ministries/divisions could not be brought under companies' structure i.e. USCPL, NHA, TCP, PASSCO, PSM, PEPCO, PIA and Pakistan Railway. It is a challenge for government to streamline the legal form because these entities have been working under special entity.
- At the first stage the companies will be incorporated as limited liability companies under companies ordinance because this law itself takes care of governance issues.
- This harmony of legal status will make the enterprises competitor with private companies as these PES need to be controlled with centralized mechanism.
- The government control on PES is because of their inefficient operation and the role of trade unions which oppose reforms. It would be difficult to stop government intervention in PES.
- These new rules propose a separate new holding company to have a pool of talent to manage its control on behalf of their shareholders which is now controlled by government officials.
- As per chairman of SECP, the BOD will bring more transparency in PES and minimize their directors within two years and will be independent.
- No person will be elected/nominated as director for more than five PES at a time. The chairman of BOD will be elected from independent directors. Board will recommend three names to government to be appointed as CE as per ordinance.

- All PES will adopt international financial reporting standard along with detailed PES operations with social mandate.
- For accountability, special committee of BOD will be constituted to implement the norms of HR committee, nomination committee procurement committee, risk management committee and audit committee.
- The statuses of the chairman and CEO have been proposed to be separated for balancing of power and improvement of management, standard conduct of directors.
- It was expected by the former Finance Minister Saleem H. Mandiwala that these rules will bring more transparency in operation of PES and put a stop to huge losses by these entities.

Restructuring of PES and Strategic Partnership through Privatization in Financial Year 2013-14

i. Present government has constituted high powered commission for assurance of transparency in the placement of heads of important public enterprises.
ii. The Economic Coordination Committee (ECC) of the Cabinet has approved a three month bailout package of Rs. 2.9 billion for Pakistan Steel Mills to meet its requirements and this amount has been released. Also the amount of Rs. 960 millions for salaries for the month of December 2013 and January 2014 was released.
iii. The Board of Directors (BOD) of Pakistan Steel Mills was reconstituted in Oct-2013 and added five more members from private sector and BODs have pointed out many options which are related with PSM issues.
iv. The Economic Coordination Committee (ECC) has approved a restructuring plan for PSM in April 2014 with the grant of 18.5 million rupees. By this 77 per cent capacity will be utilized of PSM up till June 2015.
v. A big package amounting to Rs. 16 billion was approved by ECC for PIA in 2013 out of which Rs. 14.65 billion have been released up till April 2014, with the aim to improve flight schedule, undertake Hajj operations smoothly and for leasing of 6 more aircrafts.
vi. A huge amount of Rs. 33.5 billion has been allocated to Railways development out which Rs. 27.9 billion were released up to April 2014.

vii. Government of Pakistan has allocated Rs. 30.97 billion in Public Sector Development Programme (PSDP) for financial year 2014. It includes improvement in business processes and institutional framework, financial stability and service delivery.
viii. Pakistan Railway Board is also being reviewed.
ix. Government of Pakistan, Finance Division is also making efforts to develop a database on government investment tracing and performance, monitoring to make evidence based decisions for revival of PES.
x. Government has made the privatization programme of 31 PES. The indicative mode of de-investment has been finalized.
xi. Cabinet committee on privatization has approved 11 companies i.e., oil and gas, banking, insurance, power sector for block sales and primary or secondary public offerings.
xii. For UBL, Pakistan Petroleum Ltd and Oil & Gas Co Ltd (OGDCL), the financial advisor have been hired.
xiii. OGDC shares will be offered for sale early in next financial year.
xiv. By September 2014, the financial advisor for Allied Bank Ltd and Habib Bank Ltd. will be hired for offering minority shares of these banks within the next six months.
xv. For National Power Construction Co financial advisor will be hired by June 2014 to finalize sale offer by December 2014.
xvi. For FESCO and NPGCL sale of shares, the financial advisor will be appointed next year.
xvii. For PIA a financial advisor will be appointed by June 2014 to seek potential options for result turning and strategic private partnership.

Vision of Present Government

Public sector enterprises will be made profitable and efficient through a combination of restructuring partial and outright privatization. Public-private partner will be promoted through a comprehensive policy regime. Attracting private sector investment will be a key priority and driver of growth. SME sector will be aggressively developed and entrepreneurship will be enabled. (Pakistan Vision of 2025).■

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CHAPTER 8

Impacts of Water Management Practices and Climate Change on Economic Growth

Dr. Allah Bakhsh Noon & Mohammad Shafeeque

Abstract

Keeping in view the poor efficiency of Pakistan's irrigation system at 40 per cent the need is truly crucial for adapting water management practices to improve water availability and productivity at the farm. These practices include mainly watercourse improvement, precision land levelling, bed planting, and high efficiency irrigation systems, which have the potential to save water in the range of 20 to 70 per cent, increase crop yields by 20 to 30 per cent and increase farmers' net income by 20 per cent. Whereas drip irrigation coupled with balanced fertigation has huge potential of bringing improvement in the livelihood of farmers, especially if they switch to high value crops, in general the success of these practices would depend on creating awareness among farmers, providing them backup support and at-field intensive training.. Besides these issues, Pakistan is the state most vulnerable to climate change facing glacier retreats, floods, droughts and projected rise in temperature of $2^{o}C$ by 2050. Moreover, climate change can reduce rice yields from 8 to 30 per cent and wheat yields from 6 to 19 per cent, increasing poverty levels to 6 per cent by 2050.

Keywords: Bed planting, laser land levelling, high efficiency irrigation system

Introduction

Pakistan's economy is primarily agrarian as agriculture sector is contributing about 21 per cent to the GDP, employing 43.7 per cent of its work force, and providing livelihood to more than 62 per cent of its population residing in the rural areas (GOP, 2014). But its contribution to the economy is heavily dependent on adequate supply of irrigation water as the country lies in an arid to semi-arid region. Agriculture in Pakistan utilizes about 95 per cent of its water resources,

which are diminishing with time while the demand is increasing for a rising population. The population of Pakistan is estimated to be about 188 million in 2014, increasing at the rate of 1.95 per cent and is projected at around 363 million in 2050 (GOP, 2014), which means demand for food and fibre may double raising serious food security concerns when more than half the country is already considered as food insecure (with less than 2000 calories/person/day) and 28 per cent with less than 1700 calories even sternly food insecure (IFPRI's Food Security Portal at http://www.foodsecurityportal.org/pakistan).

Food security is coupled with water security as the country is moving towards water scarcity. The existing water storage capacity of the reservoirs in the country has decreased from 15 million acre feet (MAF) in 1975 to 11 MAF in 2011, showing 25 per cent decrease in storage capacity. This is mainly due to sediment loadings. The average river supplies have decreased from 189 MAF in 1922-61 to 120.84 MAF in 2001-08 due to climate change effects. The actual average canal water diversions from rivers have decreased from 103.5 to 88 MAF over the years of 2006-11 and were 89 MAF during 2012-13 and 98 MAF during 2013-14 (IRSA, 2014). The country is facing drought like situation as rainfall has mostly been meagre and erratic. According to a report released by the Asian Development Bank, "Asia Water Development Outlook, 2007", Pakistan has been ranked as the worst performer in Asia in terms of water availability, water use efficiency, water quality and quantity. The above mentioned situation is showing clearly that the country is entering into the water deficit zone as water availability per capita is going to reach 915 m^3/capita in 2020 (GOP, 2014). If timely steps are not taken to improve irrigation efficiency of the system, water shortages would increase to 151 MAF by 2025 (SBP, 2012). Although surface water supplies are being augmented by abstraction of groundwater in the range of 40 to 50 MAF through tube wells whose number has increased to more than one million, with 0.8 million in Punjab only.

The groundwater resource in the country has also been recognized as a reliable source of supplemental irrigation water because of its easy and flexible access to the farmers. The farmers can irrigate their crops using groundwater according to their choice and crop water requirements. With additional irrigation supplies from groundwater, cropping intensities have increased to more than 150 per cent in some areas over the last two to three decades, and groundwater has become a key input in agricultural production (Ahmad et al., 2007[a]). ENERCON has reported about 19,000 tube well addition per year. More number of tube wells means more groundwater abstraction, more energy consumption, falling groundwater levels and deteriorating groundwater quality. The increase in groundwater usage over

the last few decades has become more than recharge and has resulted in declining groundwater levels (Ahmad et al., 2005; Jehangir et al., 2007; Cheema, 2012). These indicators are alarming because of the diminishing and deteriorating groundwater resources, particularly in the wake of soaring energy prices. According to a survey conducted by ENERCON, most of the tube wells in the country are working at an average efficiency of about 30 per cent, which is much lower than the achievable potential of about 60 per cent. A recent survey by PITCO has revealed that proper maintenance of a typical electric driven tube well can result in net saving of 20 per cent electricity and electric charges amounting to savings worth billions of rupees if adapted all over Pakistan. But climate change is another crucial factor affecting surface as well as groundwater resources, and crop yields, which deserves to be considered while developing future plans.

Climate change is the factor, which has been recognized as the most influencing factor for agriculture productivity. According to an estimate temperature is expected to increase by $2^{o}C$ by 2050 severely affecting the frozen water reservoirs in the northern parts of the country. Moreover, World Bank report "water economy, running dry" (2005) has predicted that in the coming 40 to 50 years, there would be higher flows by 40 per cent in the Indus River and its tributaries, which will decrease during the next 50-years by another 40 per cent. This indicates that there would be a different water scenario for the country during the next century, which requires prudent planning in water resource management. The rise in temperature can increase the crop water requirements i.e. evapotranspiration, which can accelerate groundwater falling rates, and even can induce shortages in drinking water supplies. Further climate change can increase the occurrence of extreme events like droughts, floods and storms.

Therefore there is a dire need to make judicious use of our diminishing water resources including surface, groundwater and rainfall. Surface water resources conservation in fact originates from watershed management, developing water reservoirs, minimizing conveyance losses from headworks to Mogha (canal outlet) and especially below Mogha i.e. watercourse improvement, precision land leveling, improving irrigation practices and adapting high efficiency irrigation systems (HEIS). But at the same time we must think of the groundwater reservoir when we go for adapting HEIS, lining canals and improving water courses. The underlying aquifer has been built from the water losses taking place from the irrigation network i.e. canals, distributaries, water courses, and irrigated fields. When all these losses are minimized by adapting HEIS then what will happen to the groundwater reservoir especially in the wake of increased pumping which is taking place as more and more tube wells are being drilled.

Water Management Practices

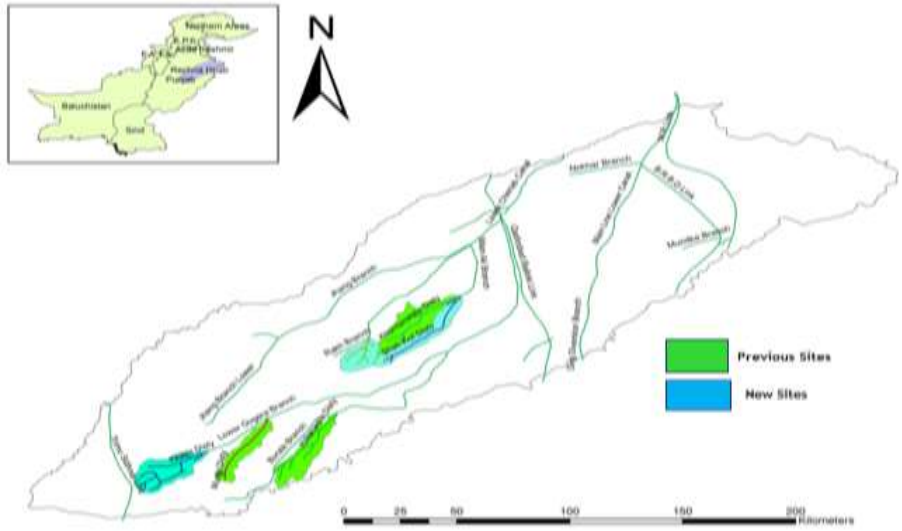
The Government of Pakistan in collaboration with the World Bank, Asian Development Bank, OECF and USAID has launched a number of on-farm water management (OFWM) projects such as OFWM-I (1981-85), OFWM-II (1986-91), OFWM-III (1992-96), which have enabled improvements of about 45,000 watercourses out of 140,627 in the country. Moreover, the National Programme for Improvement of Watercourses (NPIWC) was launched in 2004 to 2009 over an extended period of six years to improve 86,000 watercourses on the basis of 20 per cent cost sharing by the farmers. This project improved 54,695 watercourses including 5,000 water storage tanks in Balochistan. The project lined 30 per cent length of the watercourse in saline areas and 20 per cent in fresh water areas with complete earthen renovation. The project envisaged water saving of 8 MAF annually with 10 per cent reduction in waterlogging and salinity areas, increasing cropping intensity from 5 to 20 per cent, improving crop yields from 10 to 15 per cent in addition to improving equity in water distribution and reducing rural poverty.

In this regard, the University of Agriculture, Faisalabad (UAF), recently ranked among top 100 Universities in the World, is carrying out research and outreach projects encompassing a number of water management practices being demonstrated at farmer's fields to improve irrigation efficiency, crop productivity, and economic benefits to the farmers. The Water Management Research Center (WMRC) at UAF is executing international projects such as "On-Farm Research and Development Component, Rehabilitating Lower Chenab Canals System Part-B" financed by JICA (Japan International Cooperation Agency) in collaboration with the provincial Irrigation and Power Department. In its 1st phase (2006-2012), three sites were selected on three distributaries of LCC-east i.e.

Khurrianwala, Killianwala and Mungi distributaries, (Fig. 1) where on-farm water management practices were performed on the farmer's fields to transfer these technologies to the farmers. These technologies comprised water course improvement, laser land levelling, bed planting, drip irrigation system, skimming well technologies. Currently, this project in its 2nd phase is being executed at three new sites at Lakhuana, Shahkot and Khikhi distributaries. The farmers of these areas are very happy to get their lands laser levelled and adopt modern water management practices as outlined above. The achievements under this project and their impact on economic returns to the farmers are given below:

Figure-1

Sites Selected under the Project on LCCS-East



Water Course Improvement

Water losses in the water courses have been reported to vary from 30 to 50 per cent depending on the soil type, topography, watercourse alignment, uniformity of cross-section, adequate channel size and silting. The WMRC improved three water courses at three sites in collaboration with the farmers by introducing participatory approach. Farmers played very active role in improving these water courses with funds provided under JICA project. Three water courses of 2200 feet in length each at three sites were improved, which reduced the conveyance losses significantly in the range of 15 to 20 per cent. The cropping intensity increased by 20 to 30 per cent and crop yields increased by 20 per cent. The economic returns to the farmers from lining of these water courses were increased by 20 per cent.

Laser Land Levelling

At these three sites 3000 acres were laser levelled, resulting in saving water, improving irrigation efficiency and increasing crop yields significantly. Efforts were made to involve and convince the farmers for adopting laser levelling technologies to save water and increase crop yield. The farmers of the areas are fully convinced of the benefits of this water resource conservation technology and now the farmers are willing to level their fields on their own. The laser levelled fields saved water by 30-50 per cent

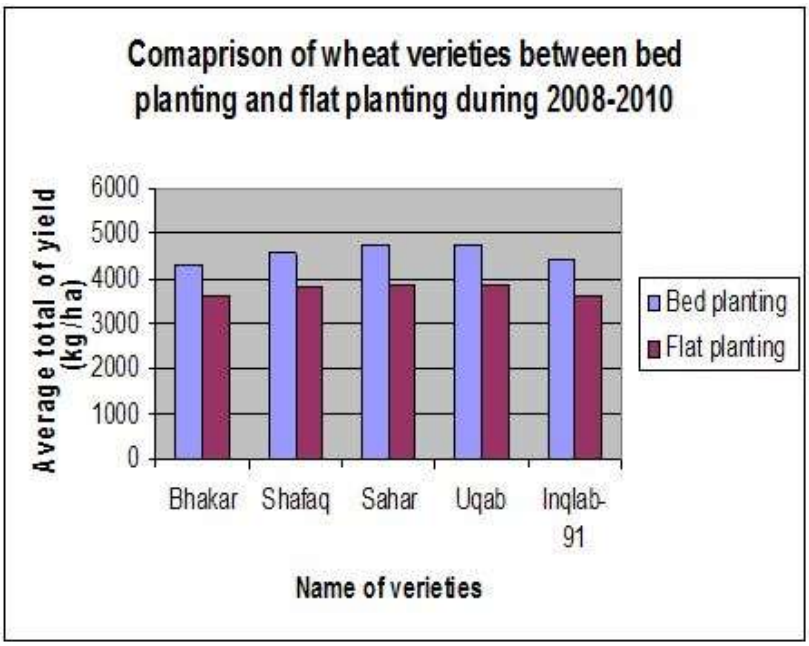
and increased crop yields by 15-25 per cent and economic returns by 20 per cent. A review of various studies suggested that laser land levelling in Pakistan resulted in about 25 per cent reduction in irrigation water application and an increase of about 30 per cent in wheat yield as compared to conventional practices (Humphreys et al., 2005, 2010).

Bed Planting

It is reported that raised beds result in considerable water savings (Bouman et al., 2007; Choudhury et al., 2007; Humphreys et al., 2010). In the project, there was a special focus on promotion of raised bed technology as it saves water and improves yield of the crops. Project target for this activity was 3000 acres with 1000 acres on each site. The activity was performed on 6000 acres indicating that farmers have been convinced for this technology. Bed-furrow planting has potential of water saving by 30-50 per cent and increase in yield for wheat (15 to 25%) (Fig. 2) with improved fertilizer use efficiency, which addresses the dire need of the country both for water and food security. The economic benefits derived by using bed technology ranged from 20 to 30 per cent in comparison to traditional sowing of crops.

Figure-2

Comparison of Wheat Yields on Beds with Flat Sowing

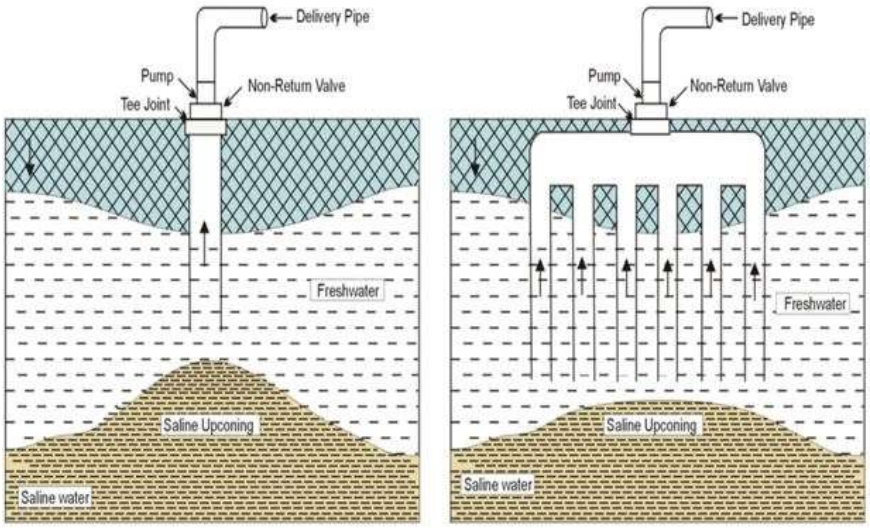


Skimming Well

Skimming well technology aims at skimming fresh water layer mostly lying in upper part of the aquifer (Saeed et al., 2002). The interface of fresh and saline water layers can be assessed by conducting resistivity survey using a resistivity meter. The well log and groundwater quality profiles are the key parameters in designing the skimming well at the site. The majority of skimming wells, however depending on the site, have 5 strainers of 3 inch diameter each for 5 inch delivery size of the well. Three skimming wells at these sites were developed. The schematic diagram is shown in Fig. 3.

Figure 3

Schematic Design of Skimming Wells



Drip Irrigation System

The drip irrigation system has the potential to save water by 70 to 80 per cent and improve irrigation efficiency by 95 per cent. The system offers full control on applying irrigation water i.e., "when to apply and how much to apply". Drip irrigation can increase crop yields by more than two times when coupled with balanced fertilizer application i.e. fertigation. This system has been very productive especially under tunnel farming by controlling humidity, decreasing use of chemicals, improving fertilizer use efficiency. The system can increase net income to the farmers by Rs. 0.5 to 1 million per acre when growing high value crops.

Perforated Pipe Irrigation System

Perforated pipe irrigation system offers a low cost solution to improve irrigation efficiency especially when expensive water i.e. groundwater is applied to the fields. This system envisages conveying water through pipes from tube wells to the fields and then it is applied through perforations of 1 inch in size spaced at 2 feet apart on the lateral. Experiments are underway to refine this concept. The local materials i.e. polythene pipe, T-joint and accessories have been used in developing such systems (Fig. 4). The farmers have shown their willingness to adapt this method provided the system is made available in the market. The system has 100 per cent conveyance efficiency and also has improved irrigation efficiency by 40 per cent when compared with traditional methods. The system is simpler and low cost and easy to operate. The system can bring net income to the farmers in the range of 20 to 30 per cent.

Figure-4

Perforated Pipe Irrigation System

Rain Water Harvesting

Rain water harvesting is need of the hour as this water is of excellent quality and is suitable for storage, which can be used either for irrigation, kitchen gardening or recharging groundwater. The Faculty of Agricultural Engineering and Technology at UAF has developed the rainwater harvesting model (Fig. 5) for demonstration to the stakeholders. The system has shown capacity of capturing 60 to 70 per cent rainfall, however,

depending on the time of rainfall, duration, intensity, wind conditions, evaporation and the surface being used to harvest the rainfall. The site has also been developed to show different options for recharging groundwater. The results have shown that the model can be adapted at each household level to store rainwater as well as recharge the underlying aquifer, which is being depleted at a faster rate and may become inaccessible if not recharged properly. The economic benefits are significant if the harvested rainwater is properly used to recharge groundwater, grow vegetables and field crops. Moreover, rainwater harvesting in urban areas can improve sanitation and minimize flooding of streets during rainy seasons.

Figure-5

Rainwater Harvesting and Groundwater Recharging Setup at UAF

Groundwater Recharge

The aquifer storage and recovery technique has been developed at UAF for the first time in Pakistan and has been demonstrated to the farmers, which shows localized recharge of groundwater from where it is being pumped. This technique, however, requires caution to treat the water prior to its use for recharging groundwater (Fig 6). The treatment process aims at removing sediments, controlling bacteria to avoid aquifer contamination. The experiments have shown recovery in the range of 50 to 80 per cent depending on the time, and volume of water used for recharge. Time has come when we have to start artificial recharge process in order to keep use of groundwater viable for the farmers.

Figure-6

Aquifer Storage and Recovery Setup Installed at Farmer's Field

Tunnel Farming

Tunnel farming offers good opportunity to the farmers especially having small land holdings that they can earn their living comfortably even from one acre of land if they can grow off-season vegetables. This technology has huge potential to produce as much as 800 to 1000 maunds of tomato per acre. If proper marketing is guaranteed this technology can offer a lot of employment opportunities in the rural areas along with improving their earnings.

Climate Change

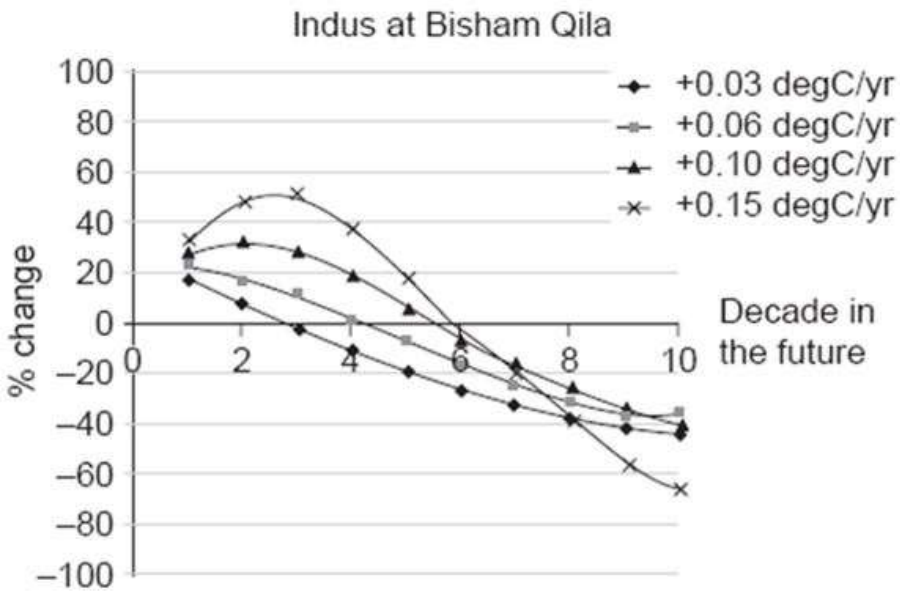
Climate change is a global phenomenon, which is leading to increase in temperature, rise in sea level, retreat of glaciers, and frequent occurrence of extreme events such as floods, droughts and shortages of fresh water. According to Germanwatch report (2012), Pakistan has been ranked as the third most vulnerable country to climate change effects. As outlined above, the effects of climate change on agriculture are adverse which can lead to decrease in crop yields. The agriculture in Pakistan requires application of irrigation water throughout the year as the country has lesser average rainfall of 240 mm against evapotranspiration of 1500 to 2000 mm. Water resources of Pakistan are highly vulnerable to climate change especially in respect of glacier retreat. About 70 to 80 per cent of river flows of Indus and its tributaries are derived from melting of the glaciers. According to World Bank report (2005), it has been predicted that as a result of change in temperature in the range of 0.03 to 0.15^{o}C/year, there would be increase in Indus River flows from 20 to 40 per cent during the next 40 years followed by reduction in river flows from 30 to 60 per cent in the subsequent 40 to 50 years (Fig. 7). When water supplies are being affected so drastically due to climate change then there would be multiplying effects on agriculture

production. Pakistan's agriculture depends on adequate supplies of irrigation water to grow crops round the year. Therefore the country has to develop strategies to cope with the threatening effects of climate change not only on water security but also on food security and national security.

According to findings of a study conducted at UAF for Punjab, under the AgMIP project, climate change in Pakistan is already causing extreme events in the form of drought and excessive floods such as seen in 2010. The temperature is expected to rise by an average of 2^{o}C by 2050, although it seems to be on the higher side but it will have devastating effects in the shape of floods and droughts. The findings further highlight the impact of climate change on crop yields in Punjab, in the form of reduction in rice yields from 8 to 30 per cent and wheat yields from 6 to 19 per cent by 2050, which may also increase poverty by 6 per cent. Meeting this challenge would require development of drought resistant crop varieties, farming packages, building of water reservoirs and rain water harvesting.

Figure-7

Climate Change Impact on Indus River Flows
(Source: WB, 2005)



Summary and Conclusions

The land and water productivity in Pakistan has been reported to be lower in the range of 0.45 kg m^{-3} in comparison to 0.8 kg m^{-3} in India and 6.5 kg m^{-3} in USA (WB, 2005), which shows significant room for improvement. . According to another report by Germanwatch (2012), Pakistan has been ranked as the third most vulnerable country due to climate change effects. Keeping in view these scenarios, the following conclusions are drawn:

- Water management practices of laser land levelling, bed planting, water course improvement have the potential to save water in the range of 20 to 40 per cent and increase in net return to the farmers by 20 to 30 per cent.
- HEIS can save water in the range of 70 to 90 per cent and can increase net returns significantly especially when switched to high value crops.
- Rainwater harvesting in urban as well as in rural areas need to be promoted for irrigation and for recharging groundwater.
- Pakistan has been ranked as the 3rd country most vulnerable to climate change effects, which has tremendous effects on its water resources, especially the Indus river flows originating from melting of glaciers. Building of water reservoirs and developing heat resistant crop varieties can help mitigate the climate change effects on agriculture.■

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CHAPTER 9

Tapping the Human Capital

Dr. Bushra Yasmin

Abstract

The treatment of human capital (HK) as an endogenous factor has long been acknowledged by the growth theorists namely Romer (1986) and Lucas (1988) as it embodies scientific knowledge and skills entailing endogenously determined persistent economic growth. The role of human capital accumulation and research and development (R & D) has been recognized not only as an engine for growth and for attracting other stimulating factors like physical capital and investment but also as a positive externality that restrains the diminishing returns to scale due to its spillover effects. Conclusively, the effective use of physical capital depends on the quality of human capital for which technically, professionally and administratively trained people are required. Lucas (1990) argued that physical capital fails to flow from the developed world to the poor countries efficiently because of poor endowments of complementary human capital. A voluminous literature is available on the link between human capital and economic growth but no consensus on the overall impact of human capital on economic growth has been developed so far due to the diversified nature of empirical evidences. A number of indicators have been tried to work out the said link including; a) School Enrolments Rates (SERs) b) literacy rate e) average years of schooling and f) the human capital index [Feenstra et., al. (2012)] i.e., comprised of average years of schooling suggested by Barro and lee (2010) and returns to education provided by Pscaropoulous (1994). Overall, the findings suggest that the impact of human capital on economic growth is contingent on its quality and country specific characteristics as well. Tapping the human capital in Pakistan by stimulating various contributing factors, specifically the investment in human capital, is the dire need of time. The budgetary allocation on education as percentage of GNP has remained very nominal i.e., around 2 per cent in the current decade, not very different from the past. Similarly, the literacy rate was 60 per cent in 2012-13 with a wide gender disparity (71 % and 48 % for male and female, respectively). Besides,

not very encouraging trends are observed for the school enrolment rates (SERs), rather it depicts sharp multiplicity for being highest at the primary school level and critically shortest for the secondary and higher school levels. From the investment perspective, due attention is needed to be paid in keeping with the challenges in the form of gender and regional disparity in school attainment, quality of education, missing link of industry-academia linkages, employability and tapping the labour force opportunities for youth that capture an overwhelming population proportion in Pakistan.

Conceptualizing the Human Capital

Theoretical Background

The pertinent role of human capital has been identified in literature by the channel of economic growth. As human capital is embodied in the standard growth model, the way of treatment of human capital as exogenous/endogenous pinpoints its role in development of national economies. Generally, the human capital is linked with economic growth in the sense that economic growth depends on the advances in technology and scientific knowledge that the human capital is supposed to personify. From this perspective, human capital accumulation is a necessary condition for the long run and sustainable growth of the economies.

Historically, the role of human capital in economic growth was first identified by the neoclassical growth model of Solow (1956) where labour was treated as effective labour using as its interaction with knowledge but the factors determining the nature of this augmented labour were not inquired into. Hence, labour was treated as an exogenous factor to the growth model. Later on, the pioneer of endogenous growth model, Romer (1986) and Lucas (1988), stressed that the endogenously determined HK leads to persistent growth. It was emphasized that human capital plays a major role as an engine of economic growth by attracting the stimulating factors particularly physical capital and investment. In turn, the effective utilization of physical capital depends on the quality of HK. Technical, professional and administrative people are needed for the effective use of capital. So, the nature of physical and human capital becomes complementary from this stance.

Although, the role of human capital in growth is well established theoretically however, no consensus on overall impact of HK on growth empirically has been made. Precisely, this is supported for pool but varies in case studies, depending upon the nature of measures used for human

capital. Barro (1990) used the primary school enrolment and found it as a significant contributor in economic growth. Alternatively, Mankiw et. al (1992) selected the secondary school enrolment and verified its significance but with a decreasing return to scale both for physical and human capital. Overall, controlling for the initial level of schooling, the school attainment variable is significantly related with the growth rate of per capita income according to Barro and Sala-i- Martin (1995).

Lucas (1990) urged the need for effective labour as capital fails to flow to poor countries efficiently because of poor endowments of complementary human capital in these countries. Broad-based, inclusive and sustainable growth here can be promised if supported by human capital.

Measuring Human Capital

The role of human capital has been widely acknowledged with the notion that education and training increases productive capacity similar to physical capital. However, systematic analysis of considering the role of human capital as crucial initiated in the early 1960s. The pioneers of human capital revolution are Schultz (1961), Mincer (1962) and Becker (1964). According to human capital theory, workers with additional years of schooling can earn relatively more. Similarly, additional years of schooling are expected to enhance the productivity of workers besides increasing their wages. Since the 1960s, the neoclassical analysis of labour market has recognised human capital's significant role, especially with regard to wage determination, and this dominates the economic analysis of education.

Schultz (1961) stressed that human capabilities can be improved by on-the-job and specific training. Mincer and Ofek (1982) quantified the effects of depreciation and restoration of human capital. They proved empirically the existence and effects of depreciation on human capital. However, the losses of general human capital increase with the duration of absence from work; the loss of specific human capital is a once for all phenomenon due to separation from the job. Some new thoughts were added to human capital theory, like learning by doing and life cycle models of human capital accumulation. Killingsworth (1982) presented the theoretical discussions on "Learning by doing", which explains that the rate of depreciation of human capital is not constant but rather a function of use or non-use of human capital. Human capital has attracted a great deal of empirical work which is detailed in the survey by Psacharopoulos (1994) and Harmon and Walker (2001). The study by Psacharopoulos (1994) provides important findings for the rate of return to investment in education. He concluded that,

> "Primary education is number one investment priority in developing countries, educating females is marginally more profitable than educating males, the academic secondary school curriculum is a better investment than the technical/vocational track, and the returns to education obey the same rule as investment in conventional capital, i.e., they decline as investment is expanded".

The theoretical framework calls in question the measurement of the human capital. A number of parameters have been used in the literature including two broad-based measures. First, is the 'Educational Attainment Index' that is assumed to enhance the capacity building and leading towards better absorption of new technologies and second, is the 'Health Index' that promotes the productive capacity of the labour. Generally, a wide array of human skills is essential for dynamics of development. The major indicator used to measure human capital in literature is the School Enrolment Rates (SERs) that contain primary, secondary and higher school enrollment. Primary education serves as a threshold level of human capital development for economic growth (Azariadis and Drazen 1990)

While the secondary and higher education (including investments in science and technology) accelerate and sustain high economic growth (McMahon 1998) equal emphasis is required on vocational-technical education and adequate investments in R&D. Otherwise, in the technologically competitive world economy the gap between advanced and developing economies might increase. Keeping in view the limitation of the above mentioned measures like current enrolment ratios that measure the stock not the flows, and the missing data on drop out and repeaters etc. an index named Human Capital Index (HCI) introduced by Feenstra et. al. (2012). It is comprised of a) average years of schooling by Barro and lee (2010) and the return to education by Pscaropoulous (1994).

Coming to Human Development, a vital link to the human capital, the Human Development Index (HDI) is comprised of life expectancy, education levels and incomes. Pakistan ranked at number 146 with HDI Index of 0.537 and is categorized as 'Low Human Development' by United Nations Human Development Report (HDR) 2014. The rank is lower than India (at 135th) and Bangladesh (at 142nd). The same position holds for Pakistan once inequality-adjusted HDI is taken into account with a value of 0.375 only. Only the inequality in education is 45.2 per cent for Pakistan. These figures indicate the meagre position of Pakistan on Human Development front.

Investing in Human Capital

Pakistan's Perspective

Barro and Sala-i-Martin (1995) identified that holding the starting level constant, the school-attainment variables are significantly related to growth rate of real per capita income. Similarly, Behrman & Schneider (1993) and Summers (1992) highlighted the significance of investment in human capital. Pakistan is characterized by relatively low investment on education as compared to countries of the world with the same per capita income [Sawada (1997)]. Pakistan ranks at 113th out of 120 countries in UNESCO's education for all Education Development Index. The literacy rate (60 %) is lower even than the average of South Asia. A number of 5.5 million children are out of school after Nigeria. According to the *Economic Survey* (2013-14), the expenditures on education have remained around 2 per cent of GDP only. The net primary enrolment ratio is 57 per cent, the completion of grades 1-5 is 50 per cent with an alarming high rate of drop-outs where primary drop-out rates of primary school cohort stands at 39 perhaps. Regarding the teaching quality the major factor, pupil-teacher ratio, is quite high i.e., 41. Hence, the education sector is featured by low enrolments, low level of women education and nominal investment in human capital accumulation.

Success Story of East Asian Countries

The investment in education has remained central to the economic success of East Asian economies [Wood and Berge, 1994]. These countries are characterized by high economic growth, equitable income distribution and other human development indicators. In terms of human development index the Hong Kong, Korea, and Singapore, in addition to Japan are in the top 20 per cent of the 187 economies of the world [HDR, 2014]. These ambitious traits acted well in the adoption of universalized primary education, promoting higher education and high rates of public investment in secondary education in start of the development phases [McMahon, 1998].

Additionally, the East Asian economies have demonstrated the potential of vocational and technical training for economic growth. The rapid growth in education helped in reducing gender disparities in education to a substantial extent, as well.

Although, the demographic dividends accounted for between one 4th to two 5th of East Asian miracle and the dynamic age structure played a vibrant role in economic take off [Bloom and Williamson (1998)] but sound investment on education actually harmonized this phenomena. Education has remained necessary, though not sufficient, for sustained economic

growth, poverty reduction and improved income distribution. According to Asian Development Bank (1997), East Asia benefited from rapid capital accumulation, an increasingly internal and international division of labour, rapid demographic transition and endogenous growth factors like institutions and values and human resource development. The developing countries specifically South Asian countries can learn the lesson of success from East Asian experience. A reasonably high proportion of national income allocation on education is needed and source allocation mechanism to promote balanced investments in education which is also a must for a balanced education pyramid [Tilak, J. (2002)].

Trends in Human Capital in Pakistan

Following section provides some figures that demonstrate the trends in major education and health indicators in Pakistan in the current decade.

Figure-1

Public Expenditures on Education as % of GNI

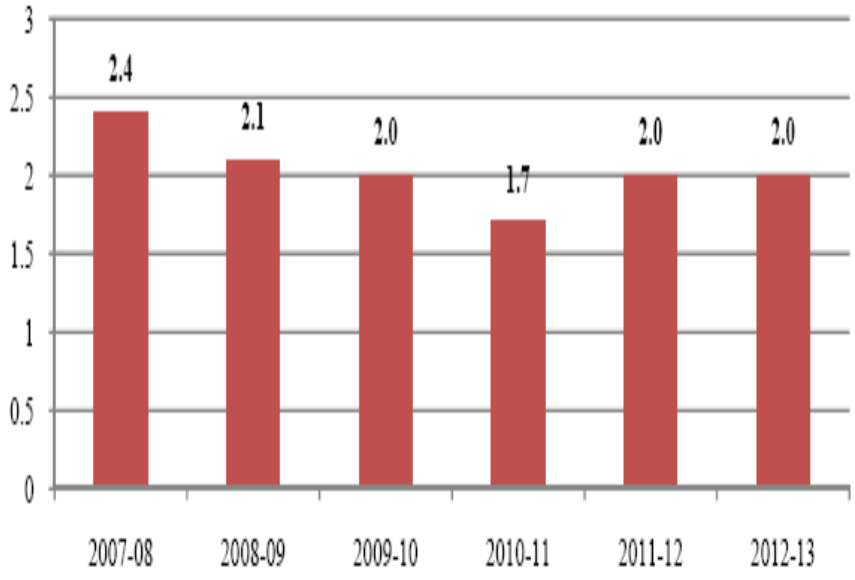


Figure-2

Total Public Expenditures on Health

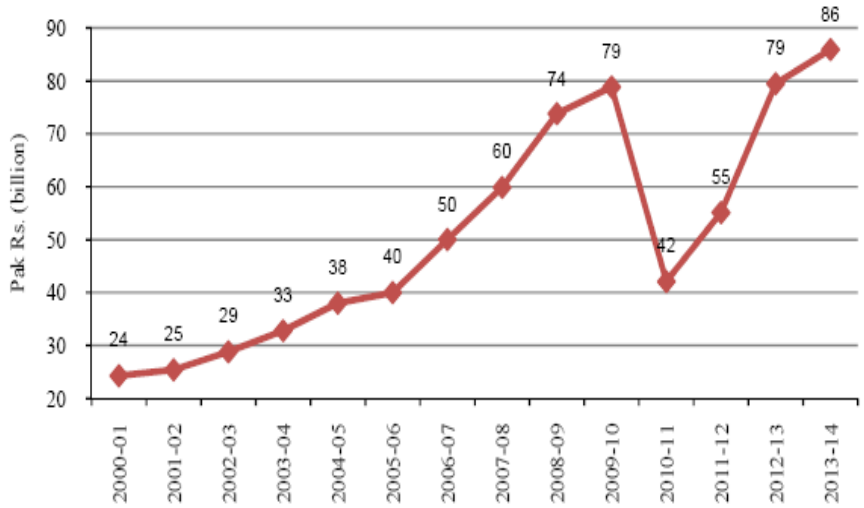


Figure-3

Literacy rate

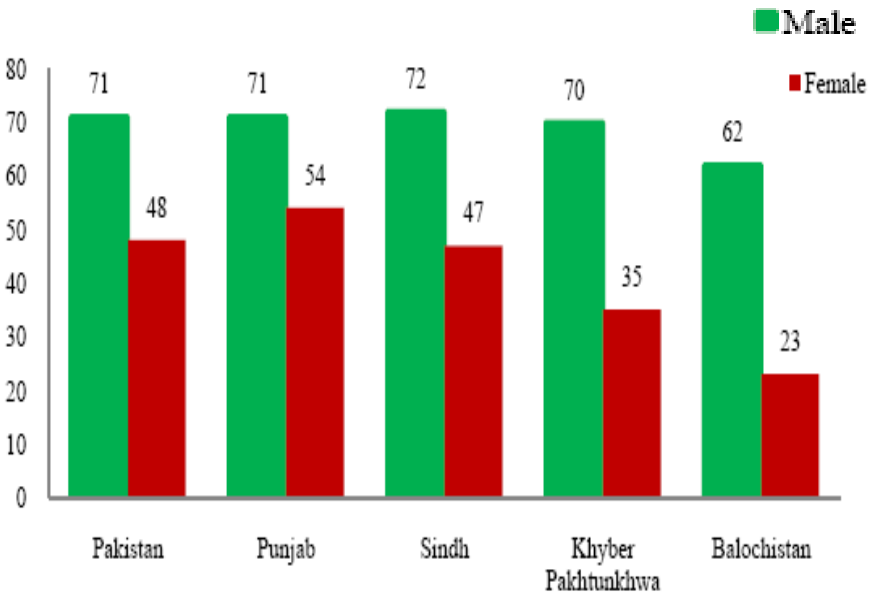


Figure-4

Enrollment Rates

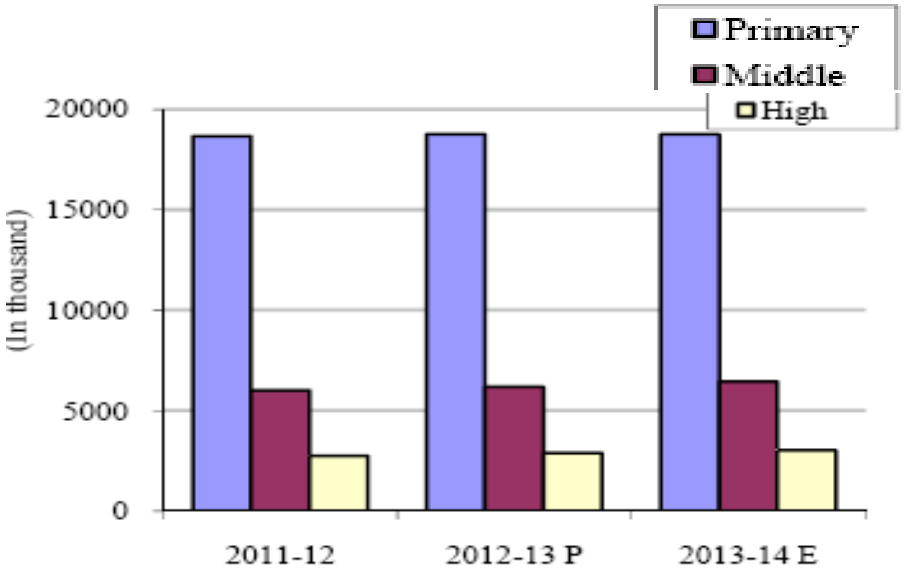


Figure-5

Regional Human Capital Index
(Adapted from Khan and Rehman 2012)

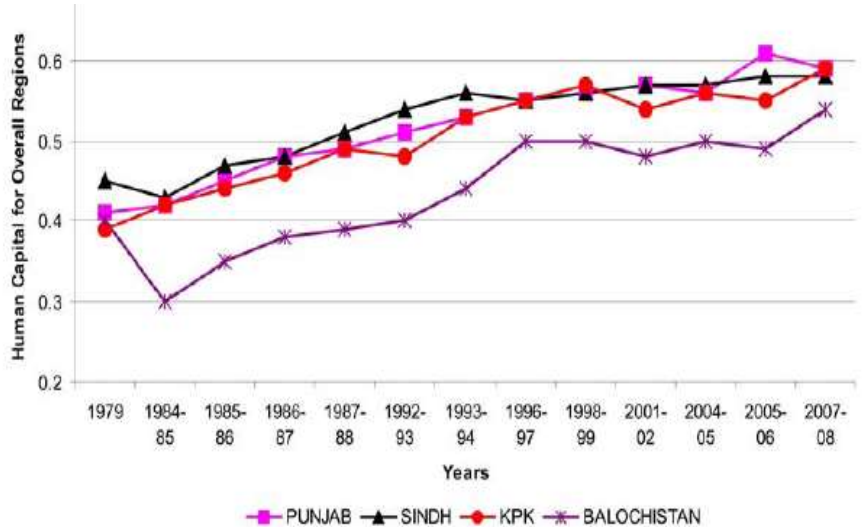


Figure-6

Age Composition of Population

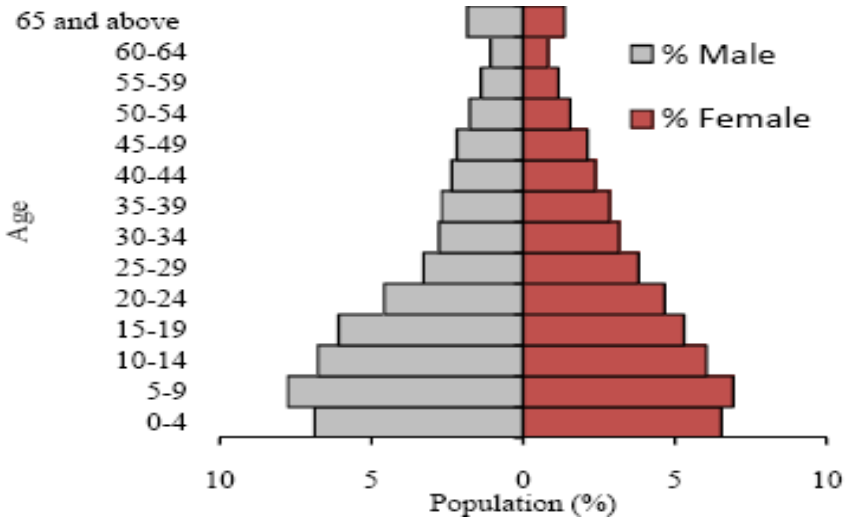
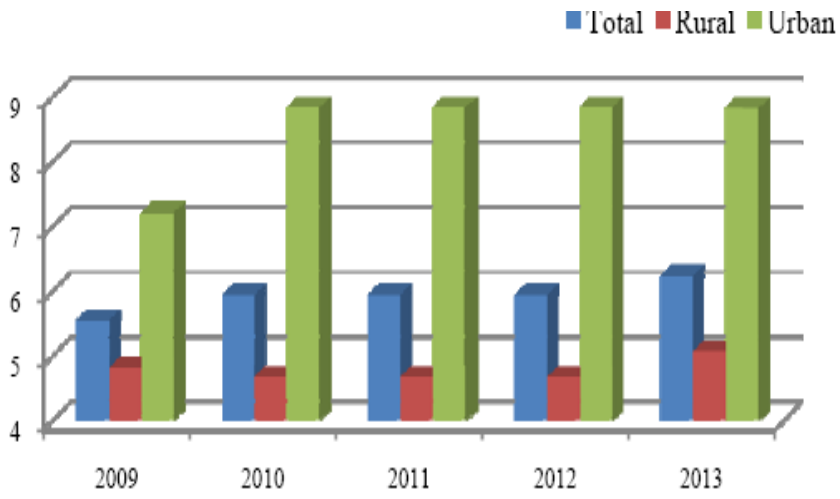


Figure-7

Unemployment rate



Source: Economic Survey (2013-14)

The above given figures demonstrate a meagre yet hopeful picture of the status of human capital in Pakistan. Figure 1 shows that the education expenditure has remained around 2 per cent that is a very nominal figure for the sector's promotion. A progressive rate of health expenditures measured

in million rupees is observed from Figure 2 with an annual increase of around 10 per cent. The United Nations has recommended increasing it to two per cent of GDP by 2018. Subsequent figures show Pakistan's standing on the major educational indicators. Not only the literacy rate is inadequate but also a sharp gender gap is noticed in figure 3. Similarly, relatively primary school enrolment is highest as depicted by figure 4, followed by secondary and higher education, the least. The regional disparity on human capital front is also noted with serious concern from the figure 5 where the average Human Capital Index (HCI) is observed at 0.41 at initial level and just 0.57 at the end in 2007-08 (initially low disparity). From a comparative sight, Baluchistan stands at the lowest position in the accumulation of human capital.

Moreover, the demographic division, that played a critical role in East Asian countries' success, can be helpful for Pakistan in future when a majority of the population will be the part of active working age- group. Currently it is characterized by 41 per cent of population in the age group of 0-14 while it is 56 per cent for the age group 15-64. Finally, the last figure shows the overall unemployment at 5.6 per cent in 2009-10 that increased to 6.2 per cent in 2012-13. This remained the same in urban areas while increased from 4.8 per cent to 5.1 per cent in the rural areas.

The significance and status of human capital in Pakistan is determined by the above given sections and now we turn to the major challenges proving as obstacle in the success path of higher economic growth and overall welfare of the country.

Human Capital: Challenges and Recommendations

Education Quantity, Quality and Equity

In Pakistan's situation, it is not only the quantity of human capital that is what is required for economic growth but also the quality and equity need to be guaranteed. As the quality (a) influences demand for education, and (b) improves the contribution of education to development, education can be positively targeted being a critical and effective instrument for enriching the human capital and consequently reducing income inequalities, fostering economic growth and promoting socio-economic development. Such targets can be promoted by firmly pursuing the Millennium Development Goals (MDG). According to MDGs, 100 per cent primary school enrolment, 100 per cent grades completion from 1-5 along with literacy rate up to 88 per cent is recommended by the year 2015 for Pakistan that is currently only 60 per cent as discussed in the above section.

Admittedly, Pakistan is off the track on all three targets, and therefore not likely to achieve MDG 2 [Pakistan Millennium Development Goals Report 2013]. Therefore, a serious effort is required in this regard. Moreover, a universal feasible and fair education system and education sector's reforms are must. With a proper focus on quality education, updated curricula, smaller pupil-teacher ratio, vocational and technical training, enabling youth in realizing their potential, allocation of appropriate resources to education sector, the required targets can be met. The role of private sector cannot be ignored in this regard.

Tapping youth

The next challenge in tapping human capital is to tap its most effective contributor, the youth. The changing global composition of population has played a pivotal role in facing economic challenges. The demographic transition opens a window of opportunity for potential demographic dividend. According to Durr-e-Nayab (2008), "Pakistan is also going through the demographic transition, and is experiencing once-in-a-lifetime demographic dividend as the working-age population bulges and the dependency ratio declines".

Turning to the figures and facts in Pakistan the youth literacy rate for age 15 -24 was 7.7 per cent over the years 2005-2012 according to Human Development Report (2014). About 52.4 per cent of the young are not part of the labour force and the youth unemployment rate is 10.6 per cent which is much higher than that of adults [LFS (2012-13)]. Among youth the unemployment rate for male is 10.03 while it is 12.49 for female. Besides, the unemployment among youth is more pronounced in urban areas than in rural areas.

In order to rationalize the potential demographic dividends proper policy framework is required for not only education but public health and the employability and labour market flexibility. As pointed out by Bloom et al., 2001, the "demographic dividend can only be utilized for the well-being of the country if effective and timely policies are formulated and implemented to convert this working age population into a productive labour force".

Tapping the human capital by investing in HK and promoting the capabilities and productivity through viable education, technical and vocational training and research & development activities can establish a better prototype of the near future labour market of Pakistan. The early entrants of youth with low competence can be avoided through the direct provision of resources needed for the survival of the low class income

groups. Keeping in view the opportunity cost of education and the poverty issues for low income class, such provisions can be helpful.

Employability

The basic accentuate to tap the human capital is inclined with the promotion of education but ignoring the labour absorption issue in the job market might lead towards a highly depressed and demotivated labour force. According to *Economic Survey* (2013-14), the population growth in Pakistan is 2.2 per cent, the average economic growth is measured at 3 per cent while the average labour force growth is 3.5 per cent. Besides, the unemployment rate is 6.2 per cent where rural unemployment rate is 5.1 per cent while 8.8 per cent in urban areas. Out of 60.3 million of the labour force 3.8 million are without jobs. The figure for youth labour force stands at 56 per cent.

By the year 2025, the population is expected to be at around 350 million. If the population for the age group (15-64) is expected to stand at 235 million in future the GDP growth rate is required to be around 7 per cent to absorb the additional workforce in the long run.

The premature deindustrialization and loss in industrial share in employment has moved the labour towards the informal sector. An effort for technical training promotion can be made for those who are not academically inclined in order to build specialized skills. With the above given background, it is observed that the informal sector is comprised of 73.6 per cent in 2012-13 in contrast to the formal sector distribution i.e., 26.4 per cent. The early entrants, unskilled and semi-skilled labour move towards the informal sector which raises the issues of low-paid, vulnerable attachments and untaxed economy along with the aggression, violence, crime and corruption among the youth.

The employability issue demands to follow the phrase,

> *"If you give a man a fish, he will eat for a day, but if you teach him how to fish, he would eat for life time"*

Gender and Regional disparities in HK

The gender inequality in Human Development Index is pronounced both for the educational attainment and employability. The literacy rate for male is 71 per cent while for female it is 48 per cent only. Similarly, the literacy rate in rural areas depicts a large disparity i.e., 55 per cent for male and 15 per cent for female. The population with secondary school education is 19.3

per cent for female and 46.1 per cent for female from the year 2005-2012. Moreover, the labour force participation shows that female's participation stands at 24.4 per cent and for male it is 82.9 per cent. In the urban areas this was 81 per cent for male and 47 per cent for female according to the *Economic Survey* (2013-14).

Regarding regional disparities, the broad-based, inclusive and sustainable growth demands an equitable resource allocation and outcomes for all the regions of the country. As the rural literacy rate was 37. 5 per cent and in urban areas it was 65 per cent, the urban areas are privileged than rural areas in access to education. According to Human Capital Index rankings Sindh is ranked first followed by Punjab, KPK and Balochistan at the end [Azhar & Rehman, 2010]

Missing Gaps

Following are the missing gaps that are required to be filled in order to stimulate the human capital development and its optimal utilization.

- Industry-academia linkages need to be improved.
- For innovation and technology absorption, up-gradation in vocational training
- Skilled and globally competitive labour force for economic development
- TVET: Technical and vocational education and training with traditional academic system
- Re-engineer and revamp country's TVET system
- Youth with employable skills required
- Poor access to technical education must be curtailed
- Out-dated curricula and equipment needs attention
- Weak industrial linkages to be covered
- State-of-the-art educational institutions in premises of their set-up/organization
- Demand-driven and international standard of skilled workforce
- Removing the vulnerability to inconsistencies and weak implementation planning.■

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Chapter 10

Appropriate Development Strategy and Role of Private Sector

Dr. Usman Mustafa

Abstract

Economic planning is basically government responsibility but the private sector also has to contribute its policy inputs and how it thinks plans should be implemented. Thus the private sector plays a pivotal role in running the national economy. The large as well as the SMEs not only provide employment but also use state of the art technologies to produce goods and services for domestic as well as international consumers. Doing business by government is just as disastrous as government oppression. Public sector enterprises show it all in the huge financial losses they have been incurring due to inefficiency, corruption, overstaffing, and mismanagement. They have become a liability as their survival depends on periodical. "bailout packages". The present PML-N government therefore intends to privatize a number of Government-run enterprises. The paper highlights the role of private sector in business and government role as the provider of conducive business environment, viable growth strategies and good governance. The overtime historical policy analysis, constraints to private sector development and strategies to overcome these are also explored. The paper further emphasizes the role and significance of '3Ps' projects, their risks and ways to successfully implement them.

Introduction

It is important to understand the term "Appropriate Development and Technology Strategy" before moving ahead and elaborating the role of the private sector. The term is the most frequently used in development. Nevertheless, the nuances of appropriate technology diverge among fields and applications. It is mostly acknowledged as covering practical, superior choices and application that is small-scale, labour intensive, devolution oriented, environmental friendly and sound, energy-efficient, and local skill based technologies (Hazeltine and Bull, 1999). Together with Schumacher,

many modern-day advocates of appropriate technology also emphasize it as people-centred (Akubue, 2000). It is also extensively used in its connection to economic development and as substitute for transfers of capital intensive technology from developed to developing countries {Todaro and Smith (2003) and NCAT (2011)}. It is worthwhile to mention that the appropriate technology activities were initiated in both developed and developing countries. In developed countries, the movement grew mainly due to the energy crises of the 1970s and focused mainly on environmental and sustainability crises (Buitenhuis et. al., 2011).

The term has been extensively used to address matters on a broad variety of grounds. There are substantial examples of appropriate technologies i.e., self-powered equipments and tools like the bike and hand powered water pump, seed sheller, self-contained solar powered light bulbs and streetlights, environmentally friendly solar building designs, etc. Nowadays appropriate technologies are developed adopting the open source principles covered under "Open-Source Appropriate Technology" (OSAT) and can be accessed on the Internet {NCAT (2010) and Joshua (2012)}. It has been anticipated as a fresh prototype innovation for sustainable development (Pearce, 2012).

After elaboration of the basic jargon i.e. "Appropriate Development and Technology Strategy", the second section discusses the significance of private sector development, its investment impact on growth and poverty reduction. The chronology of private sector development in Pakistan is dealt with in section three. Section four discusses the constraints faced by private investors. This is followed by approaches to PSD in the fifth section. The strategy for the development of private sector is discussed in section six. The last section concludes the discussion on appropriate development strategy and private sector development in Pakistan.

Significance of Private Sector Development (PSD)

The role of the private sector in development is well recognized and is at the very center of current debate about the prospects of development. The private sector is mostly seen as an imperative carter (???????) of development as it is a source of employment, income generating opportunities, tax revenues, new investments, growth, and well-being of the society {ADB (2006), DFID (2008) and IFAD (2007)}. Private Sector Development (PSD) has nowadays become a strategy for economic growth and poverty eradication especially in developing countries. There are a number of contributors in the private sector which include small and medium scale entrepreneurs, farmers, traders, and large scale international companies and corporations. Successful private companies, corporations,

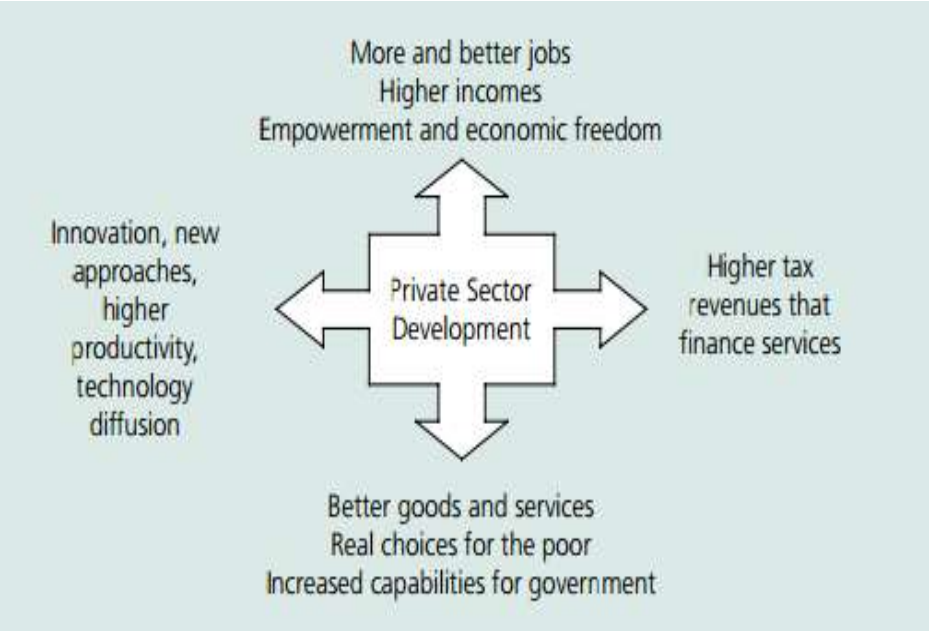
and entrepreneurs are playing their role as engine of growth (DFID, 2008 and Figure 1). Under PSD strategy countries are building private enterprises, membership organizations to represent them, and competitive markets that are stronger and more inclusive.

Private sector development programmes are under pressure to measure and report their achievements, monitor and evaluate their work in ways that are both credible and cost-effective. It focuses on privatization, but pays too little attention to the institutional infrastructure that is required to make markets work, and especially to the importance of competition.

PSD creates more and better jobs that result in higher income, empowerment and economic freedom amongst the stakeholders. It also creates conducive environment for innovation, brings new approaches in the existing system to solve issues and remove constraints to increase productivity. All of these help in technology diffusion from technologically advanced countries to developing countries and lead to generation of higher tax revenue which help government to finance public sector service development. Enhanced public sector development coupled with better goods and services provides real choices for the poor and ultimately increases government's capability for economic growth (Figure 1).

Figure-1

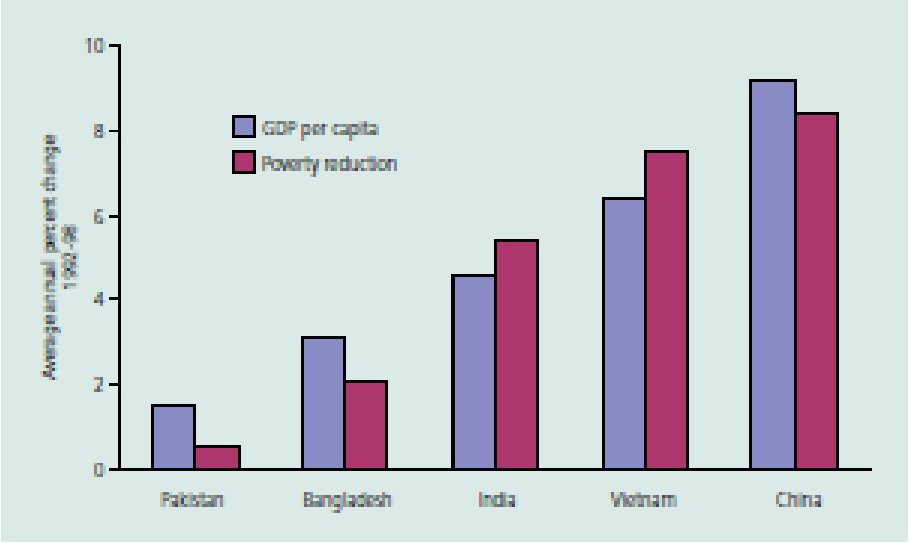
What Private Sector Development Offers (DFID, 2008)



The positive correlation of GDP per capita with poverty reduction is evident. The annual per cent change of poverty and GDP per capita over the time of 1992 to 98 for China, Vietnam, India, Bangladesh and Pakistan is depicted in Figure 2.

Figure-2

Poverty Reduction Link to Growth (DFID, 2008)



Similarly, GDP growth rate and private investment are positively correlated. The real GDP growth rate during 2002-06 and private investment as a share of total investment for the period is depicted in Figure 3. As private investment share in total investment increases, real growth also moves in a similar way. It is evident that if a country wants to boost economic growth she must encourage private sector growth. Without growth we can't expect any development because for development, growth is a prerequisite. Poverty reduction was also witnessed during the same period 2002-06 as private investment rose. Private investment as a share of total investment in 2002-06 vs share of population living on $2 per day or less (Average 2000-04) is depicted in Figure 4.

Figure-3

Growth and Private Sector Investment (DFID, 2008)

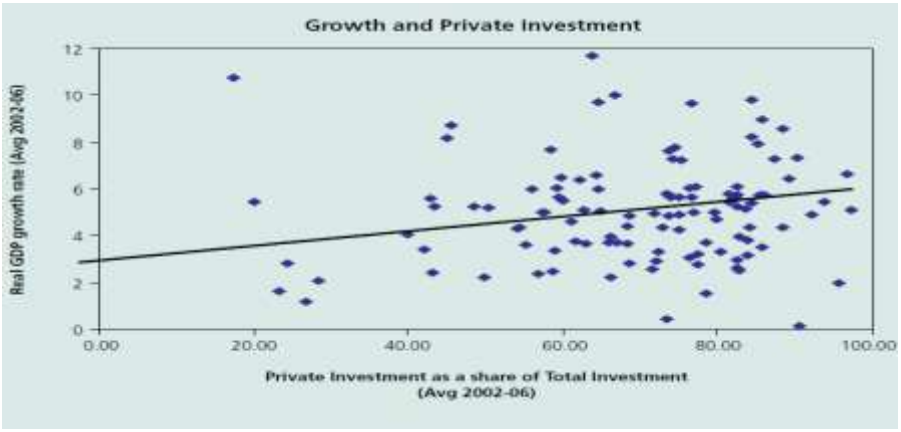
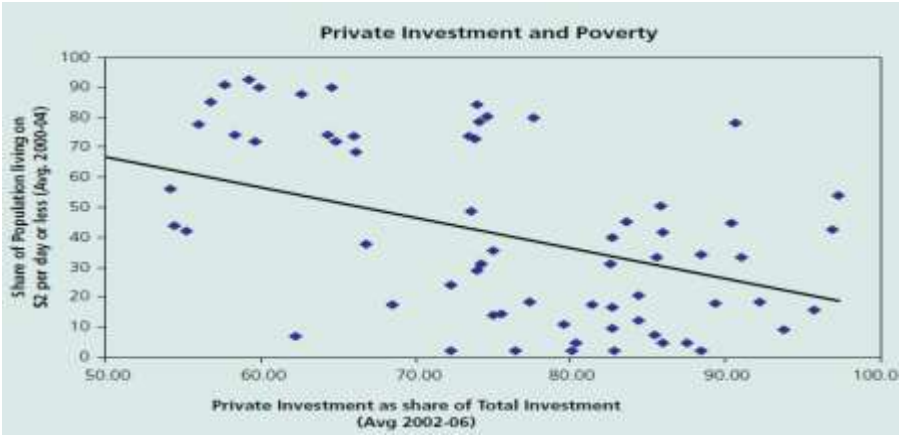


Figure-4

Private Investment and Poverty (DFID, 2008)



Chronology of Private Sector in Pakistan

Private sector remained as the primary producer of goods and services in Pakistan since its independence. During Pakistan People Party era of 70s, nationalization policy was pursued. This policy was dropped after 1980 with new strategy of privatization, deregulation, liberalization with emphasis on good governance to promote PSD in the early 1990s. Whereas, it was during 1999 that major structural, governance, and economic reforms began to be implemented with a focus on generating macroeconomic stability and creating an environment to encourage the private sector to

become the growth engine in the economy, it was in the early 2000s that substantial increase in private sector investment, greater foreign direct and portfolio investment flow in the country was achieved.

Presently, after denationalization, there has been extensive increase in investment. More than 77 per cent of commercial banking sector, the entire textile and telecommunications sector, and a significant part of the cement, sugar, automobile and fertilizer sector happen to be in the private sector.

Government (2014) has recognized the importance of private sector in growth and kept it as one of the pillars of the Vision. It is well reflected in the "Vision 2025" document as:

> *"Private sector & entrepreneurship led growth seeks a Pakistan that is a highly attractive destination for the private sector where private investment and entrepreneurship plays a lead role in the country's development. It aims at sustained engagement of the private sector and enables efficient deployment of private resources and skills to achieve the visualized objectives."*

The "Vision 2025" dreams of converting public sector deficit run institutions into profit making entities through privatization and public private partnership. It is worth mentioning that only four government-run institutions i.e. PIA, WAPDA, Steal Mill, and Railway are consuming more than Rs. 400 billions per year from government exchequer in the form of subsidy which more than even government's total expenditure (GoP, 2014).

Constraints in PSD

The macroeconomic situation significantly deteriorated in the later half of of 2000s mainly due to the impact of the world financial crisis and global rise in oil & food prices. The situation further deteriorated due to the delayed policy response by the Government in view of the difficult political conditions, lack of security, and 'war on terror'. The twin deficit (income expenditure and BoP) coupled with the energy deficit and the IPP's circular debt have severely affected private investment in the country during recent years. Beside these, the private sector is facing the following issues and constraints:

- Ineffective property rights regulations,
- low effectiveness of public sector agencies,
- Inefficiencies & rigidities in the land and labour markets,
- Lack of highly educated, motivated, skilled and healthy labour force,

- Nonconducive regulatory framework governing policy in respect of industry, investment, business and competetiveness etc.
- the capacity of the Securities and Exchange Commission with respect to regulating the non-bank financial sector including the insurance sector and of SBP to conduct transparent and effective monetary policy (ADB, 2008).
- Infrastructure deficit,
- Lack of an enabling environment,
- Investment mainly in service sector (telephone & financial)

Pakistan compares poorly on the World Economic Forum's (WEF) Global Competitiveness Index (GCI) versus the average for upper middle income economies. On a scale of 1 (worst) to 7 (best) Pakistan lags behind significantly in 8 out of the 12 indicators (Figure 5). Pakistan ranks 129th out of 148 countries in competitiveness, far behind comparative countries with score of 3.4. The highest score was 5.70 of Switzerland (GCR, 2014). The competitiveness scorecard based on GCI Indicator 2013-14 of Pakistan vs Upper Middle Income countries (UMI) average is presented in Figure 5 (GoP, 2014).

Figure-5

Competitiveness Scorecard based on GCI Indicator 2013-14 of Pakistan vs UMI Average (GoP, 2014)

Approaches and Cross Cutting Theme to PSD

Some of the approaches named below may be overlapping in practice, but are typically referred to under different terminologies; they include seven approaches and the same number of cross cutting themes (DCED, 2014).

Approaches to PSD

Business environment reform
Business linkages and value chain development (VCD)
Business development services
Making markets work for poor (M4P)
Industrial policy
Local economic development and clusters
Innovation policy

Business Environment Reform

Any economy with an efficient bureaucracy and rules of governance that enables entrepreneurship and inspiration among individuals, and provides a supporting atmosphere for people to appreciate their full potential, can enhance living standards and promote growth and shared affluence. Doing business in World Bank report measures regulations affecting 11 areas of a l business. It is for the interest of all societies to create an efficient and inclusive ethos for enterprise and business. Pakistan scored 56.64 and ranked number 128 out of 189 countries in ease of doing business. Singapore continues to be the economy with the most business-friendly regulations with the highest score of 88.27 (World Bank, 2014).

Business Linkages and Value Chain Development (VCD)

Value addition and linkages offer higher profit opportunities as customers or suppliers. Most of Pakistan's export comprise raw material or semi-finished products. There is large scope for value addition in almost all stages of production, finishing and marketing. This can be achieved with little effort and technical improvement.

Business Development Services

There is substantial scope in business development services; the individual can substantially increase his business by efficiency through skill development via training, consultancy, marketing, market information, information technology, transfer of technology etc.

Making Markets Work for Poor (M4P)

Market systems approaches, or M4P are methods to poverty reduction that donors e.g. DFID, Sida and SDC have been emphasizing for a number of years. The fundamental notion is that the deprived are reliant on market systems for their livelihood. Therefore changing those market systems to work more effectively and sustainably for the poor will improve their livelihoods and consequently reduce poverty (DCED, 2014).

There is large scope for improving the market by bringing products for the poor. This can be achieving by reducing prices of market products so that the poor can afford. This can be achieved by value change addition and bringing market reforms.

Industrial Policy

There is a substantial school of thought that argues that "Industrial Policy" is the major archetype that provides tangible economic growth and revolution. "Development is fundamentally about structural change: it involves producing new goods with new technologies and transferring resources from traditional activities to these new ones" (Rodrik, 2007). Likewise, emerging countries can never develop through aid reliance "if they are unable to use the industrial policies (which) they will need to transform their domestic industries, diversify their economies and build up their own tax bases over time" (Rowden, 2011).

Local Economic Development and Clusters

Local Economic Development (LED) and cluster development is a approach for stimulating indigenous economies as a way to eradicate poverty. LED drivers frequently encompass basics of package market expansion and/or value chain expansion and vice versa. While cluster development refers to specific kind of LED approaches with emphasis on inspiring ancillary sectorial and geographic accumulations of inter-connected businesses, services and institutions, sustenance focuses on clusters that are considered to offer the most local economic development potential.

Innovation Policy

This is the most crucial part of growth and development. Innovation is necessary for commercially successful introduction or implementation of a technology or organization. It can be the result of the development of new

products or processes, or improvement of existing ones. It also includes the adaptation and introduction of products and processes to new markets.

Innovative goods and developments are vital for competitiveness, growth and employment generation of individual enterprises and developing economies as a whole. They also have the prospect of discourse on detailed requirements of deprived producers and consumers, such as cheap, pro-poor technologies or agricultural inventions. This can only be achieved through more knowledge and it can be attained only through research.

Private Sector Development Cross-cutting Theme

There are seven cross-cutting themes of PSD:

- PSDP in fragile and conflict-affected environment
- Green growth
- Women's entrepreneurship
- Employment creation
- Youth employment
- Inclusive business
- Small enterprises

Strategies for PSD

Recognizing the importance of PSD a number of strategies have been proposed. The strategy articulated by Asian Development Bank (ADB, 2006) to PSD and reinforced by its operational focus had three thrusts:

- creating enabling conditions;
- generating business opportunities; and
- catalysing private sector investment.

These drives were moored in four main areas:

- governance,
- financial intermediation,
- public-private partnership, and
- regional and subregional cooperation.

The strategy stressed the need for a country-specific approach to PSD defined through the country and strategy programme (CSP) process. The government of Pakistan has also conceived the concept of PSD, which is reflected in vision 2025. In this connection the following broad areas and strategies are identified (GoP, 2014):

- Removing Infrastructure Bottlenecks
- Macro-Economic Stability
- Privatization
- Public Private Partnership (PPP)
- Encouraging Investment
- Small and Medium Enterprises (SME's)
- Developing a Competitive Knowledge Economy through Value Addition
- Firm Commitment to Enhancing Competitiveness

Conclusion

The importance of PSD is well established. There is no doubt that private sector can play a significant role in the growth of an economy. Government should perform its essential role of good governance. But it does not mean that every sector is privatized. The fundamental principal should be effectiveness, efficiency, and keeping the national interest as priority areas in decision making. One thing is essential that is increase in knowledge and skills. This is an era of competitiveness and efficiency and better/updated knowledge and skill in production, manufacturing, and marketing give a competitive edge without which no enterprise, business or country can survive. Therefore, a knowledge-based economy is necessary for the growth of any country. Besides this, one more crucial thing is the "attitude". There is a serious need for the individual to develop positive attitude which will ultimately change the national outlook as its characteristics or attributes.■

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CHAPTER 11

Tapping Potential Sectors of Growth

Dr. Ather Maqsood Ahmed

Introduction

After a dormant period of nearly thirty years since the appearance of the Swan-Solow Model in mid-fifties, the growth literature resurrected with a bang in 1980s. The unexplained Solow residual and the mystery variable 'effective labour' have found new meanings and explanations. Besides accumulation of physical capital and labour, the contribution of knowledge, technology, research and development (R&D), and innovation have vastly improved the understanding of economic growth.[1]

In the light of theoretical underpinnings, the search for potential sectors of growth has to revolve around accumulation of factor inputs (capital and labour) and the identification of sources that promote total and sectoral factor productivity. The objective of the present study is to review the sectoral performance in Pakistan in historical context to identify the possible avenues where there is growth potential.

State of the Economy

Since the last few years the economy of Pakistan has been found to be in a very serious state because of the interplay of monetary and fiscal policies on the one hand and bad governance and administrative weaknesses on the other. The growth in real terms has retarded quite appreciably mainly because the backbone of the economy, i.e., the industrial sector, is struggling due to inherent inefficiencies, narrow and primitive production base, disorganized management skills, increasing production costs, energy shortages, and poor law and order situation. Window-dressing notwithstanding, macroeconomic instability in the shape of fiscal and trade deficits, inflation and unemployment has reached an alarming stage. The agriculture sector has been adversely affected by natural and manmade disasters. The vibrant services sectors are fast approaching saturation levels. Consequently, there is ample evidence of increasing poverty and worsening

[1] For a comprehensive review of growth literature see Barro and Sala-i-Martin (2004)

of income distribution. According to the latest Annual Report of State Bank of Pakistan, the growth strategy for FY13 of Planning Commission (*now abandoned in favour of 2025 Vision*) identified an improvement in productivity and competitiveness as keystones for achieving higher sustainable growth. Policymakers were hoping that greater utilization of idle capacities following energy reforms would revive industrial activities and support GDP growth. The economic outcome, however, has been below expectations.

It is but natural to seek an answer to the question as to why Pakistan has lagged behind while many of our competitors have achieved laurels for themselves. One is compelled to know whether or not Pakistan have a growth base which may have eroded over time due to inefficiencies and absence of long term growth strategy; or there was no potential for growth to start with. A careful review of data reveals that historically the overall growth performance in Pakistan has not been ideal in any way. The sectoral growth has been fairly erratic as well (Table 1). Whereas the average growth of GDP during the decade of 1960s was 6.8 per cent, it declined to 4.8 per cent in 1970s. This cyclical pattern continued in the next two decades. The most recent growth pattern exhibited in Graph1 shows that the highest growth of nearly 9 per cent was recorded in fiscal year 2004-05 and the lowest growth of only 1.4 per cent was observed in 2010-11. Even though by no means it reflects a consistent pattern, it does, nonetheless, highlight an important fact that the economy has the potential to grow at a fast enough pace which if sustained for a reasonably long period — say ten years, could raise the standard of its populace by leaps and bounds.

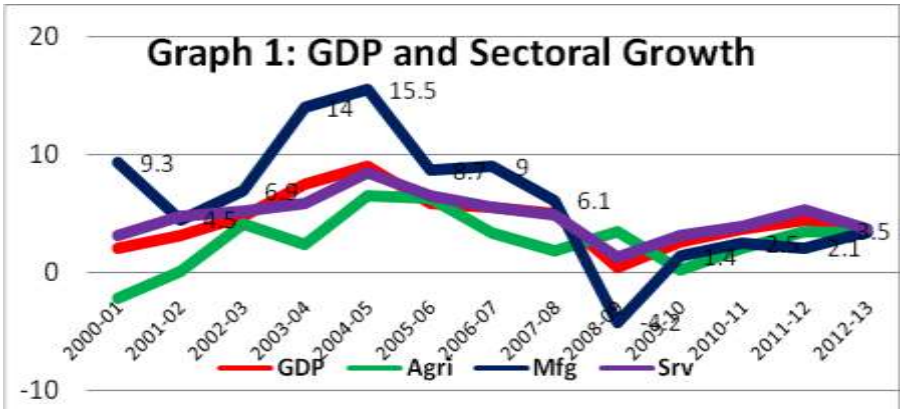
Table-1

Decade-wise Growth of GDP and its Components

Growth in Real terms (%)	**1960's**	**1970's**	**1980's**	**1990's**
GDP	6.8	4.8	6.5	4.6
- Agriculture	5.1	2.4	5.4	4.4
- Manufacturing	9.9	5.5	8.2	4.8
- Services	6.7	6.3	6.7	4.6

Source: Pakistan Economic Survey (2014-15)

A close look at the components of GDP reveals economic weaknesses further. For example, despite the significance of the industrial sector as mainstay of the economy and employment generator, it is difficult to pick any of the three main sectors of the economy as the so-called 'engines' of economic growth. Industrial sector has seen serious fluctuations over the years; the relatively recent emphasis on services sector has fallen prey to excessive regulations, taxation, and controls; and the agriculture sector, the food basket of the country is a prime example of sheer neglect. We now turn to analyse the strengths and the weaknesses of three sectors of the economy, namely agriculture, industrial and services sectors to determine what are the possibilities of growth in each of these sectors.



Sectoral Analysis

Economic Importance of Agriculture

According to the revised National Income Accounts, the agriculture sector consists of crop sector, which is further bifurcated into major (important) and minor (other) crops, and cotton ginning; livestock which focuses on animals and birds for meat, dairy and poultry needs, and fisheries and forestry sub-sectors. Table 2 gives the contribution of agriculture and its sub-sectors in GDP since 2005-06. It is clear that agriculture continues to be an important contributor of GDP even though its share in GDP has fallen from over 50 per cent in 1950s to around 20 per cent now. According to *Pakistan Economic Survey* (2013-14) the agriculture sector remains the mainstay of the economy. It involves 43.7 per cent of labour force whose contribution is critical for ensuring food sufficiency and security in the country besides providing sustenance to a large segment of rural population. It also is the primary source of raw material for agro-based industries in Pakistan.

Some special features of agriculture are quite peculiar in nature. For example, agriculture sector is regarded as an industry without roof and well spread out. Unlike many other areas, there is huge amount of risk and uncertainty associated with this sector. In particular, production risk and price variability are the two major challenges faced by the farmers. Furthermore, the food demand is inelastic in the short run as households shift other budget expenditures to maintain their food intake. Hence, small variations in basic food output cause large fluctuations in prices as governments often face administrative weaknesses and fail to maintain buffer stocks. As a consequence, farmers' adjustment to weather and price changes has spillover effects on labour and other input markets.

Table-2

Share of Sub Sectors of Agriculture

	2005-06	**2008-09**	**2010-11**	**2013-14**
Agriculture	**23.0**	**22.5**	**21.7**	**21.0**
Crops	9.9	9.7	8.8	8.4
Livestock	12.1	11.8	11.9	11.8
Fishing	0.6	0.6	0.5	0.4
Forestry	0.5	0.5	0.5	0.4

Source: Pakistan Economic Survey 2013-14

Besides crop production, possession and maintaining livestock is the major activity and source of earnings of rural families. The remaining two sub-sectors, i.e., fishing and forestry have less than one per cent share in agriculture GDP, which is quite unacceptable given the ecological and environmental concerns.[2,3] Table 3 gives the growth in agriculture and its sub-sectors since 2006-07.[4] It is evident that growth in production of major crops has fluctuated widely between 8.4 per cent and 3.7 per cent. This phenomenon has serious implications for meeting domestic needs of food

[2] Even though fish farms are now gaining importance in the country, but fish remains a low preference food in major parts of Pakistan. It nonetheless has tremendous export potential.

[3] The total forest area in Pakistan has reduced to less than 3%.

[4] The data prior to 2006-07 has not been included due change of base and the resulting inconsistency with more recent information.

crops, particularly wheat, and generating exportable surpluses of such crops as cotton and rice. The stark fluctuations in the growth of minor crops is also not a health sign as it reflects the relatively 'low-keyed' attention given by the farmers to these crops, notwithstanding their immense potential for earnings.

Table-3

Growth (%) in Agriculture and Sub Sectors

	2006-07	2008-09	2011-12	2013-14
Agriculture	3.4	3.5	3.6	2.1
Major (Important) Crops	6.5	8.4	7.9	3.7
Minor (Other) Crops	2.1	0.5	-7.5	-3.5
Livestock	2.8	2.2	3.4	2.9

Source: *Pakistan Economic Survey 2013-14*

Pakistan's World Ranking for Selected Crops

Despite various limitations to be discussed in the ensuing pages, Pakistan has been a leading agrarian economy in terms of production and area under cultivation of leading crops. However, in terms of yield, the performance is not even close to world standards. Starting with wheat, Pakistan holds 8th position as far as area under cultivation and production are concerned, but it holds 17th position in yield per acre. For rice it holds 10th position in area, 12th in production but 17th in yield per acre. For cotton Pakistan is a leading producer as it is on 4th position each in area and production but 14th in yield. Finally, for sugarcane the position in terms of area and production is 4th and 5th but holds 15th position in terms of cane yield per acre. One of the reasons for low yield is that the production system is dominated by small farms. As Table 4 shows 58 per cent of the farms in Pakistan are less than five acres and this fragmented piece of land constitutes 20 per cent of the cropped area in the country. Adding another 28 per cent of lands comprising land mass of 5 to 12.5 acres means that 86 per cent of land holdings in the country are either 12.5 acres or below. This is equivalent to 53 per cent of total cropped area in the country. Whether small farms as compared to large farms are

more efficient is a debatable issue but cost of production, use of appropriate inputs, marketing etcetera are valid concerns that prevent reaping of economies of scale. This argument has to be linked with the tenure structure in Pakistan shown in Table 5, which incidentally is quite skewed toward owner-occupied farms. Nearly, 77 per cent of all farms are owner occupied and only 14 per cent farmers are tenants. This pattern prevails all across Pakistan.

Besides, the structure of land holding, other constraints in production and marketing relate to availability and use of technology related to seed, fertilizer, plant protection, and mechanization. Institutional support in the shape of irrigation structure and availability of credit/ finance is also inadequate. On top of these vagaries of weather is a natural risk that is always associated with the agriculture sector.

Table-4

Structure of Land Holdings in Pakistan

Farm Size (acres)	Farms %	Farm Area (%)	Cultivated Area (%)	Cropped Area (%)
<5.0	58	16	18	20
5-7.5	15	11	12	14
7.5–12.5	13	17	18	19
12.5–25	9	19	20	19
25-50	4	16	16	14
50 +	1.6	21	16	13

Source: Calculated from Pakistan Census of Agriculture (2000)

Table-5

Tenure Classification of Farms (Million)

	All Farms	Owner	Owner cum Tenant	Tenant
Pakistan	6.62	5.14	0.56	0.93
KPK	1.36	1.12	0.08	0.15
Punjab	3.86	3.04	0.42	0.40
Sindh	1.07	0.70	0.04	0.32
Balochistan	0.33	0.27	0.01	0.05

Source: Calculated from Pakistan Census of Agriculture (2000)

Potential for Agriculture Growth

We have seen that the productivity (yield) in the agriculture sector is low for a variety of reasons. These include

- Technically inefficiency is wide-spread
- Economies of scale are absent
- Supply and use of inputs (seed, fertilizer, pesticides etc.) is erratic and sub-standard
- Limited effort is there on R&D, technology up-gradation, quality controls and so on
- The role of institutions is below par
- Prime land is being converted into housing societies and agriculture is being pushed to marginal lands with low productivity.

In a recent study which required derivation of time series of capital and labour Tufail and Ahmed (2014) have shown that the agriculture sector has the potential to flourish if there is investment in human capital and farmers have access to modern technology. Using sophisticated model, the authors have highlighted the point that major gains could be had through adoption and diffusion of new techniques of production, skill improvement, and better managerial skills.

Significance of Industrial Sector

True that rapidly growing industrial sector brings about economy-wide structural changes that ensure sustained GDP growth and promote employment. Also true that in Pakistan the industrial sector has a great potential to generate economic activity, boost exports, and create jobs. However it is also true that despite ample opportunities, the public sector performance in the industrial sector has been a nightmare and the performance of the private sector has also been quite unsatisfactory.

Industrial Sub Sectors: According to the revised National Income Accounts, the industrial sector consists of four sub-sectors, namely mining and quarrying, manufacturing (further bifurcated into large scale, small scale, and slaughtering), electricity generation & distribution and gas distribution, and construction. Table 6 presents the share of these sub-sectors in GDP. There is nothing much to describe in this table as the share of manufacturing in GDP has remained almost stagnant within a narrow range of 13 per cent and 14 per cent since 2005-06. Most disturbing is the outcome for large scale manufacturing which is the real backbone of the industrial sector in Pakistan. Combined with information on growth presented in Table 7 one finds that there is a general retarding tendency in this sector over the years. Blame it to poor law and order situation in the country or to energy shortages, the fact of the matter is that the cost of doing business in Pakistan is quite high and the country is not an attractive place for the foreign investors. In fact there is anecdotal evidence to suggest that even the local investors are shying away from investment in Pakistan and they are locating their industrial units on foreign shores. This can be confirmed from the fact that investment to GDP ratio has declined to its lowest levels in recent years partly due to low domestic savings and insufficient flow of foreign savings. Despite de-nationalization and privatization of industrial units since early 1990s, the private sector has not been able to capture the space created by the shrinking public sector. The Investment gap, i.e., the difference between Pakistan's rate of growth of investment and the growth rate achieved by its competitors, is widening rapidly. Barring few years, Pakistan has been unable to exploit its investment potential over the last two decades confirming the low-growth – low-investment connection is firmly in place.

The preceding brief analysis of the industrial sector clearly reveals that with the exception of few textile segments, industry in Pakistan has not been a growth engine as has been the case elsewhere. Industrial production in general and exports in particular are characterized by low technology intensity products. The Manufacturing sector has been heavily dominated

by textile and food sectors. With limited diversification industry has failed to provide productive well-paid jobs to rapidly growing labour force (GOP, 2005).

Table-6

Manufacturing Sector: Share of Sub-Sectors (%) in GDP

Year	Large Scale	Small Scale	Slaughtering	Total
2005-6	11.7	1.2	0.9	13.8
2006-7	12.2	1.2	0.9	14.3
2007-8	12.3	1.2	0.9	14.4
2008-9	11.5	1.3	0.9	13.7
2009-10	11.3	1.4	0.9	13.6
2010-11	11.0	1.5	0.9	13.4
2011-12	10.8	1.5	0.9	13.2
2012-13	10.8	1.6	0.9	13.3
2013-14	10.9	1.7	0.9	13.5

Source: Pakistan Economic Survey 2013-14

Table-7

Growth Rates (%) in Industrial Sector and Sub Sectors

Sector	2007-08	2008-09	2009-10	2012-13 R	2013-14 P
B. Industrial Sector	8.5	-5.2	3.4	1.4	5.8
1. Mining & Quarrying	3.2	-2.5	2.8	3.8	4.4
2. Manufacturing	6.1	-4.2	1.4	4.5	5.5
Large Scale	6.1	-6.0	0.4	4.1	5.3
Small Scale	8.3	8.6	8.5	8.3	8.4
Slaughtering	3.3	3.8	3.2	3.6	3.5
3. Electricity Generation & Distribution & Gas Distribution	37.2	-12.1	16.7	-16.3	3.7
4. Construction	15.4	-9.9	8.3	-1.7	11.3
P: Provisional					
R: Revised					

Potential for Industrial Growth

Compared to the agriculture sector there is much higher scope for growth in the industrial sector; whereas deteriorating law and order situation and energy shortage are valid excuses, the major bottleneck has been the over-

reliance on textile and agro-based industries. There is a clear need to move away from production of primary and low value-added products to technologically advanced products with high value addition. This requires a concerted effort to introduce modern technologies in the production process and simultaneously match skill levels of industrial employees to high value added technologies. We believe that financial development of the economy and adoption of more open trade policies have vast potential for boosting the growth of the industrial sector through improvement of factor productivity. Similarly, government spending on infrastructure development has the potential to generate economic activity in the country.

Significance of Services Sector

A new buzz word in growth strategy is service-led growth. A number of services such as financial, commercial, and information technology have received special attention in recent years in the growth process. According to the latest National Income Accounts, Pakistan's services sector contributes nearly 58 per cent to GDP. Of the 4.1 per cent GDP growth recorded for the first ten months of FY 13-14, 2.1 per cent was contributed by the services sector. Unlike the commodity-producing sectors, the services sector has performed consistently over the past many years in Pakistan, thereby giving the much needed impetus to overall growth.

The Composition of Services Sectors

The six sub-sectors within services sector are: wholesale and retail trade, transport, storage & communication, finance and insurance, housing services (ownership of dwellings), general government services, and other private services. It is evident from Table 8 that whole and retail trade and transport, storage and communication are the most significant services over an extended period of time. While the former is significant from the perspective of policy decisions on domestic commerce, the latter has three significant components. Even though the share of finance and insurance is only around 3 per cent, this sector has to play a vital role in mobilizing domestic savings and channelizing it for promotion of industrial growth in the country. The growth potential of services sub-sectors is presented in Table 9. It shows that high growth in services sectors experienced in the first half of last decade started to taper off in 2007. Even though growth revival has been witnessed in some of the sectors in the recent past, but it may not be comparable and sufficient to play a significant role in the revival of the overall growth in the economy. In all likelihood some of the

sub-sectors have been saturated while others are confronted with overly regulated regime that has hindered their growth.

Table-8

Share (%) of Service Sectors in GDP

	2005-6	2007-8	2008-09	2010-11	2012-13	2013-14
Service Sector	56.0	56.0	56.6	57.1	58.1	58.1
Wholesale & Retail Trade	19.7	19.9	19.3	18.8	18.4	18.6
Transport, Storage & Communication	12.4	12.7	13.3	13.1	13.1	13.0
Finance & Insurance	3.7	3.8	3.5	3.0	3.1	3.1
Housing Services (Ownership of Dwellings)	6.5	6.4	6.6	6.7	6.8	6.8
General Government Services	5.5	5.1	5.4	6.2	7.2	7.0
Other Private Services	8.1	8.1	8.6	9.1	9.5	9.7

Source: Pakistan Economic Survey 2013-14

Table-9

Growth (%) in Service Sub-sectors

Sector	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Service Sector	5.6	4.9	1.3	3.2	3.9	4.4	4.9	4.3
Wholesale & Retail Trade	5.8	5.7	-3.0	1.8	2.1	1.7	3.4	5.2
Transport, Storage & Communication	6.9	5.5	5	3.0	2.4	4.6	2.9	3.0
Finance & Insurance	9.1	6.3	-9.6	-3.3	-4.2	1.6	9.0	5.2
Housing Services (Ownership of Dwellings)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
General Government Services	2.7	0.2	5.6	8.0	14.1	11.1	11.3	2.2
Other Private Services	4.6	5.4	6.5	5.8	6.6	6.4	5.2	5.8

Source: Pakistan Economic Survey 2013-14

Characteristics of Service Sector in Pakistan

Despite its significance and contribution to the overall growth, the services sector has not gained much importance in the country. Domestic commerce, banking and insurance, and transport and communication are the major growth generators. The telecom revolution and financial sector reforms have been responsible for growth of sectoral economic activity, job opportunities, and taxes for the government. However, there is a sense of saturation that has slowed the growth process.

Conclusion: The Search for Potential Areas of Growth

An exhaustive sectoral analysis reveals the following:

- Almost all sectors of the economy have the potential to grow provided the casual approach is replaced by focused attention on individual sectors.
- Within the agriculture sector, a strategic focus is needed on effective use of inputs to enhance productivity (yield) of major crops. Investment in human capital and use of modern technology holds the key to success.
- Besides traditional sectors, new avenues such as orchards (fruits and vegetables), cut flowers, and livestock breeding at commercial scale hold opportunities.
- Within the industrial sector, a shift is required from traditional textile-centric approach to more diversified industrialization. Rather than reinventing the wheel, experiences of East Asian and Chinese economies could be useful.
- Replication, assembling, outsourcing are possible options to move towards medium to high tech products.
- Strategy of starting and aborting growth plans has been quite harmful to say the least.
- Within services sector, a move from informal to formal domestic commerce holds tremendous potential.■

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CHAPTER 12

Policy Imperatives of Trade Liberalization and Regional Integration for Pakistan

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International trade has always been an important tool of economic growth and subsequent economic development as successfully demonstrated by South Korea and China in addition to some Asian Tigers. The world today has entered into the regime of trade liberalization which acts as a means of attaining industrial development and modernization using economies of scale, market access and growth. The eradication of tariff and non-tariff restrictions falls in the purview of "free trade" which includes removal of restrictions and barriers on the free exchange of goods as well as minimization of both tariff and non-tariff barriers. Free trade is a policy by which a government does not discriminate against imports or interfere with exports by applying tariffs (to imports) or subsidies (to exports) or quotas. The school of thought against trade liberalization claims that it can cost jobs and even lives, as cheaper goods flood into the market. In addition to the historical version that flag follows the trade, advocates of trade liberalization often argue that it ultimately lowers consumer costs, increases efficiency and fosters economic growth. They have already employed and successfully used an export-oriented development approach. It is external-viewing in nature which focuses on restoring economic stability; both external and internal, thereby increasing efficiency of resource allocation (Berg and Krueger, 2003).

Trade liberalization can prolifically be the reason of better economic growth. More recently, external economic liberalization policies have been adopted by a huge number of developing countries. It follows the consensus that countries with fewer restrictions on trade will have faster economic growth than countries with heavier restrictions. Trade liberalization has a stronger impact on increasing employment elasticity of economic growth and thus poverty reduction, as compared to the policy of import substitution or closed economies initiatives. There is ample gain in Total Factor Productivity, tendency of attracting Foreign Direct Investment, technological dividend of neighbourhood in addition to reduction conflicts and cohesion across nations. An open economy allows a country to restructure its domestic production in line with its comparative advantage (Krueger, 1998). Nevertheless, staunch critics of globalization usually

emphasize that the benefits of this economic growth have little likelihood of being evenly distributed; and thus, the impact of distribution may alter the status of the poor rather adversely.

In the perspective of international trade, Pakistan has been passing through many phases of import and export liberalization under both democratic and non-democratic environments. Some trade regimes have been shown in Appendix I and II in which some glimpses of various policy instruments along with their impacts are given. Pakistan has adopted the way of giving a freehand to its trade regimes since 1988, the time when the government of Pakistan implemented the Structural Adjustment Programme (SAP) of International Monetary Fund's (IMF). This action plan achieved a rather high impulse. With the passage of time, WTO and its associated agreements have persuaded Pakistan to climb various steps like reduction on import duties and eliminating several subsidies. In terms of potential advantages, liberalization proved to be highly beneficial for Pakistan though not completely. The results of lifting tariff and non-tariff barriers go much farther than the apparent advantage like instantaneous formation of trade flows. It also includes the potential for enhancing productivity and increasing economic growth, and might also be extended to promoting regional integration in all areas including trade between India and Pakistan. Eliminating trade barriers, even if it is only partially, is likely to create effective trade flows that ultimately benefit in the form of economic efficiency, particularly in those product groups which are currently being produced by Pakistan. Similarly, lowering trade barriers also contributes in exploring new export opportunities for Pakistani products in South Asian Free Trade Agreement (SAFTA) countries (Siddique *et al.,* 2006).

It has also been visualized that there is reasonable impact on households' incomes when output and prices for domestically produced goods are changed. Increased production would suggest that prices are higher and rates of return and employment in those industries are increasing. Capturing these consumption and income effects are crucial to gaining insights of how trade agreements might impact poor households (Minor and Muriverwi, 2013). Many of the commonly employed global CGE models in use today include a "regional household" structure which not only reduces the private household down to a single entity, but they often obscure the linkages between household incomes and expenditures by aggregating the private household with government and investment activities under a regional household". The standard GTAP model is the most popular example of this structure (Hertel, 1997). Many studies conducted so far in Pakistan are not very successful in determining the impact of Pakistan's trade liberalization initiatives on the micro-economy of households. It has now become possible to operate Commutable General

Equilibrium (CGE) model to include extra details on household's consumption and income and thus to assess the poverty and income inequality dimensions of trade liberalization.

Connotation of Comparative and Competitive Advantages

Producing with lower relative opportunity cost determines the comparative advantage for a country. If two countries capable of producing two commodities engage in the free market, then each country will increase its overall consumption of goods and services by exporting the good for which it has a comparative advantage while importing the other good. Competitive advantage means the workers in one country are more efficient at producing goods and services than the workers doing the same in other countries. According to the Heckescher and Ohlin law of comparative advantage, the country producing the product at lower domestic resource cost will earn benefit. The comparative advantage in trade and regional integration has a vital role for lowering consumer costs, increasing efficiency, accelerating growth and alleviating poverty in a country like Pakistan.

South Asia is one of the most densely populated regions in the world and livelihood of millions of people of this area depends mainly on agriculture (Noorka et al., 2013a). During the last two decades, however, structural changes have been taking place in most of South Asian economies. The share of agriculture in GDP has started declining. Pakistan being the ancient home of cotton is the 4th largest producer, 3rd largest exporter of raw cotton and a leading exporter of yarn in the world. It contributes nearly 10 per cent in the agriculture GDP and a source of 60 per cent foreign exchange earnings. The quantum of value addition with cotton accounts for 8.2 per cent in agriculture and 2 per cent in the GDP. The WTO has set many standards under its various agreements. Cotton is more likely to be affected through WTO regulations. Depending upon the commodity, the influence of governmental policies in agriculture can be traced through regulation, trade protection or promotion, price and income support programmes (Salam, 2009). Government intervention in agriculture not only affects the products produced, but also the prevailing volume of imports and exports of many commodities (Fairchild, 1988).

Rice, an important food and cash crop, is the third-largest crop of Pakistan in terms of area after wheat and cotton. Punjab accounts for 69 per cent of the area under rice cultivation as a whole and 58 per cent of total production. Pakistan exports both fine and coarse varieties of rice. The export of rice totalled 1.82 million tonnes in 2003/04, of which 0.816 million tonnes were of the fine variety. Anwar, Hussain and Javed (2005) calculated export parity prices on the basis of actual export prices. The

results indicate that the prices received by growers of Basmati were lower, while for IRRI, the prices received by growers were higher economic prices, indicating that Basmati prices in Pakistan received no protection while IRRI prices did. They found competitive advantages in some of the varieties of rice. Raiz, Jasen and Malik studied that in the open market Pakistan has a comparative advantage in cereals (especially rice) and horticultural products but not in livestock products. Comparative advantages of Pakistan differ for region to region. Though it has a comparative advantage in a number of agricultural commodities but it has not succeeded to reap the fullest potential in open market. Ten major exports and imports of Pakistan along with 10 major trade partners are shown in Appendix III and IV.

Emerging Challenges of NTBS in Trade Liberalization

In the world of liberalized trade, we are to look beyond traditional trade policies for gaining greater market access. With the emergence of regional (SAFTA, LAFTA, NAFTA) and international free trade agreements (WTO), non-tariff barriers have gained a huge importance to restrict trade to protect the domestic producer. In this way, the policy focus has been diverted to non-traditional trade policies with instruments of non-tariff barriers (NTBs). With the failure of tariff and quota to restrict market access, countries are now using NTBs to protect the home market. According to statements made at United Nations Conference on Trade and Development (UNCTAD, 2005), the use of NTBs, based on the amount and control of price levels has decreased significantly from 45 per cent in 1994 to 15 per cent in 2004, while use of other NTBs increased from 55 per cent in 1994 to 85 per cent in 2004. In the policy paradigm, NTBs can be referred to as a new form of protection which has replaced tariffs as the old form of protection. NTBs are policy measures other than ordinary customs tariffs that can potentially have an economic effect on international trade in goods, changing quantities traded, or prices or both (UNCTAD, 2010).

Under article 10(3) of the agreement of WTO classification, common NTBs include custom documentation and administration procedure, lmmigration procedure, quality inspection procedure, transiting procedure, road blocks, varying trade regulations, duplicated function of agencies, business registration and licensing, cumbersome import and export permit, import and export quotas, unnecessary import ban, restrictive charges, restrictive signal channel marketing, cumbersome visa requirements, pre-shipment inspections, national food security restrictions, change in road and border tools, non-acceptance of certificates and trade documentation, temporary ban on selected products, incorrect tariff classification,

agriculture non trade barriers/ technical barriers to trade (TBTs) include prohibitions/restrictions of imports, tolerance limits for residues and restricted use of substances, labelling, marking and packaging requirements, production or post-production requirements, product identity requirement, product-quality or -performance requirement.

It is estimated that the trade potential between these two countries is US $6 billion. Items having export potential from Pakistan are largely in the textile sector while items having export potential from India are in non-textile sectors. Very few items having export potential from India are on the positive list adopted by Pakistan. There are several items that India is importing from other countries but not from Pakistan. Main NTBs between India and Pakistan include positive list approach (embargo), trade facilitation and customs procedures, technical barriers to trade and sanitary and phytosanitary measures, financial measures, para-tariff measures, and visas. Two features distinguish Pakistani and Indian NTBs. First, many Indian NTBs are soft barriers, which is used as delays or hurdles rather than bans. Pakistan's NTBs often used bans as an instrument. Second, Pakistan's NTBs focus on general categories of goods, India's often focus on particular industries and trading partners.

Keeping the above discussion in view, a chunk of research questions, with particular reference to trade liberalization and regional integration, and its trickledown effect in Pakistan, floats in the mind of development practitioners, academician, researchers and policy experts A few of such research questions are raised here for mapping some policy dimensions. How much economic benefits Pakistan can reap from changing regimes of trade liberalization? What is the status of major and minor agricultural products in terms of respective comparative advantage? How much Pakistan is advantageous in the production of major crops? Whether Pakistan can sustain its competitiveness in the production and export of specific crops or not? Can Pakistan convert its competitive and comparative disadvantages for some crops and trades into respective advantages? What is the impact of trade liberalization on macro-economy of Pakistan? What is the effect of trade liberalization on poverty and inequality? Is there any change in the welfare levels of the people if the price structure is changed? What is the trickledown effect of trade on growth? What kind of policy response is being given in the challenging environment of freed trade and liberalization? These are the research questions the empirical response of which is to be explored. In this research effort, some of such important questions have been addressed through analytical ways so as to come up with workable policy options.

In order to explore the answers to the above research questions, the study is aimed at analysing the changing comparative and competitive

advantage over time and its implications for trade development in Pakistan and India to explore regional imperatives. Similarly, overall micro and macro reflections of trade liberalization have also been scanned through the prism of poverty and inequality. Some specific objectives of the study are given below.

1. To quantify the comparative and competitive advantages of rice and cotton of Pakistan vis-a-vis India.
2. To trace the impact of sector specific trade liberalization on the economy of Pakistan and on the welfare status of households.
3. To draw some policy lessons for agriculture, development and trade related policies.

Methodological Considerations

Quantification of Comparative Advantage

Balassa (1965) has developed "Revealed Comparative Advantage" index that deals with many countries and multiple commodities. The index states that export ratio of a country that reflects the relative comparative advantage i.e.

$$R_{ij} = RCA_{ij} = \frac{\left(\frac{X_{ij}}{X_{wj}}\right)}{\left(\frac{X_i}{X_w}\right)} \quad \textbf{(1)}$$

Where: I = 1,2,……..n, j = 1,2,…….m

R_{ij} = Revealed comparative advantage of country I for commodity j,
X_{ij} = Export by country i of commodity j,
X_{wj} = Total world exports of commodity j,
Xi = Total world exports of country i, and
X_w = Total world exports.

The value R_{ij} may be equal, greater or less than 1.If it is greater than 1 it means the country i has a comparative advantage in exports of commodity j because its market share is larger in the commodity than its share in total exports and vice versa.

Quantification of Comparative Advantage

By extending Balassa's Index, the export supply and import demand of a specific commodity for a country are taken into account. It uses both export or import data and competitive advantages determined by both supply and

demand. The revealed competitive advantage is calculated as the difference between revealed comparative export share for commodity j and revealed comparative import share from commodity j. Therefore the white's index provides the results of net comparative advantage. The index is calculated as:

$$RCA_{ij} = RCS_{ij} - RCD_{ij}$$

$$RCA_{ij} = \left[\frac{\left(\frac{X_{ij}}{X_{wj}}\right)}{\left(\frac{X_i}{X_w}\right)} - \frac{\left(\frac{M_{ij}}{M_{wj}}\right)}{\left(\frac{M_i}{M_w}\right)} \right] \quad (2)$$

Where:

RCA_{ij} = Revealed competitive advantage of country i for commodity j,
RCS_{ij} = The ratio of country i's share of commodity j to its share in total world exports,
RCD_{ij} = The ratio of country i's share of commodity j to its share in total world import,
M_{ij} = Tmport of commodity j by country i,
M_{wj} = Total world imports of the commodity j,
M_i = Total world imports of country i,
Mw = The total worlds import.

Application of MyGTAP Model

This study further used a Global Applied General Equilibrium model linking Pakistani economy to the rest of the regions and overall world. The newly developed MyGTAP Model by Walmsley and Minor (2013), is an extension to the standard GTAP model (Hertel,1997) that eliminates the single regional household and the related distribution parameters and replaces them by linking private and government expenditures directly to income sources. Furthermore, this allows us to analyse distributional impacts and to implement policy scenarios that target particular households. The new model specification also allows for a focused treatment of government income and expenditures, which in turn helps to track the effects of subsidy removal on government budget deficits. Apart from the multiple households and improved government specification, MyGTAP augments the standard GTAP model by including inter-regional transfers, such as remittances and foreign capital incomes (Siddique et.al, 2013).

The Standard GTAP model is a comparative static model which is mainly built on neoclassical theories. It is a linear model which uses common global database for the economy wide analysis. The model takes up that all markets are perfectly competitive, all production and trade activities exhibit constant returns to scale, firms and households parade profit and utility maximizing behaviour respectively. The model is solved using the software GEMPACK (Harrison and Pearson, 1996). In the GTAP model each region has a single representative household, termed as the regional household. The income of the regional household is generated through factor payments and tax revenues (including export and import taxes) net of subsidies. Computable General Equilibrium models (CGE) are well suited to the analysis of trade agreements. CGE models emphasize the linkages between product and factor markets on prices and output through detailed input-output linkages and equations which model macro-economic linkages such as investment and savings (Minor and Mureverwi 2013).

The question that whether liberalized world trade benefits people who live in poverty has stirred many policy debates. While assessments on the relationship between global trade liberalization and poverty levels have proliferated during the last decade [Hertel and Winters 2006; Harrison 2007; Anderson et al. 2010], meanwhile analyses on the sectoral impact of trade liberalization on poverty and income inequality in developing countries like Pakistan remains unexplored.

Measuring Poverty and Inequality

There are extensive statistical poverty measures which economists have used for decades. Foremost and the widely used poverty measure is the Foster Greer Thorbecke (FGT) measure (Foster et al., 1984). The FGT measure of poverty comprises:

$$P_{\propto} = \frac{1}{n}\sum_{i=1}^{q}[(Z - Y_i)/Z]^{\propto} \qquad (3)$$

It usually provides the percentage of population below the poverty line. The Value of Head Count Ratio is from 0 to 1. The widely used and generalized form of FGT is as follows: If the value of $\alpha = 0$, this implies head count ratio. When $\alpha = 1$, it infers poverty gap. W $\alpha = 2$, this measure shows squared poverty gap.

For inequality, this study uses the most commonly used measure of inequality known as Gini Coefficient. The coefficient value ranges between 0 to 1. Zero implies complete equality and one reflects complete inequality i.e 1 person has all income and all others have none. Graphically, it is

represented as the area in the middle of the Lorenz curve and the equality line. In mathematics, we can state the Gini Coefficient as:

$$Gini = \frac{2}{n^2 \bar{y}} \sum_{i=0}^{n} i\,(y_i - \bar{y}) \qquad (4)$$

Data Base

For estimating comparative and competitive advantages of Pakistan against India for the production and export of cotton, the data was collected from FAO Trade Year Book for the years 1995 to 2014. The latest version of the GTAP Data Base, version 8, was used for this study (Narayanan et al, 2012). The data base represents the world economy for two reference years, 2004 and 2007. We are using the latest reference year, 2007. The Data Base is composed of 129 regions, 109 countries and 20 aggregated regions.

Keeping in view the imports and exports of Pakistan and also to facilitate computation, the number of regions has been aggregated into 12 regions, these are: Pakistan, US, India, China, ASEAN, Other SAARC, Rest of Asia, EU-27, Other OECD, Rest of West Asia, Latin America, Rest of World. Regional Aggregation used in this study is shown in appendix V. Similarly the number of sectors has been aggregated to 37 keeping in mind its importance in Pakistan imports and exports. Out of these 37 commodities, 12 are agricultural commodities and the rest are industrial commodities. The standard GTAP Data Base v8.1 aggregation is then linked to the latest available comprehensive Pakistan Social Accounting Matrix (SAM) 2007-08 developed by International Food Policy Research Institute (IFPRI) under Pakistan Strategy Support Program (PSSP).

According to the newly developed MyGTAP data programme by Minor and Walmsley (2012a) used in this study, the new government account collects income from taxes and foreign aid and spends it as government purchases, transfers to households, foreign aid (out) and subsidies. The difference between government income and expenditure is then either a deficit or savings. Income sources for private households on the other hand are a function of returns to factor endowments (land, labour and capital), net foreign labour remittances and net foreign capital rents, transfer payments made by the government and transfers from other households. The net household income is spent on consumption and savings.

Key Findings and Policy Discussion

The comparative advantage primarily depends on the physical and human capital endowments of a country. The trade orientation enhances economic

advantage vis-à-vis the other countries. Moreover, accumulation of human and physical capital and a paradigm shift in the trade policies can make a change in the comparative advantage of the various sectors of the economy.

Reflections of Comparative advantage in Cotton and Rice

Comparative advantage, according to Samuelson is the scheme in all of the social sciences which is both real and consequential. It gives the description of specialization, improvements from trade and viewed as a positive theory of forecasts about the direction and the terms of trade. Weak comparative advantage was prevalent in the years 1997, 2002 and 2007. The figure also presented the medium comparative advantage during the years 1995, 1998, 2001, 2003-04, 2006 2008-09 and 2011-12 while strong comparative advantage was noted in the years like 1996, 2000, 2005 and 2010. The rest of the year 1999 showed no comparative advantages. The export for cotton lint in India depicted weak comparative advantage in 1998 while the years of 1995 and 2004 revealed the medium comparative advantage. In comparison, the strong comparative advantage was portrayed during the years 1996-97, 2003 and 2005-10. The remaining years showed comparative disadvantages in the export of cotton for India. During the year, 2000-01, 2005-06, 2008-10 and 2012-13 showed strong comparative advantage. The other year 1999 exhibited non-comparative advantage. Pakistan showed strong comparative advantage throughout the study years for export of rice milled. It is noted that trade export of rice milled in Pakistan which revealed strong comparative advantage throughout the study years. The strong comparative advantage was depicted in all other years under observation. The other years under study showed non-comparative advantage except for the year 1995 which showed medium comparative advantage.

Reflections of Competitive Advantage in the trade of Cotton and Rice

White index is an extension of Balassa's method. It uses the import demand and export supply of a particular commodity for a specific country. Its benefit is that both export and import data are used and competitive advantage is determined by incorporating both supply and demand. It is calculated by the difference between revealed comparative export share for commodity and revealed comparative import share for commodity. Hence, the White's index provides the results of net comparative advantage.

Cotton lint in Pakistan enjoyed revealed competitive advantage during the years 1996 and 2000 while during all other years under study depicted non-competitive advantage. Regarding India, competitive advantage was revealed during the years 1996-97 and 2005-10 however, non-competitive advantages was found in all other years under observation. Similar trend in case of trade regarding cotton lint in Pakistan was depicted during 1996 and 2000 when there was revealed competitive advantage while during all other years under study we witnessed non-competitive advantage. White index for the agriculture export of rice milled in Pakistan showed competitive advantage throughout the observed years. Indian agriculture white index in case of rice milled revealed competitive advantage during 2010 while the non-competitive advantage was found in rest of the time series.

It must be noted that though Pakistan is enjoying some comparative and competitive advantages in the production and trade of rice and cotton, if the market structure remains distorted in the resource and product paradigms, sustainable advantages would be difficult to achieve in the years to come. Moreover, India may excel in gaining comparative and competitive advantages for its very comprehensive and sound NTBs vis-à-vis Pakistan on the one hand and Free Trade Agreements (FTAs) with Bangladesh on the other hand.

Mapping of Trade Liberalization in Regional and International Perspectives

The GTAP framework contains only one regional household per country/region and hence we also need data on household consumption and income sources in order to break out more households and labour types in Pakistan. To use the MyGTAP model within the context of this study, we modified the GTAP data base 8.1 by breaking down the regional household into multiple households based on a data tool documented in Minor and Walmsley (2013). The breakdown of households was based on the latest available comprehensive Pakistani Social Accounting Matrix (SAM) for the year 2008 and Household Integrated and Economics Survey (2007-08). The Pakistani Social Accounting Matrix (SAM) 2007-08 provides detailed information on 18 types of household classified by geographical zones, and rural and urban categories. The implementation of multiple households is particularly useful for our study, as we aim at assessing the implications of different tariff reduction scenarios that are combined with a discriminatory transfer scheme targeting lower income Pakistani households. The adjustments are instigated using shares so as to retain the underlying values of the GTAP Data Base. The Data Base personifies the world economy in

equilibrium therefore the modifications need to add up to the original data base.

The household types used in this study are taken from Pakistan Social Accounting Matrix (SAM) 2007-08.Households are classified by the province in which they are located (Sindh, Punjab and rest of Pakistan), and by area (rural vs. urban). Rural households are further disaggregated into agricultural and non-agricultural households. Agricultural households are in turn split by ownership of land and size of owned land. Medium/large farms are greater than 12.5 acres, and small farms are between zero and 12.5 acres. Landless farmers own no land, but have some operated land. Finally, landless agricultural labourers (waged) households are defined as those who do not own or operate land, but have agricultural income. Rural non-farm households are located in rural areas but have no agricultural income. Urban households are those located in the urban areas. Urban and rural non-farm households are split into quintile 1, quintile 2, and rest (Darosh et al. 2012). The household types used in this study are shown in table 1.

Table-1

Household Types used in this Study

Household Types	HH Code	Population (million)	Income shares (per cent)	Population shares (per cent)	Income/ population shares
Large and medium farm Sindh	H-MF1	0.8	1.5	0.6	2.6
Large and medium farm Punjab	H-MF2	2.4	6.1	1.8	3.3
Large and medium farm other	H-MF3	0.6	0.8	0.4	2.0
Small farm Sindh	H-SF1	3.1	1.8	2.4	0.7
Small farm Punjab	H-SF2	16.0	11.5	12.2	0.9
Small farm otherpak	H-SF3	5.6	3.3	4.3	0.8

Landless farmers Sindh	H-0F1	2.5	1.4	1.9	0.7
Landless farmers Punjab	H-0F2	3.6	1.8	2.7	0.7
Landless farmers Otherpak	H-0F3	1.7	0.7	1.3	0.6
Landless agri. Lab Sindh	H-AGW1	3.0	1.5	2.3	0.6
Landless agri. Lab Punjab	H-AGW2	3.3	1.4	2.5	0.6
Landless agri. Lab Otherpak	H-AGW3	0.4	0.2	0.3	0.5
Rural non-farm quantile	H-NFQ1	8.2	2.8	6.2	0.4
Rural non form quintile 2	H-NFQ2	8.9	3.3	6.8	0.5
Rural non-farm quantileothe	H-NFOTH	27.7	17.3	21.2	0.8
Urban quantile 1	H-UQ1	8.6	2.6	6.6	0.4
Urban quantile 2	H-UQ2	8.6	3.4	6.6	0.5
Urban other	H-UOTH	25.7	38.7	19.7	2.0
Total households		130.6	100.0	100.00	1.0

Source: Pak SAM 2007-08 and HIES 2007-08

In SAM 2007-08 there are 27 specified factors of production and 23 of these 27, deal with agricultural production only; 8 types of agricultural labour, 12 types of land, water, livestock, capital and other agricultural capital.

Model Closure

We used standard GTAP model closure which assumes full employment of endowment commodities (land, labor and capital), perfect competition (zero economic profits), mobile factors (except land which moves sluggishly between uses), a flexible trade balance and mobile capital between regions (which responds to variations in rates of return on capital).

Policy Simulations

Any modeling implementation usually follows two main stages. First, the model is disentangled for the base without any alteration in the exogenous variables or parameters. The base values are then compared with the simulation results that are instigated in the second stage. To illustrate a change in the trade policy the exogenous variable is modified and the solution is then compared with the base model. This research uses two simulations to study the impact of trade liberalization on household level and then on overall poverty and income inequality in Pakistan. The scenarios made are shown in table 2.

Table-2

Simulation Designed for this Study

Simulation	Description
S1	Agricultural Multilateral Trade Liberalization (0 Per cent import taxes and export subsidies in Agricultural tradable commodities worldwide)
S2	Industrial Multilateral Trade Liberalization (0 Per cent import taxes and export subsidies in Industrial tradable commodities worldwide)

Real GDP and Pakistan's Terms of Trade

The impact of both sectorial simulation used in this study on real GDP that is changes in output measured at base prices shows the modest impact ranging from positive 0.01 per cent with agricultural trade liberation to 0.35 per cent increase in case of industrial trade liberalization. Trade liberalization usually lowers prices of imported commodities, thereby reducing the cost of intermediate goods for domestic producers. This coupled with increased export demand, induces an increase in production. The terms-of-trade, are generally defined as the ratio of prices a country receives for its exports and pays for its imports. It is an important idea in

comprehending the effect of price changes on general welfare of a certain country. Both simulation results imply that Pakistan's terms-of-trade deteriorate primarily through changes in its export prices in respect to prices it pays for the import. Agricultural trade liberalization shows the deterioration by -0.176 per cent while maximum deterioration has been seen in industrial trade liberalization by -3.85 per cent.

Exports and Imports Paradigms

The abolition of tariff resulted in shifts in the relative import and domestic price ratios, which in turn triggered substitution between imports and domestically produced goods. Tariff reduction and export subsidies usually resulted in an increase in imports b/c of less import prices, in turn a surge in exports due to an expansion in competitiveness owing to decreased domestic prices. Results shows that most agricultural products experience increases in imports during simulation I and the increase is from zero to 3.14 per cent. While in case of Industrial liberalization worldwide trend shows robust increase in manufacturing imports. The maximum increase has been seen in oil (77 per cent from Base line), chemical rubber and plastic nec (19.78 per cent from Base line), electrical items (22.66 per cent from baseline), beverages and tobacco (21.37 per cent from Base line), textile (21.33 per cent from Base line), wearing apparel (27.62 per cent from Base line). The industrial trade liberalization results shows an increase in Pakistan's exports of textiles, wearing apparels, beverages and tobacco, auto parts, manufacturing, machinery and equipment.

Table-3

Percent Changes in Pakistan's Import Constant 2007 (US$ Millions)

	AGR-TL	IND-TL		AGR-TL	IND-TL
Pdr	0.79	-7.03	Tex	0.62	21.33
Wht	1.71	-21.83	Wap	0.56	27.62
Gro	-0.71	-3.90	Lea	0.83	-5.64
v_f	2.82	-8.98	Wood	0.41	10.55
Osd	3.14	2.86	p_c	0.06	3.39
Sugar	0.58	-23.39	Crp	0.29	19.78
Pfb	0.25	-12.14	Nmm	0.21	-4.18
Ctl	0.70	-6.99	Metals	0.38	3.22

Animalprod	0.53	-8.74	Autoparts	0-.23	-5.15
Frs	2.32	-16.07	Ele	0.55	22.66
Fsh	-0.31	1.73	Ome	0.39	6.62
Minerals	0.07	2.15	Omf	0.47	9.86
Oil	0.00	77.18	Utilities	0.00	13.46
Procsd.food	0.26	5.11	Cns	0.21	6.42
Vol	0.26	-64.95	Trd	0.27	2.31
Mil	0.31	-22.59	Transport	0.17	13.85
Sgr	0.37	30.66	Cmn	0.26	1.36
b_t	0.07	21.37	Allservices	0.28	1.68

Source: Author's simulation

Table-4

Per cent Changes in Pakistan's Export Constant 2007 (Millions US$)

	AGR-TL	**IND-TL**		**AGR-TL**	**IND-TL**
Pdr	5.73	-26.67	Tex	0.61	21.80
Wht	9.37	-21.21	wap	0.56	30.01
Gro	1.16	-3.49	Lea	0.82	-0.73
v_f	12.86	-8.10	Wood	0.40	17.06
Osd	40.20	-9.89	p_c	0.06	18.15
Sugar	8.95	-23.05	Crp	0.29	15.78
Pfb	0.37	-11.77	nmm	0.20	1.24
Ctl	2.16	-7.19	Metals	0.38	8.96
Animalprod	3.12	-8.60	Autoparts	0.22	12.72
Frs	8.21	-15.67	Ele	0.57	8.55
Fsh	2.25	1.76	ome	0.39	25.32
Minerals	0.06	3.13	omf	0.46	20.51
Oil	0.00	10.77	utilities	0.00	13.46
Procsd.food	0.24	14.40	Cns	0.21	6.42
Vol	0.25	-64.54	Trd	0.27	2.31
Mil	0.30	-15.42	Transport	0.17	13.85
Sgr	0.36	10.77	cmn	0.26	1.36
b_t	0.06	20.61	Allservices	0.28	1.68

Source: Author's simulation

Sectoral Prices

The instantaneous outcome succeeding trade liberalization is the impact on commodity prices. It is expected that both simulation with broad aim of liberalizing trade will directly affect prices of imports. Thus this will affect all other prices due to inter-connection that exist in the domestic economy. Most domestic prices are prone to fall, that will lead to a switch to export production. As predictable, the prices of all traded goods have dropped under both scenarios as shown in Table 5.

Table-5

Sectorial Prices in Pakistan (Per cent Changes from Base line)

	AGR-TL	IND-TL		IND-TL	AGR-TL
Pdr	-0.14	-2.03	tex	-0.12	-1.68
Wht	-0.16	-2.18	wap	-0.1	-1.81
Gro	-0.17	-2.5	lea	-0.14	-2.34
v_f	-0.17	-2.78	Wood	-0.1	-1.96
Osd	-0.16	-1.89	p_c	-0.02	-0.94
Sugar	-0.22	-2.66	crp	-0.07	-1.67
Pfb	-0.12	-0.9	nmm	-0.08	-1.83
Ctl	-0.18	-2.74	Metals	-0.07	-1.76
Animalprod	-0.2	-2.9	Autoparts	-0.05	-9.47
Frs	-0.25	-1.89	ele	-0.08	-1.83
Fsh	-0.21	-4.16	ome	-0.06	-1.51
minerals	-0.05	-1.3	omf	-0.08	-1.9
Oil	-0.01	-0.81	utilities	-0.08	-1.83
Procsd.food	-0.14	-2.16	cns	0.09	1.97
vol	-0.16	-1.87	trd	-0.11	-2.31
mil	-0.14	-2.25	Transport	-0.06	-1.64
sgr	-0.14	-2.31	cmn	-0.1	-2.11
b_t	-0.11	-2.16	Allservices	-0.1	-2.15

Source: Author's simulation

Changes in Government Income and Expenditure

Any trade policy usually has an important role to play on government revenue and expenditure. Trade policy, tariff reforms in this case, result in changes to government revenues — taxes collected at the border, and possibly elsewhere in the economy, will be impacted by changes to imports, exports and output. Import tax revenues are often a major source of government revenue for developing countries. Losses to these revenues by Pakistani government due to tariff reforms will likely have to be replaced by taxes elsewhere in the economy.

The Table (6) illustrates the impact on government income and expenditure of both experiments used in this study. The major impact will be on government revenue as well as it will affect the government expenditure too. However, the Household level results show that some households will be better off, and there is room to recover government revenues from these households. The most notable negative impact is seen when Pakistan liberalize their industrial sector as the Government income will then be reduced to -25.06 per cent. Similarly government expenditure will too decrease by -24.08 per cent. The agricultural trade liberalization will appear to offer some bright spots and will increase government income by 0.66 per cent.

Table-6
Changes in Government Income and Expenditure, Constant 2007 Prices (Per cent and Millions US$)

	Govt-Income	**Govt-Expenditure**		
	AGRI-TL	**IND-TL**	**AGRI-TL**	**IND-TL**
Pakistan	0.66	-25.06	0.04	-24.08
China	-1.27	-12.7	-1.19	-12.81
India	-0.07	-19.56	-0.07	-19.56
USA	-0.03	-1.11	-0.01	-0.53
Other OECD	-0.09	-0.84	-0.16	-1.55
ASEAN	-0.48	-11.57	-0.49	-12.62
Other SAARC	-0.04	-9.56	0.06	-18.17
ROA	-0.18	-1.27	-0.18	-3.11
Latin America	-0.16	-4.85	-0.13	-4.18
EU_27	-0.02	-1.16	-0.01	-0.44
RestofWorld	-0.23	-7.6	-0.25	-6.01
RWAsia	-0.72	-14.16	-0.63	-13.83

Source: Author's simulation

Changes in Household Income

The analysis so far has been focused on the impact commonly discussed in the environment of trade policy analysis: GDP, output, prices and trade flows. This disaggregated analysis used in this study stands in contrast to a typical "national welfare analysis" often cited in CGE analysis in that we do not assume that all parties will be affected equally - the assumption is that trade policy will have distributional impact and that the impact on poor households should be given special consideration when making trade policy.

The results show that some households are better off and some are worse off with respect to their income. The Medium and Large household types are the major beneficiaries of both trade liberalization scenarios. For land income, almost all households (H-LF, H-MF, H-SF and H-0F) who own land increase their income. Rural non-farm household showed decreased income but the decrease in their income is very marginal. In all urban household types the effects are unbiased to all households.

Table-7

Effect on Household Income (Per cent changes)

House hold Income	AGRI.TL	IND-TL	House hold Income	AGRI.TL	IND-TL
HMF1	1.97	2.54	**HAGW1**	-0.86	1.42
HMF2	-2.3	2.88	**HAGW2**	0.93	-2.17
HMF3	-1.57	2.59	**HAGW3**	0.56	-1.42
HSF1	-1.23	2.23	**HNFQ1**	-0.5	-1.9
HSF2	-0.32	1.59	**HNFQ2**	-0.53	2.18
HSF3	-1.33	1.33	**HNFOTH**	0.52	-3.74
H0F1	-0.77	1.63	**HUQ1**	0.64	1.27
H0F2	-0.21	0.59	**HUQ2**	0.61	0.42
H0F3	0.96	-1.9	**HUOTH**	0.72	3.86

Source: Author's simulation

Effects on Real Returns to Factors

Globalization renders certain tranquility to trade and therefore tends to elevate the rate of returns for at least some factors of production (Winter,

1996). The MyGTAP model used in this study personifies the purported Armington assumption in which products are categorized on the basis of their country of origin. A significant decline in tariff and trading cost on the import of capital equipment should control the escalating prices which the industry must pay for investment goods.

Results show the increase in the real wages of medium and large agricultural labours and farm households but the returns to small farmers even deteriorate when Pakistan liberalizes its agriculture sector. Medium and Large Farm labours of Sindh and Punjab province will benefit more due to the fact that these two provinces are the only cotton growing provinces in Pakistan and their share in total cotton production in Pakistan is 80 per cent and 20 per cent respectively. Real factor wages hence will be increased due to the bigger demand for Pakistani textile and wearing apparel products.

Table-8

Effect on Real Wages (Per cent Changes from Base)

Pfactreal	AG-TL	IND-TL	AG-TL	IND-TL	AG-TL
LAAGL	1.1	2.6	**LNMD1**	-3.94	-0.26
LAMF1	1.85	-0.22	**LNMD2**	-4	-0.27
LAMF2	2.06	-0.19	**LNMD3**	-0.88	2.35
LAMF3	1.7	0.14	**LNSM1**	-3.4	3.67
LASF1	-1.32	1.68	**LNSM2**	-2.97	1.51
LASF2	-1.03	1.93	**LNSM3**	-3.46	2.65
LASF3	-1.56	2.63	**LNDR1**	-3.42	3.19
LAAGW	1.35	2.15	**LNDR2**	2.16	1.68
LASKU	0.56	0.7	**LNDR3**	2.26	2.81
LASK	1.1	1.79	**CapLvstk**	2.26	2.52
LNLG1	-3.63	3.5	**Capothag**	-4.33	0.91
LNLG2	-2.45	0.91	**Capform**	0.72	2.6
LNLG3	-2.19	0.37	**Capinf**	0.54	2.29

Source: Author's simulation

Impact on Overall Income Inequality

This study used household types taken from the Social Accounting Matrix for 2007-08. Household incomes in the Pakistani SAM are 2.1 times higher than HIES Survey of the household expenditures. This is a reflection of

seemingly considerable under-reporting of expenditures (especially on services) and incomes of the informal sector in the household surveys of HIES and some others (Darosh et al. 2012). This study uses the Gini Coefficient to calculate income inequality measures. The base Gini Coefficient of 0.6412 in Table (9) confirms the fact that income is still unequally distributed amongst the population. The simulation results show that industrial liberalization has a positive impact on the poverty and inequality in Pakistan and it even increases by 0.23 per cent when only agricultural goods are liberalized.. The results are inconsistent with Cicowiez et al. (2011) who studied the impact of trade reforms on poverty and inequality in Argentina and their results deteriorate somewhat when only agricultural goods are considered.

Impact on Overall Poverty

The results obtained show that poverty decreases marginally in Pakistan during industrial trade liberalization. Poverty increased by 0.28 per cent and 0.43 per cent from the baseline if Pakistan only liberalized the agriculture sector worldwide. While industrial trade liberalization results show that poverty falls as a result of higher incomes and falling CPI.

The results of trade liberalization on Pakistan overall poverty and income inequality are consistent with the empirical evidence that liberalizing trade is associated with an increase in wage equality in developing countries and also decrease the poverty level. The results are also consistent with Naqvi (2010), Siddique and Kemal (2006) and Chaudhry and Fatima (2013) as they concluded that abolition of tariff reduces or have a positive impact on poverty and inequality in Pakistan. Results are also consistent with Cicowiez et.al (2010) for Argentina who concluded that full trade liberalization of world, both for agricultural and nonagricultural goods, reduces poverty and inequality in Argentina. However the effects on poverty and inequality deteriorated somewhat when only agricultural goods were considered. Results of this study are also consistent with Fiji and Rolantheslst (2007) for Vietnam as they established that liberalization is consistent with fall in poverty level with full trade liberalization achieving the highest drop in overall poverty (-0.71%) in Vietnam.

Table-9

Inequality Effect (Per cent change from Base)

Simulation	Base Index	Simulation Index	Ordinary Change	Percent Change
AGRI-TL	0.6412	0.6427	-0.0015	0.23
IND-TL	0.6412	0.6338	0.0074	-1.15

Source: Author's Simulation results

Poverty Effect (Per cent Change from Base)

Simulation	Base Poverty gap	Base Squared poverty	Simulation Index	Simulation Index	Poverty Gap (Per cent)	Severity of Poverty (Per cent)
AGRI-TL	31.07	5.593	31.16	5.617	0.29	0.429
IND-TL	31.07	5.593	31.04	5.589	-0.09	-0.07

Source: Author's Simulation results

Summary and Policy Recommendations

In this research effort, some standard indices were employed to visualize comparative advantage and competitive advantage for the production and export of cotton and rice in Pakistan vis-à-vis India. The study concluded that Pakistan has significant comparative and competitive advantages in the trade of cotton and rice followed by India. India would be attaining top position in the region in cotton lint and rice if we fail to offer comprehensive policy packages in agriculture sector. The chief among them is the removal of distortions in the product and resource markets through revitalizing the role of the Competition Commission of Pakistan. The dream of sustainable productivity and agriculture growth can only be materialized if the competitive and comparative configurations of major agricultural crops like rice and cotton are taken into the public policy dossier. Any further policy bias against agriculture can make a dent in the comparative and competitive status of Pakistan's production and trade profile.

The study also evaluated the effects of trade liberalization on both the aggregate as well as the household level of Pakistan using the newly developed MyGTAP model. An analytical framework was developed, in which the MyGTAP model was linked to a representative household model using the latest available comprehensive Social Accounting Matrix (SAM) of 2007-08 to capture the impact of trade liberalization on growth, poverty and income distribution. The overall results show that trade liberalization seems to be causing a modest increase in economic growth. In terms of household level effects in industrial trade liberalization, the increase in economic growth will effect a fall in poverty and inequality rates in Pakistan except in case of China. Similarly, agricultural trade liberalization with China shows an increase in inequality of income. Similarly, agricultural trade liberalization results in an increase in poverty and inequality of income. Hence, although growth has lifted a large proportion of households out of poverty, mainly the urban households, but the distributional impact has been somewhat harmful to rural households which derive a significant proportion of their income and livelihood from agricultural sources.

There is dire need of shifting away from agricultural sector towards more industrial base sectors such as low tech and intermediate manufacturing. Domestically we need to strengthen the production bases by improving quality and enhancing design capabilities. Human resource development is required with particular reference to technical skills. Care must be taken in attaining economies of scale through labour efficiency and productivity. Internationally we need to follow the "trade not aid approach". Policies must be designed for expanding market access abroad particularly be exploring non-traditional routes in Africa and Latin America. Subsidies and relief packages in tariff must be granted to the farming community to boost up the food production process as is being generously done in India. Effective trade diplomacy is required to counter India's comprehensive policy initiatives particularly in NTBs and TBTs. Pakistan must focus on redesigning institutions like National Tariff Commission and Pakistan Quality Standard Authority to protect agricultural products. Pakistan faces the challenge of reducing transaction costs of traders with agreement of standards, custom clearance, dispute resolution and visa liberalization. This would help raise the country's tax revenue. Similarly by improving and facilitating trade related infrastructure in the country, Pakistan has a potential of 10 billion dollars to benefit from.■

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Appendix I

Various Trade Regimes in Pakistan

Time Periods	Regimes	Trade Policy instruments and Economic Impacts
1947-51	**Liberalization of Import**	• No established Political System; Early death of Quaid-e-Azam & Liaquat Ali Khan created a political gap • Liberal Import Policy and Value of pound sterling fell by 31 per cent • Immense need of machinery and capital goods • Cotton and raw jute sharing a lot in Pakistani export • In 1950 due to Korean war rise in prices of both products causes huge benefit • 85 per cent of import goods were without license because of the government's liberalization of trade • Pakistan did not support foreign investment in the fields of banking, commerce and insurance
1952-59	**Intense Protection**	• Strict industrial atmosphere and Strict control on FDI • Most intense protection regime Undervalued currency rates and imposed a quantitative constraint • Levy system was introduced; low taxes were charged on the essential items • High taxes were imposed on luxurious and secondary need products • Growth of the industrial sector increased by 14.40 per cent • Growth rate decreased in the agricultural sector from 53.19 per

		cent to 46.9 per cent. • Trade to GDP ratio increased from 19.64 per cent in 1952-59 • Large Scale manufacturing development was 14.40 per cent • The economy depended on the export taxes on agricultural goods and import obligations on imported manufactured goods • Higher excise on unprocessed goods while lower toll on processed goods
1959-65	**Trade Liberalization with Free List**	• Trade liberalization programme introduced with four characteristics 1) To create an industrial system in alliance with the private sector 2) To support the trade policy focus towards manufactured exports 3) Transfer indirect controls to direct controls 4) To engage the marketplace dealers in the determination of commodity products of imports and rights of import authorizations • The tax system expanded and OGL system expanded • Trade GDP ratio was 22.03 per cent and Large Scale manufacturing development was 16.68 per cent • Export Bonus Scheme introduced. It was a multiple exchange system which gave compensation to the exporters of chosen manufactured commodities • Repeat and Automatic Renewal System was implemented in order to permit the automatic import license restoration dealing with raw material and consumer items • The most market-friendly policy

		was made in 1962, a Free List, which allowed the import of commodities without licenses
1965-71	**Emergence of Poverty**	• Growth was disturbed due to war with India and less foreign Aid • Restrains on Free List and Downward movement of trade GDP from 22.03 per cent to 13.93 per cent • The rise in the share of manufactured exports increased up to 51.89 per cent from 32.47 per cent • An improvement was experienced in the agricultural sector, from 3.20 per cent to 6.34 per cent • The real GDP fell from 7.43 per cent to 5.96 per cent and the inflation increased from 2.47 per cent to 4.58 per cent • Unemployment rate was 1.70 per cent and Poverty level increased from 40 per cent to 46 per cent
1971-79	**Nationalization**	• Nationalization of industries and economic organizations • Three important steps in 1972 regarding trade policy • Devaluation of currency, Abolished the EBS and omitted the import licensing method • Trade GDP ratio was 26.8 per cent • FDI decreased to 0.08 per cent and Poverty decreased to 30.78 per cent • Industrial development was 2.38 per cent and Agriculture development was 1.70 per cent
1977-88	**Export Led Industrialization**	• 100 commodity items were included in the Free List • Export-led industrialization was introduced

		• Exporters were given facilities like income tax allowance and loans on lessened bank interest. • A number of tariff objects were decreased from 17 to 10 %, the sales tax fixed on 12.5% on various commodity objects • Manufacturing sector progress was 9 per cent and Agricultural sector progressed with 3.88 per cent. • Real GDP increased by 3.94 per cent, poverty was reduced from 30.68 per cent to 17.32 per cent • Unemployment increased to 2.03 per cent
1988-99	**Birth of WTO**	• Trade policies remained stable due to the uniformity in economic management. • Liberalization of trade with export promotion measures; Toll rate was also cut down to 35 per cent • Taxes on plant and machinery were decreased to 10 per cent and 10 per cent excise on essentials • WTO's first Trade Policy Review for Pakistan (WTO, 1995) suggested that Pakistan had to combine its about 33 per cent of tariff with 81 per cent of its toll to benefit the agriculture sector, Foreign exchange controls was imposed • Agricultural growth increased from 3.88 per cent to 4.47 per cent • Manufacturing sector growth was 5.31 per cent • Inflation was 9.55 per cent, Real GDP was 1.52 per cent. • Unemployment increased from 3.57 per cent to 4.89 per cent and Poverty reached to 32.60 per cent • India granted MFN status to

		Pakistan
1999-2008	**Military Interventions**	• Real GDP Growth was low • Foreign debt increased to 57.83 per cent • Military intervention was the reason of low growth in this regime. • Boosted all-inclusive Economic Revival Programme (ERP
2008-14	**Strategic Trade Policy Framework**	• Global financial crisis world wide • Three year policy cycle started • First Strategic Trade Policy Framework (STPF) 2009-12 • Exports increased by 27.2 per cent in year 2010 • Started its second STPF for 2012-15 • Import weight tariff rate was set at 7 per cent

Appendix II

A Profile of Policy Actions during the Last 10 Years

Year	Trade Policy instruments	Policy Impacts
2003-04	Hire retail outlet abroad to promote Pakistani products Help exporters to franchise foreign brand names Encourage exporters of non-traditional goods Establishment of two special export zones. Import of goods for repair and re-export by engineering firms Allowed the import of second hand machinery Allowed overseas Pakistanis to send goods.	The deficit in trade balance narrowed by 12 per cent Export increased by 13.1 per cent 19 per cent increase in imports
2004-05	All goods are freely exportable and importable except few categories No protection of locally produced goods Trade policy is being kept highly defined No import quotas (except few one on few categories)	Trade deficit is increased from $1592.2 million to $4262.0 million Increase in exports by 14.6 per cent Increase in imports by 37.8 per cent
2005-06	Improved Market access Focus on neglected regions Strengthening of trade promotion infrastructure Improve skill development and productivity Provision of state of the art physical infrastructure	Trade deficit increases from $4.3 billion to $8.62 billion 11.1 per cent increase in exports 43.2 per cent increase in imports
2006-07	Improved Market access but Focus on regions neglected Strengthening of trade promotion infrastructure	Trade deficit widen to $11.1 billion as against $9.5 billion last year 3.6 per cent increase in

	Improve skill development and productivity Provision of state of the art physical infrastructure	total exports 8.9 per cent increase in imports
2007-08	Improved Market access but Focus on regions neglected Strengthening of trade promotion infrastructure Improve skill development and productivity Provision of state of the art physical infrastructure	Trade deficit sharply increase from $ 11 billion to $17 billion Exports increased by 10.2 per cent 28.3 per cent increase in imports
2008-09	L/C margin on imports of all nonessential items Duty on non-essential items was raised Regulatory duty imposed on import of 397 consumer items	Trade deficit narrowed by $ 2.7 billion 3.0 per cent decrease in exports 9.8 per cent decrease in imports
2009-10	Supportive macro policies and services Enhancing Product Sophistication level in Pakistan export Enhancing firm level competitiveness Product and market diversification Making trade work for sustainable development	Trade deficit reduced by 13 per cent 8 per cent increase in exports 2.8 per cent decrease in imports
2010-11	Supportive macro policies and services Enhancing Product Sophistication level in Pakistan export Enhancing firm level competitiveness Product and market diversification Making trade work for sustainable development	There is improvement of 1.9 per cent in the trade balance. Exports increased by 27.8 per cent 11.2 per cent increase in imports

2011-12	Supportive macro policies and services Enhancing Product Sophistication level in Pakistan export Enhancing firm level competitiveness Domestic commerce reform and development Product and market diversification	There is a gap of $16095 million in the current year trade balance
2012-13	Focus on regional trade with product & market development Create regulatory efficiencies & access to export financing Promote export of service sector & revamp export promotion agencies Mobilize new investment in export oriented agencies Facilitate exporting industry with Promotion Agro-processed exports Rationalize tariff protection policy & enhanced role of women in exports	Trade balance decrease from $12867 million to $ 12541 million 4.2 per cent increase in exports 1.02 per cent decrease in imports
2013-14	Make export sector as engine of growth Enhance Pakistan export competitiveness in short and long run Increase cumulative export to $95 billion till 2015	Trade balance increased from $ 12892 million to $ 13259 million 402 per cent increase in exports 1.2 per cent increase in imports

Appendix III

Top 10 Importing Countries			
Country	**2011-12**	**2012-13**	**Change**
UAE	18.23	19.91	1.68
China	9.67	10.38	0.71
Kuwait	10.53	8.15	-2.39
Saudi Arabia	13.38	8.13	-5.25
Singapore	7.06	8.01	0.95
Malaysia	5.28	4.56	-0.72
Japan	3.54	3.40	-0.14
India	2.48	2.71	0.23
Switzerland	4.19	2.66	-1.53
Germany	2.52	2.63	0.1
Other	23.11	29.45	
Total	100.00	100	

Top 10 Imported Products and their Contribution to Total Imports (percent)			
Commodity	**2011-12**	**2012-13**	**Change**
Petroleum Products	27.28	20.44	-6.84
Petroleum Crude	14.68	12.24	-2.44
Palm Oil	6.36	5.64	-0.72
Plastic Materials	3.31	3.74	0.42
Power Generating Machinery	1.19	3.50	2.31
Iron And Steel	3.55	3.34	-0.21
Fertilizer Manufactured	1.96	2.51	0.55
Road Motor Vehicles	2.67	2.14	-0.53
Telecom	2.40	1.98	-0.42
Aircrafts,Ships And Boats	1.41	1.94	0.53

Appendix III

Pakistan Top 10 Exporting Products

Top 10 Export commodities	FY 2011	FY 2012	Percent change
Cotton Cloth	721,513	642,020	-11.02
Knitwear	716,141	501,421	-29.98
Cotton Yarn	597,527	487,937	-18.34
Bed Wear	572,948	458,594	-19.96
Garments	318,738	365,274	14.60
Rice - Basmati	329,821	268,710	-18.5
Rice - Non-Basmati	236,082	252,935	7.14
Towels	183,731	188,639	2.67
Cement	142,692	147,666	3.49
Plastic Materials	150,303	146,458	-2.56

Pakistan Top 10 Exporting Countries (percent)

Country	**2011**	**2012**	**Change**
USA	17.26	17.49	0.23
China	5.75	10.89	5.15
UAE	8.45	9.09	0.65
UK	5.49	5.83	0.34
Afghanistan	7.13	5.15	-1.97
Germany	5.55	4.08	-1.46
Bangladesh	2.73	2.59	-0.14
Hong Kong	2.41	2.41	-0.01
Italy	3.47	2.28	-1.19
Spain	2.46	2.17	-0.30
Other	39.3	38.01	1.30
Total	100.00	100.00	

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