

PUNJAB GROWTH STRATEGY 2018

Accelerating Economic Growth And
Improving Social Outcomes



Government of Punjab



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Accelerating Economic Growth and Improving Social
Outcomes

Government of the Punjab

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Planning & Development Department

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Message from the Chief Minister



Our vision is to make Punjab a secure, economically vibrant, knowledge-based and caring province. The Punjab Growth Strategy puts us on the path to realizing this vision.

In the coming years, the basic challenge for Punjab's economy is to grow at a fast rate to provide quality jobs to young people entering the workforce every year. For sustained improvement in living standards, economic growth has to be private sector-led, employment-intensive and exports-oriented. Importantly, it has to be anchored in adequate resource mobilization, efficient social service delivery and improved law and order. The Punjab Growth Strategy 2018 is based on these principles.

The resolution of Punjab's energy crisis is a top priority of Punjab's growth strategy. With the assistance of the Government of Pakistan we expect to overcome the energy shortage, which will help meet our economic growth targets that are anchored in internationally competitive and employment-intensive industrialization, agriculture and commerce. We are similarly engaged with the Federal Government on issues of macro-economic management, trade policy and quality standards that affect international competitiveness of firms and farms located in the provinces.

The primary focus of the Punjab Growth Strategy are the drivers of inclusive growth that are within the provincial domain and affect productivity of firms and farms and their investment decisions. To facilitate manufacturing and commercial activity, the strategy emphasizes the importance of managing Punjab's rapid urbanization so that our cities and towns become more livable and serve as engines of economic growth. To support agriculture and livestock production, the strategy recommends rural investments and institutional reform to increase crop yields, move to higher value added crops and improve livestock breeds.

Building effective human capital through education and skills is central to Punjab's growth and is strongly emphasized in this Strategy. Punjab and Pakistan will only progress towards sustained higher living standards by building a strong foundation of human capital. Finally, health is a critical dimension of inclusive growth. My government is determined to address the key health challenges that lower worker productivity and keep people trapped in poverty. I am also satisfied that this document will ensure regionally balanced economic growth.

Mian Muhammad Shahbaz Sharif
Chief Minister of Punjab

Message from Chairman Planning & Development Board

The Government of Punjab is cognizant of the myriad problems facing the province and the country as a whole. In recent years, Pakistan has been suffering from economic growth rates far below our historical trends. The gap between the desired and actual economic growth needs to reduce considering that the country needs to continuously grow at 7 to 8 percent every year in order to lift our people out of poverty. The Punjab Growth Strategy 2018 has been developed to put Punjab on the path of sustainable economic growth. Since a majority of Pakistanis reside in Punjab, the prosperity of this province can also be a driver of progress for our entire nation.

The Punjab Growth Strategy 2018 complements the Pakistan Vision 2025 launched by the Government of Pakistan in 2014. Now many major levers of the economy that ensure inclusion, such as health, education, skills development and social protection, are the responsibility of the provinces. Likewise factors impeding the “costs of doing business”, such as basic law and order, infrastructure, land titling, facilitations in project development, availability of workers etc. are in the purview of Provincial governments.

This Growth Strategy will enable the private sector to lead Punjab’s growth. Further, it aims to enhance the productivity of scarce resources by upgrading infrastructure, introducing modern techniques and streamlining regulations that reduce productivity. The Strategy also seeks to efficiently utilize sources of growth such as Punjab’s rapidly growing urban centers and its youth bulge, and develop the energy, agriculture and manufacturing sectors. Achieving complete social sector coverage via provision of quality education, healthcare and social protection for the poor and vulnerable is another pillar of our strategy.

The Punjab Growth Strategy is the result of collaboration between many agencies and Departments of the Government which have worked along with the Planning & Development Department to guide Punjab’s reforms and public investment agenda till 2018. The Government also sought the assistance of an expert group of economists and sector specialists to help develop this Strategy.

I would like to thank this expert group for helping the Government focus on critical issues that require resolution, the staff at various Government Departments and agencies for providing detailed input, and the staff at Planning & Development for helping create this document.

Muhammad Irfan Elahi
Chairman, Planning & Development Board
Government of Punjab



EXECUTIVE SUMMARY

Executive Summary

1. Punjab's Vision for inclusive growth

The Provincial Government envisions Punjab as a secure, economically vibrant, industrialized and knowledge-based province, which is prosperous and where every citizen can expect to lead a fulfilling life.

Punjab Growth Strategy aims to overcome the key challenges to realizing this vision. These challenges include: an underutilized manufacturing capacity and stagnant exports; low productivity of physical and human capital; unemployment, under-employment and skills shortages; slow progress on achieving the Millennium Development Goals (MDGs); and a difficult security situation.

2. Objectives of Punjab Growth Strategy and Drivers of Growth

The Punjab Government has outlined the following objectives to help achieve its vision:

1. Achieving 8% economic growth (real GRP growth rate) in Punjab by 2018
2. Increasing annual private sector investment in Punjab to USD 17.5 billion by 2018
3. Creating 1 million quality jobs every year in Punjab
4. Training 2 million skills graduates in Punjab by 2018
5. Increasing Punjab's exports by 15% every year till 2018
6. Achieving all Millennium Development Goals and targeted Sustainable Development Goals in Punjab by 2018
7. Narrowing security gap with regional neighbours such as India and Bangladesh by reducing crime and improving law and order in Punjab

The key drivers that will play a critical role in transforming Punjab and help us achieve the above objectives are:

- **Catalyzing Punjab's GDP growth** based on increasing the productivity of scarce resources via improving the investment climate (by upgrading infrastructure and addressing energy shortage), institutional and governance reforms and tapping into new sources of growth such as better functioning cities and urban clusters.
- **Private Sector-led economic growth** that will require a revival of investment by the private sector.
- **Employment-intensive economic growth** that will require a focus on employment generation by revival of employment-intensive sectors and creation of quality jobs by addressing critical gaps in human capital.
- **Export buoyancy** to be driven by a focus on export-oriented economic growth.

- **Complete social sector coverage** to be embedded in quality provision of education, healthcare and social protection for the poor and vulnerable.
- **Effective security** through improved governance and law & order.

The Growth Strategy's objectives will be realized by focusing on key sectors that include: industrial development, cities and urban development, agriculture, livestock, skills, education, demography and population planning, and health.

Punjab's development priorities are fully aligned with those of the Federal Government, and the Punjab Growth Strategy 2018 and the Federal Government's Vision 2025 are an outcome of the same strategic thinking. Working with the Federal Government is essential for Punjab to achieve its objectives. Further, Punjab's Growth Strategy is underpinned by Punjab's Medium Term Development Framework (MTDF) 2018.

3. Accelerating Economic Growth

3.1. Manufacturing and Industrial Development

Manufacturing and Industrial Development: Industry is proven driver of economic growth. Within industry, the Growth Strategy emphasizes manufacturing and outlines the way forward: improving industrial estates by providing critical infrastructure (energy, effluent treatment), creating clear property rights and improving one-window facilitation; and reducing the cost of doing business particularly in industrial clusters by improving the provincial regulatory framework. The Government will work with the Federal Government to overcome the critical shortage of electricity, improve unfavorable trade policy hampering exports, improve restrictive international market access and enhance product quality and safety standards.

Research shows that the readymade garments sector has significant potential for further growth and employment generation due to its labor-intensive nature, low demand of energy and high value addition. To realize the full potential of this sector, infrastructure (including industrial estates), garments sector-specific skills, trade policy and market access will have to be strengthened. An effective manufacturing strategy will be fully coordinated with the Government's skills development strategy in order to exploit synergies and complementarities.

Summary Figure 1. Jobs created and price fetched by one bale of cotton as it moves up value chain

Product	Jobs	Value in US \$
Raw Cotton		119
Cotton Yarn	1.44	253
Towels		434
Cotton Fabric (Grey)		579
Finished Fabric	1.44	603
Garments	5.76	1481

Source: Ijaz Nabi and Naved Hamid (2013), “Garments as a driver of economic growth: Insights from Pakistan case studies”, International Growth Centre.

3.2. Skills and Job Creation: Punjab’s Skills Strategy

The Government recognizes that human capital enhancement is a critical path to “quality employment” for citizens, and skills training is an important tool for this. Our Skills Strategy is based on the following features: a) ensuring adequate supply of demand-relevant, good quality skills training opportunities; b) implementing and mainstreaming measures that lower the cost of accessing these skills training opportunities and c) maximizing the return to skills training opportunities through complementary interventions that strengthen linkages of trainees with jobs and markets. The Strategy sets itself the target of training 2 million workers by 2018 and to achieve the challenge of improving the economic and non-economic returns to skills training.

The Skills Strategy represents a radical break from the past and proposes a ‘new model’ of skills training that builds on recent innovations in Punjab. Its main features include the following: a) developing a ‘market’ for skills training to ensure a supply of skills; b) developing best-practice curriculum and teaching and learning resources, through ‘knowledge partnerships’ with private sector; c) providing incentives to the private sector to engage in supply of skills training; d) creating a link between skills provisions and the need of priority sectors and high employability-high growth clusters and value-chains; e) institutionalizing mechanisms to elicit demand for skills; f) restructuring public sector institutions to substantially increase their efficiency; g) reducing the cost of accessing training opportunities for both men and women; and h) strengthening job and market linkages by introducing integrated programs. See Figure below.

Summary Figure 2. A New Model for Skills Training in Punjab



3.3. Enabling Cities to become engines of growth

Cities and towns have an important role in making Punjab competitive for investment and development by benefitting from a skilled labor force. Urban areas create jobs and attract investment that helps economic growth. Punjab is facing an urban transition, with cities facing a number of chronic problems which hold back their ability to reach potential. The Growth Strategy proposes a range of areas to improve the economic vibrancy and livability of cities and towns, which the Government aims to implement. The Government shall endeavor to increase private sector investment in urban areas, and help reduce the chronic shortage of housing, infrastructure and public services.

Reforms and interventions: These proposed interventions include: building a modern system of land records, especially in urban areas, to improve the functioning of land markets; reforms to increase density such as creating a framework for multiple ownership premises, amending building control regulations and promoting mixed land use; conducting regional planning centered around cities to develop critical regions of economic growth; and institutional realignment and capacity building of civic agencies to provide equitable and improved infrastructure and services vital for attracting private sector investment.

Priority areas of public investment: The Government will also invest in infrastructure to provide basic services which are lacking in urban centers. Priority areas include: providing adequate public transport via well-connected network of mass transit such as MetroBus as well as conventional buses to improve the mobility of people. An endeavor shall be to make the

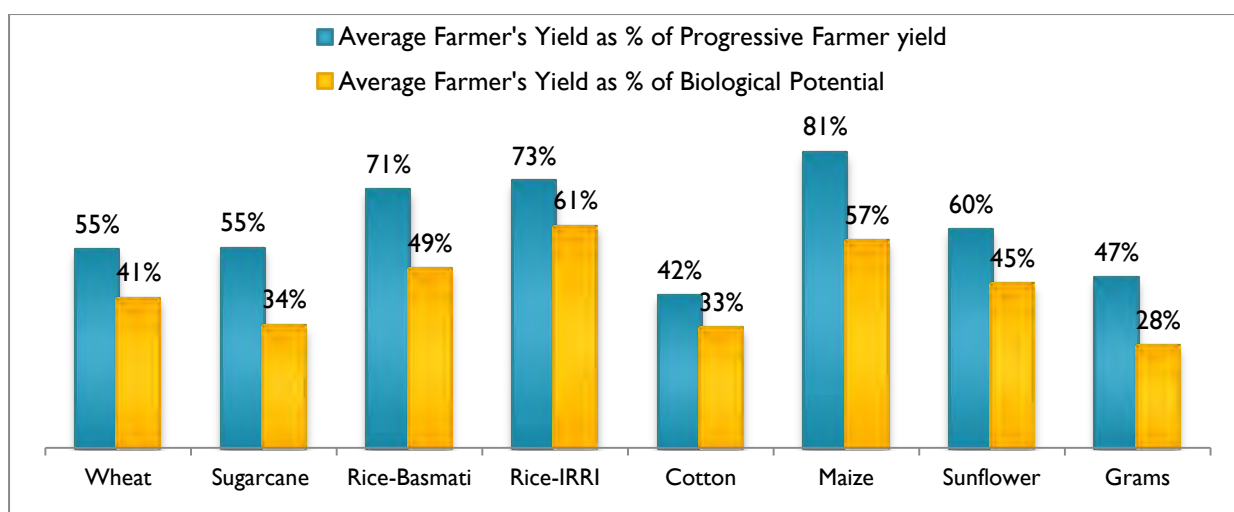
transport convenient for the poor; provide clean drinking water and sanitation / solid waste management service and to improve public health in urban areas.

Enhancing the resource envelope to finance urban development: Improvement in urban areas will be difficult to achieve without increasing the available resources. International experience has shown that Urban Immovable property tax is a critical source of self-generated revenue for urban development, whereas it is an under-utilized resource in Punjab. The Government aims to improve the administration and coverage of this tax and rationalize its application in a fair, equitable and efficient manner using modern tools.

3.4. Improving Productivity in Agriculture and Livestock

Agriculture sector: Agriculture is central to economic growth and development in Punjab. Its contribution to national agricultural economy is overwhelming. Growth in agriculture sector improves the incomes of poor household groups substantially, as it is the most pro-poor sector in terms of growth¹. Future increase in Punjab’s agricultural output will come from increasing crop productivity. See Summary Figure 3 below to see the potential gains from improving crop productivity.

Summary Figure 3. Yields for Average farmers in Punjab as compared to Progressive farmers and biological potential



Note: Progressive Farmer Yield for Grams is for Irrigated. Rice (Basmati and IRRI) yields are for Paddy.

Source: Agriculture Department, Government of Punjab

Agricultural productivity will be increased via:

- substantial improvements in the quality of agriculture research;

¹ According to a World Bank study of 42 countries from 1981 to 2003, “GDP growth originating in agriculture benefits the poorest half of the population substantially more,” compared to the more well-off population.

- improving agriculture extension and education;
- better on-farm water management;
- improving the quality, availability and use of agriculture inputs such as seeds, fertilizers, pesticides, machinery and credit.

The Government will also seek to focus on the following:

- creating better value chains by creating and preserving value at the farm level and improving connectivity of farms with markets;
- promoting high-value agriculture;
- better use of energy for agriculture;
- improving land resources and environment, by tackling water logging and improving soil quality, and mitigating the impact of climate change;
- increasing the area under cultivation;
- implementing critical regulatory and institutional changes to improve the business climate in agriculture and facilitate the private sector to establish agriculture markets.

Livestock sector: The Livestock Sector has been performing well below its potential. Research has shown that overcoming the weaknesses of this sector can reduce income variability and provide better employment for women. The Government will create a policy environment that helps farmers by smartly deploying public investments in core public goods and inducing private capital in the sector.

To improve service delivery under this sector, the Government will seek to do the following:

- increasing per animal productivity, via a number of measures including genetic improvement, cross breeding and compliance to international standards;
- increasing the coverage and results of extension services
- improving animal husbandry;
- improving regulation in livestock sector and the functioning of livestock markets, and focus on transformation of livestock business from subsistence to commercial ventures;
- developing and implementing a Livestock Export Strategy
- providing nutritious food and improving the quality of semen;
- bringing livestock farmers into formal sector through collective services
- adoption of modern techniques such as e-monitoring while encouraging farmers to use modern technology;
- adoption of revolving fund measures to decrease reliance on the ‘gawala’ system.

4. Achieving Social Outcomes and Improving Human Capital

4.1. Education to enhance human capital

A better educated workforce results in adoption of more efficient production technologies and improved labor productivity. Education is a means for economic mobility, especially for the poor and a necessity for Pakistan which has a large young population. The Government will focus on demand-side interventions to increase the demand for education amongst the poor and vulnerable groups.

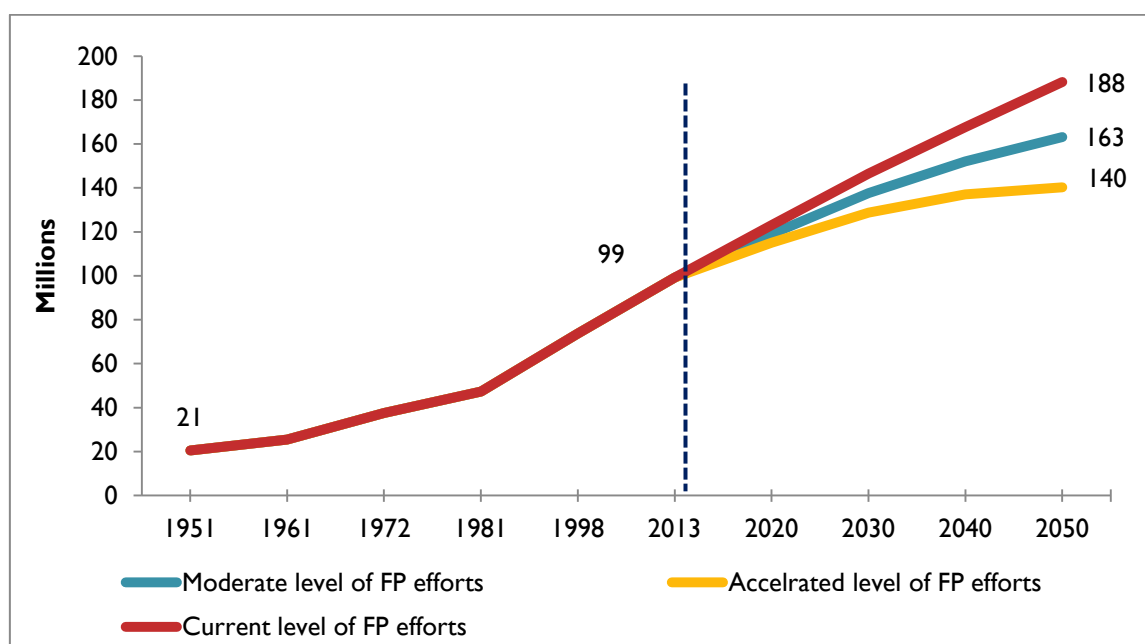
The resource utilization of existing schools will be enhanced by increasing the supply of educational inputs. Further measures will include utilizing cash transfer programs to enhance enrolment; enhancing public-private partnerships to improve the quality of education; and regulation and monitoring of school performance. To improve the quality of learning, the Government will empower the District Education Authorities as per the Punjab Local Government Act 2013.

It is also critical to ensure that students remain in school beyond primary level, because the economic benefits of education are positively related to the number of years of schooling. Similarly, a large number of secondary school graduates often do not enroll in tertiary education and instead they step into the labor market. These students may be trained in work-related skills, and the schools may also provide them with the options to undergo vocational training.

4.2. Demography and Population Planning

Punjab's population has increased five times in the last 60 years, and is estimated to be close to 100 million today. A majority of Punjab's population is under the age of thirty. Experts contend that there is an opportunity for economic growth by reducing the fertility rate and consequently the population growth rate. Future fertility levels, contingent upon family planning efforts, will determine whether the population of Punjab will rise to 140 million or 188 million by 2050, as shown in Summary Figure 4 below. Investing in a rapid fertility decline through a strong family planning programme could make a difference of 48 million more people in Punjab by 2050.

Summary Figure 4. Population projections for Punjab till 2050, based on Family Planning efforts



FP: Family Planning. Source: Population Council

To achieve this objective, the Government will aim to: increase resource allocation for an accelerated fertility decline by strengthening the Population Welfare Program; ensure contraceptive procurement and availability; undertake capacity building of the Population Welfare Department while expanding the coverage of the department to uncovered areas.

The Government will also seek to improve the performance of the Lady Health Worker (LHW) program by improving their incentives, monitoring their activities and providing them with adequate supply of inputs. To meet the growing need for family planning and for tackling inequality within the province, engagement of Population Welfare mobile units, community volunteers and subcontractors will also be considered.

4.3. Focusing on Preventive Health

Investment in health leads to economic growth, because a healthier workforce requires less time off and is related to lower population growth. The Government seeks to prioritize preventive healthcare relative to curative healthcare, given the significant gains possible from improving the preventive health system. The Government also seeks to do the following: ensuring uninterrupted supply of essential medicines at all public health facilities; creating an extension program of basic drug information targeting vendors/pharmacists for infectious diseases, hygiene and family planning; creating a system for the diagnosis of major infectious diseases at primary health facilities; seeking improvements in the management of health system and outsourcing some parts to the private sector; linking health provision with social protection programs to provide protection to poor households against large expenditures on health, through health insurance tools; establishing a disease surveillance system using modern

technology; and, increasing investment for improving water, sanitation and hygiene services, especially in rural areas where open defecation and absent sewerage systems are a major problem.

The Government will dedicate significant resources to reducing infant and maternal mortality and Maternal Neonatal and Child Health interventions.



CHAPTER I: INTRODUCTION AND OBJECTIVES

Chapter I: Introduction and Objectives

I. Punjab's Vision for inclusive growth

The Punjab Growth Strategy 2018 is based upon Punjab's vision of inclusive growth that sees the province as **secure, economically vibrant, industrialized** and **knowledge-based** province, which is **prosperous** and where every citizen can expect to lead a fulfilling life.

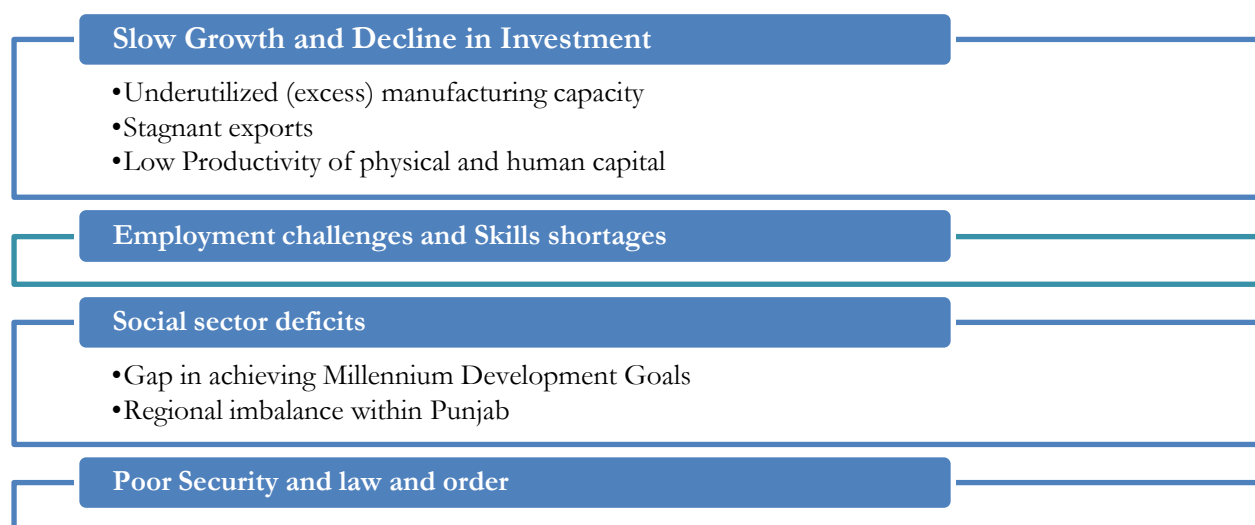
We envision Punjab as a secure, economically vibrant, industrialized and knowledge-based province, which is prosperous and where every citizen can expect to lead a fulfilling life.

2. Challenges to Growth

The Growth Strategy is designed to target the key challenges that are slowing down growth in Punjab. These challenges include an:

- Under-utilized manufacturing capacity, stagnant exports and low productivity of physical and human capital that have **kept GDP growth and investment low**.
- **Slow employment generation, under-employment and skills shortages** that make it harder to provide quality jobs to nearly 1 million people entering the workforce every year in Punjab.
- **Slow progress on achieving Millennium Development Goals (MDGs)** that has a substantial impact on national-level indicators as the province accounts for around 60% of Pakistan's population - even though Punjab's progress is better than the national average on several key social indicators.
- Underpinning all these challenges is the **difficult security situation**, especially when compared to regional neighbours such as India and Bangladesh. This strongly impacts the investment climate and slows economic growth across all sectors.

Figure 1. Key challenges to achieving high growth in Punjab



3. Basic Pillars of Punjab Growth Strategy

The four pillars of the Punjab Growth Strategy are:

Higher, sustained GDP growth target to create jobs for everyone: In order to absorb the growing workforce, Punjab’s economy needs to grow at a rate of around 7.5% per annum. This growth target is similar to that proposed in the Government of Pakistan’s Vision 2025 which sets doubling of the current GDP growth rate (current real rate 3.5%) as the target.

Punjab needs to create more than 1 million jobs every year to absorb the increasing labour force. The Government aims that these jobs be of a higher quality, in order to move Pakistan higher up the productivity ladder. Such job creation will occur by catalyzing GDP growth, which in turn requires higher private sector investment, export buoyancy and a stable security environment. Further, progress in social sectors is essential to have a productive workforce needed to generate higher economic growth.

Punjab and in fact Pakistan’s biggest challenge is to create better quality jobs to absorb the rapidly growing labour force. This will also have spillovers such as a reduction in crime and improvement in security. Research in Pakistan shows that increased crime and violence are correlated with higher unemployment - a reduction in unemployment is related to a decline in property crime.²

Private sector-led growth: Punjab’s growth has to be private sector-led, employment-intensive and export-oriented while being regionally balanced and environmentally sound. A private sector-led growth strategy will ensure that the relatively modest public investment program will

² Ali Cheema, Zulfiqar Hameed and Bisma Haseeb Khan (2014), “Lack of Opportunities Make the Criminal: Crime and Labour Markets in Pakistan.” Institute of Development and Economic Alternatives, mimeo.

leverage, via public-private partnerships in a number of sectors such as the provision of infrastructure, a much larger private investment in downstream production activity (the “crowding-in effect”).

Higher productivity of scarce resources: This will not only require improving the investment climate by upgrading infrastructure and addressing energy shortages but also streamlining regulations that slow down the growth of productivity in manufacturing, agriculture and services sectors. It will also require tapping into new sources of growth in productivity, such as Punjab’s rapidly growing urban centers, its youth bulge and its strategic regional location.

Better performing social sectors and a stronger social safety net: This will require redoubling efforts to meet the MDG targets in education and primary healthcare. The Government of Punjab will also seek to work in close collaboration with the Federal Government to strengthen existing and proposed social protection mechanisms that assist the poorest segments of the society.

4. Transforming Punjab: Objectives and Drivers of Growth

For sustained job creation and improvement in living standards, the Government will tap into several drivers of growth that underpin the Growth Strategy.

The six key drivers that will play a critical role in transforming Punjab, and help us achieve the objectives set within the Growth Strategy, are:

	Drivers of growth	Objectives
1	Catalyzing Punjab’s GDP growth based on improvements in productivity of resources and better functioning urban clusters	Objective 1: Achieving 8% economic growth (real GRP growth rate) in Punjab by 2018
2	Private Sector-led economic growth that will require a revival of investment by the private sector.	Objective 2: Increasing annual private sector investment in Punjab to USD 17.5 billion by 2018
3	Employment-intensive economic growth that will require a focus on employment generation by revival of employment-intensive sectors and creation of quality jobs by addressing critical gaps in human capital.	Objective 3: Creating 1 million quality jobs every year in Punjab Objective 4: Training 2 million skills graduates in Punjab by 2018
4	Export buoyancy to be driven by a focus on export-oriented economic growth.	Objective 5: Increasing Punjab’s exports by 15% every year till 2018
5	Complete social sector coverage to be embedded in quality provision of education, healthcare and social protection for the poor and vulnerable.	Objective 6: Achieving all Millennium Development Goals and targeted Sustainable Development Goals in Punjab by 2018

Drivers of growth	Objectives
6 Effective security through improved governance and law & order.	Objective 7: Narrowing security gap with regional neighbours such as India and Bangladesh by reducing crime and improving law and order in Punjab

Pathway to achieving targets: In order to meet these targets, Punjab will have to do the following:

- overcome the energy shortage
- use its growing cities and urban centers as engines of growth
- introduce institutional and governance reforms
- improve social and employment outcomes for women
- enhance the productivity of scarce resources
- invest in human capital and skills
- focus on strengthening economic outcomes in the less developed regions of the province

5. Links with Medium Term Development Framework 2018 and Annual Development Programme

Punjab's development priorities are fully aligned with those of the Federal Government. The key provincial and national level development plans that include the Punjab Growth Strategy 2018 and the Federal Government's Vision 2025 are an outcome of the same strategic thinking. Furthermore, Punjab's Growth Strategy is underpinned by Punjab's Medium Term Development Framework (MTDF) 2018 and its Annual Development Programme (ADP) based on the MTDF 2018. As such the Punjab Growth Strategy fully reflects the commitment and priorities of the Punjab Government.

The Growth Strategy, however, goes further than the Development / Capital expenditures indicated in the MDTF and the Annual Development Programme. It identifies the critical governance and institutional measures needed for better economic and social outcomes. The Growth Strategy is, therefore, an overarching document that sets the context for budgetary allocations and for implementing the MTDF 2018 and the ADPs.

6. Implementing the Growth Strategy

The key instruments for implementing the Punjab Growth Strategy include:

- i. Public funds in the provincial Annual Development Program (ADP) and MTDF, including Donor assistance.
- ii. Provincial capacity to forge public-private partnerships to provide physical and social infrastructure.

- iii. Provincial regulatory framework that affects Punjab's investment climate and promotes productivity-led growth.
- iv. Engagement with the Federal Government to enhance the enabling environment for Punjab's growth via sound macro-economic management, conducive trade policy, adequate energy, efficient logistics and connectivity.
- v. Engagement with the Federal Government to improve the Federal revenue framework which affects Punjab's investment climate, such as tax policy and tax administration.

Working with the Federal Government is essential for Punjab to achieve its objectives. For example, Punjab alone cannot resolve its energy crisis, but it will take initiatives to complement the efforts of the Federal Government in this area. In addition, our objective of achieving higher exports will be determined by the exchange rate, the tariff structure and trade logistics - which are under the purview of the Federal government. Punjab on its part will undertake measures to improve those aspects of the investment climate which are under the Provincial mandate so that export performance improves.

7. Structure of this Document

Each of the following chapters addresses the growth potential and constraints in one particular sector, and identifies the various steps the Government is planning to take within that sector to achieve the desired outcomes. The following sectors are covered in the subsequent chapters of this Growth Strategy:

A. Accelerating Economic growth

- 1. Manufacturing and Industrial Development
- 2. Resolving Electricity shortage
- 3. Skills, Human Capital and Job Creation: Punjab's Skills Strategy
- 4. Enabling Cities to be engines of growth
- 5. Improving Agricultural Productivity and Market Access
- 6. Focusing on Livestock and Dairy

B. Achieving Social Outcomes

- 1. Education to enhance Human Capital
- 2. Demography and Population Planning
- 3. Focusing on Preventive Health



CHAPTER 2: PROMOTING MANUFACTURING AND INDUSTRIAL DEVELOPMENT

Chapter 2: Promoting Manufacturing and Industrial Development³

I. Introduction and Context: the Importance of Industry in Punjab

There is growing recognition of the fact that the role of the Government is not to develop industries but rather to support private sector-led industrial development. For this the Government will work with the private sector and identify the key drivers for industrial development as well as major constraints faced by it.

Benefits of Industries for economic growth: The industrial sector has the potential to be the driving force in achieving the target growth rates for income, employment and investment. This sector produces exports to help the balance of payments crisis and generates demand for a range of skills, thus creating jobs. Pakistan, including Punjab, can compete internationally in some key sectors of manufacturing that are not only export-oriented but also employment-intensive such as readymade garments. Further, rising urbanization and rural-urban migration in Punjab enhances the potential of the manufacturing industry in boosting growth, because it can benefit from “agglomeration economies” that are derived from the clustering of population and services in urban centers. However, the manufacturing sector has yet to tap into this potential advantage and has remained constrained by the poor business environment, low skilled labour and inability to diversify production and move up the value chain.⁴

The importance of industry in Punjab: The industrial sector of Punjab employs around 23% of the province’s labour force and contributes 24% to the provincial GDP. Punjab has more than 48,000 industrial units with several large industrial concentrations (textiles, leather and light engineering goods). Almost 90% of private enterprises are small and medium in size, which employ 78% of the non-agricultural workforce in Punjab.⁵ On the whole, the province has around 39,000 small and cottage size industrial units.⁶

Past performance of industrial sector in Punjab: Over the last twenty years structural change in the province has been from agriculture to services with a modest increase in the share of

³ The Government of Punjab acknowledges the input provided by Nazish Afraz (Lahore University of Management Sciences (LUMS)), Dr. Syed Turab Hussain (LUMS) and Dr. Azam Amjad Chaudhary (Lahore School of Economics (LSE)) for this chapter.

⁴ Ernesto Sánchez-Triana, Dan Biller, Ijaz Nabi, Leonard Ortolano, Ghazal Dezfuli, Javaid Afzal and Santiago Enriquez (2014), “Revitalizing Industrial Growth in Pakistan: Trade, Infrastructure and Environmental Performance”, World Bank. Available at: <<http://hdl.handle.net/10986/19022>>

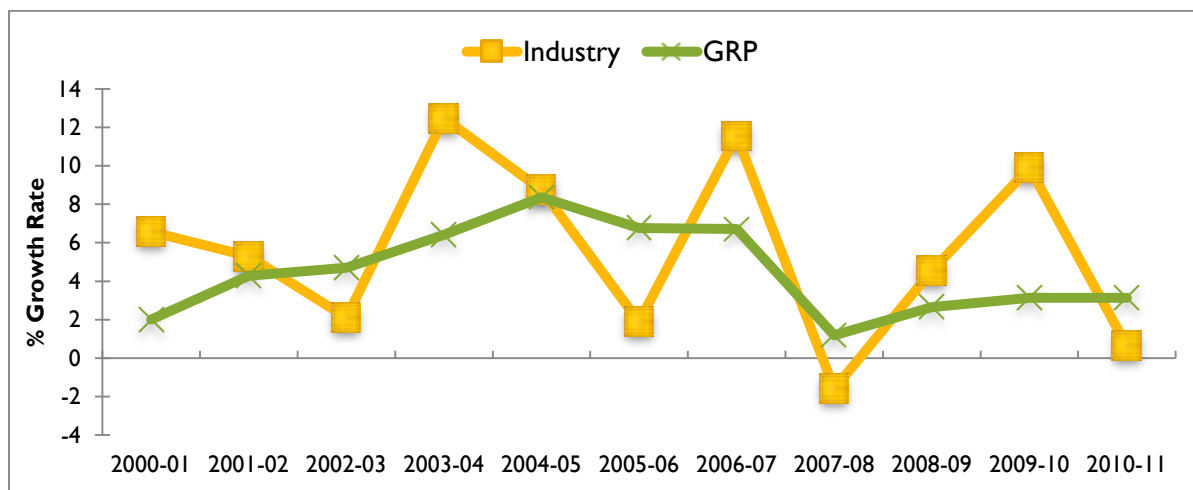
⁵ Punjab Bureau of Statistics

⁶ Available at: <www.smeda.org/index.php?option=com_content&view=article&id=69&Itemid=174>

industries and manufacturing.⁷ During the last 10 years average growth in the manufacturing sector has been around 5% per year. However, since 2006-07, industrial performance has seen a decline, contributing poorly to provincial GDP.

The average annual growth rates of industry and aggregate Punjab GRP are shown in Figure 2 below. The real growth rate of the industrial sector fluctuates heavily in the decade of 2001 to 2011, delivering high but variable growth across time. Thus, the potential for growth does exist but it has not been sustained in the last decade or so.

Figure 2. Real growth rate of Industrial sector and GRP in Punjab over 2000-2011



Source: Institute of Public Policy, Beaconhouse National University (2012). “The State of the Economy: The Punjab Story”

Within industry, there appears to be an overall decline in **manufacturing sector** growth rate, with much more fluctuation in the growth rates of **large scale manufacturing**. **Small scale manufacturing** has remained much more resilient to changes in the overall economic environment.

According to the World Bank, “value-added in industry (as a share of GDP) in Pakistan is lower than that in comparator countries; it is 27% since 2003, while India has had higher industrial value added since the 1980s and even low-income countries have recently overtaken Pakistan.”⁸

At the same time, a young and largely low-skilled unemployed labour force has also been rising. Therefore, in order to achieve the objectives of increased income and employment, it is imperative to address both the current and the more chronic structural issues facing the

⁷ Services is the leading sector contributing almost 56% to the provincial output. In the last 20 years the share of Agriculture has decreased from 31% to 20% while manufacturing sector contribution has only increased from 20% to 24%. Sources: Economic Survey of Pakistan, various years.

⁸ Dan Biller and Ernesto Sanchez-Triana (2013), “Revitalizing Manufacturing”, Pakistan Policy Note No.5, World Bank. Available at: <http://documents.worldbank.org/curated/en/2013/06/18015005/revitalizing-manufacturing>

industrial sector. These would include improving skills and the commercial environment and focusing on infrastructure investments along with addressing severe energy shortages.

2. Vision for Industrial Development in Punjab

The Government seeks to promote industry and investment in Punjab in order to generate employment, increase per capita income and ensure sustainable growth. This is to be achieved through policies and regulations which facilitate private sector investment, increase productivity of firms and lead to the development of internationally-competitive, export-oriented industrial clusters.

3. Key constraints faced by Industry in Punjab

There are a number of constraints to industrial growth in Punjab which will need to be effectively addressed to achieve growth targets. The low and unpredictable availability of electricity and natural gas to the industrial sector has made production more expensive and harder to plan. Other problems include: macro-economic and political instability which impacts domestic and foreign investment; limited availability of appropriately skilled labour and finance; and security challenges such as crime and violence. According to the World Bank's Doing Business Report 2014, Pakistan is ranked 110 out of 189 economies and does particularly poorly on the following indicators: getting electricity (ranked 175), paying taxes (ranked 166), enforcing contracts (ranked 158) and registering property (ranked 125). Also, on both starting a business (ranked 105) and dealing with construction permits (ranked 109), Pakistan's ranking has deteriorated. Other constraints mentioned by businesses in qualitative research on this topic are the following: difficult access to international markets; low levels of standardization and quality assurance; and corruption.

Electricity and skills: A pilot study done in Lahore in 2012⁹ surveyed 101 firms and found electricity to be the most severe constraint in doing business, followed by macro-economic and political instability, and an inadequately trained workforce. The effect of electricity shortage on productivity is most acute in Punjab. Inadequacy of worker skills is also a major impediment as identified by the textile and garments sector affecting both SMEs and large firms.

Falling investment in manufacturing: An important barometer of the health of the manufacturing sector is the share of manufacturing investment in total fixed investment. This has been falling since 2000 for large firms¹⁰, indicating the effect of all these constraints.

⁹ Syed Turab Hussain, Kashif Zaheer Malik, Usman Khan, Adeel Faheem (2010), "The Constraints to Industry in Punjab, Pakistan", IGC Working Paper. Available at: <http://www.theigc.org/project/constraints-faced-by-industry-in-punjab>.

¹⁰ Source: Pakistan Economic Survey (various years).

4. Removing these barriers to growth

Provincial and Federal roles in removing these barriers: Earlier research has also recommended policy options for these constraints. Many of these are Federal issues with Federal solutions, but there are also a number of measures that the Provincial Government can undertake, particularly under the newly defined roles under the 18th Constitutional Amendment. The policy actions pertaining to the **Punjab Department of Industries, Commerce and Investment and its attached organizations** are to the extent that the **Department can play an advocacy and coordination role** between the private sector and the Government.

The Punjab Government has planned several initiatives to promote the industrial sector. These include new individual and cluster-based lending programs for small and cottage industries, skilled/semi-skilled unemployed youth, technically trained individuals and graduates. The development of industrial clusters and economic zones are important to ensure better provision of infrastructure and public goods, and to provide connectivity and access to markets. In this regard, plans include further support for the Punjab Industrial Estates Development and Management Company (PIEDMC) and the Faisalabad Industrial Estates Development and Management Company (FIEDMC) for developing new industrial estates and improving facilities at existing estates.

5. Special focus on garments industry

A special set of measures are planned for the promotion of the readymade garments industry. The readymade garments industry is particularly appropriate for Pakistan's set of endowments. Pakistan is among the top five producers of cotton in the world, accounting for almost 10% of total world output of cotton. Putting this to its advantage, the country has followed a proactive strategy of textiles-led industrialization. Textile manufacturing provides 54% of national exports, 46% of manufacturing value-added, 38% of industrial employment and almost 9% of national GDP.

Within the textiles sector, garments are a significant and growing component. The value of garments exports has nearly quadrupled from USD 1.0 billion in 1990 to USD 3.7 billion in FY 2012. Denim exports alone have grown at a rate of 27% per annum. Garments manufacturing is highly labour intensive and least capital intensive, hence having great potential for creating jobs. One estimate shows that 50,000 pounds of cotton fiber creates 400 jobs in spinning, weaving and finishing stages each, and another 1,600 jobs in garments manufacturing. (Also see Table 1 below.

Table 1. Jobs created and price fetched by one bale of cotton as it moves up value chain

Product	Jobs	Value in US \$
Raw Cotton		119
Cotton Yarn	1.44	253
Towels		434
Cotton Fabric (Grey)		579
Finished Fabric	1.44	603
Garments	5.76	1481

Source: Ijaz Nabi and Naved Hamid (2013), “Garments as a driver of economic growth: Insights from Pakistan case studies”, International Growth Centre.

There is strong potential in the global markets for Pakistan to play an enhanced role as a garments supplier. New demand opportunities have opened up since Pakistan was accorded the GSP+ status at the beginning of this year. After the attainment of GSP+ status¹¹ for the European Union market, the textile made-ups sector will require an investment of USD 100 million in working capital, machinery, land and building per year to avail this opportunity. Public support is therefore essential to make this a success. The Government’s effort to promote garments and apparels has been borne out of policy research and extensive stakeholder engagement, and is a good example of research-based policy making.¹²

Quaid-e-Azam Apparel Park, a garment manufacturing cluster: The Government is creating a garment manufacturing cluster (Quaid-e-Azam Apparel Park) in Sheikhpura. This has been borne out of research and extensive stakeholder engagement focusing on existing manufacturers in the sector, and aims to provide investors with land and infrastructure, including dedicated power plants, effluent treatment and a bonded warehouse. The Apparel Park industrial estate is expected to be colonized by local and foreign garments manufacturers. A Garments Centre of Excellence will also be set up within the estate to provide skills training to labour.

¹¹ In December 2013, the European Union (EU) granted Generalised System of Preferences (GSP) Plus status to Pakistan with an impressive count of 406 votes, granting Pakistani products a duty free access to the European market. The GSP Plus status will allow almost 20% of Pakistani exports to enter the EU market at zero tariff and 70% at preferential rates. EU trade concessions will benefit the country’s largest manufacturer and exporter, the textile and clothing industry, the most by enabling its products to compete with those of regional rivals like Bangladesh and Sri Lanka, which already have duty free access to the bloc’s market.

¹² Naved Hamid, Ijaz Nabi and Rafia Zafar (2014) “The Textiles and Garments Sector: Moving Up the Value Chain”, Lahore Journal of Economics 19: September 2014. Available at: <http://121.52.153.179/JOURNAL/Volume%2019,%20SE/contentsvol-19-se.htm>

Apart from garments, it is planned that other important export-oriented industries such as sports goods, surgical goods and other light engineering industry will also be provided the kind of infrastructure and services that would be available inside industrial parks.

6. Institutional Improvement

The Punjab Growth Strategy explicitly recognises that the role of the Government is to support private sector-led industrial development. The role for the Department of Industries, Commerce and Investment and its attached organizations in achieving growth will then be comprised of the following:

1. Formation of an industrial policy that gives strategic direction and coordinates the efforts of various arms of Government.
2. Data and information on constraints faced by businesses, liaison between industry and Government agencies in order to address these constraints and assess industry requirements, as well as the provision of a licensing role.
3. Provision of infrastructure, land and key services via industrial estates and special economic zones.
4. Assessing skills requirements, and enabling and providing skills training to labour.
5. Investment Promotion.
6. Helping enforce quality standards.

6.1. Interface between industry and government departments

An important function in the interface between industry and government departments is to understand industry's needs and communicate them to the relevant planners. For example, interfacing with the private sector to identify requirements for quantity / location of industrial land and captive power plants and in turn communicating the needs to relevant public entities. The Department is already engaged in compiling a directory and undertaking surveys of industrial units. This role will be extended to be a more substantial function.

Another function is to lobby for technical and regulatory support to assist firms in tapping into export markets and keeping local industry viable in the face of opening trade. This includes improvements in quality and certification labs in order to meet global technical standards (e.g. energy efficiency, Sanitary and Phytosanitary standards). In addition, effluent management, the use of greener technology, and meeting labour standards are not only important in order to export, but also important for the protection of human rights and the environment. These are cross-departmental issues that require the building of awareness both at the industry and at the governmental level.

6.2. Data gathering

The Department currently undertakes data collection through the manufacturing census and surveys of industrial units. The data collection exercise will be made both more extensive and more frequent.

7. Policy Reforms to promote Industrial Development

7.1. Developing the Punjab Industrial Zoning and Industrial Land Use Plan

The Government will be conducting a comprehensive census of existing industries (going beyond the mandate of the CMI) and mapping the collected data, as well as existing infrastructure and current industrial clusters to create a picture of industrial land use. This will be used to prepare classification / reclassification maps and to finalize the Punjab Industrial Zoning and Industrial Land Use Plan. It is expected that future land acquisition by the Government will follow this Plan.

7.2. Development and enforcement of standards

Industries across the spectrum chronically suffer from poor enforcement of quality standards. It is difficult to export Pakistan's products with weak control mechanisms and standards, as international firms seek certifications from laboratories outside Pakistan to meet international requirements for export orders.

Setting quality standards and developing testing laboratories is expensive which may be best coordinated nationally at the Federal level. However, enforcing standards and ensuring quality of manufactured products – whether domestically produced or imported - is an important role for the provincial government to perform, and the Government will seek to enhance its capacity to perform this role. It will conduct a review of global best practices in developing and enforcing standards, and the identification of gaps and recommendations for Punjab, including what kind of incentive structures should be put in place to prevent this becoming an additional source of red-tape and corruption. At the moment, the Department of Industries is only overseeing the monitoring of boilers, and has low capacity for that purpose.

7.3. Improving the Functioning of Industrial Estates

The industrial estates run by PIEDMC and FIEDMC can become “model areas” where the binding constraints to industry are simultaneously resolved e.g. by the provision of dedicated energy, combined effluent treatment, bonded warehouse schemes and one window facilitations.

One window facilitation in PIEDMC and FIEDMC will be expanded to cover all interactions with Government bodies (registration, utilities, permissions). Within the industrial estates, the cost of doing business will follow at least national best practice, if not better.

While **Combined Effluent Treatment Plants (CETPS)** have been planned for all operational industrial estates, there have been insufficient funds to construct and run these plants. There is a need for government support in the construction of the CETPs.

Industrial estates will be given more autonomy. The Government is considering that PIEDMC/FIEDMC be authorized to implement construction bylaws as per international standards, to allocate/transfer plots without the involvement of Revenue Department, and be exempt from the purview of TMAs for construction permits, land conversion, etc.

8. Initiatives to be taken by Punjab Board of Investment and Trade (PBIT)

Priority areas for PBIT include:

- Promotion of identified sectors, through
 - hosting roundtables, business fairs and joint expos with various global partners
 - tapping into investment from Overseas Pakistanis via specialized funds such as Information Technology, automobile vending industry, medical equipment, services, hospitality and tourism
- Advisory services
 - Providing trade and investment advisory services to foreign and domestic clients
 - Developing an SME facilitation desk in collaboration with SMEDA
- Coordinating Punjab's effort in Federal Special Economic Zones
 - identifying areas to be earmarked as Special Economic Zones (SEZ) in Punjab
- GSP+ Status
 - Lobbying for the continuity of the GSP+ status of Pakistan
- Punjab Investment Policy
 - Developing the Punjab Investment Policy in collaboration with multilateral partners. This policy will focus on the following:
 - Simplifying investment procedures for entry, protection and incentives.
 - Removing barriers to FDI entry.
 - Reviewing legal and regulatory framework for investor protection.
- Facilitating of investors
 - strengthening one window facilitation services to cover all interactions with government bodies (registrations, utilities, permissions)
 - Institutionalizing direct access to the commercial sections of Pakistani Missions in important countries including China, India, CIS, GCC, USA, Malaysia, UK and Turkey.

9. Initiatives to be taken by PIEDMC and FIEDMC

Priority activities by **Punjab Industrial Estates Development and Management Company (PIEDMC)** include:

- Completion of ongoing development of industrial estates at Rahim Yar Khan, Bhalwal, Vehari.
- Planning and development of proposed industrial estates at Chunian, Gujrat, Rawalpindi and Jhang and Special Economic Zone at Pind Dadan Khan; as well as the Quaid-e-Azam Apparel Park.
- Improving utilization of operating industrial estates through full colonization, thereby fulfilling the economic potential from already developed sites. These include industrial estates in Sundar (near Lahore), Multan (2 estates) and Quaid-e-Azam Industrial Estate in Lahore.

Priority activities by **Faisalabad Industrial Estates Development and Management Company (FIEDMC)** include:

- Completion of infrastructure development at M-3 (Motorway 3) Industrial City, Faisalabad
- Development of Faisalabad RUYI Textile Park (Foreign Direct Investment of USD 1.0 billion)
- Development of Vendor Industry (Foreign Direct Investment of US\$ 1.0 billion) with RUYI
- Development of Weaving City
- Development of Combined Effluent Treatment Plant (CETP) at the Industrial Estates
- Development of Furniture City in collaboration with Furniture Pakistan
- Development of Pakistan's first dedicated Halal Industrial Park

10. Punjab Industries Sector Plan

To implement the Punjab Growth Strategy, the relevant Departments and agencies of the Government have developed an Industries Sector Plan 2018 to guide their investment and reform efforts in this sector. This Sector Plan lists specific projects that the Department and its attached organizations will implement to achieve its goals. It provides detailed descriptions of the strategies summarized above, along with timelines and allocations for implementing the measures prescribed in the Growth Strategy. Additional details about the Government's plans in this sector are available in this document.



CHAPTER 3: RESOLVING ELECTRICITY SHORTAGE

Chapter 3: Resolving Electricity shortage

1. Electricity shortage is impeding economic growth

A large impediment to the growth of Punjab's economy is the unprecedented level of electricity and gas shortages in the province. One study estimates that the loss in value of Punjab's industrial production due to electricity shortage ranged between 267 billion to 400 billion in 2011.¹³ The full cost of electricity shortage to Punjab in that year was estimated at Rs. 900 billion, which was equal to about 8.5% of Punjab's GRP.¹⁴ This number was estimated to be about Rs. 250 billion in 2010, equivalent to about 3% of Punjab's GRP.¹⁵ This meant a very high number of job losses and lost export earnings. Over the last four years, Punjab's economic growth rate was at least two percentage points lower every year than what it would be in the absence of electricity shortage.

There is significant excess capacity in the industrial sector in Punjab. If efforts are made to remove supply-side constraints in electricity, especially by enhancing its availability, then in the presence of this excess capacity the industrial sector can revive quickly and act as a leading driver of economic growth.

2. Magnitude of electricity shortage in Punjab:

Table 2 below shows the magnitude of electricity shortage in Punjab's distribution companies, and also provides a comparison to other provinces. It shows that Punjab has a relatively lower supply of electricity for its use compared to other provinces. This is a critical concern that is hampering the province's economic growth.

Table 2. Incidence of Electricity Load shedding in 2012 (Hours Annual)

	Industry	Commercial	Agriculture	Domestic
Punjab	2,666	1,743	3,023	1,683
Rawalpindi	2,715	1,898	3,101	1,562
Gujranwala	2,872	1,870	3,114	1,435
Faisalabad	2,372	1,123	2,985	1,273

¹³ Rehana Siddiqui, Hafiz Hanzla Jalil, M. Nasir, Waseem Malik and M. Khalid (2011), "The Cost of Unserved Energy: Evidence from Selected Industrial Cities of Pakistan", PIDE Working Papers 2011:75. Pakistan Institute of Development Economics. Available at:

<<http://www.pide.org.pk/pdf/Working%20Paper/WorkingPaper-75.pdf>>

¹⁴ Institute of Public Policy, Beaconhouse National University (2013), "The State of the Economy: From Survival to Revival", IPP BNU Sixth Annual Report. Available at:

<<http://ippbnu.org/publications.php>>

¹⁵ Institute of Public Policy (Beaconhouse National University) and Government of Punjab (2011), "Medium Term Fiscal Framework (MTFF) 2011-12 to 2014-15". Available at:

<<http://ippbnu.org/researchreports.php>>

	Industry	Commercial	Agriculture	Domestic
Lahore	2,740	1,999	3,678	1,727
Multan	2,609	1,594	3,824	2,155
Sindh	2,200	979	3,248	1,216
Karachi	2,128	957	-	952
Hyderabad	2,004	1,095	2,030	1,787
Khyber Pakhtunkhwa	2,777	2,025	1,777	1,216
Peshawar	2,777	2,046	1,460	1,003

Source: Institute of Public Policy (BNU) and Government of Punjab (2013), “Medium Term Fiscal Framework (MTFF) 2013-14 to 2016-17.”

On the national level, the shortfall in peak-period electricity supplies increased from around 4,000 MW in 2008 to a staggering 7,000 MW in 2011. “This shortfall is essentially managed by load shedding – rotating shutdowns of supply feeders.”¹⁶

Resolving the electricity shortage alone will provide a strong boost to economic growth in Punjab. In the current scenario, energy shortfall represents a critical constraint that has to be removed to achieve higher economic growth. Therefore, meeting the energy shortfall is a top priority of the Punjab Government as well as the Federal Government.

3. Shared responsibility with the Federal Government

Punjab consumes about 62% of Pakistan’s electricity. In 2010-11, Punjab’s electricity consumption was estimated to be 47,000 GWh, while the total national consumption was about 76,000 GWh.¹⁷ Since Punjab accounts for almost two-thirds of the country’s electricity demand, it is clear that the Provincial government alone cannot mobilize resources to end the shortage of this critical economic input. Therefore, while the Punjab Government is engaged in efforts to reduce the electricity shortage through a mixture of generation and conservation measures, a much larger role will be played by the Federal Government as the primary entity facilitating this sector. Federal Government agencies have primary responsibility as well as the required capacity for power generation and reduction in losses to eliminate the current shortage.

The provinces can play a role in complementing investments in this area by the Federal Government. Punjab Government’s resources will be used to leverage private investment in

¹⁶ Rashid Aziz (2013), “Building an Efficient Energy Sector”, Pakistan Policy Note No.1, Washington DC: World Bank. Available at:

<http://documents.worldbank.org/curated/en/2013/06/18014553/building-efficient-energy-sector>

¹⁷ Institute of Public Policy (Beaconhouse National University) and Government of Punjab (2011), op. cit.

electricity generation to establish coal-based and renewable power plants, and to promote energy efficiency and conservation measures.

4. Punjab's efforts in electricity generation

Coal-based power plants: The Government is launching 2x660 MW coal power projects at Sahiwal by inviting international contracts. This will be followed by fast-paced development of coal-based power plants in various regions across Punjab, totaling almost 8,000 MW of super-critical coal-fired power plants at six selected sites. These initiatives are planned to attract foreign partners. The Government also intends to put in place 2x55 MW imported coal-based power plants each at two industrial estates (Sundar and Faisalabad) to meet the needs of manufacturing units located there. In addition, a power project based in indigenous coal have been planned in Muzaffargarh (270 MW).

Small and medium-scale Hydro-power: The Government is currently developing, under the ADB-credited Renewable Energy Development Sector Investment Program (REDSIP), four low-head hydropower projects with 20 MW aggregate installed capacity on canal falls at four locations in the province's irrigation network. Feasibility studies have also been prepared for moderate-sized bankable hydropower projects on Taunsa Barrage (120 MW) and other sites.

Solar power: The government has also embarked upon grid-based solar energy projects aiming at development of around 1,000 MW solar projects at Quaid-e-Azam (QA) Solar Park - located in the Cholistan desert region of the Bahawalpur district. In its first phase, the QA Solar Park is expected to produce 100 MW of clean electricity for the national grid by 2015 (to be financed by public resources), with the aim of scaling up to 1,000 MW through private sector investment in the Solar Park.

5. Planned effort in promoting energy efficiency and conservation

Energy can be saved in a cost-effective manner by introducing energy efficient measures in buildings and industrial processes, such as the use of efficient machines. It is cheaper to conserve electricity than to install equivalent generation capacity. Reduction of one MWh in consumption is equivalent to avoided generation of 1.3 MWh. According to the World Bank, the estimated potential for energy savings across the sectors of buildings (public and private/residential), industry, transport and agriculture sectors is about 20 to 30%.¹⁸ These savings can be achieved through “a combination of policy-based and market-driven interventions and associated financial incentive tools and capacity-building measures. This requires increased efforts...to pursue strategies to scale up demand-side energy efficiency measures, in coordination with WAPDA, DISCOs, private sector entities, service providers, local financial institutions and other stakeholders.”¹⁹

¹⁸ Rashid Aziz (2013), op. cit.

¹⁹ *ibid.*

Keeping this in mind, the Government is launching the **Punjab Energy Efficiency and Conservation Programme** that will last till 2019 with an estimated cost of Rs. 10 billion. This programme aims to achieve the following:

- **Energy Audits:** Funding energy audits of public and private sector entities to make a case for introducing energy efficiency and conservation measures.
- **Development of standards and labeling:** Supporting the development of energy use standards for selected electric appliances, starting with fans, refrigerators, lighting etc.
- **Energy efficiency of Public sector buildings:** Funding energy efficiency and conservation measures in about 50 large public sector buildings in 5 years.
- **Private sector incentives for energy efficiency:** Providing incentives to large private sector enterprises, especially industrial concerns, to implement energy efficiency and conservation measures as identified in energy audits. These include enhancing the efficiency of boilers and industrial motors (through retrofits etc.).
- **Creating a market for Energy Service / Savings Companies:** Helping support the creation of a market for enterprises to provide energy saving services, as is done in developed economies. These enterprises can handle the entire conservation chain – starting from conducting energy audits to implementing conservation measures.
- **Demand-side management (DSM):** To be done in partnership with Distribution Companies (such as LESCO, FESCO etc.), the programme will promote specific measures to better manage electricity demand, in order to minimize shortages. Some of these measures that will be piloted and then scaled-up if successful are:
 - Feeder-level power allocation scheme
 - Automated meter reading (AMR)
 - Smart meters that utilize prepaid cards
 - Franchising recovery from Distribution
 - Demand side management (DSM) for industrial consumers
- **Capacity building of public sector entities:** Providing public sector entities such as the Punjab Energy Department and distribution companies the tools to build expertise in the above-mentioned areas, so that they can be continued and expanded in the future.



CHAPTER 4: SKILLS, HUMAN CAPITAL AND JOB CREATION: PUNJAB'S SKILLS STRATEGY

Chapter 4: Skills, Human Capital and Job Creation: Punjab's Skills Strategy²⁰

I. Introduction

Better access to “quality employment” or employment with better income for the citizenry is at the heart of the Government of Punjab’s Growth Strategy 2018. The Strategy recognizes human capital enhancement as a critical path to achieve this objective. Addressing the human capital challenge through the provision of skills is critical. This is because Punjab’s youth bulge, a consequence of its demographic transition, is resulting in a surge of young adults (15-29 years of age) with poor education entering the job market. Unless effective measures are taken to build the human capital of new entrants into the labour market as well as existing participants in this market, Pakistan will be saddled with a working-age population that has low human capital for many decades.

International experience suggest that skills and vocational training programs are no silver bullet as the positive benefits are not always guaranteed and the program costs can be substantial (See World Bank 2012). The success of these programs depends on the prevalent economic growth environment as well as features of program design, including the following:

- a) adequate supply of quality training opportunities that are aligned with labour demand;
- b) providing low cost access to these opportunities
- c) maximizing the return to these opportunities through complementary interventions that improve access to jobs and markets.

The Government’s Skills Strategy is holistic and addresses each of these elements of design. It sets itself the target of training 2 million workers by 2018²¹. However, it does not restrict itself to increasing the supply of skilled labour alone; it also sets itself the challenge of improving the economic and non-economic returns to skills training.

This chapter describes the contextual challenges for the Skills Strategy and provides a framework by analyzing the challenges in the markets for skilled labour and skills training in Punjab. It lists a set of interventions that we seek to put in place to ensure that public investment in skills training produces net gains in terms of economic and non-economic outcomes. The Strategy also outlines an institutional framework for better planning and delivery of quality training and

²⁰ The Government of Punjab acknowledges the input provided by Dr. Ali Cheema (Lahore University of Management Sciences (LUMS), Institute of Development and Economic Alternatives (IDEAS), Center for Economic Research in Pakistan (CERP) and International Growth Centre (IGC)) for this chapter.

²¹ The Government of Punjab’s “Skills Development Sector Plan 2018” provides the rationale for this target.

strengthening linkages with jobs and markets. The success of the Skills Strategy is critically tied to an increase in the trend rate of economic growth through the implementation of various measures proposed in all the other chapters of the Growth Strategy.

2. Contextual Challenges: Demographic Transition, Low Quality jobs and Education Deficit

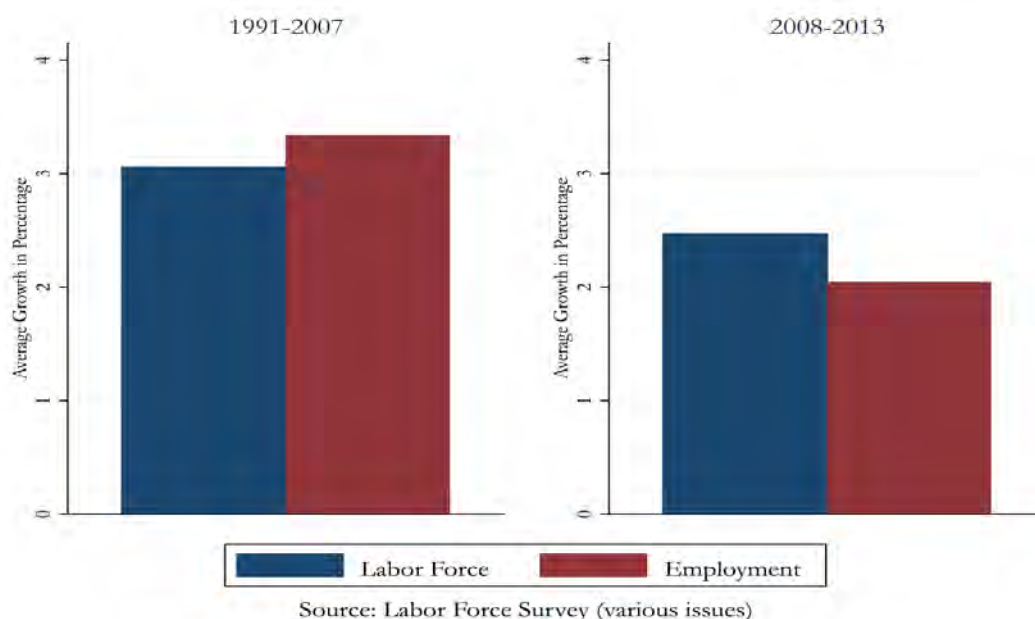
Punjab's rapid demographic transition is an important contextual factor for the Skills Strategy. This ongoing transition is increasing the share of young adults in the population. Approximately two-thirds of Punjab's population today is below the age of 30.²² This youth bulge, which is likely to carry on well beyond 2025, is resulting in a surge of young adults entering the job market. This demographic transition provides an opportunity for increasing economic growth if these young adults can be connected to productive opportunities. Declining rates of fertility also provides an opportunity for women to participate more actively in the labour force and boost economic growth. However, failure to exploit these opportunities can have severe social, economic and political consequences²³. (See Chapter 9 on Demography and Population for more information on the ongoing demographic transition and fall in fertility rates.)

This rise of young adults seeking productive employment requires Punjab to increase its rate of job creation, if we are to keep unemployment at historical levels. Estimates suggest that the demographic transition is likely to result in the entry of more than 1 million new workers in the labour force every year. This is of concern because the rate of growth of employment has been lower than the rate of growth of labour force in the recent past (See Figure 3 below).

²² Estimates from the Population Council (2014).

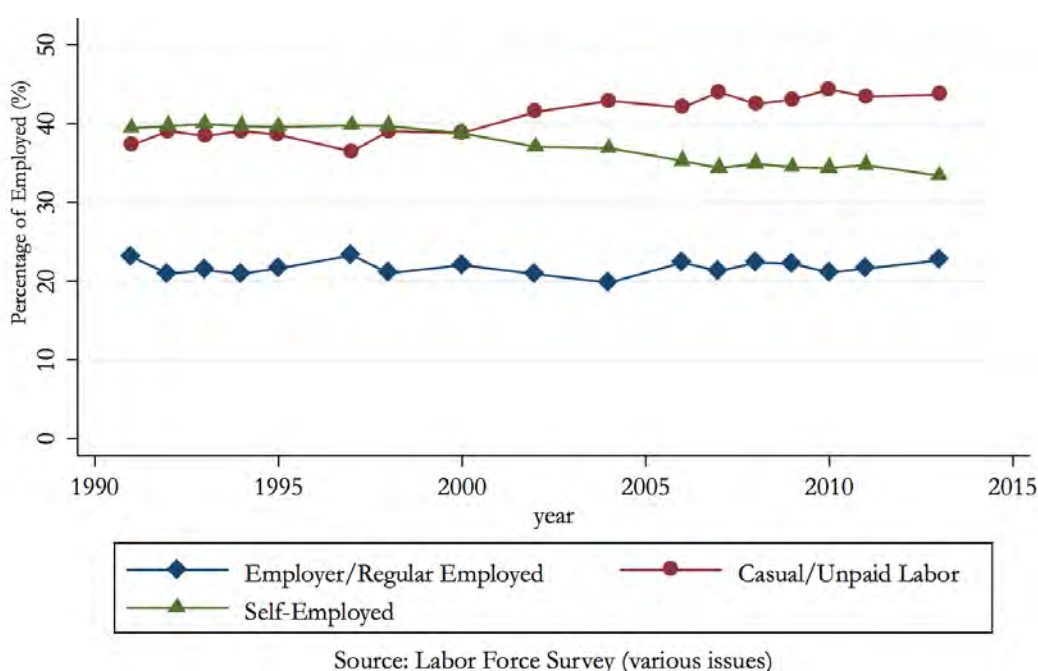
²³ There is a positive correlation between unemployment and serious property crime in Punjab. Source: Ali Cheema and others 2014.

Figure 3. Labour force and Employment Growth Rates in Punjab for Working Age Population (15-64 years), 1991-2007 and 2008-2013



We recognize that the challenge is not just about increasing the number of jobs, it is also about creating “quality jobs” that provides improved income for the citizenry. Recognizing this challenge is important because the economy has historically struggled with creating quality employment. There has been little change in the structure of employment during the past two decades (See Figure 4 below), with a majority of jobs being concentrated in low productivity agriculture, unskilled daily labour and low productivity household enterprises (See David Robalino and Yoonyoung Cho 2012). This low-quality employment trap is creating an “aspirations crisis” in young adults that needs to be addressed on an emergency footing.

Figure 4. Structure of Employment in Punjab, 1990-2013



Low education in the working age population (15-64 years) and young adults (15-29 years) is an important factor hampering the creation of quality jobs. Despite strong improvement in education indicators in the past five years, educational attainment in working-age and young adults remains low. Weak quality of learning (which is being addressed as part of the Growth Strategy – see Chapter 8 on Education) is creating poor human capital even among those who attend school. (See Tahir Andrabi and others 2007, and ASER Pakistan 2014). **An important objective of the Growth Strategy is to design interventions that increase the rate of human capital accumulation in those individuals who have low education attainment and poor quality of learning.**

Skills training has not been able to replace or supplement education as a path towards developing human capital, and this weakness further contributes to the low rate of human capital in our labour force. Only 12% of the working age population (15-64 years) and young adults (15-29 years) in Punjab have acquired skills training²⁴. **Thus, the Growth Strategy recognizes that access to quality skills training is a critical path towards increasing the rate of human capital accumulation.**

3. Analytical Framework: Understanding the Challenges in the Skills and Labour Market

To have an impact, skills training - a core component of the Growth Strategy - has to alter opportunities and constraints in two inter-related markets:

- 1) Market for skills training**
- 2) Market for skilled labour**

The *market for skills training* consists of individuals and households demanding beneficial skills for the purpose of increasing their income, entering value chains and obtaining gainful jobs. The supply of skills training comes from a various organizations, including government, non-government and private sector training providers and firms. The interaction of the demand and supply sides of this *market for skills training* actually determines the quality of skills being provided.

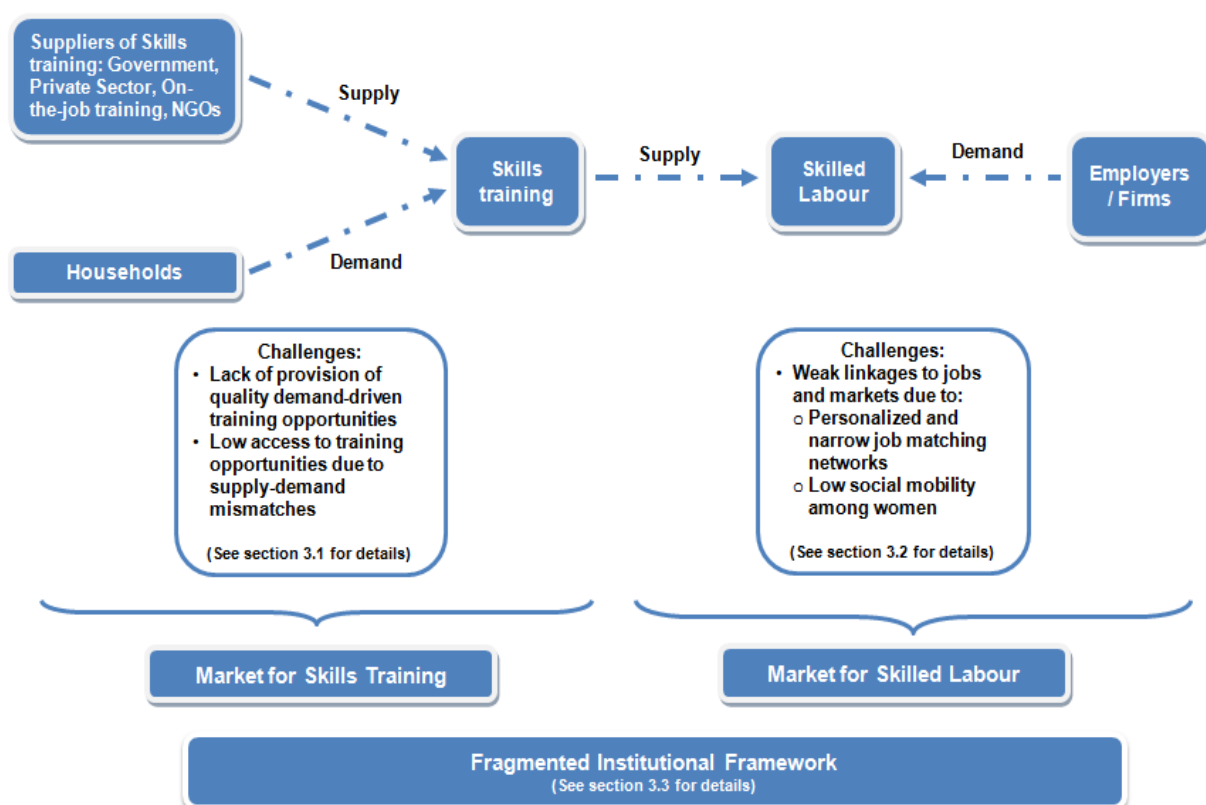
The *market for skills training* is one channel that determines the supply-side of the *market for skilled labour*, by affecting the total available pool of skilled workers. The demand for skilled labour primarily comes from enterprises and firms seeking to hire skilled workers and engaging skilled suppliers and sub-contractors. The decision of graduates of skills programs to enter the *market for skilled labour* is closely tied to mechanisms of “job matching” that match skilled labour to the demand of employers. These mechanisms include labour market subcontractors, employment exchanges, etc. Thus, it is important for the success of our Skills Strategy to identify

²⁴ Source: Labour Force Survey 2012-13.

effective mechanisms for job matching and provide graduates of skills programs with access to these mechanisms.

The Skills Strategy framework emphasizes the importance of implementing interventions that will mitigate context-specific challenges in both of these markets. This is because creating a strong impact requires a comprehensive set of interventions to address the demand and supply sides of both these markets. Figure 5 below provides a visual representation of this analytical framework underlying the Skills strategy.

Figure 5. Analytical framework for challenges in the Markets for Skills and Skills Training



This framework identifies three types of challenges that the Skills strategy seeks to address:

- I. Providing demand-relevant, good quality skills training opportunities.
- II. Implementing and mainstreaming measures that lower the cost of accessing these skills training opportunities.
- III. Maximizing the return to skills training opportunities through complementary interventions that strengthen linkages of trainees with jobs and markets.

Strands (I) and (II) relate to the **market for skills training** and (III) is related to **the market for skilled labour**. In the remaining part of this section we provide a more detailed analysis of the

challenges on both sides of the markets identified in Figure 5. Later sections use this analysis to propose a comprehensive set of interventions.

3.1. The Market for Skills Training

An important constraint reducing the impact of skills training is the supply shortage of quality skills training. The prevalence of formal vocational training in Punjab is low, with only 12% of working-age population (15-64 years) having completed vocational training. Government estimates reveal a combined capacity to train approximately 150,000 individuals in the private, government and non-government sectors in the province (See Government of Punjab’s “Skills Development Sector Plan 2018”). Recently conducted surveys of employers in the province reveal that almost one-fourth of enterprises reported a lack of skilled employees, suggesting that low formal sector supply of skills training is not being off-set by informal and on-the-job training (See World Bank 2014a and Ali Cheema and others 2012b.) **This suggests that the base of skills training is extremely small at present and there is a need to increase the supply of skills training.**

Evidence shows that there is strong demand for skills training among households as well as employers. It also shows that household demand for skills training is not gender-biased. The CERP-PEOP survey shows a high demand for skills training among households in the high poverty districts of Punjab (See Ali Cheema and others 2012a). There is a minor gender gap in the demand for skills training. In addition, over two-thirds of households who expressed willingness to enroll a family member in skills program had a preference to enroll a young adult. The demand for skills training will be at least as high, if not higher, in the more developed districts of Punjab. The CERP-PEOP survey also shows that the demand for skills training is not lower among individuals with poor education, which is an important target group for our Strategy. Recently conducted surveys of employers in Punjab also show a healthy demand for skilled workers among employers (See World Bank 2014a, and Ali Cheema and others 2012b).

Evidence suggests that the market is failing to provide demand-relevant supply of skills due to a number of demand-supply mismatches, which include the following:

- **Education-related barriers to entry for skills training:** There is a mismatch between the education requirements of formal skills training providers and the education profile of working-age adults who demand this training (See Ali Cheema and others 2012a). Data from Punjab Skills Development Fund (PSDF) reveals that skills training providers typically require middle to high school education for entry into quality courses. This excludes a large part of the target population because a large share of this group lacks the required education. This needs to change because a priority target group for the Skills Strategy is young adults and existing members of the labour force with poor education.
- **Weak integration of literacy and numeracy in skills training:** The *market for skills training* is currently under-supplying training in basic cognitive skills (such as literacy, numeracy, problem solving etc.) and non-cognitive skills (such as team work, professionalism

etc.) even though these skills are positively correlated with higher income and employers place a lot of importance on them (See Ali Cheema and others 2012a and 2012b, and World Bank 2014a). The existing system's weakness in integrating cognitive and non-cognitive skills with job-specific skills is a problem because it reduces the access to skills training for people with poor education, by restricting the skills training menu that they can access²⁵.

- **Forgone Employment is a Constraint for Male Enrollment in Skills:** Almost sixty percent of working-age males say that forgone employment and income is a significant constraint to enrolling in skills training programs (See Ali Cheema and others 2012c). However, a study also found that offering higher stipends does not reduce this constraint and has only a moderate impact on increasing enrollment rates among the male population (See Ali Cheema and others 2013b). It appears that the main constraint is not forgone cash income but a low expectation of finding a better paying job after skills training.
- **Low Social Mobility is an Access Constraint for Women:** Low social mobility among women reduces their likelihood of accessing skills training. The CERP-PEOP survey shows that course completion rates for women reduce by 6 percentage point for every kilometer increase in distance from the skills training centre (Ali Cheema and others 2013a). The most important factors that explain this fall are: a) women trainees not being able to arrange safe and secure transport; and b) increased disapproval from the community when they have to travel outside their locality for skills training. The study finds that locating the training centre in the neighborhood of residence increases enrollment by 5 times, and providing secure transport to the training centre increases women's enrollment by 3 times, compared to the typical method of creating demand that is used by training providers.²⁶

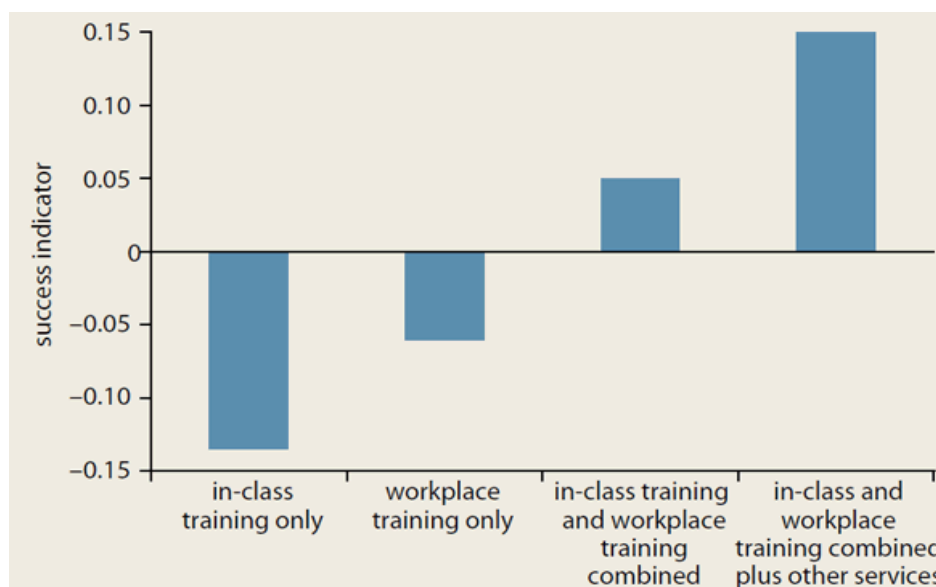
3.2. The Market for Skilled Labour

Evidence from developing countries shows low returns associated with skills training programs that provide either in-class or workplace training only (See Figure 6 below). Instead, integrated programs that combine on-the-job and classroom training have positive returns. The success rates of skills training program increase significantly when in-class and workplace training are combined with work experience and job placement components.

²⁵ Research has also shown that cognitive and non-cognitive abilities have a positive effect on workers' job market outcomes.

²⁶ These findings are from a rigorous evaluation of PSDF's Skills for Market intervention in 2013-14 among women in rural areas of south Punjab (Ali Cheema and others 2015).

Figure 6. Combining Work and Training Increases the Success Rate of Skills Programs



Note: This figure shows the correlation between type of skills training and the success of a program, with success defined as improving employment or income as well as being cost-effective. Source: Fares and Puerto 2009 as shown in World Bank (2012), “World Development Report 2013: Jobs.”

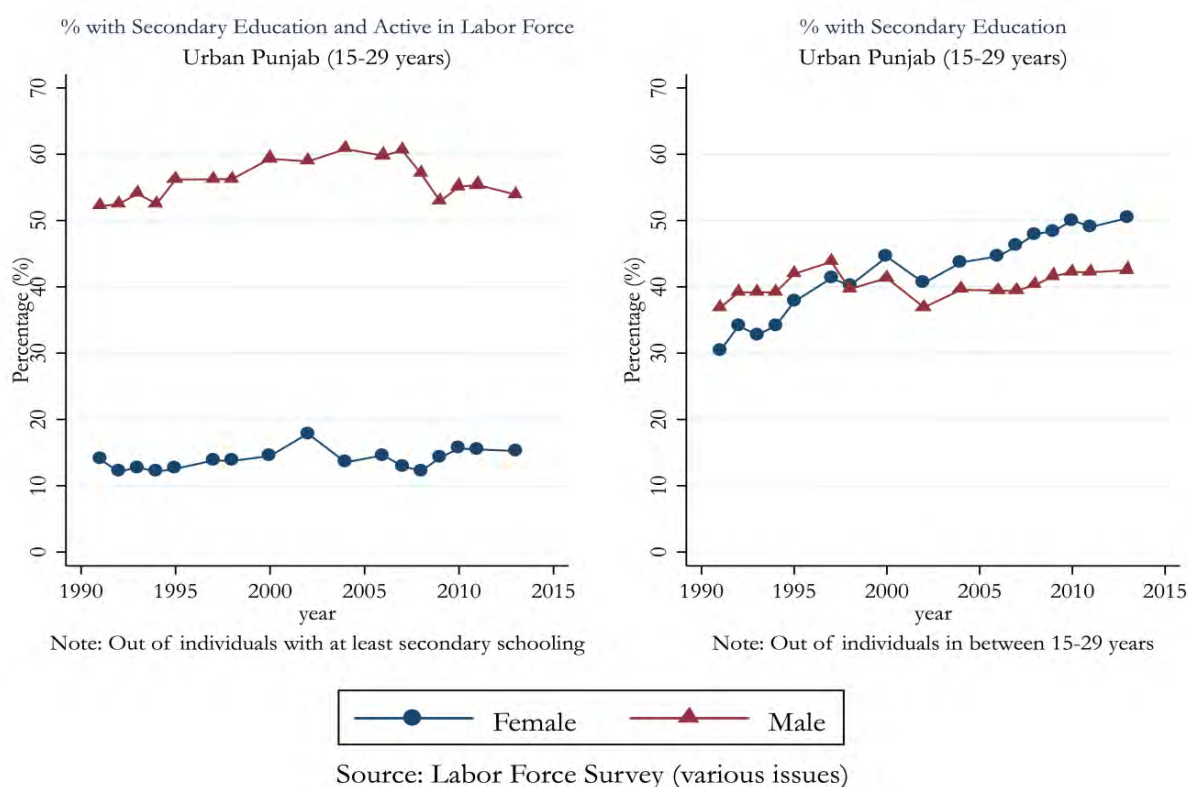
An important constraint negatively affecting the success of skills training in Punjab is the existing nature of job matching networks. These networks tend to be personalized, narrow and exclusive, and are weakening the link between acquiring skills and gaining employment. Most people say that they use personalized networks to match workers to jobs, and it is seen that economic well-being of families is highly correlated with how large and wide their job search networks are (See Ali Cheema and others 2012a). This shows that individuals stuck in low wage jobs also have the narrowest job search networks, and this is likely to reduce their chances of getting access to good quality jobs after completing skills training. Employers also depend on personalized networks to fill vacancies (See Ali Cheema and others 2012b). There is also strong gender-bias in existing job matching networks. There is also strong gender-bias in existing job matching networks. Studies have also suggested that existing labour contractor networks are keeping productivity in Punjab’s fan industry low (See Theresa Chaudhry and Christopher Woodruff 2013). Thus, **it is essential to integrate effective job placement mechanisms into skills training programs, to allow trainees to increase their access to jobs and markets. This is required to realize better income and higher employment of skills trainees.**

For women, low social mobility is reducing their access to markets (for self-employed women) and access to quality jobs (for job seeking women). This is because local job markets offer only a few quality job opportunities for women and they remain poorly integrated into value-chains (See Ali Cheema and others 2012a). Another constraint is that employers in Pakistan are very reluctant to employ women except outside a few sectors, such as education and health (See Ali Cheema and others 2012b).

Thus, poor social mobility, weak linkages with market and low demand for female employees are some important factors why labour force participation among educated young women (those who have completed high school) has remained stagnant in urban areas despite a dramatic rise in their education qualification in the past 25 years (See Figure 7 below). **This suggests that in the case of women, acquiring education and human capital alone is insufficient to increase their labour force participation.**

The right hand side graph of Figure 7 below shows that young women in urban areas have rapidly surpassed young men in terms of education. 25 years ago, this cohort of women had education attainment that was 10 percentage points lower that of men, and now this situation has reversed by 2013.

Figure 7. Labour force Participation and Education attainment among Educated Young Women in Urban Punjab, 1990-2013

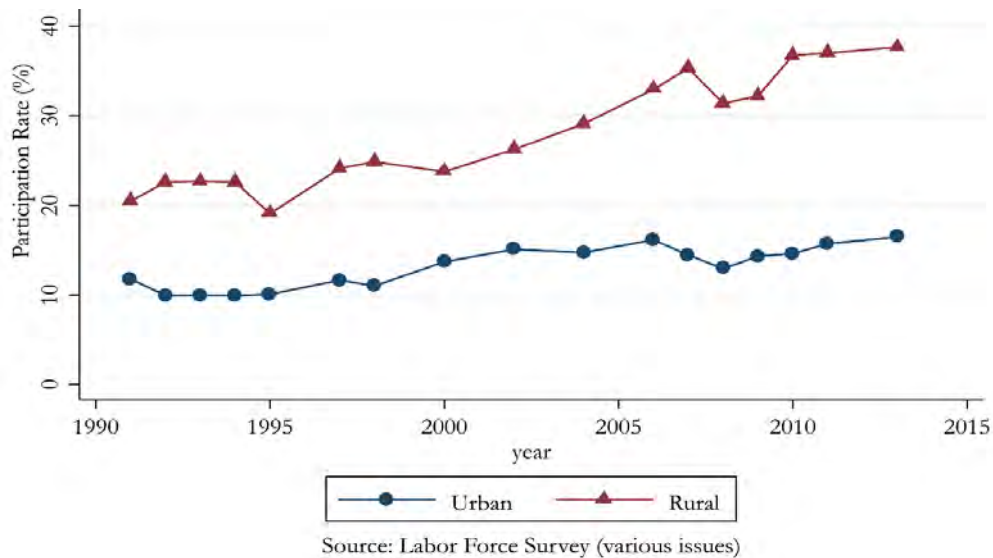


We must recognize that a declining fertility rate in Pakistan, a consequence of the ongoing demographic transition, and improvements in women’s education are creating favourable conditions that help increase female labour force participation. This can potentially contribute to economic development if this trend rate can be increased further. Female labour force participation rates have doubled over the last twenty years in rural areas and have increased by about 1.5 times in urban areas (See Figure 8 below).

However, a number of challenges remain. Currently the female labour force participation rate is one of the lowest in South Asia (See Reema Nayar and others 2012). Labour force participation rate is increasing most rapidly among rural women who have the lowest level of education and are engaged in low productivity self-employment and casual labour jobs in agriculture. Therefore,

in order to create an economic growth impact we must increase their human capital and improve their access to value-chains and better jobs.

Figure 8. Female Labour force Participation in Punjab



Local and flexible jobs for women are a solution: The example of the Education sector in Punjab shows that women are extremely responsive to job opportunities provided these jobs are local (a short distance away) and offer work conditions that allow them to manage the burden of their domestic work as well (See Tahir Andrabi and others 2013). Thus, increasing female labour force participation requires a full set of measures that build education and skills and ensure the supply of local jobs and market opportunities that are flexible. International evidence suggests that these interventions can be enhanced by supportive measures that help further fertility rates. The Government’s strategy in this area is discussed in detail in Chapter 9 on Demography and Population.

3.3. Institutional and Programmatic Challenges

A fragmented institutional framework at the Provincial level for policymaking, implementation and financing of skills development reduces the effectiveness of skills as a path to achieving high human capital. Public sector institutions are providing supply-driven training with weak links with jobs and employers (See Yasin Janjua and others 2010 and World Bank 2014b). We have not been able to institutionalize mechanisms that ensure that skills training is relevant to the demands of the market. In these skills programs our impact is usually measured by the number of graduates produced rather than in terms of income and jobs. As a result, recent studies have listed a number of problems in these TVET programs, which include: outdated courses, poor infrastructure and resources, and little exposure to industry (See Andreas Blom and others 2009 and Yasin Janjua and others 2010).

Currently we are lacking a single pivotal and focal Skills Agency in Punjab and a single authority for quality standard assessment, which reduces holistic planning and gives rise to variations in

standards in public-funded skills training. In addition, a large number of Departments and agencies are engaged directly and indirectly in training at the provincial level but with little coordination (See Government of Punjab’s “Skills Development Sector Plan 2018”). This fragmented structure reduces our ability to exploit complementarities between various skills training programs and between these programs them and other interventions. Further, at least three pivotal Government agencies are involved in testing and certification, which increases variations in quality standards in the market.

Recently the Government has taken a number of innovative measures at the program level to address these challenges. It has institutionalized the Punjab Skills Development Fund (PSDF) with partial support from the United Kingdom’s Department for International Development (DfID). (See Box 1 below.)

Box 1. Punjab Skills Development Fund's success in delivering quality skills training

Punjab Skills Development Fund (PSDF) is a training fund designed to increase the skills training market throughout the province including the high-poverty districts. Its design is a major shift in the delivery of public-funded skills training programs and its model is based on the following:

- identifying demand for skills using strong evidence
- competitive performance-based tendering that also helps reach the vulnerable groups of target population
- third-party monitoring to ensure compliance
- rigorous evaluation to allow the program to be modified to increase access to skills trainings and to maximize returns from these trainings.

PSDF ensures that public-funded skills training is relevant to demand: It has made extensive use of detailed surveys to change the menu of skills training that is available. In addition, it has developed a framework of engaging with employers through cluster-based employer engagements and by establishing of an employer registry.

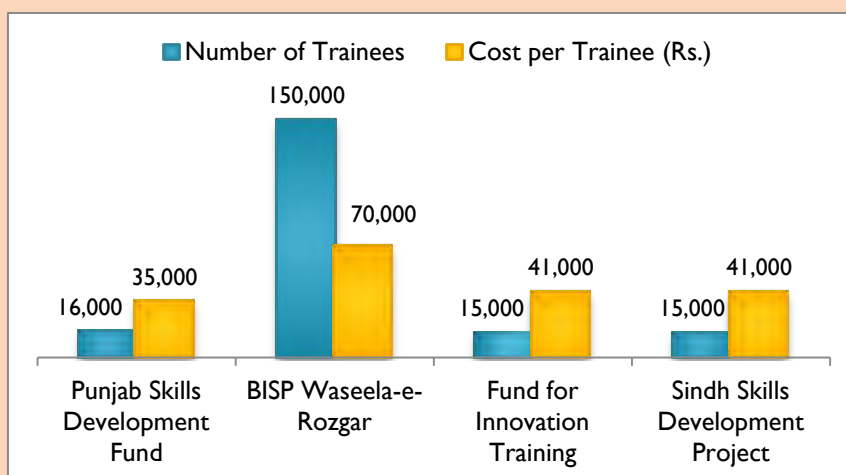
One example of this is the **Skills for Garments scheme** developed by PSDF. It was designed by identifying the skills needed by the garments sector, by using cluster-based employer workshops where garments manufacturers’ input was utilized to design the training program. These employers were then used directly as trainers and training providers to bring their best practices to the program.

Similarly, Punjab Vocational and Technical Council (PVTC) has been using Institute Advisory Boards (IABs) which have strong participation of local industry at the institute level, to provide advice on curriculum and information on demand for skills. Experience from these programs can be used to the design an appropriate institutional framework to ensure that public-funded skills training is demand-relevant.

The PSDF model is cost-effective: The skills training provided by PSDF is cost-effective due to transparency, ongoing third-party monitoring and independent yearly financial audits. The

testing services are outsourced to national and international accredited certifying agencies. See Figure 9 below to see the program’s cost-effectiveness relative to other skills training programs.

Figure 9. PSDF cost-effectiveness: comparison with four skills programs



Source: Ijaz Nabi 2013

The successful implementation of the PSDF model provides a solid foundation for the Government to build upon.

4. Programmatic Interventions

The Skills Strategy represents a radical break from the past model of public-funded skills training that used budgetary support to invest in public-sector institutions. The ‘**new model**’ builds on the recent innovations of the Government and its main features include the following (a schematic diagram is given in Figure 10 below):

- a. Developing and expanding a ‘**market**’ for skills training to ensure a supply of skills through a diversity of training providers. This objective will be achieved by using a mix of performance-based financing, competitive tendering, and rigorous evaluation conducted by third parties.
- b. Developing best-practice curriculum and teaching and learning resources (TLRs), through ‘**knowledge partnerships**’ with high quality private sector employers and international training providers. This includes bringing training in cognitive and non-cognitive skills into the mainstream.
- c. Providing incentives to the private sector to engage in the supply of skills training.
- d. Creating a link between skills provisions and the need of priority sectors and high employability-high growth clusters and value-chains. **These have been identified in the Growth Strategy, and include among others: garments, light engineering and**

other value-added manufacturing, agribusiness and livestock, local health and education facilities, etc.

- e. Institutionalizing mechanisms to elicit demand for skills by using surveys and engagements with employers.
- f. Restructuring public sector institutions to substantially increase their efficiency.
- g. Reducing the cost of accessing training opportunities for both men and women, by introducing complementary interventions.
- h. Strengthening job and market linkages by introducing integrated programs that go beyond in-class training and workplace training alone.

Figure 10. A New Model for Skills Training in Punjab



To ensure the financial sustainability of skills training, the Strategy seeks to develop an incentive framework in the medium term to provide incentives to employers to directly contribute a part of the cost of skills training that is relevant for their sector. This framework will assess the relevance of various co-funding arrangements. These include: employer-based opt-in and non-voluntary levy arrangements for employer networks; and establishing an innovation grant fund, whereby groups of employers put forward proposals for Government co-investment to be selected on the basis of best value.

In the short run, the Skills Strategy proposes three strands of interventions to address the three types of challenges in the markets for skilled labour and skills training identified in the last section.

4.1. Strand I: Expanding the Supply of Demand-Relevant, High Quality Skills Training Opportunities

4.1.1. Establishing a Framework for Eliciting Demand

The Government seeks to institutionalize the following mechanisms to elicit demand for skills: (a) Industry Sector Skills Councils (ISSCs) that directly involve employers in designing competency standards and training programs; and (b) using surveys to create objective information on hard-to-find jobs, skills gaps and employer and household demand for skills. These mechanisms for eliciting demand will become pivotal institutions for developing 'knowledge partnerships' with the private sector.

4.1.2. Increasing Supply of Skills Training in Under-Served Priority Sectors, Value-Chains and Clusters

The Government will use the mechanisms for eliciting demand to identify under-served priority sectors, value-chains and clusters. It will set up an innovation grant fund to seed supply for these sectors with direct engagement from the private sector. To maximize impact it will use the innovation grant window to provide incentives for developing training models that ensure coordinated diffusion of best practice skills, identified through knowledge partnerships with the private sector, throughout clusters and entire value chains. Some of these priority sectors have already been identified in the Growth Strategy, and include among others: garments, light engineering and other value-added manufacturing, agribusiness and livestock, local health and education facilities, etc.

4.1.3. Integrating Cognitive and Non-Cognitive Skills

The Government seeks to integrate cognitive and non-cognitive skills with job-specific training because of the value employers and households place on these skills and their strong positive correlation with better jobs.

4.1.4. Restructuring Public Sector Institutions

The Government will seek to restructure the Technical and Vocational Training Authority (TEVTA) that involves unbundling its regulatory function; restructuring human resource competencies and establishing a framework for decentralized delivery of skills training backed by performance-based grants and public-private partnership arrangements. We will also institutionalize a performance-based competitive grants financing model in PVTC based on a robust framework to measure performance on the basis of competencies and job placements of trainees. We will develop the capacity of these public sector institutions (TEVTA and PVTC) to manage performance-based grants and track outcomes.

4.1.5. Integrating Technical Streams into Higher Education

The Government will provide technical assistance to the Higher Education Department to design effective learning transitions from secondary education to technical education and vice versa.

4.2. Strand II: Improving Access to Skills Training Opportunities

4.2.1. Target Groups

The priority target group for the Skills Strategy is young adults (15-29 years). Within these group individuals with: (a) poor education will be the priority group for vocational training; and (b) high school education will be the priority group for technical education. The Strategy is designed to be inclusive and will target young women, low income individuals and high poverty districts in proportion to their share in Punjab's population.

4.2.2. Increasing the Menu of Public-Funded Skills Training

In order to be inclusive, the Strategy will broaden the skills training menu to include trades that are relevant to the less educated population and are taught using accessible curriculum and pedagogical methodologies. We will seek to establish a competitive innovation grant fund to provide incentive to skills training providers to develop these relevant curricula, TLRs and pedagogical methodologies. The skills training menu for the less educated will also emphasize cognitive skills (functional numeracy and literacy) and non-cognitive skills (team work, professionalism).

4.2.3. Increasing Male Enrollment

We seek to combine stipends with interventions for job placement and market linkage, described below, to increase enrollment among males. These interventions will complement skills training and are expected to increase enrollment by changing their expectations about obtaining better employment after training. For rural males, we will provide skills training within villages to reduce access costs for trainees.

4.2.4. Lowering Access Costs for Women

We seek to combine stipends with skills training based in neighborhoods and the provision of secure group transport to increase women's access to training. These interventions can have a large impact on women's enrollment in Punjab (See Ali Cheema and others 2015).

4.3. Strand III: Strengthening Linkages of Training with Jobs and Markets

4.3.1. Strengthening Linkages with Jobs

We will test the following four models of job linkages that have shown promise in the international and Pakistani context: (i) skills training based at employers; (ii) dedicated cluster-based training; (iii) complementing in-class training with on-the-job training and (iv) establishing a dedicated employment registry with an effective mechanism for transmitting information on job openings and worker characteristics between employers and jobseekers. We will seek to calibrate these models and will scale-up those which are rigorously measured to provide better outcomes.

4.3.2. Market Linkages for Women

We will seek to use the proposed innovation grant window to provide incentives to skills training providers to develop innovative models that help integrate trained women engaged in self-employment into the relevant value-chains. Again, we will scale-up those models which are rigorously measured to provide better outcomes.

4.3.3. Active Labour Market Policies for Women

As discussed in the last section, the shortage of local employment opportunities for women and an employer bias against employing them are two important factors reducing their labour force participation. Therefore, there is a strong case for complementing investment in skills training with active labour market programs that create local jobs for women in Preventive Health, Livestock and Education that are priority sectors for the Growth Strategy.

4.3.4. Exploiting Complementarities

We will seek to exploit complementarities between skills training, asset transfer programs, enterprise financing programs and interventions that promote reduction in fertility among young adults. Experience from Bangladesh shows that combining asset transfer programs with skills training has extremely high returns²⁷ (See Oriana Bandiera and others 2013). The decline in fertility along with increase in human capital (via education and skills) are key factors affecting labour force participation of young women. Exploiting these complementarities has great potential to increase the returns to skills training for the labour market (See Oriana Bandiera and others 2014).

²⁷ Oriana Bandeira and others (2013) find that sizeable transfers of assets and skills enable the poorest women in Bangladesh to sustainably move out of agricultural labour and into running small businesses, and this structural change leads to a 38% increase in their income.

5. Institutional Reforms

5.1. Focal Agency for Skills Development in Punjab

The Government will seek to create a unified focal agency for Skills development with significant representation from the private sector, skills experts and training providers as well as the relevant government Departments, which includes the Women Development Department and the Punjab Commission on the Status for Women. This structure of representation will help institutionalize an inclusive and demand-based approach for skills training. All public sector skills initiatives will report to this Agency. The main objectives of the Agency will be to create medium-term strategic and implementation plans for skills development in Punjab; put in place results and monitoring and evaluation frameworks for outcome-based delivery; create an institutional basis for performance and outcome-based financing and competitive tendering; introduce mechanisms that achieve critical coordination for implementation that involves the private and public sectors and external stakeholders; and set up an innovation grant facility for the purposes mentioned in the previous section.

Steering Committee and Project Management Unit (PMU): Before this focal agency before operational, the Government will create a high-powered Steering Committee on Skills and a Program Management Unit (PMU), with substantial private sector representation.

5.2. Strengthening Evidence-based Policymaking

The Government will create a research and evaluation mechanism that supports this focal skills agency by generating a steady stream of data and evidence on skills gaps and the labour market that is accurate and policy-relevant. In addition, it will put in place mechanisms to track skills graduates and evaluate the impact of interventions using international best-practice methodology.

5.3. Reforming the Testing and Certification Regime

The Government will seek to restructure the existing testing and certification regime by creating a single assessment authority that works under the National Vocational and Technical Qualifications Framework (NVQ) being developed by the National Vocational and Technical Training Commission (NAVTTTC). We will create a unit within the focal Skills Agency that engages with NAVTTTC to build a competency-based system for skills and training and engages the private sector in this process. We will seek to unbundle TEVTA's regulatory role. While there is an important need to create an effective testing and certification regime, putting in place outcome-based funding that rewards skills providers based on their ability to impact jobs and income has a better chance of ensuring quality in the short-term.

5.4. Lowering the cost for private-sector engagement

We will rationalize the existing regulatory and registration mechanisms to enhance the supply of private sector training. In addition, we will develop a results-based framework for private-public partnerships.

6. Detailed document: Punjab Skills Development Sector Plan 2018

To implement the skills development part of the Punjab Growth Strategy 2018, the Government's organizations and Departments engaged in skills training have developed a detailed document to guide their investment and reform efforts in this sector. This document, the Punjab Skills Development Sector Plan 2018, provides more details on how the Government seeks to achieve its quantitative target of providing skills training to 2 million individuals by 2018.



CHAPTER 5: ENABLING CITIES TO BE ENGINES OF GROWTH

Chapter 5: Enabling Cities to be Engines of Growth²⁸

1. Introduction: Importance of Urbanization in Punjab

Punjab is among the most urbanized regions of South Asia and is experiencing a consistent and long-term demographic shift of the population to urban regions and cities, with around 40% of the province's population living in urban areas. This urban transition is occurring due to migration along with a shift towards a manufacturing and service-based economy, associated with higher urbanization. The province's urban population is likely to increase to 52 million by 2025 and 59 million by 2030, which is equal to 1 million additional urban residents every year²⁹. If current trends continue, the outcome will be slum and squatter areas where millions will reside.

Poor urban development holds back Punjab's growth: Punjab's experience with urbanization has been unplanned. Lack of clear policy has allowed for unchecked urbanization and public infrastructure and service delivery are struggling to keep pace. Weak property rights and ad-hoc planning have also played a role in preventing Punjab from reaping the benefits of urbanization. In addition, slow economic growth and weak industrialization means that new urban migrants are unable to be absorbed into productive jobs. This is worsened by restrictive laws governing various facets of urban development which means that cities find it difficult to provide affordable housing to most new migrants.

2. Benefiting from Concepts of Density and Agglomeration

A central principle of Punjab's Urban Growth Strategy is that "density" and "agglomeration" are very important for economic development and higher productivity. To make Punjab competitive for investment and development, cities are going to play a vital role, because they can benefit from a large and skilled labour force, economies of urban scale, economies of agglomeration (i.e. efficiency resulting from clustering of firms in a given industry or related industries), and the resulting demand for goods and services.

The ongoing phenomena of rural-urban migration and urbanization can only lead to economic growth, higher productivity and higher income if the manufacturing and services sectors grow fast enough to absorb the additional supply of labour. Pakistan will have to invest in many cities

²⁸ The Government of Punjab acknowledges Dr. Naved Hamid (LSE and International Growth Centre (IGC)), Sohaib Athar (IGC), and Faisal Fareed and Nadia Qureshi (the Urban Unit) for the input provided for this chapter.

²⁹ Urban Unit, Government of Punjab

at the same time to ensure a more geographically balanced rate of urban-led growth and the creation of a system of cities – an efficient network of urban centers whose manufacturing and services industry are connected. Harnessing and promoting this approach of “system of cities” will lead to faster (and better quality) job creation and higher productivity.

Placing urban development (with an emphasis on density and commerce) at the heart of our Growth Strategy has several advantages: dense multi-function urban areas create jobs and are free from barriers to entry and exit; and density attracts investment and helps the growth of the construction industry as well as commerce, both of which are employment friendly.³⁰

Alignment with the Federal Government’s approach: Punjab’s Growth Strategy builds on the recognition by the Federal Government that our cities are of critical importance for Pakistan to achieve the kind of productivity-enhancing economic growth that creates better quality jobs. This has been recognized in the Government of Pakistan’s Framework for Economic Growth (released in 2011)³¹ and Vision 2025 (released in 2014).

3. Existing Issues in Urban Centers that must be resolved

Punjab’s rapid urbanization and unplanned growth, as well as the historic nature of our governance structures, has led to problems which adversely affect the life of citizens. It is to be noted that these problems exist across the country. These range from: persistent and rising urban sprawl; chronic shortage of housing; poor quality of basic services such as water, sanitation and public transport; and inefficient urban land markets. Without resolving these problems, Punjab will not be able to harness the benefits of urbanizations. These problems are discussed below. Understanding their severity informs us that an urban strategy is necessary to turn the tide around.

Shortage of Affordable Housing: One estimate suggests that the total housing shortage (rural and urban) in the province may be about 2.5 million units. It is expected that the housing demand in Punjab’s urban areas will reach 7.4 million units by 2035, while the public and private sector combined will be able to provide only 5.2 million units. This implies a shortage of 2.2 million housing units in urban centers. The demand for urban housing in the five largest cities of Punjab alone will be 5.8 million units by 2035 (assuming current trends continue), which accounts for 78% of the total.³²

Studies have shown that most of the urban housing market in Punjab and Pakistan cater to the elite and the affluent middle class, and end up excluding the poor.³³ The large demand gap in the

³⁰ Planning Commission, Government of Pakistan (2011). “Pakistan: Framework for Economic Growth”, Chapter 7: “Creative Cities”. Available at: <<http://www.pc.gov.pk/feg/>>

³¹ *ibid.*

³² Urban Unit, Government of Punjab

³³ Woodrow Wilson Center (2014), “Pakistan’s Runaway Urbanization: What can be done?” ed. Michael Kugelman. Available at: <<http://www.wilsoncenter.org/publication/pakistans-runaway-urbanization>>

low-income segment is met to some degree by a large informal housing market. It is estimated that 47% of Pakistan's urban population currently resides in regularized and non-regularized informal settlements (katchi abadis)³⁴.

Rising urban sprawl: Lahore's built up area, which was around 75,000 acres in 1990 is expected to become 628,000 acres by 2035 if current trends continue - an 8 times increase in its size over 4 decades. It is expected that built up area of Punjab's major cities will increase by 6 times their 1990 built up area by 2035.³⁵ This means conversion of land mainly from arable land to built-up area characterized by low density.

No unified system of land titling and land transfers in urban areas: The existing Land administration system under the Board of Revenue was designed for agricultural lands, which is also being used for urban areas. In addition to this, many Authorities, Societies and other agencies have their own practices of maintaining land records and titles – and in the case of some old city areas there is no record. This creates issues in the functioning of land market, and a large number of urban properties remain outside the formal economy. This along with unclear legal titles causes investment in commercial and residential construction to remain low.

Poor quality and coverage of water supply, sewerage and sanitation: WSS service delivery does not meet the demands of all citizens in cities and towns.³⁶ The WSS infrastructure consists of old pipes in the distribution network which are in need of immediate replacement. The drinking water can be contaminated, and this coupled with the deficient sewerage system causes a strain on public health, especially for the poor. The economic and health cost borne by society due to poor water and sanitation is extremely high.³⁷

Inadequate Public Transport: The demand for motorized urban transport facilities has increased tremendously in all expanding cities. With some exceptions, the present public transport comprises of low quality buses, mini busses, wagons and vans owned by individual operators. For lack of quality public transport, the use of private motorized transport is increasing on urban roads. It is estimated that the traffic in large cities is increasing at 12% per annum as compared to the national average of 8%. Car ownership has increased from 6 cars per thousand persons in 1998 to 13 in 2009. About 12 million trips are made on a usual weekday in Lahore, out of which 8.3 million are on motorized forms of transport.³⁸

³⁴ United Nations Millennium Development Goals database. Estimate of Proportion of urban population living in slums, as calculated in 2009.

³⁵ *ibid.*

³⁶ Urban Unit, Government of Punjab and P-WOPs Directory 2012

³⁷ World Bank (2011), "The economic impacts of inadequate sanitation in Pakistan." Available at: <http://documents.worldbank.org/curated/en/2011/01/16232510/economic-impacts-inadequate-sanitation-pakistan>

³⁸ Government of Punjab and Japan International Cooperation Agency (2012), "Lahore Urban Transport Master Plan Study, 2011", volume 1.

The share of public transport trips is much higher in Indian cities as compared to cities in Pakistan. For example, 78% of all trips in Kolkata are made using public transport. This figure is 60% for Mumbai and 40% for Delhi. For Karachi and Lahore it is a dismal 23% and 16% respectively.³⁹ The reason for high public transport usage in India is the availability of rail-based public transport in Mumbai and Kolkata and the Delhi metro system.

Urban mobility and public transport is a right, as it enables lower income people to access jobs, commerce, services and recreation. Public transport that offers good quality of service can provide mobility at a much lower household cost compared with privately owned transport.

4. An Urban strategy: Priority Areas for Reforms and Infrastructure Development

The severity of these problems points to the need of a comprehensive strategy that tackles the causes leading to the creation and persistence of these problems.

Successful urbanization requires a balance of five broad categories of interventions. These are:

1. Improved Governance of cities, including appropriate representation of citizen voice and preferences in management of cities.
2. Facilitation of investments that create the demand for workers moving into cities - promoting commercial activity and industrialization / manufacturing
3. Strengthening workers' ability to take advantage of opportunities in urban areas, via:
 - a. Efficient and adequate public transport
 - b. Interventions that improve the education and skills of workers
4. Improving livability in cities with a focus on water, sanitation, sewerage, recreational activities, security and law and order, etc.
5. Increasing public revenue to finance the above-mentioned areas of interventions

In order to achieve urban-centric economic growth and development, the Government proposes certain reforms and priority areas for infrastructure development. The proposals rest on the following pillars, which are discussed below:

1. Proposed Legal reforms for improved urban management
2. Proposed Institutional reforms and capacity building measures
3. Proposed priority areas for infrastructure investment to improve service delivery

³⁹ Mohammad Imran (2009), "Public transport in Pakistan: a critical overview", Journal of Public Transportation, 12(2). Available at: <<http://www.nctr.usf.edu/jpt/jptv12n2.htm>>

4. Increasing the resource envelope for urban investments

4.1. Proposed Legal reforms

The following legal reforms are crucial to improve urban management and increase the productivity of assets such as urban land in the next 4 years. These should be implemented by the legislature.

- i. Legislation for using modern methods urban land records:** Given that land is the most critical factor in any development, a modernized system of cadastral maps, a central registry, land titles and speedy transfers will contribute greatly towards the growth in urban areas. There have already been improvements in the property registration and transfer process, especially in Lahore in recent years, but the Government seeks to introduce additional efforts to reduce the cost and time for property registration and transfers. For this it will seek to build its capacity (and possibly make legislative amendments) to maintain urban land records using modern methods. This will cover all urban areas of Punjab, and will centralize land title records in urban areas. It is aimed to have a one-stop window for purchasing land, and to create a multi-listing service to have computerized record of available land for sale. This will result in a more active land market.
- ii. Legislation for Multiple Ownership Premises:** A major reason for urban sprawl (horizontal expansion instead of vertical growth) in Punjab's major cities is the lack of apartment culture, due to the gap in the legal framework that protects the rights of individual unit owners and provides a framework for management and maintenance of multi-story buildings. This has also led to unreasonably high cost of property, urban sprawl and the slow growth of businesses. The Government proposes that well-established concepts of Condominium development in Punjab be introduced via a legislative instrument to foster commercial and residential development. This will safeguard ownership rights of each individual owning/occupying multi-story buildings and also ensure the efficient maintenance of these buildings. In addition, it will provide a boon for the construction industry, which is a proven job creator. Draft legislation has already been prepared for discussion. This will promote commercial development as well medium and high-rise residential development. This will eventually contribute to increasing the supply of rental housing stock, especially for lower middle to middle income residents.
- iii. Punjab Building Control Act:** The Government proposes that the Building Control function be streamlined at the Divisional level across Punjab for effective control and regulation of buildings, and having enforcement mechanism for demolition and control of errant construction. This can either be via Divisional level Building Control Authorities or having a single Building Control Authority with Divisional directorates. This will enhance the quality of the built environment, and improve the business processes to speed up construction activity.

- iv. **Punjab Municipal Water Act:** Currently the water sector in urban areas is mismanaged, unsustainable and provides low quality, inequitable and contaminated service where the poor at times ends up paying more than the rich. The Government proposes to establish a Punjab Municipal Water Commission to recognize, regulate and manage municipal water. This will address the issue of sustainable management of water resources and will regulate all water service providers to ensure the provision of basic water supply. Draft legislation (the Punjab Municipal Water Act) has already been prepared for discussion.
- v. **Solid Waste Management Regulation Act:** Regulations in this area are essential for promoting integrated waste management strategies for sustainable economic growth, and social development, and mitigating adverse impacts of uncontrolled generation and disposal of waste.
- vi. **Punjab Regional & Urban Planning Act:** It is important to revise and adopt legislation for: Promoting an integrated economic, urban, and infrastructure development approach to regional planning; Regularly updating the plans through stakeholder consultations; and, Integrated land use and transportation planning in the value chain for priority sectors.

4.2. Proposed Institutional Reforms and Capacity Building

In addition to the above-mentioned set of legal reforms, the Government also believes that a complementary set of institutional changes and capacity building are required to help achieve better urban management that will improve economic growth. These include the following:

4.2.1. Institutional alignment at Divisional level for selected urban services

The urban sector in Punjab needs institutional alignment to provide equitable and improved infrastructure and services, which is vital for attracting private sector investment. Many municipal services have been devolved to the Tehsil / Town Municipal Administrations (TMAs). However, the capacity and potential of these TMAs is quite limited. As a result, apart from a few large cities, basic services and regulations are not of a good standard. The Government's recommended option is to re-align certain urban functions at the Divisional level.

The following urban functions may be performed at the Divisional level, given the benefits of economies of scale:

1. Urban Transport
2. Water & Sanitation
3. Building Control

The Government will seek to build its institutional capacity at the **Divisional level** for **building control, urban transport** and **water and sanitation** (including solid waste management), which are mainly service delivery functions. SWM companies already established in major cities can

have their mandate increased to cover water and sewerage as well. Centralized water & wastewater treatment plants, SWM Transfer Stations and landfill sites make more economic sense than having separate sites for individual towns. Any new entity for this purpose will have strong accountability to elected representatives, but with operational autonomy.

4.2.2. Building Regulations and Land Use Planning

Existing building regulations and land use planning (zoning) encourage urban sprawl and low density in our cities, resulting in expensive housing, infrastructure and services and a high cost of doing business. There is an urgent need to redesign building regulations and land use across urban areas to facilitate higher density, promote mixed-use development and enhance the ratio of investments in relation to the cost of land.

Land use regulations can be used to increase the supply of housing stock in cities, which keeps the price of housing low, resulting in a more favorable situation for lower-income tenants.⁴⁰ This is a critical intervention for our cities, given the backlog of affordable housing and the prevalence of informal housing settlements.

The Government will seek to revise Zoning and Land Use rules by encouraging **Mixed Land Use classification and high-density transportation nodes** (such as around major BRT stations in Lahore). This will eventually contribute to increasing the supply of rental housing stock. The Government will also seek to reduce processing time and high commercialization conversion fees to encourage permanent instead of temporary or unregulated conversions.

Multiple-Use Zoning with More Flexible Regulations: Multiple-use zoning will allow for medium to high-rise buildings, which help foster more efficient development that has economic value and reduce urban sprawl. The Authority may re-zone current residential areas facing high commercial demand and near the city center into “mixed-use” areas to foster development.

4.2.3. Using unproductive land for other uses in city centers

In Punjab’s large cities a chunk of land is owned by various government agencies at different tiers. This public land is often located close to the city center. The Government is considering options to release unproductive and unutilized land belonging to various State institutions in city centers to better exploit the potential of this scarce asset. This will stimulate construction activity in commerce and housing and substantially improve land utilization. Priority use of this land can be given to the development of mid-rise and low-income housing with mixed-use commercial development. It is also proposed that this land be used for multi-story offices, parks, recreational and public spaces, and community centers.

Introducing tax on vacant land/plots and enforcement of non-utilization: Land is a precious commodity. Generally people now prefer to invest in real estate rather than productive

⁴⁰ International Growth Centre (2014), “Cities and Growth: IGC Evidence paper”. Available at: <
<http://www.theigc.org/news/igc-evidence-paper-cities>>

sectors to harvest speculative dividends. The National Housing Policy 2001 and many studies in the past have emphasized upon imposing of tax on vacant developed plots after a certain period of time. An amendment in the Urban Immovable Property Tax law (1958) is required to introduce property taxes on vacant land so as to release speculative holdings for productive uses and compact development, rather than the current leap-frog patterns of development, and require regular valuation updates and improved procedures.

4.2.4. Regularize informal settlements (katchi abadis) and provide security of tenure

Research from around the world shows that providing security of tenure to people living in slums (informal settlements) has substantial benefits including: more household saving, more household investment in physical and human capital, increased access to finance and thus the potential for small and micro enterprises to grow, and an improvement in the livability of cities, amongst other benefits. Recent research in Pakistan also shows that people living in regularized settlements (those officially notified by the Government) or provided tenure security are more likely to receive better municipal services.⁴¹ The Government will seek to regularize informal settlements (katchi abadis) in urban areas to provide their residents with some form of tenure security, and provide municipal services to these settlements. This will also enable them to gradually move out of poverty.

4.2.5. Capacity building for better governance and managing urban centers

The existing technical and professional capacity of WASAs, Public Health & Engineering Department and WSS service providers in urban centers is weak, which is a major constraint for effective service delivery. These professional and technical constraints of the workforce will be addressed through trainings at the Punjab Water & Sanitation Academy in Lahore with the technical cooperation of JICA. The capacity of entities working and operating in urban centers will also be built and enhanced through the establishment of the Punjab Local Governance & Municipal Services Academy.

4.3. Priorities for Infrastructure Investments

Besides the above-mentioned set of legal and institutional reforms, the Government will also invest in infrastructure to provide basic services which are lacking in urban centers. These investments will help improve service delivery, and are necessary to make our cities and towns more livable, especially given the problems identified in the earlier part of this chapter.

⁴¹ Mahvish Shami and Hadia Majid (2014), “The political economy of public goods provision in slums”, International Growth Centre. Available at: <<http://www.theigc.org/project/public-goods-provision-and-socio-economic-hierarchies-in-lahore-slums/>>

4.3.1. Improving mobility and making public transport pro-poor

Adequate public transport is a priority area for the Government, but a lot more needs to be done to improve the mobility of the poor and give them equal access to transport options. In this area, the Government will continue supporting bus rapid transit (Metro Bus) and conventional bus systems, and explore alternative options of financing.

a) Intra-city Buses: There is a very large unfulfilled demand for public transport in the form of intra-city buses across Punjab's cities, resulting in the proliferation of unsafe and polluting means of public transport. For Lahore, the daily ridership is estimated at 240,000 for high occupancy vehicles (HOV / buses) on 29 operational routes (about 500 buses), and 200,000 for low occupancy vehicles (LOV / wagons) on 31 operational routes (about 1500 vehicles).⁴² The Government is aiming to provide incentives and operational subsidy to bus operators, to ply more buses on existing and new routes. The Transport Department and Lahore Transport Company are required to strictly enforce performance parameters for bus operators to ensure service quality and determination of operational subsidy.

b) Metro Bus / BRT: The Bus Rapid Transit is a much-needed intervention in Punjab's public transport and is running successfully in Lahore as one route. The BRT model is internationally accepted as an optimal solution for providing mobility to lower and middle income groups of society. Movement of labour to access job opportunities within Punjab's large cities, especially Lahore, is restricted due to high congestion and a poor public transport network. Studies show that physical access to job centres within Lahore and its connectivity with its metropolitan region is restricted for a number of people. This can be alleviated by mass transit and other public transport interventions such as the Bus Rapid Transit and a substantial increase in public buses. Both these measures will increase the access of labour to job centers as well as the total pool of labour available to industrial and commercial centres.⁴³ (See Box 2 below.)

The Government is currently building a BRT system in Rawalpindi-Islamabad and is exploring options for similar systems in Faisalabad and Multan, as well as an additions to the existing BRT network in Lahore.

Box 2. Potential impact of Punjab's Metro Bus (Bus Rapid Transit) Projects

For large cities, there is a pertinent need to invest in an efficient and reliable mass transit system. Evidence from around the world shows that mass transit can have a transformational impact on cities and their economic development. While Pakistan is a late entrant in this field, the successful launch of Lahore's Bus Rapid Transit (BRT) system in February 2013 has become a prototype for further investments in urban mass transit across Pakistan.

⁴² Figures provided by Lahore Transport Company and Transport Department.

⁴³ Mir Anjum Altaf (forthcoming), "Metropolitan Lahore: Economic Geography, Labour Markets and Growth," International Growth Centre. Available at: <<http://www.theigc.org/project/metropolitan-lahore-economic-geography-labour-markets-and-growth/>>

This 27 km-long BRT, connecting the city's key localities on a main artery, carries about 150,000 passengers a day. The existing BRT serves a single route (red line), but is based on a Lahore Transport Master Plan, which identifies additional Metro routes that, once constructed, will create a cohesive and integrated system for urban mobility, especially for low-income citizens.

Although at present the Lahore BRT serves only a single route, it still has important implications for region's labour market and, consequently, economic growth. The BRT can play a role in increasing the size of the labour market by providing greater access to employment opportunities for those who cannot afford private transportation. This impact is especially pronounced in the case of women, who now have a safer and more reliable mode of transport, allowing them to enhance their participation in the labour market. The BRT's exclusive right of way reduces commute time and, as a result, increases working hours which would have otherwise been lost in commuting. This can have a regional economic impact by enhancing the output of labour. The BRT in Lahore has increased the access of labour (especially poorer citizens) to job centers and also increased the total pool of labour available to industrial and commercial centres by increasing their catchment areas.⁴⁴

Given these and many other benefits, the Government has followed the example of the Lahore BRT and has begun construction for the Rawalpindi-Islamabad Metro Bus project, which is a 23-km stretch starting from the commercial centre of Rawalpindi up to the hub of Federal Government offices in Islamabad. It is also planning BRT routes in Multan and Faisalabad.

The Rawalpindi-Islamabad BRT will provide a much needed public transport link for the twin cities. It is expected to remove infrastructure bottlenecks and traffic management issues that also limit the size and the efficiency of the labour market. This will have a positive impact on economic growth.

Therefore, despite the cost of the Metro Bus projects, the potential positive impact on mobility and economic activity can be quite large, which goes beyond the initial employment opportunities created through its construction. It also develops into the democratization of space and geography for the masses, so that obstacles that hindered their access to the market are removed.

4.3.2. Clean water and adequate sanitation to improve public health

a) Clean water and adequate sanitation: Providing clean drinking water and adequate sanitation and sewage facilities to urban residents is a priority area of the Government. This is critical for public health reasons – more than 50% of diseases are water-borne. Investment in this area will have a major benefit of preventing diseases and reducing expenditure in healthcare. This will raise the productivity of our labour force, which will lead to economic growth.

⁴⁴ Mir Anjum Altaf (forthcoming), op. cit.

Investment in providing adequate sewerage and sanitation facilities has very high returns, as it has a significant impact on improving public health by reducing waterborne diseases, thus raising productivity and economic potential of labour.⁴⁵ The Government is therefore prioritizing investments in improving sanitation facilities especially in deprived areas on a need basis.

b) Solid Waste Management: While SWM Companies will be responsible for service delivery in large cities, the remaining urban centers in Punjab desperately need additional resources and better management to overcome the crisis of solid waste, which causes large health and environmental hazards. The Government will provide machinery, equipment and training to TMAs in a systematic manner, through the Punjab Municipal Services Training Institute of the LG&CD Department and the technical support of the Punjab Municipal Development Fund Company (PMDFC) and the Lahore Waste Management Company. The Government will also seek public-private partnerships for SWM activities and will introduce an incentive system to take waste to official dump sites, e.g. payment of drivers according to amount delivered.

4.3.3. Improving the resource envelope: Financing urban development interventions

The Government's goal of improvement in service delivery in urban areas will be difficult to achieve without enhancing the resource envelope available to it. This is needed to fund the major investments in services such as water supply and sanitation and public transport.

Urban Property Tax is an under-utilized resource: Based on international experience, a critical source of self-generated revenue for urban development is property tax from urban areas. A healthy base for urban property tax strengthens the fiscal base of cities and municipal governments, allowing them to invest in critical infrastructure. "A study by OECD suggests that taxes on immovable property are the most growth-friendly of all major taxes. That is even truer of urbanizing developing countries with large informal sectors."⁴⁶ Urban property tax collection in Punjab is 20% of the level of comparable countries in terms of proportion of total local revenues as well as share of GDP.⁴⁷ One estimate says that by introducing some reforms and removing exemptions, property tax collection can increase by 10 times compared to current level, and will amount to 13% of Punjab's development budget and 26% of its health and education budget for FY2010.

The Government aims to enhance the administration and coverage of property tax to all urban areas, complete its computerization and automation, and ensure that this tax revenue is spent within urban centers. It will seek to introduce the following measures: updating property valuation tables to reflect actual market values; increasing the coverage of the tax net by notifying

⁴⁵ World Bank (2011), op. cit.

⁴⁶ The Economist, "Levying the land", June 29, 2013

⁴⁷ Ijaz Nabi and Hina Shaikh (2011), "Reforming the Urban Property Tax in Pakistan's Punjab", International Growth Centre. Available at: <<http://www.theigc.org/publications/policy-brief/reforming-urban-property-tax-pakistan%E2%80%99s-punjab>>

new areas and extend existing rating areas; lowering the high tax differential between owner-occupied and rental property; reducing the currently high property tax rate which creates an incentive for evasion; completing GIS-based computerization of property inventory and automation of assessment notices in all major cities of Punjab, given the successful results so far.

Rationalizing WSS user fees and improving collection rate: Some major reasons behind WASAs in Punjab facing a financial crunch are: extremely low user fees that do not reflect the operating cost of providing services; and low collection rates / high leakages in the revenue stream.⁴⁸ Therefore, to ensure that WSS service providers have adequate resources for regular maintenance of their networks, it is imperative to: i) revise water fees to reflect their true operating cost; ii) bring more people into bill collection net and reduce leakages; iii) review and improve the service delivery model while also integrating with the private sector.

5. Punjab Urban Development Sector Plan

To implement the Growth Strategy, the Government has developed the Urban Development Sector Plan 2018 to guide its investment and reform efforts in this sector. The Sector Plan provides detailed descriptions of the strategies summarized above, along with the specific interventions at program / project level, timelines, and allocations for implementing the measures prescribed in this Growth Strategy. This Sector Plan encompassed all Departments and agencies which relate to various aspects of urban development. These Departments and agencies aim to align their medium term budgets to this Sector Plan. Additional details about the Government's plans in this sector are available in this document.

6. Conclusion

Punjab's rapid urbanization can be channeled for growth and development if certain measures are taken to improve urban governance and services for its citizens. These measures will help Punjab reap the benefits of agglomeration that urbanization brings. Without taking these measures, however, Punjab and its citizens will suffer as urban centers will become unmanageable and rife with social and economic problems.

Therefore, the Government has proposed an urban strategy that rests on four pillars: i) legal reforms for improved urban management; ii) institutional reforms and capacity building measures; iii) priority areas for infrastructure investment to improve service delivery; and iv) increasing the resource envelope for urban investments. Specific proposals in each area are provided. Combined, these interventions will substantially improve urban management and fill the large gaps in basic services for citizens – helping Punjab's urban centers become engines of economic growth.

⁴⁸ The Urban Unit, Government of Punjab (2013), "Enhancement of Own Source Revenue in Five Large Cities of Punjab: Situation Analysis and Action Plans." Report for the Punjab Cities Governance Improvement Project.



CHAPTER 6: IMPROVING AGRICULTURAL PRODUCTIVITY AND MARKET ACCESS

Chapter 6: Improving Agricultural Productivity and Market Access⁴⁹

1. Importance of Agriculture in Punjab

Agriculture is central to economic growth and development in Punjab as its contribution to national agricultural economy is overwhelming. The sector (including livestock) contributes a quarter of Punjab's GDP and employs a large portion of its labour force. It also contributes a large share to national export earnings due to manufactured products derived from agriculture, such as textiles. The agriculture surplus generated in Punjab is also critical for food security of the national population.

The Government has envisioned enhancing growth in agriculture by facilitating productivity, increasing competitiveness in agriculture marketing and trade by providing a conducive climate for private investment, and improving supply chain and value addition.

Achieving these objectives is possible. Punjab has the largest integrated gravity flow irrigation system in the world, a favorable environment blessed with the right climate conditions, high potential in value addition, and strong potential of corporate sector participation in agriculture development. These can act as drivers for growth in agriculture.

2. Benefits of Growth in Agriculture

The Government believes that increasing incomes in the agriculture sector will have wide-ranging positive impacts. Enhancing agricultural growth results in more-than-proportionate increases in household income compared to growth in other sectors. Most importantly, fast agriculture growth improves the incomes of poor household groups substantially. According to a World Bank study of 42 countries from 1981 to 2003, "GDP growth originating in agriculture benefits the poorest half of the population substantially more," compared to the more well-off population.⁵⁰

A Pakistan study has shown that increasing the productivity of agriculture (major crops) causes a substantial rise in real incomes of poor households, in rural areas as well as urban areas – the urban poor benefitting from lower real food prices. The study shows that agricultural growth

⁴⁹ The Government of Punjab acknowledges the input provided by Dr. Ali Hasanain (Lahore University of Management Sciences (LUMS)) for this chapter.

⁵⁰ World Bank (2008), "World Development Report 2008: Agriculture for Development". Available at: <<http://go.worldbank.org/J2B95EUIS0>>

also increases non-farm income in rural areas.⁵¹ Growth in productivity of agriculture is also expected to provide a large boost to industry value added (GDP) due to strong linkages between the two sectors in Pakistan.⁵²

3. Issue and Challenges

The major challenge in the agriculture sector is to ensure food security for the country's burgeoning population and create an enabling environment to achieve a high annual growth rate with a focus on small and resource-poor farmers. This will require a strategy which addresses the following issues:

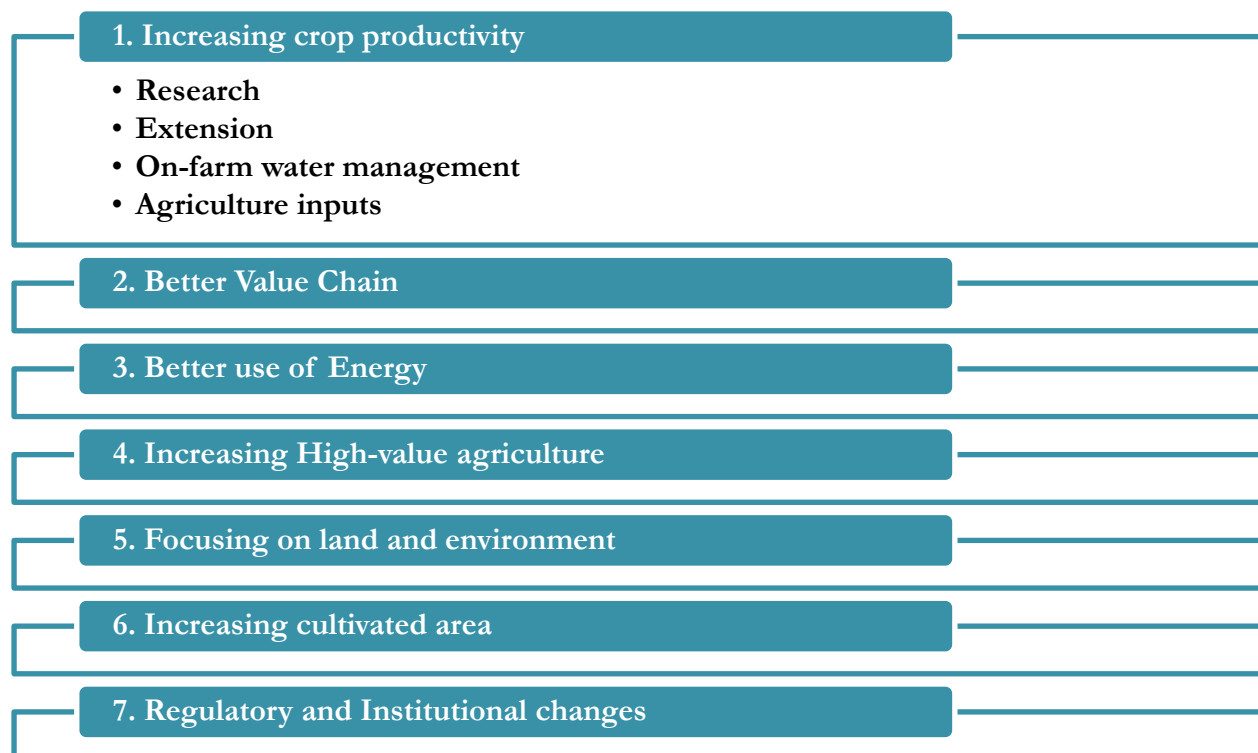
- stagnant, and in some cases declining, level of productivity of crops,
- inefficient use of agricultural inputs such as water, seeds, fertilizer etc,
- slow development and dissemination of modern technologies
- inadequate credit for agriculture sector,
- sub-optimal delivery of research & extension services,
- poor connectivity with markets, and limited value addition in the sector,
- weak institutional and regulatory framework for agriculture,
- declining investments in agriculture (both public and private),
- water scarcity,
- climate change and environmental variations, salinity and water logging

⁵¹ Debowicz, Dorosh, Haider and Robinson (2012), "Implications of Productivity in Pakistan: An Economy-Wide Analysis", International Food Policy Research Institute (IFPRI). Available at: <
<http://www.ifpri.org/publication/implications-productivity-growth-pakistan>>

⁵² *ibid.*

4. Components of Agriculture Growth Strategy

The following are the key strategic components of the Agriculture Growth Strategy:



4.1. Improving Agriculture Productivity

Large gaps exist between current yields and what can potentially be achieved through productivity enhancement as shown in Figure 11 below.

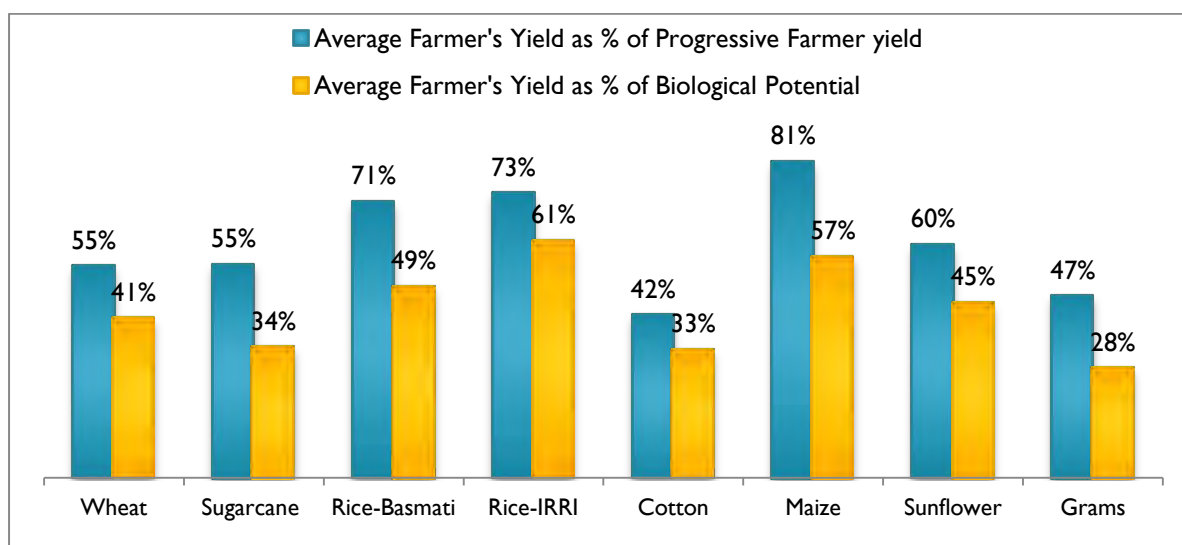
This provides an opportunity to spur growth in the agriculture sector. Simply removing the yield gap between average farmers and progressive farmers in four crops namely rice, wheat, cotton and sugarcane will increase agricultural GDP by a large amount.⁵³ Studies have shown that growth in agriculture productivity in Pakistan has been declining, and contributing less to overall agriculture growth compared to other countries.⁵⁴ The greatest increases in Punjab’s agricultural output will come from increasing crop productivity, or vertical expansion.

⁵³ Amer Ahmed and Madhur Gautam (2013), “Increasing agricultural productivity”, Pakistan Policy Note No.6, Washington DC: World Bank. Available at:

<<http://documents.worldbank.org/curated/en/2013/06/18015008/increasing-agricultural-productivity>>

⁵⁴ *ibid.*

Figure 11. Yields for Average farmers in Punjab as compared to Progressive farmers and biological potential



Note: Progressive Farmer Yield for Grams is for Irrigated. Rice (Basmati and IRRI) yields are for Paddy.
Source: Agriculture Department, Government of Punjab

4.1.1. Improving Agricultural Research

A decline in public investment in agriculture research has led to outdated research infrastructure and the slow development and dissemination of modern technologies. The proposed strategies and interventions to revitalize agricultural research include:

- **Increasing Investment:** The Government plans to increase operational funds for the Ayub Agriculture Research Institute (AARI) to 25-40% of salaries.
- **Improving the incentive regime:** The Government seeks to develop Key Performance Indicators (KPIs) for researchers and reward high achievement through promotion and financial awards.
- **Monitoring of benefit from research:** Create a monitoring and evaluation system to measure the impact of research and technology generation on sustainable agriculture development
- **Encouraging international collaborations:** Strengthen international research linkages through competitive research grants and scholarships for international researchers.
- **Encouraging Private Sector Research:** Establish a policy framework for research collaboration with private businesses, and partnerships on commercial development and dissemination of products

4.1.2. Agriculture Extension and Education

Crop systems and management issues, such as fertilizer or pesticide management, have become more complex and diverse. The challenge for Punjab's extension services is to upgrade management and extension tools in order to reduce the knowledge gap between progressive and average farmers. Proposed initiatives in extension and education include:

- **Update methods and tools of extension:** Recommendations include the establishment of new facilities – such as Agriculture Technology Park / Center of Excellence at Kala Shah Kaku or Adaptive Research Farm in Sheikhpura – and improving the capacity of existing facilities. Furthermore, exploring the potential of ICT in extension through initiatives such as:
 - Setting up an **Agri Hub** involving a databank of information on weather, market prices, and fertilizer or pesticide management, for providing targeted information via messages to farmers listed in the database
 - Piloting a progressive set of new ideas and management techniques at District / Tehsil level and scaling up.

- **More specialized extension:** A number of extension interventions are required to promote other areas of the current strategy; These interventions appear in the remaining sections of this chapter

4.1.3. Improving Farm Inputs

The agriculture sector suffers from inadequate availability and inefficient application of inputs, which fundamentally impact agricultural productivity and crop yields. The Government’s strategy in this area aims to both improve supply and optimize utilization of the following inputs:

- Water
- Seeds
- Fertilizers
- Pesticides
- Machinery
- Agricultural credit

Improving On Farm Water Management (OFWM)

Inefficient use of water is one of the major issues confronting the agriculture sector. One study shows that the irrigation system is inefficient and has large losses in every component of the delivery system across Punjab and Pakistan.⁵⁵

Pakistan’s transition from a water-abundant to water-stressed state has not led to corresponding improvements in water usage practices. The adoption of water saving technology can underpin the Government strategy in the short to medium term. Water saving technologies may be divided into two categories: 1) Technologies that can be implemented with little or no change in the traditional farming methods, such as watercourse lining, laser land leveling, and development

⁵⁵ Amer Ahmed and Madhur Gautam (2013), op cit.

of crop varieties requiring less water. Successful propagation of such methods is likely to be easier requiring demonstration and promotion. 2) Technologies that require significant modification of farming, such as setting up permanent raised beds, substituting high delta water crops with low delta crops, or the use of High Efficiency Irrigation Systems (HEIS). Such initiatives may have greater overall impact but may require greater efforts to popularize. Extension here may require investment in adaptive research, setting up demonstration farms, and aggressive propagation of success stories.

Strategies for conservation of water include:

- Water conservation above farm level through the improvement and rehabilitation of water courses
- Water conservation at farms through the increased adoption of HEIS such as drip and sprinkler systems
- Institutional and regulatory reforms, such as the Subsoil Water Conservation Act.

Along with this, since Punjab’s agriculture is heavily reliant on irrigation, the Government of Punjab’s Irrigation Department is currently undertaking or planning to undertake major investments in improving the irrigation infrastructure to improve the productivity of water use. (See Table 3 below.) These investments will be made with the financial assistance of international development partners.

Table 3. Major ongoing and upcoming infrastructure investments in Irrigation sector

Ongoing Projects
Lower Bari Doab Canal Improvement Project
New Khanki Barrage Construction Project
Rehabilitation and Modernization of Jinnah Barrage
Rehabilitation of Lower Chenab Canal System Part-B
Punjab Irrigation System Improvement Project
Pakpattan Canal & Suleimanki Barrage Improvement Project
Upcoming Projects
Trimmu Barrage & Punjnad Headworks Rehabilitation and upgradation
Construction of Jalalpur Canal
Construction of Small Dams in Potohar area
Management of Hill Torrents in Dera Ghazi Khan and Rajanpur Districts

Improving Quality of Seed

Current challenges to the provision of quality seed in Punjab include: i) lack of incentives for research, development, and commercialization of improved seed varieties; ii) weak regulations and quality control; and, iii) weak coordination between Federal and Provincial governments after the 18th Constitutional Amendment.

Proposed strategies to address these challenges include:

- Enhancing certified seed production and improving incentives to seed businesses for seed research and development
- Reducing spurious seeds through screening seed businesses, establishing input standards, and enforcement of an effective quarantine against sub-standard seeds entering Punjab
- Institutional and regulatory reforms involving the resolution of post 18th amendment coordination issues between Federal and Provincial governments as well as the enactment of legislation such as Punjab Seed Act, Punjab Plant Breeders' Rights Act, and Biosafety Guidelines for GMOs.

Improving the quality and application mix of Fertilizers:

Fertilizer application faces three major challenges in Punjab: i) poor quality and adulteration; ii) imbalance in the fertilizer mix applied; and, iii) poor awareness about correct application. Research by the Ayub Agricultural Research Institute shows that balanced use of fertilizers can increase per acre productivity by more than 20%.

In response to the challenges, proposed strategies in this area include:

- Increasing quality and reducing adulteration, via a campaign against adulteration involving stronger enforcement, screening fertilizer businesses based on quality and compliance with existing laws, strengthening field sampling and quality testing regimes, and engaging private sector laboratories as third party monitors.
- Improving balanced use of fertilizer by lobbying with Federal Government to reduce the existing price differential between overused Nitrogen fertilizer and Phosphorus and Potassium fertilizers.
- Increasing awareness about correct application through a mass media campaign to better educate farmers on optimal application, under the improved extension package.

Improving Pest Control

Strategies in this area are aimed at reducing indiscriminate use of pesticides and moving towards integrated pest management, with view towards associated health concerns and to improve acceptability in export markets. Suggested measures include:

- Tackling poor quality and adulteration through anti adulteration campaigns for pesticides
- Strengthening biological control labs to detect improper pesticide application
- Improving capacity of extension workers to train farmers on better application practices
- Building capacity of pest-warning staff to detect and disseminate warnings on pest attacks
- Providing alternate pest mitigation strategies for farmers
- Institutional reforms for improved coordination and harmonization with other provinces and federation on import, supply and use of pesticides

Tackling the Mechanization gap

Modern cropping is typically capital intensive and benefits from the use of heavy machinery throughout the cropping cycle. However, Punjab is currently deficient in the use of such machines, owing to inter alia: i) high costs and weak supply of agricultural implements, with locally manufactured machinery often having poor quality.; ii) weak demand for machinery linked to the lack of subsidies; iii) small farm sizes for the majority of farmers limiting the cost effectiveness of heavy machinery; and, iv) lack of means for cooperative collaboration amongst small farmers for using heavy machinery.

In response, proposed strategies include:

- Development of Agriculture Mechanization Policy by the Agriculture Department with support from the Agriculture University Faisalabad and through consultation with stakeholders and engagement of industrial policy experts
- Standardizing machinery specifications, which will entail listing machinery, identifying international standards etc.
- Encouraging demand for mechanization through subsidizing farm implements for zero and deep tillage, fertilizer band placement, and laser land leveling
- Facilitating the establishment of Agriculture Machinery Pools to improve collaboration amongst small farmers through: i) identifying potential locations; ii) listing program implements; iii) providing incentives for private sector investments, and iv) supporting the means for effective coordination between farmers on cropping patterns, agreement on partnership terms, and enforcing agreements

Tackling inadequate agriculture credit

The unavailability of cheap credit has been forcing farmers to use suboptimal machinery, sow and harvest crops at inappropriate times, forego the optimal mix of fertilizers and pesticides, etc.

In response, proposed strategies in this area include advocating and lobbying for:

- Provision of subsidized credit lines by the State Bank of Pakistan for agriculture
- Improving Zarai Taraqati Bank's operations
- Activating Punjab Provincial Cooperative Bank to provide more loans to cooperatives

4.2. Development of Agriculture Value Chain

In addition to increasing productivity, the development of agricultural products' value chains is critical to fostering sustainable growth in the agriculture sector. Accelerated growth in high-value agriculture will be achieved on a sustained basis if the markets work better and ensure a fair price to farmers, and utilize surpluses for processing and packaging into value-added products for local and export markets. This entails market development in terms of developing marketing infrastructure, expanding demand by the establishment of input/output certification mechanisms and engaging modern supermarkets for fruit and vegetables. In addition, this also involves expanding the supply of marketable produce by conducting research and improving management to extend shelf life. Key features of the growth strategy for the development of agriculture value chains are:

4.2.1. Creating and Preserving Value at Farm Level

This involves research towards increasing the shelf life of produce, establishment of an effective monitoring system under which farmer's produce can be made traceable, and the availability of an effective Input / Output and quality certification mechanism.

4.2.2. Improving Connectivity of Farms with Markets

Farm-to-market roads are a key means of ensuring connectivity. Under existing transport conditions in Punjab, the most important challenge is bringing produce to the local market, not of poor market-to-market or market-consumer connections. Another component of connectivity is the availability of supply chain infrastructure such as storage and cold chain infrastructure.

4.3. Better Use of Energy in Agriculture

The national energy crisis has serious implications for agriculture in Punjab. Rising diesel prices and increased power outages have reduced the availability of energy for irrigation and other farm machinery. This situation is further exacerbated by the fact that most machinery used by the agricultural sector in Punjab is energy inefficient, often being smaller and less efficient than

appropriate due to small farm sizes. Consequently, it is highly important to explore means of harnessing renewable and alternate energy to supplement conventional energy sources that are limited and expensive. Suggested measures in this regard include exploring viability of Biogas tube wells for irrigation, and supporting energy-efficient Agriculture machinery.

4.4. Promoting High-Value Agriculture

Given the diversity of the agriculture sector, the Growth Strategy also aims to balance staple food crops, higher value horticultural crops, and other commercially beneficial and export-oriented produce. Diversifying the mix of agricultural products can be useful because it makes the sector more resilient as a whole to pest attacks or shortages in specific input availability. Diverse cropping is also beneficial for soil quality over time.

While farmers will usually respond to the profit motive if the commercial benefits of switching are high, government support for the production of export-oriented crops would prove useful because the government can invest in preliminary research trials as well as the creation of the logistical infrastructure that such crops typically need.

4.5. Improving Land Resources and Environment and mitigating the impact of Climate Change

Punjab is facing a serious issue of land degradation due to water logging, salinity, nutrient mining and soil erosion. Inefficient irrigation and drainage systems and lack of awareness are the major causes of land degradation. Millions of acres of canal command area are severely affected by water logging and salinity. In addition, millions of acres suffer from poor soil health in the form of salinity and acidity. Increased cropping intensity and failure to plan crops according to nutrient profiles leads to the depletion of soil fertility and low organic matter in the soil.

4.5.1. Tackling Water Logging and Improving Soil Quality

Agriculture in Punjab creates a large drainage surplus because watering is predominantly through flood irrigation. To reduce drainage surplus, precision irrigation needs to be encouraged, as discussed earlier under On-Farm Water Management (OFWM). Furthermore, establishment of groundwater regulation systems to monitor and regulate the water and salt balance of underground aquifers is also critical.

Initiatives to improve soil quality need to focus on improving fertilizer application as well as strengthening / expanding soil testing laboratories in order to issue soil health cards to farmers for providing updated information on nutrients balance. There is also a critical need to strengthen the Punjab Soil Survey, and promote the use of remote sensing and GIS tools by the agriculture Department to improve the identification, assessment and monitoring of degraded lands.

4.5.2. Adapting to Climate Change

In Punjab, the effects of climate change are presumably being witnessed at two levels: in changes in rainfall, temperature and other weather patterns, and in extreme, unexpected events. Research is needed on changes in cropping patterns and sowing dates based on accurate weather forecasts for the cropping season. Moreover, it is necessary for the government to invest in development of crop varieties that are appropriate for changing weather patterns. Research and extension are also needed to manage high delta crops such as rice, sugarcane and maize (e.g. encouraging move from flat to bed planting and from flood irrigation to furor or High Efficiency Irrigation System). Similarly, with regards to rare catastrophic events, water resource conservation and demand management through the expansion of small scale water storage capacity and rain water harvesting at farm level represent important interventions.

4.6. Increasing Cultivated Land Area

Agriculture production and growth will also be spurred by bringing marginal lands under cultivation which have still not been colonized for different reasons and constraints. The Agriculture Department has studied various areas for increasing land under cultivation. It has chosen to focus on the expansion of irrigated agriculture in Thal, Potohar and Riverine Areas. This entails further study of the prospects for expansion, mapping of available land, preparation of a development strategy, and a policy to invite investment particularly for land development.

4.7. Improving Regulatory Framework and Institutions

A number of institutional and regulatory changes are required for creating a conducive environment for the growth of agriculture in Punjab and for implementing the proposed strategies. In order to improve the investment climate in agriculture and ensure availability of timely quality inputs, the prevailing regulatory framework for agribusiness needs to be made transparent and investor friendly.

The regulatory role of the public sector will be strengthened and necessary reforms will be introduced to ensure effective participation of the private sector in service and input-output delivery systems. The following laws will be revamped or introduced for better service delivery to farmers:

- Seed Act
- Bio-safety Act for GMO crop
- Agriculture Produce Marketing Act
- Pesticides Act
- Fertilizer Act
- Intellectual Property Right Act
- Agricultural storage laws
- Cotton Control Act
- Food Quality and Control Act

- Plant Breeders Rights Act
- Sub-soil water conservation Act
- Quarantine Laws

The Agriculture Department will also seek to strengthen its enforcement capacity to increase the effective implementation of these laws.



CHAPTER 7: FOCUSING ON LIVESTOCK AND DAIRY

Chapter 7: Focusing on Livestock and Dairy⁵⁶

I. Importance of Livestock and Dairy sector in Punjab

Livestock plays an important role in the rural economy by contributing 11.5% in national GDP and 55% in the agriculture sector's share of GDP. It is considered a source of employment generation in rural areas, helping reduce income variability. Historically livestock has been dominated by small holders to meet their needs of milk, food security and cash income on daily basis. It is central to the livelihood of the rural poor, plays an important role in poverty alleviation.

Punjab has a large share in livestock: Pakistan's livestock population, estimated at 125 million in 2006, is one of the largest in the world. A major share of this livestock population is in Punjab. It also provides two-thirds of the total milk production of the country.

Livestock's importance for rural areas: Almost 75% of Punjab's rural population is involved in the livestock sector. Small ruminants and other animals form part of rural households' food basket. They also provide a cushion in case of crop failures and can be sold to meet emergency expenditures. The sector is dominated by smallholders, with 88% of livestock owners possessing 6 or less animals.

Labour-intensive activity: Given the wide participation of small operators, developing this sector can provide an important source of increased incomes for a substantial part of the rural population.⁵⁷ It is also a very labour-intensive activity; indeed, construction and livestock are the only sectors in which the labour force absorption rate is higher than their share in the provincial economy. Moreover, women play a very important role in animal husbandry in Pakistan. The wife of a typical tenant farmer spends 23% of her workday in collecting, carrying and preparing fodder; 12% in tending buffaloes; 7% in milking and churning; and 5% in collecting dung and making dung cakes.⁵⁸

2. The Benefits of Growth in Livestock

Increase in livestock production can have a strong impact on the incomes of the rural poor. Research has shown that productivity increases in livestock and dairy can have significant

⁵⁶ The Government of Punjab acknowledges the input provided by Dr. Aisha Ghaus Pasha (Member of Provincial Assembly) and Dr. Ali Hasanain (Lahore University of Management Sciences (LUMS)) for this chapter.

⁵⁷ Crown Agents (2010), "Livestock Sector Strategy for Government of the Punjab", Punjab Resource Management Programme (PRMP) Technical Assistance Management Agency (TAMA).

⁵⁸ Rattan Sagar Khanna (2006), "Report on Feasibility of Integrated Dairy Industry in Pakistan".

positive impact on total income in the sector as well as exports. A 10% increase in livestock/dairy productivity can increase annual GDP of the primary sector by 5%, cause a decline in prices of livestock products, and increase exports of livestock products by a significant amount.⁵⁹

3. Issues and challenges

Despite its large contribution, the dairy and livestock subsector faces a number of major problems. The main difficulties are:

- low productivity per animal, in terms of milk and meat
- lack of technical training that could optimize the productivity of livestock, whether for dairy or for meat;
- low producing breeds;
- unreliable quality of inputs;
- outdated regulations that sharply limit the role of livestock and dairy markets;
- obtaining credit for farmers;
- severe imbalances in market power that leave the small producers (who numerically are the largest producers of meat and milk) vulnerable to exploitation.

Due to these difficulties, the sector has been growing at a rate below its potential. It has also not been able to contribute to exports. In comparison to the world trade of meat and livestock, Pakistan's share is miniscule. Punjab has an opportunity to increase current production and increase exports of high-value livestock and dairy value-added products.

4. Vision and Objectives

Vision: Sustainable livestock sector development which contributes to food and nutrition security, enhances its contribution to broad-based economic growth, livelihoods and well-being of actors in the livestock sector, uses its resources efficiently and contributes to the health and welfare of human and animal populations.

Objectives: The Government wants to support livestock development in a policy environment that helps farmers, by smartly deploying public investments in core public goods and inducing private capital in the sector. The Government aims to achieve this by focusing on the following objectives:

- Increase per animal productivity by appropriate measures to improve the genetic potential.

⁵⁹ Debowicz, Dorosh, Haider and Robinson (2012), op cit.

- Structurally improve extension services to guide and encourage livestock farmers to adopt improved methods of animal husbandry, by demonstrating greater efficiency and better returns as compared to traditional methods.
- Shift focus to enhancing the quantity and nutritional quality of feed and fodder supplies and its processing.
- Enable the transformation of livestock business from subsistence to commercial ventures.
- Improve the functioning of cattle markets and involve private sector wherever interest is shown.
- Promote private sector involvement and facilitate its entry into livestock sector.
- Involve community organizations and joint ventures with foreign investors in the field of livestock production.
- Monitor activities through e-monitoring to promote e-governance, based on ongoing pilots
- Reformulate regulatory regime to attract private investment in livestock value chain.
- Ensuring provision of quality products (dairy and meat) for domestic consumers and export markets.

5. Growth Drivers in Livestock and Dairy

The Government believes that the following will be drivers of growth over the next five years in this sector:

- Capacity building of livestock subsistence farmers and women for empowering them to organize, to alleviate poverty
- Animal Productivity enhancement through improved genetics, balanced nutrition & careful husbandry.
- Better functioning markets and regulatory regime.
- Private enterprise development to optimally realize potential of livestock assets, and to achieve value addition.
- Provision of quality and diversified products (dairy & meat) for domestic consumers and export markets (including the Halal food market).

6. Strategy for Livestock and Dairy: Priority areas for Reform and Investment

The strategy for Livestock and Dairy sector is based on the public sector efficiently deploying its resources and working in partnership with the private sector. The public sector will seek to move out of areas where the private sector can come in, and will work with the private sector in areas where the latter is initially reluctant to enter.

The overall approach also focuses on improving on-farm activities that will allow for maximum utilization of locally available feeds, improved shelter and general management conditions. The strategy aims to take steps which will improve the breed and thus improving the productivity of

animals. Likewise, structural improvements in extension services and improving their accessibility to small livestock owners are also important areas of intervention. Finally, improvements in value-chain of livestock products will be achieved with private sector collaboration.

The Government will also engage experts to help develop and implement a Livestock Export Strategy to cater to selected export markets that can provide high returns in a relatively short time period.

Strategic Interventions:

- Rural growth and poverty reduction through enhanced production and marketing of livestock products. Pilot already initiated.
- Restructuring and re-organization of breeding services, to enhance breeding service coverage, conduct capacity building of breeding services providers and produce quality bulls and semen and increase the conception rate in buffaloes.
- Strengthening Livestock Research Institutes, to undertake research on all aspects of livestock production and reproduction and undertake technology transfer and extension activities
- Exploration of biogas energy resources at livestock farms in holistic manner
- Augmenting rural poultry production in less developed areas
- Engaging experts to develop and implement a Livestock Export strategy

6.1. Increasing per animal productivity

The productivity of milk per animal in Punjab is very low as compared to international standards. Average milk production does not go beyond around 1,800 liters per lactation period for cows, whereas internationally it is around 8,000 - 10,000 liters. To increase productivity of milk and meat, genetic improvements through a progeny testing program will be enhanced and in short term, the following measures will be adopted: improved animal husbandry; nutritious food; use of quality semen; cross breeding both in milk and meat; and embryos transfer.

6.2. Increasing the coverage and results of extension services

Extension services do not cover the entire population of livestock farmers. Steps will be taken to enhance this coverage to increase productivity of animals using the same quantity of inputs. Training and education will be a part of extension services, and cattle fairs will be held to incentivize farmers to adopt modern techniques of animal husbandry. These extension services will be monitored through information technology such as smart phones. Such e-monitoring has already been introduced in pilot areas in Punjab, which will be expanded to the whole province.

Extension services will also focus on nutritional food for the animals. Presently, the majority of the farmers do not use food having proper nutritional ingredients, which limits their

productivity. Extension services will introduce the use of fodder and balance diet to make farmers realize its benefits and encourage them to use this feed.

The Government will also improve the capacity of existing Livestock & Veterinary Research Institutes and establish District Livestock Development Centers to provide animal health and advisory services for livestock owners and business facilitation services.

6.3. Bringing livestock farmers into formal sector through collective services

In Punjab, around 95% of livestock holders are not in the formal sector. They consist of farmers with small number of animals and are fragmented. Therefore, they are unable to collectively use their bargaining power. There is a need to bring these groups together and introduce marketing mechanism in the sector. The Government will aim to bring majority of livestock farmers into the formal sector by introducing common milk collections, chilling and pasteurizing milk before dispatch to the market and helping them in establishing market linkages.

6.4. Developing and implementing Livestock Export Strategy⁶⁰

The Government has engaged experts to develop and implement a Livestock products Export strategy to cater to selected export markets that can provide high returns in a relatively short time period. It aims to replicate the growth in per-animal productivity achieved in Turkey in the recent past, which will create an exportable surplus of livestock products. Through extensive efforts in improving hygiene and sanitary standards, the Government aims to benefit from this surplus and channel it in export markets within Asia and beyond.

Besides implementing a medium-to-long term livestock strategy, the following measures will be sought in the short term to promote livestock exports:

Dedicated livestock export zone: A part of Punjab will be declared as a dedicated livestock export zone and provided the required infrastructure, services and support to the private sector to function as a ring-fenced model.

Seeking Export agreements with Indonesia and China: There is a substantial opportunity for meat exports (live animals as well as processed meat) to Indonesia. To harness this opportunity, the Government will seek agreements with Indonesia, which exports Punjab's meat to fulfill the rising demand-supply gap in that country. Similarly, the Government aims to develop an export agreement with Chinese corporations to cater to the rising demand for meat and milk-based protein in that country.

⁶⁰ Policy actions in this sub-section are derived from McKinsey & Company's recommendations to Punjab Government on developing a Livestock Exports Strategy.

Encouraging Foreign Direct Investment in Dairy sector: The Government will seek the expertise of global giants in the dairy industry such as Nestle, Fonterra and others to assist in the development of the domestic dairy industry. Nestle already has a substantial presence in Punjab and will be encouraged to enhance its investment and channel global good case practices to domestic dairy farmers and value chain participants.

6.5. Improving regulation in livestock sector and the functioning of livestock markets

A priority area for the Government is to improve the quality of regulation in the sector, in order to enable higher growth. A related aim is to improve the functioning of livestock markets to the benefit of farmers. There is also a need to rationalize laws, which with time have been rendered almost redundant, and to fill the deficiencies in the legal framework.

Cattle Market Rules

The livestock market suffers from control through price caps. Such caps not only distort the market, but also raise quality concerns. Under a revised set of Rules, the Government will devise a system of practical price monitoring which does not interfere in the normal functioning of the business of meat and milk.

The Government aims to improve the auctioning process and provide better facilities at the markets. The managing contractors for most markets do not provide the basic and required facilities, and there is no certification of health status for buyers. Veterinary services are also rarely present to monitor livestock health, to regulate entry of diseased animals or to quarantine diseased animals. Market charges and way of collection is also not standardized, which results in the exploitation of livestock producers.

The revised Rules will contain provisions to enable farmers to increase their negotiating power in the market. A system to provide facilities for the animals to stay for two or three days at the site of the market will be introduced, to give the farmer more time to negotiate a better price.

Milk and Meat Quality Rules

A significant quantity of milk produced here is reportedly adulterated and is not fit for human consumption. A Food Safety Law has been passed by the Government under which meat and milk quality standards are notified. These rules will be modified to develop standards for milk and meat quality, and to provide a framework that will ensure the monitoring of this quality.

Breed Control Act

Breed improvement plays an important role in improving the productivity of animals. In the short term there is a need to ensure availability and quality of indigenous dairy breeds to meet the increasing demand to provide the optimal cross between exotic and locally adapted breeds,

until private industry can produce these commercially. The private sector, along with the Government, has entered into the market of semen production and supply. However, to regulate this important business and save the local breed, no rules have yet been framed. The Government intends to introduce a regulatory framework in this regard after carefully reviewing which breeds require preservation, the effectiveness of processes for assessment of genetic status of semen, level of subsidy that can be provided by the government, a survey of user characteristics and analysis of ability of users to pay commercial rates; and an analysis of the constraints to public AI services such as semen quality and quantity, availability and training of human resources, geographical limits to service, and awareness/ adoption issues for users. The Government will ensure the facilitation and regulation of a viable breeding industry, which meets the needs of expanding milk and meat production industries with no restriction in private investment and trading in livestock genetics.

Slaughter Control Act

This Act will be revised to ensure the free functioning of the market by removing distortions. A revised Act will also set standards and facilitate the establishment of slaughterhouses in the private sector.

Cruelty to Animals Act

This Act will also be revised to set standards and to approve techniques to ensure that no cruel slaughtering techniques are used. General animal welfare should also be ensured in markets, during transportation, while conducting research, during commercial production that reflects good commercial livestock practice as well as current attitudes of society. The absence of such provisions not only exposes the animal to cruelty, but also makes it difficult to export meat that has not been slaughtered in accordance with international practices.

6.6. Organizing subsistence farmers and provision of subsidized inputs

The Livestock Department will also help organize groups of subsistence farmers and provide them with free or subsidized inputs such as basic vaccination, de-worming and quality semen. The Government will seek to increase access of small farmers to working capital through measures such as a revolving fund, so that their reliance on the *gawala* is reduced. The bargaining power of small farmers will also be enhanced by setting up chillers so that the farmers' community can store their milk for longer periods.

6.7. Using Department-owned infrastructure as a model

The Department will seek to maximize the utilization of its own public assets and utilize them as models for replication. The department controls assets including 22 farms covering 82,000 acres, feed mills, and several curative facilities. The Department will aim to develop public-private partnerships in these areas and encourage the private sector to provide its expertise and investment to improve the efficiency of these government-owned assets. These assets will be

used to test and showcase new methods of animal husbandry and other aspects, which can then be replicated by farmers to improve the productivity of milk and meat per animal.

6.8. Feed production and monitoring

There is little focus on research and development of feed as a commodity. The Government will seek to introduce measures to ensure quality assurance through the food chain by developing traceability of non-manufactured feed purchased by livestock producers through a vendor declaration procedure. The Government will also support trade in non-manufactured feeds/forage as a commodity, based on availability of objective quality analysis, underpinned by a quality assurance process.

6.9. Disease surveillance, control and treatment

The Government will develop a surveillance program to detect new diseases and monitor changes in their prevalence. Private veterinary clinics will assist in monitoring and reporting disease prevalence. Veterinary practitioners' and producers will be guided to provide treatment in line with the labels attached to medicines.

6.10. Implementing the Livestock Sector Plan

To implement the Punjab Growth Strategy, the Livestock Department is currently in the process of developing a Sector Plan to guide its investment and reform efforts in this sector till 2018. This Sector Plan lists specific programs that the Department and its attached organizations will implement to achieve its goals.



CHAPTER 8: EDUCATION TO ENHANCE HUMAN CAPITAL

Chapter 8: Education to enhance Human Capital⁶¹

I. The Importance of Investing in Education

Economic theory identifies an economy's human capital, i.e. its educated workforce, as a factor that makes a vital contribution to economic growth; its contribution arising through the adoption of more efficient production technologies and improved labour productivity. Besides this, public investment in education can yield multiple dividends for society.

Education is a means for upward economic mobility: Education has the potential to create opportunities for upward economic mobility, especially for the poor. For most poor people, the only asset they can use to earn income is their labour. Obtaining quality education expands the opportunities available and raises the return to labour, particularly for the poor. Research has established that every additional year of schooling leads to an 8%-10% average increase in future income from wages. Therefore, education has the potential to bring about an “economic democracy” in a society with unequal distribution of wealth.

Education is a demographic necessity: For countries like Pakistan with a large population of youth (the “youth bulge”), mass education will help maintain social cohesion. Investment in better education, health and job skills for youth can produce prosperity for years to come and reap a rich demographic dividend. On the other hand, failure to do so may lead to increased risk of conflict, violence and unrest in the future.

Education is a fundamental right: Basic literacy and numeracy are also considered a fundamental right that governments should guarantee their citizens. The Constitution of Pakistan makes education compulsory for everyone younger than 16 years.

2. Overview of Punjab's education sector and its problems

Pakistan lags behind other countries and regions of the world on education, based on indicators such as literacy rates and school attendance rates. While Punjab has better performance in education compared to the rest of Pakistan, it fares weakly when compared to other countries in South Asia. Also within Punjab there is substantial variation between children from different backgrounds. School enrolment is much higher among high-income groups than the poor,

⁶¹ The Government of Punjab acknowledges the input provided by Dr. Farooq Naseer (Lahore University of Management Sciences (LUMS) and Institute of Development and Economic Alternatives (IDEAS)) for this chapter.

mostly higher for boys than girls, and different between the northern and southern parts of the province.

2.1. Progress on achieving Education-related MDGs

Looking at net attendance rates⁶² in Table 4 below, Punjab like the rest of Pakistan has not achieved MDG 2, which has the target of ensuring that all girls and boys will be completing a full course of primary schooling by 2015. A large number of children of primary school age still remain out of school. The net attendance rates are lower than the gross attendance rates, due to the high number of “overage” children in school as a result of late enrolment and high repetition. Southern Punjab districts have around 40% or lower net primary enrolment ratios. These simple figures for Punjab are important to help establish how effectively and appropriately children are being enrolled in schools. Gender inequality in education is also a key MDG target, and despite strong progress in Punjab, the gender gap still needs to be narrowed.

Table 4. Progress on Education-related MDG Goals

	Punjab	Pakistan	MDG Target
MDG 2: Achieve Universal Primary Education			
Net primary enrolment ratio (2011-12)	64%	57%	100%
Completion/survival rate Grade 1 to 5 (2011-12)	52%	50%	100%
Literacy rate (2011-12)	60%	58%	88%
MDG 3: Promote Gender Equality & Women’s Empowerment			
Gender Parity Index, Primary Education (2011-12)	0.95	0.9	1
Gender Parity Index, Secondary Education (2011-12)	0.85	0.81	0.94
Youth literacy Gender Parity Index (2011-12)	0.88	0.81	1

Source: UNDP, Punjab MDG Report 2011⁶³

⁶² Net attendance rates are equivalent to Net Enrolment Ratio (NER), calculated as the ratio of all children in a given education level who are of the right age for that level compared with all children in the age range formally corresponding to that education level, e.g., the number of primary school-aged children (5-9 years) who are attending primary school as a percentage of the total number of children in that age group.

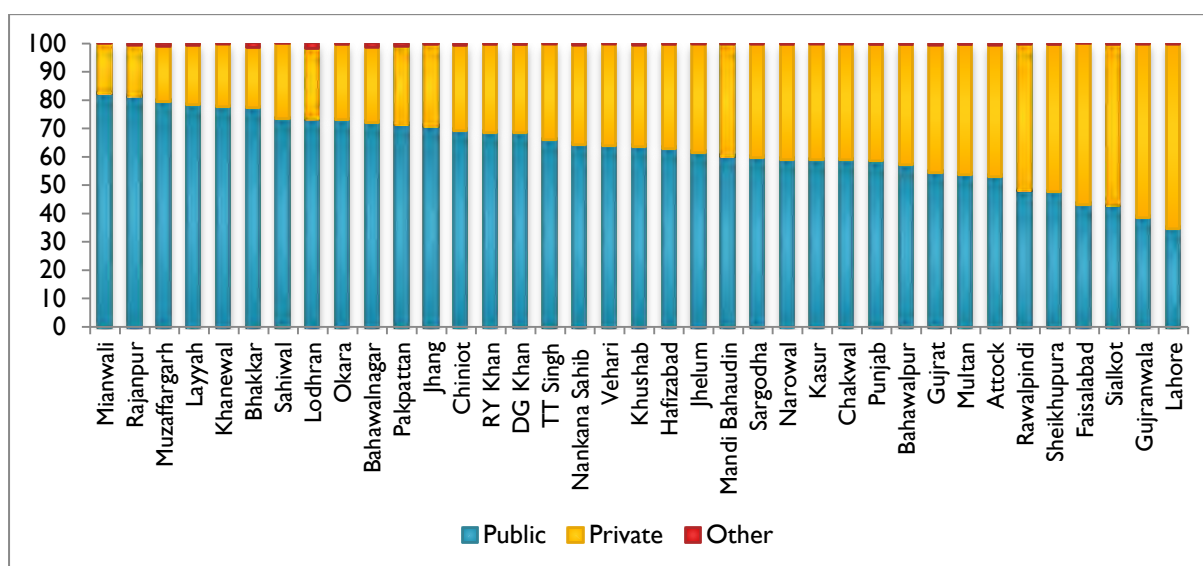
⁶³ Government of Punjab and UNDP (2011), “Punjab Millennium Development Goals Report 2011”. Available at: < http://www.pk.undp.org/content/pakistan/en/home/library/mdg/publication_2/ >

2.2. Regional Disparities remain

There are educational disparities based on gender and wealth that exist across districts, communities and schools **within** Punjab. The Government is cognizant of this and seeks to eliminate these disparities. In Punjab as in the rest of the country, people with the lowest levels of education are largely found in the poorest segment of the population, and children growing up in households whose members have low education levels are among the most excluded from education. This is a dramatic example of the inter-generational impact of poverty

While facilities in government schools such as free textbooks and infrastructure have been increasingly well-supplied across many districts, there still remain large gaps in primary attendance rates and relative penetration of private schools across Punjab. (See Figure 12 below.) The overall Net Attendance Rate (NAR) for Punjab was 59% in 2011, but it varied between 38% for Rajanpur District and 82% for Jhelum District.⁶⁴

Figure 12. Share of Public & Private Schools in Total Primary School Enrolment in Districts



Source: Punjab MICS Report 2011

2.3. Quality of learning needs improvement

Beyond quantity, another concern is the quality of the education – and the Government is seeking to prioritize this area. There are deficits in basic infrastructure and teaching materials, and weaknesses in the systems for training, engaging and managing teachers. As a result, available assessments indicate poor levels of learning.⁶⁵ When comparing the performance of

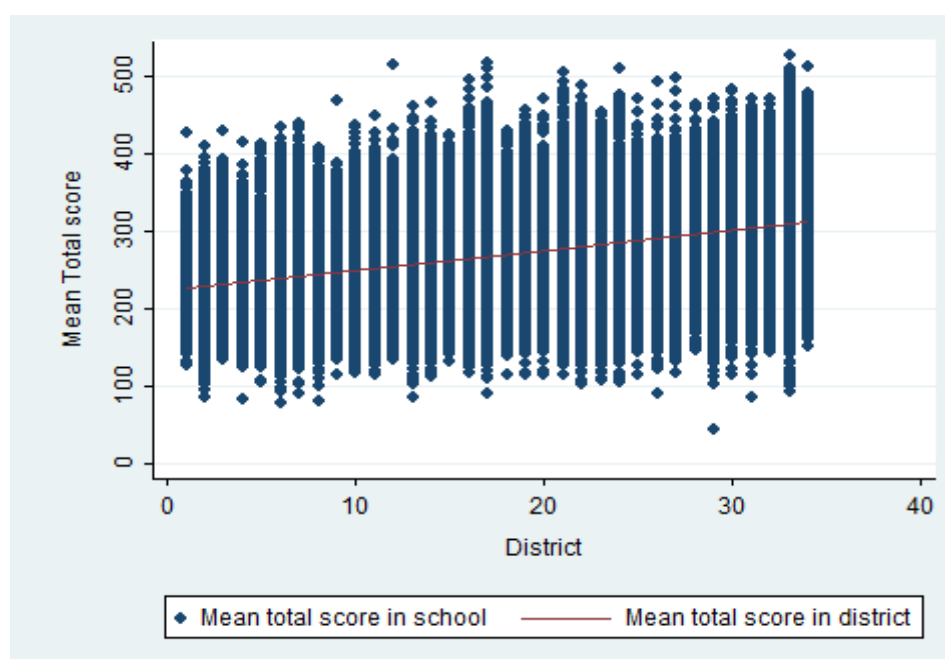
⁶⁴ Government of Punjab (2011), “Punjab Multiple Indicator Cluster Survey (MICS) Report 2011”, Punjab Bureau of Statistics. Available at: <<http://www.bos.gop.pk/?q=provincialreport>>

⁶⁵ ASER Pakistan (2011), “The Annual Status of Education Report—Pakistan”, as mentioned in Halil Dunder and Huma Waheed (2013), “Expanding Access to Quality Education”, Pakistan Policy Note No.9, Washington DC: World Bank.

Punjab students with those in India on identical tasks, a study found that students from Pakistani Punjab “fell in the middle of the spectrum” of learning achievement shown by students from different Indian states.⁶⁶

Large variation of quality of learning within each District: There are also disparities in learning outcomes **within each District**. Figure 13 below shows student test scores from Punjab Examination Commission from 2009 and reports school average scores (dots) and the District-level average test scores (line) for all those public schools where at least five students took the class 5 PEC exam. The figure shows that there is variation of exam scores within each District. This shows that the major issue of poor quality of learning lies with specific low-performing schools in every District.

Figure 13. Average total score for each School and District (PEC Class-V Exams, 2009)



Note: A dot indicates the average score obtained by students in one government school. The line connects the District-level average scores. Source: Figure made by Farooq Naseer and IDEAS, based on data from Punjab Examination Commission (2009).

3. Ongoing efforts to improve school education in Punjab

3.1. Punjab Education Sector Reforms and Education Roadmap

The Government’s current approach for Education Sector Reforms and implementing the recently-developed Education Roadmap provides a strong focus on District-level delivery targets. With the help of leading international experts in delivering public services such as school

⁶⁶ Jishnu Das, Priyanka Pandey & Tristan Zajonc (2006), “*Learning Levels and Gaps in Pakistan*”, World Bank. Available at: < http://papers.ssrn.com/sol3/papers.cfm?abstract_id=944668 >

education, the Government has developed a Reform program and the Education Roadmap to guide its approach in this sector for the medium term.

This approach has achieved success in providing missing facilities in schools, especially in girls' schools and government schools in Southern Punjab. The next step will be to improve learning outcomes. To achieve this, the Government will pursue school or community level interventions that vary within Districts from one school cluster to another.

3.2. Emergency Enrollment Campaign in 2014 for out of school children

The Government strives to achieve the MDG 2 (“achieving universal primary education”) by maximizing the net primary enrolment ratio. For this, the School Education Department launched a large-scale Emergency Enrollment Campaign in 2014, targeting to enroll as many as 4 million out of school children aged between 5 to 9 years. To this end, the Government has been able to enroll about 3.7 million out of school children in that age group.

3.3. Large-scale competitive and transparent recruitment of science and mathematics teachers

The School Education Department has also taken steps to improve the quality of education. This includes implementing the CPD framework to impart in-service / on-the-job training to staff, as well as the competitive and transparent recruitment of science and mathematics teachers through competitive exams run by the National Testing Service. Till date, about 80,000 teachers have been recruited and inducted in the system through this competitive and transparent process.

3.4. Facilitating the private sector in delivering pro-poor education

The Government has been leveraging the ever-increasing private sector in education service delivery. A variety of partnership arrangements with the private sector are currently active, including those operating under the Punjab Education Foundation (PEF) and others run directly by School Education Department.

The PEF has been using the following models with a degree of success:

- channeling funds for the expansion of private sector access through subsidization or voucher schemes;
- funding of private school initiatives;
- New School Programmes (NSPs) and Foundation Assisted Schools (FAS) as well as vouchers (merit and need based for low income families).

The School Education Department has targeted to enroll 2.5 million children through public private partnership in PEF “Partner Schools” by 2018.

In addition, the School Education Department has also contracted civil society organizations for management of public schools through its Adopt-a-school Programme. The government aims to regulate and monitor the performance of these schools by setting criteria for issuing license and by making it mandatory for them to apply for periodic renewal of their licenses. See Box 3 below.

Box 3. Public Private Partnership models in Education in Punjab

Public private partnership (PPP) arrangements offer Punjab a flexible set of policy mechanisms for improving the delivery as well as financing of basic education. The three main PPP models that are used in Punjab are explained below:

1) Targeted Voucher Programs:

The Education Voucher Scheme (EVS) run by Punjab Education Foundation (PEF) is targeted at children in low income neighborhoods. The voucher enables these children to attend the nearest private schools of their own choice that are approved by PEF. Targeted voucher programs such as EVS can be a useful way to widen access to quality education for who would not be able to afford it otherwise.

2) Partnerships for Management: Adopt-a-school Program (AAS), Punjab

The Government hands over management of low-performing, under-resourced schools to private managers. Estimates suggest there are nearly 3,000 state schools being managed by private organizations. There are a few big partner organizations:

- CARE foundation, the oldest partner organization is managing nearly 200 schools in Punjab, through a contract with the provincial government.
- NRSP has been contracted by the District government in Rahim Yar Khan to take over management of nearly 2,400 rural schools. The program began in 2002 with a 48 schools.
- PEN foundation, the most recent partner organization is managing around 20 schools in the province.

3) Contracting Private sector delivery services: PEF Foundation Assisted Schools and New School programs

These partnership models operating as part of the PEF schemes are focused on support for private sector expansion and increasing access to education. These mechanisms involve subsidies for private schools.

PEF provides subsidies to private schools as part of its **Foundation Assisted Schools program**, where participating schools are paid a stipend on a per-child basis (Rs. 350 per child), conditional on the school meeting a performance criterion. Participating schools cannot charge students any user-fees, making them a real option for low-income households. The program covers more than 800,000 students. The program includes performance-based incentives at the school and teacher levels: teachers are entitled to direct monetary bonuses, and if any school fails

to meet the minimum academic standards (established through periodic assessment tests), they are removed from the program.

Performance-based incentives that are part of this partnership mechanism introduce accountability and risk-sharing between governments and private providers. This program is of great policy interest because of its cost-effectiveness. However, while the per child costs in Foundation-Assisted schools are a fraction of those in government schools, teacher salaries in these schools are quite low.

The **New School Program** has more than 200 schools in Punjab, covering more than 20,000 students. This program encourages private school owners to set up in remote areas where private schools are absent or scarce.

4. Priority Areas for Reform and Investment

This section provides the implications of the above analysis as it applies to education policy in Punjab vis-à-vis the Growth Strategy.

4.1. Increasing the Demand for Primary Education

The Government will also focus on demand-side interventions to increase the demand for education amongst poor and vulnerable groups, and will use policy instruments that have been successful in other parts of the world.

While increasing the supply of educational inputs (schools buildings, textbooks, recruitment of quality teachers) is important, large-scale construction of primary schools (in a bid to universalize primary education) is not enough. There is a strong need to take the demand for education into account. Conditional cash transfer schemes have proved to be an effective policy instrument to increase demand for education and, thus, enrolment. Since education can provide upward economic mobility, a cash transfer program to expand enrolment among poor and vulnerable groups can be effectively combined with existing social protection programs. There is a strong need for this in Punjab, because research shows that there are entrenched structural gaps in education attainment of certain disadvantaged groups due to lack of asset ownership, gender and perceived cognitive ability.^{67 68}

⁶⁷ Tahir Andrabi, Asim Khawaja, Jishnu Das, Tristan Zajonc, Tara Vishwanath and LEAPS Team (2007), “Learning and Educational Achievements in Punjab Schools (LEAPS): Insights to Inform the Education Policy Debate.” Available at: < <http://www.leapsproject.org/site/> >

⁶⁸ Ali Cheema and Farooq Naseer (2013), “Historical Inequality and Intergenerational Educational Mobility: The Dynamics of Change in Rural Punjab.” *The Lahore Journal of Economics*, Volume 18. Available at: <<http://121.52.153.179/JOURNAL/LJE%20vol%2018%20se/09%20Cheema%20and%20Naseer.pdf>>

4.2. Harnessing the strengths of the Private Sector for Education

The Government will deepen its engagement with the private sector by providing licenses to prospective school owners and through public-private partnership (PPP) programs. While the Government will lead the reform in education quality and education attainment, it will acknowledge, engage with and leverage the ever-increasing private sector in education service delivery. The various schemes and initiatives of PEF (as discussed above in Section 3.4 of this Chapter) will be fully supported by the School Education Department and integrated into overall education policy rather than being a completely detached item of public expenditure.

4.3. Improving the Quality of primary and lower secondary education

While expanding enrollment is important and a Constitutional commitment, it cannot be done without improving the quality of education. Research shows that only good quality primary education has an impact on economic growth.⁶⁹

The Government will aim to maximize the time teachers spend within the classroom, by limiting activities that divert teachers' time to other duties. This is a non-trivial point since the length of the school year (i.e. class time with teachers) is consistently found as an important factor in student learning improvement.

Further, deteriorating quality of education in public schools is one of the leading factors behind the existing education emergency. Improving quality at the most foundational level will help increase enrollment in government and neighboring private schools and also help achieve better learning outcomes at all subsequent levels of education.

Improving education quality through teacher reform: Teachers are consistently found to be central to the learning process in schools⁷⁰ and, as such, an improvement in education quality must place heavy emphasis on reforming how teachers perform. This requires:

- better management of the public school teaching workforce;
- improved and flexible selection process for teachers;
- improvement in pre-service and in-service training programs;
- fair and transparent procedures for appointments, transfers and promotions.

The in-service training of teachers offers opportunities for ongoing professional development of teachers. The existing teacher development program of the Directorate for Staff Development has the potential to provide demand-relevant trainings and support to government school

⁶⁹ Castelló-Climent and Mukhopadhyay (2013), "Mass Education or a Minority Well Educated Elite in the Process of Growth: the Case of India", *Journal of Development Economics*, 105.

⁷⁰ Halil Dunder and Huma Waheed (2013), op cit. Available at: <http://documents.worldbank.org/curated/en/2013/06/18014544/expanding-access-quality-education>

teachers. This program will be enhanced to improve the overlap between professional development activities and classroom practice.

Improving School Management to ensure better learning outcome: It is a necessary but not sufficient condition that well-performing schools also tend to be well-managed schools. Therefore, the identification of suitable head teachers, their empowerment, as well as their training in school leadership will improve school management. Effective school leadership can turn a school around and help build a local support base for education in their communities.

Government schools are also shown to improve learning by offering remedial classes to low-performing students. This requires extra time spent after school time. When the head teacher is sufficiently empowered, he/she can utilize the services of a teaching aide hired locally from the community. As part of its professional development initiatives, the Government will consider providing school management and resource management trainings to head teachers of each school.

Regular low-stakes testing of Learning Outcomes to establish progress: An important measure to assess progress in learning outcomes is to have an accurate measurement of what the students are learning in their schools and tracking it over time as different policies are introduced. However, unlike standard PEC exams, these measurements will not be tied to any rewards or incentives, and will only be for the purpose of measuring overall progress. Given the prior expertise developed in administering PEC exams and conducting PEAS assessments, Punjab will develop a program to test a representative sample of schools in each District every 1 to 2 years, so that results can be generalized to infer the quality of education in schools in each District.

4.4. Decentralization alongside Provincial Government push

The Punjab Local Government Act of 2013 mandates the creation of District Education Authorities that will oversee the delivery of education in their respective Districts. These Authorities will be staffed by professionals and be led by elected political representatives from the District. However, research shows that decentralization of education governance without corresponding fiscal decentralization may not improve the educational outcomes. Therefore, even with education governance being devolved to District level, a strong push from the Punjab Government for expanding access and quality of education will continue to remain a priority and of critical importance.

4.5. Transition to Secondary Education

The policy for secondary education will focus on retention of students in secondary school, especially female students, as the dropout rate of secondary school female students is high.⁷¹

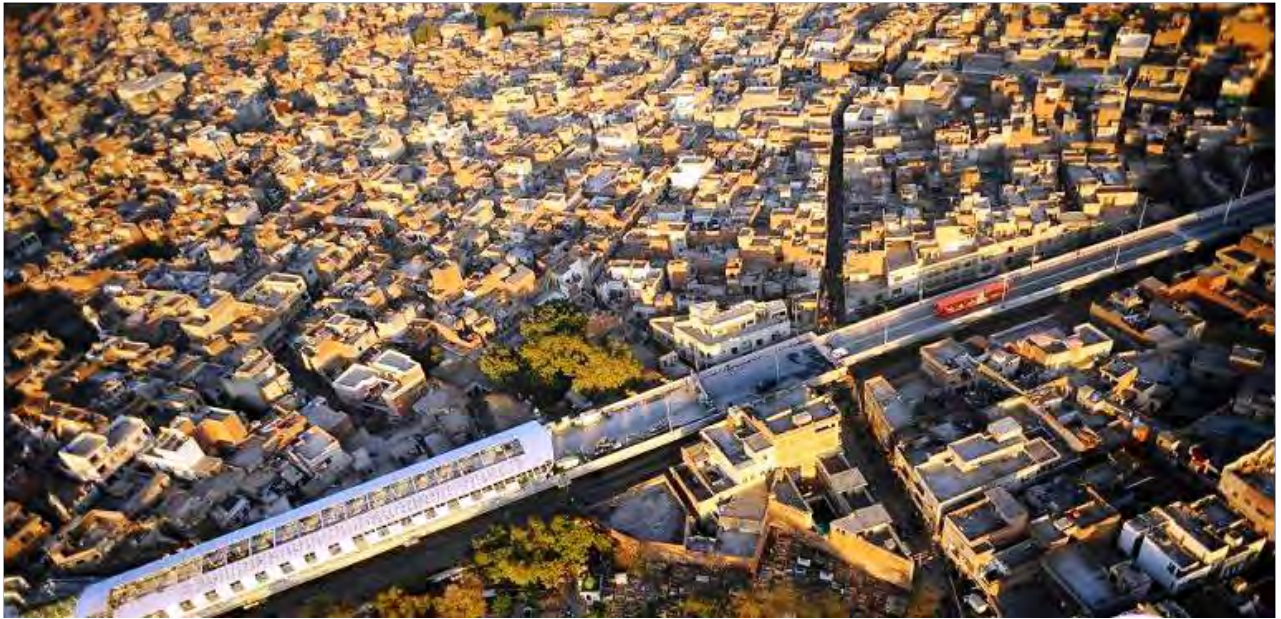
⁷¹ UNESCO (2011), “Policy Analysis for Education in Punjab Province”.

There is a 1:6 ratio of secondary to primary school enrolment in Pakistan.⁷² It is critical to ensure that students remain in school beyond primary level, because the economic benefit of education are positively related with the number of years of schooling.⁷³

A large number of secondary school graduates often do not enroll in tertiary education and instead they enter the labour market. The Government aims to train these students in work-related skills, with schools also providing them with the options to undergo vocational training.

⁷² Government of Pakistan, Ministry of Education (2009), “National Education Policy 2009”. Available at: <<http://unesco.org.pk/education/teachereducation/files/National%20Education%20Policy.pdf>>

⁷³ Geeta Gandhi Kingdon (2009), “The Economic Benefits of Education in India”, mimeo.



CHAPTER 9: DEMOGRAPHY AND POPULATION

Chapter 9: Demography and Population⁷⁴

I. Introduction and Context

Punjab's population today at close to 100 million is the size of the total population of Pakistan in 1982. It has increased fivefold in the last 60 years. Punjab's current annual population growth rate is around 2.1%.⁷⁵ However, there is an opportunity for economic growth through a faster fertility decline.⁷⁶

Figure 14 below shows Punjab's population pyramids for 1972, 2013, and 2050, which depict Punjab's changing age structure. Punjab is currently passing through the middle phase of the demographic transition although it still has a large youth population: 65% of the province's population was under the age of 30 in 2013.

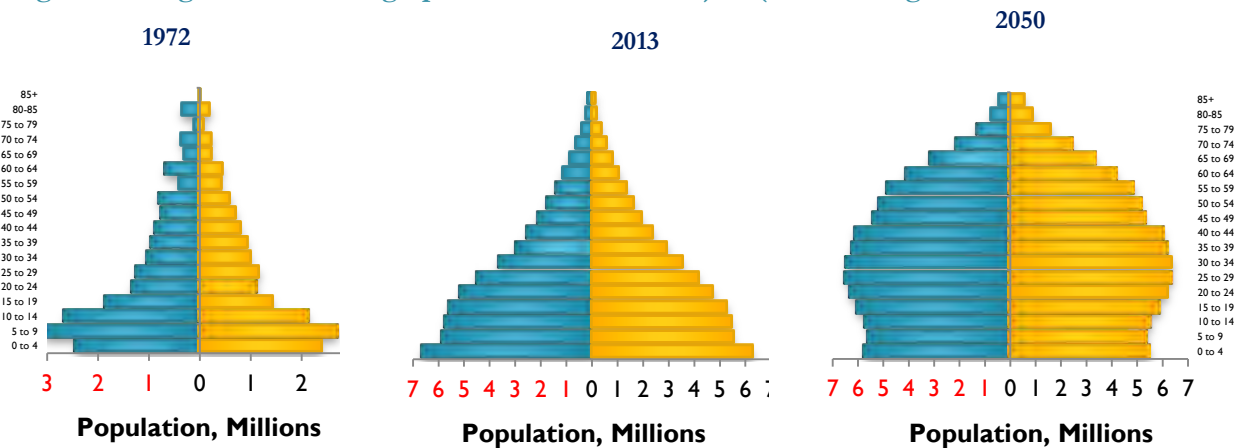
Possible demographic dividend for Punjab: Falling dependency ratio (ratio of dependents--people younger than 15 or older than 64--to the working-age population) is the most important change that will affect Punjab's employment needs, and can lead to an impetus for women and youth empowerment and fuel the economy. Already in decline, this is a result of past declines in fertility and a rising working-age population and declining numbers of children. On offer with other aspects of the Growth Strategy in place, is the opportunity of a demographic dividend in Punjab for the next 3 decades. However, changes in age structure will continue only if fertility rates continue to decline.

⁷⁴ The Government of Punjab acknowledges the input provided by Dr. Zeba Sathar and colleagues at the Population Council for this chapter.

⁷⁵ Zeba Sathar, Asif Wazir and Maqsood Sadiq (2014), "Prioritizing Family Planning for Achieving Provincial Maternal Child Health and Development Goals", Final Report. Population Council, Islamabad. Available at: <http://www.popcouncil.org/uploads/pdfs/2014RH_PrioritizingFP_RAF-Report.pdf>

⁷⁶ Zeba Sathar, Rabbi Royan and John Bongaarts (editors) (2013). "Capturing the Demographic Dividend in Pakistan". Population Council Book Series: 1 (1). Available at: <[http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)2326-4624](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)2326-4624)>

Figure 14. Stages of the Demographic Transition in Punjab. (Males on right side)

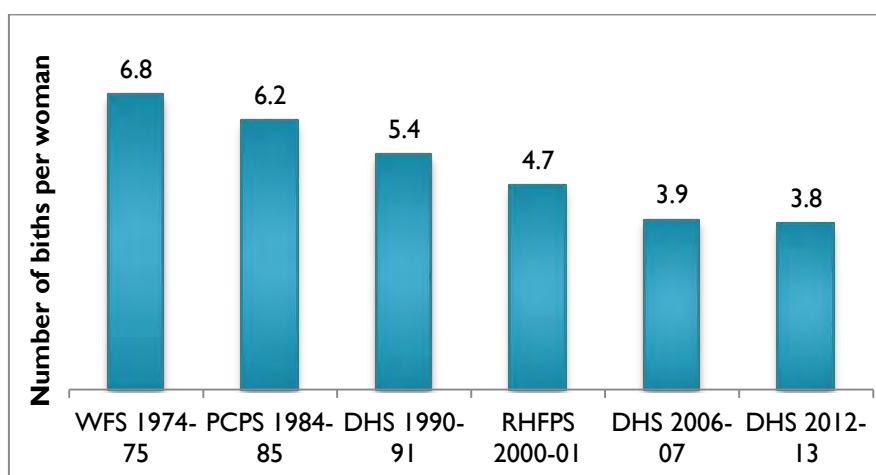


Source: Population Council Estimates

2. Current Status: Family Planning and Population growth

Relatively high Fertility rates: Fertility rates in Punjab have gone down significantly throughout the province with total fertility rate (TFR) reducing almost 50% since the 1970's, at 3.8 children per woman in 2012 (See Figure 15 below). In recent years, however, the rate of decline has slowed down stagnating at almost four children, much higher than all neighbouring Muslim and South Asian countries. Apart from the increasing additional demands on resources, the fertility rates are linked directly to almost all the MDGs as well. Improving fertility rates can help reduce maternal and infant and child deaths, enhance women empowerment, encourage girls' education and reduce poverty.

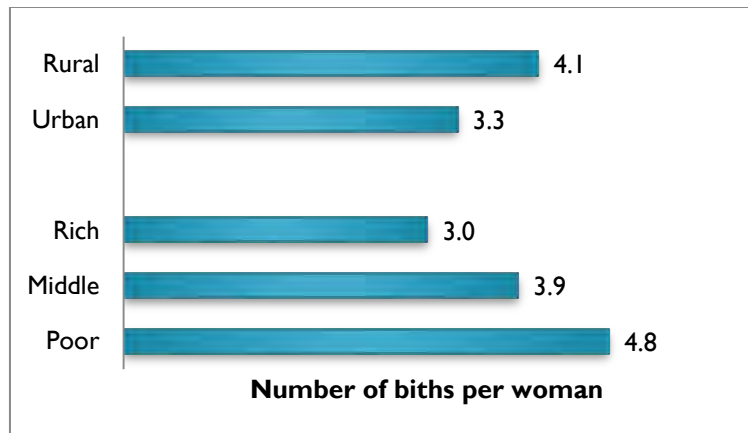
Figure 15. Total fertility rates in Punjab, 1974–2013



Differences in fertility rates for various groups: Despite overall improvement in fertility reduction, there are differences in fertility rates by place of residence and socio-economic status. Women in rural Punjab continue to have almost one child more than their urban counterparts,

while poor families have approximately two (or more) children more than rich families (See Figure 16 below). Fertility rates are also lower for women with higher levels of education.

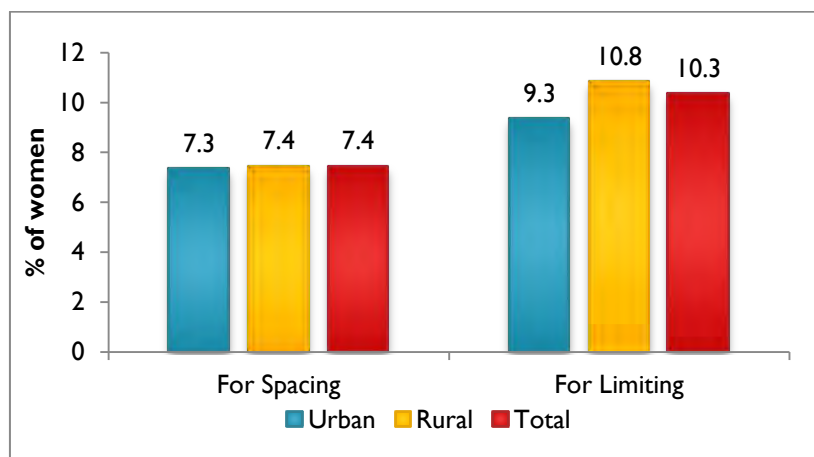
Figure 16. Fertility rates by place of residence and socioeconomic status



Source: *Pakistan Demographic and Health Survey 2012-13*

Significant unmet demand for family planning: While in the past the proposition of a faster fertility decline would have been questioned, it is now well established that 71% of the women in Punjab want to prevent or delay their next pregnancy. About 60% of the men feel the same way. Moreover, the recent Pakistan Demographic Health Survey (PDHS) for 2012-13 indicates that there is still a large unmet need for **family planning**, which is hampered by lack of access to services (See Figure 17 below). The proposition of accelerating family planning use and a fertility decline are based on what is achievable by improved communications about how and where to access services, deal with contraceptives’ side effects and largely through wider access to birth spacing and family planning services.

Figure 17. Unmet need for spacing and limiting of children



Source: *Pakistan Demographic and Health Survey 2012-13*

The unmet need for contraception to limit family size is higher in rural areas than in urban areas. This reflects greater room for raising the Contraceptive Prevalence Rate (CPR) in rural Punjab. **If the demand for family planning were satisfied, the CPR would rise to 59% in Punjab.**

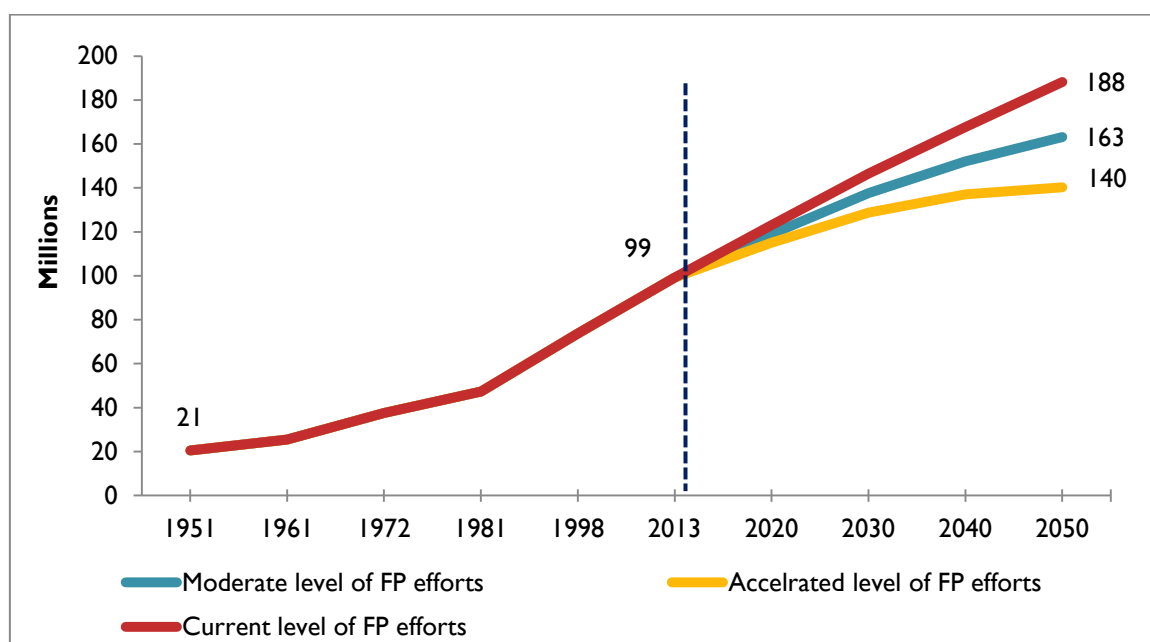
If women could prevent the one child (on average) that they did not want at all or wanted later, the fertility rate in Punjab would fall from the current 3.8 to 2.8 children per woman. Most critically success will trigger positive, long-term spinoffs in many of the related sectors in this Growth Strategy.

3. Potential Outcome of Family Planning Interventions on Population

Punjab’s population will continue to grow over the next few decades, largely due to continuing high levels of fertility and the population momentum built into the population growth rate, given the province’s young population. Future growth will be driven by three main demographic factors: i) persistently high levels of fertility, particularly in southern Punjab; ii) a very young age structure due to high fertility in the past; and iii) large number of women who are entering childbearing age.

Potential outcome of family planning interventions: Given the above drivers of population, future fertility levels (contingent upon family planning programmatic efforts) will determine whether the population of Punjab will rise to 140 million or 188 million by 2050, as shown in Figure 18 below). The decision to invest in a rapid fertility decline through *a strong family planning program could make a difference of 48 million more people in Punjab by 2050.*

Figure 18. Population projections for Punjab till 2050, based on Family Planning efforts



FP: Family Planning. Source: Population Council

A rapid fertility decline can lead to a demographic dividend, which will accelerate progress in achieving all the MDGs and spur economic growth. While the dividend will require most of all economic growth and job creations, the education and skills sector will have to respond by providing education and skills to match jobs and opportunities, and focus on youth and women's employability and skills.

Women's employment necessary for harnessing demographic dividend: Special interventions to ensure that women's employment levels increase to at least double the current levels will be needed to ensure that Punjab takes full advantage of its potential labour force and productivity. Women's employability will also ensure greater household savings that in turn can also contribute to an economic turnaround.

4. Priority Areas for Reform and Investment

The **Punjab Population Policy 2014** has been developed to provide focused guidelines for activities.

4.1. Enhancing Resource Allocations

- i. **Increasing resource allocation for an accelerated fertility decline:** The financial outlay on population, family planning activities is barely the composite of Population Welfare and a portion (roughly 33%) of the Lady Health Workers (LHW) programme's budget. Contraceptives are currently being provided through a vertical program and therefore that is excluded. Current allocations for family planning need to be at least doubled to have greater impact. Further, Programmatic interventions will be measured through key performance indicators.
- ii. **Strengthening the ongoing Population Welfare Program:** The Population Welfare program budget is currently provided for by the Federal government. This program, still in the form of a PC-1 project will be made an essential part of the Punjab budget and brought on to the current list. The Government also seeks to establish directorates at Divisional level, restructure District offices to strengthen monitoring and to support critical areas of communications, procurement, logistics, and training and research.
- iii. **Increasing budget outlay:** The existing budget of the Population Welfare is low, and a large chunk of it is spent on fixed and recurrent expenditures such as salaries of health staff. The Government will seek to be substantially increase the budget for Population Welfare in coming years to enable the Department to play an important role in supporting fertility decline.

- iv. **Contraceptive procurement after 2015:** Contraceptives currently provided through a vertical program, will be included in the budget beyond 2015. Provincial warehouse will be established for contraceptive procurement and distribution, while surgical contraceptive and training facilities will be strengthened by creating 12 Family Health Clinics (FHCs) attached with tertiary hospitals.

4.2. Capacity building and training of Population Welfare Department

A critical role that the Population Welfare Department will be able to play is in organizing trainings for its own personnel and particularly for providers of other Departments. The Punjab regional training institutes and the Population welfare training institute will seek to be fully revamped and renovated. Training programs and materials need a fresh review and made widely available for the large numbers of women and men that need to be trained in family planning and counseling in order to make up for the human resource deficient in this area. In addition, the Department will expand coverage in remote and uncovered areas.

4.3. Communications and social mobilization strategy

The Government will aim to develop a Punjab-wide social mobilization and behavior change communications strategy to spearhead a coordinated multi-sectoral program response to the information needs of men and women. This strong communications program will also be a combination of a communications-services drive to address the strongly expressed needs by men in Punjab for direct information and services on family planning. Civil society will be sensitized through promotional material, and information kits to educate rural population. Finally, an Advisory Call Centre will be established to improve accessibility.

4.4. Improving performance of LHW program to deliver family planning services

Areas not covered by LHWs are exacerbating inequalities because these are areas where there are no educated women to take up these posts. A revitalization and extension of LHW programs will be a strong possibility as it is currently the only outreach for family planning services. The other is to utilize PWD mobile units in conjunction with LHWs or other community based schemes.

Using NGOs and CBOs in absence of LHW coverage: Other points of entry such as community volunteers and subcontracting CBOs and NGOs should be considered for the non-LHW areas and those areas where social marketing and major NGOs do not provide any coverage.



CHAPTER 10: PREVENTIVE HEALTH: BUILDING A HEALTHIER PUNJAB

Chapter 10: Preventive Health: Building a healthier Punjab⁷⁷

I. Introduction and Context

Health is a policy objective in itself, independent of growth implications. However, strong health service delivery also matters to growth, in at least two ways. First, a healthier workforce requires less time off, and is hence more productive; second, the healthcare system provides family planning services, and if this lowers the population growth rate, the pressure on the overall economic growth rate will reduce.

Although Punjab's overall health indicators are comparable to or slightly better than the national average, the province is still rife with the typical health problems and service challenges of most densely populated and rural areas of the developing world. The province also has an equity issue in terms of access to health outcomes and services, which is much worse in the southern districts. The high rate of population growth is also adversely impacting service delivery and widening regional inequities. In order to achieve the stated health objectives public expenditure needs to be redirected and focused on MDG goals, equity of access and preventive health.

Comprising more than half Pakistan's population, Punjab plays a key role in attainment of national health goals. The province, just like the rest of Pakistan, is currently not on track to meet its health-related MDGs. At the same time, a growing population along with rapid urbanization is continuously putting pressure on health service delivery systems.

1.1. The Punjab Health Sector Strategy 2012-2020

The Punjab Health Sector Strategy 2012-2020 was developed by the Punjab Health Sector Reforms Program in 2012.⁷⁸ It lays out six main objectives (see Table 5 below), with 2020 targets and a framework that can be used to operationalize the Chief Minister's Vision. The strategy relies on 6 major pillars and 7 corresponding outcomes:

⁷⁷ The Government of Punjab acknowledges the input provided by Sajid Siddique, Dr. Ali Hasanain (Lahore University of Management Sciences (LUMS)) and Hina Shaikh (International Growth Centre (IGC)) for this chapter.

⁷⁸ Punjab Health Sector Reforms Programme, Government of Punjab (2012), "Punjab Health Strategic Plan 2012-2020". Available at: < <http://www.phsrp.punjab.gov.pk/hsspd.asp> >

Table 5. Strategic Pillars and Outcomes of Punjab Health Strategy 2020

Strategic Pillar	Outcomes
1 - Service delivery	1 - Improved access and quality of healthcare
2 - Governance and Accountability	2 - An efficient system of health sector governance
	3 - A management system that provides incentives for performance and ensures accountability
3 - Health workforce	4 - Adequate and skilled workforce available to fulfill population health needs
4 - Health Information Systems	5 - A comprehensive, timely, accurate and functional information foundation for health policy and planning decisions
5 - Essential medicines and health technologies	6 - Uninterrupted supply of quality essential drugs for healthcare facilities and outreach workers
6 - Healthcare Financing	7 - Efficient, effective, equitable, and prioritized healthcare spending

The strategy estimates that there is a **50% gap between existing annual spending on health and what is required**. This strategy seeks to reduce this to **20% by 2020**. It also seeks to **increase per capita expenditure on health from the current USD 10.3 to USD 16 by 2020**. The Government also aims to target that all districts are able to utilize more than 90% of released funds.

2. Overview of Punjab’s Health Sector

2.1. Child Health

Punjab needs to make more progress to save the lives of the children, as the Infant Mortality rate (IMR) remains stagnant. Nutrition interventions for children under 5 are also fragmented thus contributing to early child mortality. There is prevalence of acute malnutrition and stunting⁷⁹.

Income disparities also remain stark. A child born in families falling in the poorest income quintile is much more likely to die as compared to the one born in a well-off family. The child mortality rate for the poorest families is quite high⁸⁰.

2.2. Maternal Health

A disturbingly high number of women die each year in Punjab due to pregnancy-related factors despite improvement in health indicators⁸¹. Maternal mortality is one of the leading causes of

⁷⁹ Government of Pakistan and Aga Khan University (2011), “*National Nutrition Survey 2011*”. Available at: <<http://pakresponse.info/LinkClick.aspx?fileticket=Ao4s-rwdFVI%3D&tabid=117&mid=752>>

⁸⁰ Punjab MICS Report 2011, op. cit.

⁸¹ Population Council (2014), “Achieving MDGs 4 and 5 in Punjab: The Role of Family Planning”, Briefing Paper.

death among women of reproductive age across the country. The good news is that maternal mortality rate (MMR) has decreased over the years.

Maternal mortality can be prevented if potential complications in pregnancies are discovered and treated in time. A large share of expecting mothers are not provided any care, and only half of the deliveries take place at a healthcare facility of any kind, including BHUs and RHCs.⁸² The situation remains worrying after birth, as the percentage of new mothers receiving post-natal care is also low. Lowering fertility rates by increasing the use of family planning will also help reduce the number of pregnancy-related deaths.

2.3. Immunization Coverage

The biggest problem as part of preventive healthcare is the stagnant rates of child immunization. Although Punjab has been performing better than the national average, level of immunization in is not satisfactory. The country's health system is vulnerable when dealing with disease outbreaks and thus immunization is critical to save lives. Supply of medicines, especially mumps, measles, and rubella (MMR) vaccination shots, need to be increased at public healthcare facilities.

The Government's efforts to increase immunization rates will bear more fruit if they are focused first on the poorest. Immunization coverage among the poorest families is very low.⁸³ Given that the poorest families live in environments that are more susceptible to the spread of disease, this is the most obvious point of intervention.

3. Access and Quality of Health services

Healthcare in public sector has issues of access and quality. The problem of access to public health facilities is confounded due to **non-availability of doctors**. The non-availability is driven by two factors, firstly due to a lack of doctors in general and secondly due to high absence rates in facilities. The shortage is not limited to the public sector; rather there is a dearth of trained doctors in general. In Punjab one doctor is registered for every 1,700 persons.

Absenteeism of public sector employees is a widespread problem in most developing countries.⁸⁴ In Punjab, studies have shown that the absence rate for medical staff at BHUs is

⁸² Pakistan Social and Living Standards Measurement Survey (PSLM) 2010-11

⁸³ Punjab MICS Report 2011, op. cit.

⁸⁴ Nazmul Chaudhury, Jeffrey Hammer, Michael Kremer, Karthik Muralidharan, and F. Halsey Rogers (2006), "Missing in Action: Teacher and Health Worker Absence in Developing Countries," Journal of Economic Perspectives, Winter 2006, Vol. 20. Available at:

<https://www.aeaweb.org/articles.php?doi=10.1257/089533006776526058>

quite high.⁸⁵ The Government has experimented with using smartphones to improve monitoring of health facilities by making senior health officers of the Districts accountable (see Box 4 below). However, in the presence of widespread absenteeism the non-availability of doctors will remain an issue, which will be resolved by filling up the vacant posts and improving monitoring in a systematic manner.

Box 4. Monitoring the Monitors – a successful health delivery intervention

In 2011-12, researchers at Lahore University of Management Sciences (LUMS), International Growth Center (IGC) and the University of California, San Diego collaborated with the Government of Punjab, with support from the International Growth Centre and the World Bank, to develop a mobile phone-based monitoring system to replace the paper-based facility inspection reports of District officers in the health sector. A supervisory officer visiting a BHU, RHC, THQ or DHQ would take pictures of present staff and upload it to a website with a geo-tag and time-stamp. The website was carefully designed to make up-to-date information available to senior officials, with data analysis automatically generated. Supervisors were trained and provided access to a 24/7 helpline, and separate training manuals were developed for the phone software and website.

Cellphones were distributed to randomly selected staff in 19 pilot districts, and the outcomes were compared and evaluated against 17 control districts. The study found that the new technology improved supervisors' inspection rates, but this did not immediately lead to improved attendance. Reason for this could be: officers not using the smartphones during inspection visits, unless reminded to do so during monthly meetings with top Department officials.

After the study was completed and technology transferred over to the Government, the Health Department and the Punjab Information Technology Board are expanding it to all 36 districts.

Although this system has the potential to bring rich data from across the Province to provincial administrators, experience shows that its success lies in senior officials regularly checking both that data is being entered, and using parallel data collection to ensure the data provided reflects the true picture from health facilities.

Access to health facilities needs to be improved: Punjab has the largest number of tertiary hospitals in Pakistan, but only 5 of the 19 hospitals are located in southern Punjab. This geographical disparity indicates the problems faced by the rural populations located away from urban centers in seeking specialized diagnostic care.

To improve access, especially for dealing with maternal, newborn and child health (MNCH), the Government had launched the Lady Health Worker (LHW) programme in the 1990s. The

⁸⁵ Michael Callen, Ali Hasanain, Saad Gulzar and Yasir Khan (2013), "Political Economy of Public Employee Absence: Experimental Evidence from Pakistan". Available at: <http://www.sscnet.ucla.edu/polisci/faculty/mcallen/pdfs/pea.pdf>

purpose of this was to provide basic health services at the doorstep of the poor households. However this programme has significant room for improvement in its performance. The Government has also launched a project of Mobile Health Units which is working in non-accessible areas and providing primary healthcare services. This program is to be enhanced in scale to resolve the issues of accessibility and availability of doctors.

4. Priority Areas for Reform and Investment

The Government recognizes that it must place a high priority to preventive healthcare, to achieve the MDGs and improve basic health services for all.

4.1. Shifting focus to Primary and Secondary Health Care

Although more than 80% of the population is dependent on Primary and Secondary healthcare, the focus of the health expenditure is more on tertiary care. Larger hospitals by their very nature concentrate resource availability in favor of some populations and away from others. Primary facilities are more pro-poor and help reduce regional disparities more so than tertiary ones. There is a need for expenditure to shift from tertiary to primary care, and an equally strong shift from non-communicable to infectious diseases. To reduce the burden of disease, primary healthcare provision is essential.

Specific interventions include:

- Large urban hospitals will be repositioned to focus principally on teaching and research.
- An **extension program of basic drug information** targeting private and public vendors/pharmacists for priority infectious diseases, hygiene and family planning will be launched. Evidence from Kenya shows that this low-cost intervention can significantly improve the medical advice that reaches patients.⁸⁶
- **Diagnostic tool for primary health facilities:** The department will consider setting up mobile labs or a collection / delivery service that provides prompt diagnostics, prioritizing infectious diseases such as TB, Hepatitis B and C, HIV/AIDS and Malaria.

4.2. Shifting focus from Curative to Preventive Healthcare

Reallocations away from curative health to preventive health are justified for interventions such as, among others, ensuring clean water, sanitation, and immunization.

⁸⁶ Tavrow, P, J. Shahbahang, and S. Makama (2002), “Vendor-to-Vendor Education to improve malaria treatment by drug outlets in Kenya.” Operations Research Results, Volume 2(3).

Best practice in dengue prevention strategy: A coordinated strategy on prevention of dengue implemented in 2012 reduced disease incidence and pressure on hospitals. This can be used as a best practice example to treat other health issues.

4.3. Linkage between the Growth Strategy, Health Sector Strategy 2020, Health Roadmap and Health Sector Plan 2018

The Government wants various strategies and plans to act in tandem for maximum impact. Thus the Punjab Growth Strategy 2018, the Health Sector Strategy 2012-20, the Health Sector Plan 2018, and the Health Roadmap aim to complement each other.

The premise of the **Health Sector Strategy 2012-20** is that all activities contained in it lead to the achievement of Millennium Development Goals (MDGs) besides achieving other health standards. The **Health Sector Roadmap** is a focused and prioritized approach adopted for the improvement of health service delivery. It has the advantage of element of flexibility as the course correction can be done at regular intervals on the basis of feedback. Further, the **Health Sector Plan 2018** is a medium term plan that contains broader activities.

Health Sector Plan 2018: To implement the Growth Strategy, the Punjab Government has developed the Health Sector Plan 2018 to guide its investment and reform efforts in this sector. This Sector Plan builds on the Health Sector Strategy 2012-2020, and lists specific programs that the Government will implement to achieve its goals.

The Health Roadmap and Sector Plan go beyond just the Health Department, and encompass all Departments which contribute to the achievement of MDGs, including Population Welfare Department; Housing, Urban Development & Public Health Engineering Department; and Local Government & Community Development Department. These Departments aim to align their medium term budgets to this Roadmap and Sector Plan to focus on MDGs and equity of access. Additional details about the Government's plans in this sector are available in these documents.

4.4. Improving management of the health system

Managing health service delivery in all districts from primary to tertiary is over stretching the resources of the Health department. The health managers in the provincial capital are also responsible for policymaking, oversight and implementation of new programs, all within limited quality human resource.

This calls for a delegation of duties from Provincial to lower levels and sharing of responsibilities through public private partnership. The Health Strategy plans to contract in or outsource various BHUs to the private sector. This requires a robust monitoring regime so that private parties that fail to deliver the required quality of care can be removed. A mere improvement in performance

over government-run BHUs will not be the only matrix to gauge success of this partnership, rather tangible outputs and outcomes will be identified. Small and medium term goals of health indicators will be set for the areas under control of private parties.

4.5. Linking Health provision with social protection programs

A successful health insurance program will provide protection to poor households against large expenditures on healthcare. In the long run, a viable health insurance system will help government redirect the expenditure from maintenance of health infrastructure to support health insurance of poor households. It will also reduce the out-of-pocket expenditures that many poor families have to make as they at times access healthcare in the private sector despite the presence of publicly funded facilities. The Health department is considering a major reorganization that will create a social protection program for vulnerable groups and provide them health insurance.

Caveats for health insurance programs: Learning from the experiences of other countries in implementing health insurance will be critical. One-third of Indian states ran out of health insurance funds within a year of implementing it.⁸⁷

It is important to ensure that patients in the insurance system go to the right healthcare providers. Quacks and under-qualified doctors must not enter the system, and an efficient way of ensuring this is centralizing the referral system as is done in the United Kingdom.

4.6. Health Information Systems

The Health Sector strategy envisions the development of a health information system, which will allow community-based workers and both public and private facilities to enter data, leading to a disease surveillance system. Successful implementation depends on the Government's success in bringing in new HR resources. A system like the "Dengue Surveillance System" in collaboration with PITB and the Health Department can be expanded to survey and predict disease.

4.7. Uninterrupted supply of essential medicines at all public health facilities

Besides ensuring presence of doctors or nurses, the provision of essential medicines and technologies within the public sector is perhaps the biggest requirement to ensure functionality of health facilities. Hence improving the medicine and equipment supply chain is a critical component of an efficient health system. The Health Department is already working with PITB to improve information about medicine availability.

⁸⁷ Jeffrey Hammer (2013) "Balancing Market and Government Failure in Service Delivery", *The Lahore Journal of Economics*, Volume 18.

4.8. Addressing Infant and Maternal Mortality

The following activities are expected to address the issue of child and maternal mortality:

Infant Mortality: Improved immunization, improved nutritional status of the children, and prevention and treatment of diarrhea and pneumonia are necessary to decrease under 5 child mortality rate. Steps to be taken include:

- Provision of cold chain equipment to districts
- Ensuring uninterrupted supply of vaccines through improvement in logistics
- Capacity building of Expanded Program for Immunization (EPI) staff
- Districts to be supported by providing information about existing gaps on the basis of data analysis
- Developing linkages between Lady Health Workers (LHW) and EPI staff for effective immunization campaigns
- Increasing vaccination staff systematically to improve coverage and manage work load
- Public awareness campaign to create awareness and demand.

Maternal Mortality: For improvement of maternal health and reduction of maternal mortality rate, it is essential to focus on antenatal care and delivery by skilled birth attendants. Measures to improve nutritional status of mothers are also important.

- Provision of 24/7 maternal and new born health services at selected BHUs
- Basic health facilities to be linked with secondary and tertiary care health facilities through Rural Emergency Ambulance Services
- Improving gynae and labour rooms at District Headquarter (DHQ) and Tehsil Headquarter (THQ) hospitals to provide quality services
- Strengthening comprehensive Emergency Obstetric and New Born Care (EmONC) at all THQ and DHQ hospitals
- Allowing recruitment of essential human resources such as Gynecologists, Anesthetists, Blood Transfusion Officers (BTOs) on flexi contracts, wherever possible by districts
- Training of Community Midwives and deployment in all districts
- Increasing coverage of LHWs to cover the entire province.

4.9. Improving water, sanitation and hygiene (WASH) services

Evidence has repeatedly shown that almost half of diseases in Punjab are due to water and inadequate sanitation. Poor sanitation is the leading cause of bacterial contamination and poor quality of water. The Government has already declared this a priority area, and will significantly enhance investment in ensuring adequate sanitation – especially in rural areas, where open defecation and absent sewerage systems are a major problem. There are a number of important interventions which shall be implemented in the short- to medium-term. The Government also plans to supply clean drinking water to the population of Punjab through different interventions to be designed by professionals based on data. The Government has established the Punjab Saaf

Paani Company (PSPC) to undertake this large-scale project which will help improve the health of millions of people by providing safe drinking water.

Local Government & Community Development Department (LG&CDD) will undertake drainage of waste water and earth filling of ponds⁸⁸ in the next few years. The villages will be selected on the basis of population and availability of state land. A total of 500 villages with total population of one million are expected to benefit from the intervention⁸⁹. Reclaimed land will be handed over to district administration for use as playgrounds, school, parks, or health facility. The expected benefits include reduction in vector water borne diseases, and reduction in pollution of ground water.

LG&CDD also plans to pilot an innovative solution for rural sanitation in some villages of the province where capital cost and a few months Operations & Maintenance (O&M) costs will be financed by the provincial government. The framework for establishment and operation of Village Sanitation Committee (VSC) in the form of byelaws has been prepared, and Lahore Waste Management Company (LWMC) will install biogas plants at developed sites. After six months, VSCs will run the plant and bear the cost of O&M by selling gas to households, manure to farmers and recyclables to vendors. The model needs to be piloted, refined and replicated in other villages.

PHED's Pakistan Approach to Total Sanitation (PATS) initiative (covering basic sanitation, liquid waste management and treatment, and solid waste management) for improvement of household sanitation facilities is being implemented in selected districts with the help of international organizations including UNICEF, Plan International, and Water & Sanitation Program (WSP) etc. It is expected that 3,228 villages will be declared ODF villages as a result of the intervention. The Government will allocate funds in every budget to declare more villages as ODF.

PHED will also refine and scale up two innovative models being piloted by PHED for rural waste water treatment include waste water treatment through wetlands at Layyah and Muzzaffargarh, and solar based small scale sewerage treatment units installed in two ODF villages in District Rahim Yar Khan. This will also be scaled up based on the result of pilot projects.

⁸⁸ An estimated 7,700 villages in the province have ponds which have turned into a major source of health hazards.

⁸⁹ This will be done in a phased manner, based on the population of villages.

REFERENCES

References

Ali Cheema, Asim Khwaja, Farooq Naseer, Jacob Shapiro, Arqam Lodhi, Sahaab Sheikh, Sameem Siddiqui, Gabriel Tourek (2012a). “Punjab Economic Opportunities Program Household and Community Surveys: Baseline Report for Skills.” Center for Economic Research in Pakistan. Available at: <<http://psdf.org.pk/wp-content/uploads/2014/10/Household-Survey-Report.pdf>>

Ali Cheema, Asim Khwaja, Farooq Naseer, Jacob Shapiro, Sahaab Sheikh, Sameem Siddiqui, Gabriel Tourek and Mathilde Emeriau (2012b). “Punjab Economic Opportunities Program Employers Survey: Baseline Report on Employers.” Center for Economic Research in Pakistan. Available at: <<http://psdf.org.pk/wp-content/uploads/2014/10/Employer-Survey-Report1.pdf>>

Ali Cheema, Asim Khwaja, Farooq Naseer, Jacob Shapiro, Arqam Lodhi, Sahaab Sheikh, Sameem Siddiqui, Gabriel Tourek, Minahil Niazi and Anam Shoaib (2012c). “Punjab Economic Opportunities Program: The Skills for Employability Evaluation Report.” Center for Economic Research in Pakistan.

Ali Cheema, Asim Khwaja, Farooq Naseer, Jacob Shapiro, Arqam Lodhi, Sahaab Sheikh and Sameem Siddiqui (2013a). “Punjab Economic Opportunities Program: *SFM*-Village Based Training Evaluation Report.” Center for Economic Research in Pakistan.

Ali Cheema, Asim Khwaja, Farooq Naseer, Jacob Shapiro, Arqam Lodhi, Sahaab Sheikh and Sameem Siddiqui (2013b). “Punjab Economic Opportunities Program: *SFJ*-Stipend Evaluation Report.” Center for Economic Research in Pakistan.

Ali Cheema; Asim Khwaja, Farooq Naseer, Jacob Shapiro, Kunal Mangal, Sahaab Sheikh, Sameem Siddiqui and Anam Shoaib (2015). “Punjab Economic Opportunities Program: Skills for Market 2013-14 Uptake Report.” Center for Economic Research in Pakistan.

Ali Cheema and Farooq Naseer (2013), “Historical Inequality and Intergenerational Educational Mobility: The Dynamics of Change in Rural Punjab.” *The Lahore Journal of Economics*, Volume 18. Available at: <<http://121.52.153.179/JOURNAL/LJE%20vol%2018%20se/09%20Cheema%20and%20Naseer.pdf>>

Ali Cheema, Zulfiqar Hameed and Bisma Haseeb Khan (2014), “Lack of Opportunities Make the Criminal: Crime and Labour Markets in Pakistan.” Institute of Development and Economic Alternatives, mimeo.

Amer Ahmed and Madhur Gautam (2013), “Increasing agricultural productivity”, Pakistan Policy Note No.6, Washington DC: World Bank. Available at: <<http://documents.worldbank.org/curated/en/2013/06/18015008/increasing-agricultural-productivity>>

Amparo Castelló-Climent and Abhiroop Mukhopadhyay (2013), “Mass Education or a Minority Well Educated Elite in the Process of Growth: the Case of India”, *Journal of Development Economics*, 105.

Andreas Blom, David Fretwell and Yasin Janjua (2009), “The Challenge for Technical and Vocational Education and Training (TVET): Creating Human Capital to Support Economic and Social Development in Pakistan”. World Bank.

ASER Pakistan (various years), “Annual Status of Education Report”. South Asian Forum for Education Development (SAFED) and Idara-e-Taleem-o-Aagahi (ITA). Available at: <<http://www.aserpakistan.org/index.php?func=report>>

Crown Agents (2010), “Livestock Sector Strategy for Government of the Punjab”, Punjab Resource Management Programme (PRMP) Technical Assistance Management Agency (TAMA).

Dan Biller and Ernesto Sanchez-Triana (2013), “Revitalizing Manufacturing”, Pakistan Policy Note No.5, World Bank. Available at: <<http://documents.worldbank.org/curated/en/2013/06/18015005/revitalizing-manufacturing>>

David Robalino and Yoonyoung Cho (2012), “Labour Market Policies Under a Youth Bulge: How to Benefit from Demographic Dividend in Pakistan”. World Bank. Available at: <<http://hdl.handle.net/10986/17874>>

Debowicz, Dorosh, Haider and Robinson (2012), “Implications of Productivity in Pakistan: An Economy-Wide Analysis”, International Food Policy Research Institute (IFPRI). Available at: <<http://www.ifpri.org/publication/implications-productivity-growth-pakistan>>

Ernesto Sánchez-Triana, Dan Biller, Ijaz Nabi, Leonard Ortolano, Ghazal Dezufli, Javaid Afzal and Santiago Enriquez (2014), “Revitalizing Industrial Growth in Pakistan: Trade, Infrastructure and Environmental Performance”, World Bank. Available at: <<http://hdl.handle.net/10986/19022>>

Geeta Gandhi Kingdon (2009), “The Economic Benefits of Education in India”, mimeo.

Government of Pakistan, Ministry of Education (2009), “National Education Policy 2009”. Available at: <<http://unesco.org.pk/education/teachereducation/files/National%20Education%20Policy.pdf>>

Government of Pakistan, Planning Commission (2011), “Pakistan: Framework for Economic Growth”. Available at: <<http://www.pc.gov.pk/feg/>>

Government of Pakistan and Aga Khan University (2011), “National Nutrition Survey 2011”. Available at: <<http://pakresponse.info/LinkClick.aspx?fileticket=Ao4s-rwdFVI%3D&tabid=117&mid=752>>

Government of Pakistan and UNDP (2014), “Pakistan Millennium Development Goals Report 2013”. Available at:

<<http://www.pk.undp.org/content/pakistan/en/home/library/mdg/pakistan-mdgs-report-2013/>>

Government of Punjab (2011), “Punjab Multiple Indicator Cluster Survey (MICS) Report 2011”, Punjab Bureau of Statistics. Available at: <<http://www.bos.gop.pk/?q=provincialreport>>

Government of Punjab (2012), “Punjab Health Strategic Plan 2012-2020”, Punjab Health Sector Reforms Programme. Available at: <<http://www.phsrp.punjab.gov.pk/hsspd.asp>>

Government of Punjab (2013), “Punjab Development Statistics 2013”, Punjab Bureau of Statistics.

Government of Punjab (2015), “Punjab Health Sector Plan 2018”.

Government of Punjab (2015), “Punjab Industries Sector Plan 2018”.

Government of Punjab (2015), “Punjab Skills Development Sector Plan 2018”.

Government of Punjab (2015), “Punjab Urban Development Sector Plan 2018”.

Government of Punjab and UNDP (2011), “Punjab Millennium Development Goals Report 2011”. Available at: <

http://www.pk.undp.org/content/pakistan/en/home/library/mdg/publication_2/ >

Government of Punjab and Japan International Cooperation Agency (2012), “Lahore Urban Transport Master Plan Study, 2011”, volume 1.

Halil Dunder and Huma Waheed (2013), “Expanding Access to Quality Education”, Pakistan Policy Note No.9. Washington DC: World Bank. Available at:

<<http://documents.worldbank.org/curated/en/2013/06/18014544/expanding-access-quality-education>>

Ijaz Nabi (2013). “Two Social Protection Programs in Pakistan”. *Labore Journal of Economics*, 18 : SE (September 2013). Available at:

<<http://121.52.153.179/JOURNAL/LJE%20vol%2018%20se/13%20Ijaz%20Nabi.pdf>>

Ijaz Nabi and Hina Shaikh (2011), “Reforming the Urban Property Tax in Pakistan’s Punjab”, International Growth Centre. Available at: <<http://www.theigc.org/publications/policy-brief/reforming-urban-property-tax-pakistan%E2%80%99s-punjab>>

Institute of Public Policy (Beaconhouse National University) and Government of Punjab (2011), “Medium Term Fiscal Framework (MTFF) 2011-12 to 2014-15”. Available at:

<<http://ippbnu.org/researchreports.php>>

Institute of Public Policy, Beaconhouse National University (2013), “The State of the Economy: From Survival to Revival”, IPP BNU Sixth Annual Report. Available at:

<<http://ippbnu.org/publications.php>>

International Growth Centre (2014), “Cities and Growth: IGC Evidence paper”. Available at: <<http://www.theigc.org/news/igc-evidence-paper-cities>>

Jeffrey Hammer (2013) “Balancing Market and Government Failure in Service Delivery”, *The Lahore Journal of Economics*, Volume 18.

Jishnu Das, Priyanka Pandey & Tristan Zajonc (2006), “Learning Levels and Gaps in Pakistan”, World Bank. Available at: < http://papers.ssrn.com/sol3/papers.cfm?abstract_id=944668 >

José Lopez-Calix (2013), “Pakistan: Path to Rapid Growth and Job Creation”. World Bank. Available at: <<http://hdl.handle.net/10986/17857>>

Mahvish Shami and Hadia Majid (2014), “The political economy of public goods provision in slums”, International Growth Centre. Available at: <<http://www.theigc.org/project/public-goods-provision-and-socio-economic-hierarchies-in-lahore-slums/>>

Michael Callen, Ali Hasanain, Saad Gulzar and Yasir Khan (2013), “Political Economy of Public Employee Absence: Experimental Evidence from Pakistan”. Available at: <<http://www.sscnet.ucla.edu/polisci/faculty/mcallen/pdfs/pea.pdf>>

Mir Anjum Altaf (forthcoming), “Metropolitan Lahore: Economic Geography, Labour Markets and Growth,” International Growth Centre. Available at: <<http://www.theigc.org/project/metropolitan-lahore-economic-geography-labour-markets-and-growth/>>

Mohammad Imran (2009), “Public transport in Pakistan: a critical overview”, *Journal of Public Transportation*, 12(2). Available at: <<http://www.nctr.usf.edu/jpt/jptv12n2.htm>>

Naved Hamid, Ijaz Nabi and Rafia Zafar (2014) “The Textiles and Garments Sector: Moving Up the Value Chain”, *Lahore Journal of Economics* 19: September 2014. Available at: <<http://121.52.153.179/JOURNAL/Volume%2019,%20SE/contentsvol-19-se.htm>>

Nazmul Chaudhury, Jeffrey Hammer, Michael Kremer, Karthik Muralidharan, and F. Halsey Rogers (2006), “Missing in Action: Teacher and Health Worker Absence in Developing Countries,” *Journal of Economic Perspectives*, Winter 2006, Vol. 20. Available at: <<https://www.aeaweb.org/articles.php?doi=10.1257/089533006776526058>>

Oriana Bandiera, Niklas Buehren, Robin Burgess, M. Goldstein, Selim Gulesci, Imran Rasul and Munshi Sulaiman (2013). “Can Basic Entrepreneurship Transform the Economic Lives of the Poor?” International Growth Centre Working Paper. Available at: <<http://www.theigc.org/project/basic-entrepreneurship-a-big-new-idea-in-development/>>

Population Council (2014), “Achieving MDGs 4 and 5 in Punjab: The Role of Family Planning”, Briefing Paper.

Rashid Aziz (2013), “Building an Efficient Energy Sector”, Pakistan Policy Note No.1, Washington DC: World Bank. Available at: <<http://documents.worldbank.org/curated/en/2013/06/18014553/building-efficient-energy-sector>>

Rattan Sagar Khanna (2006), “Report on Feasibility of Integrated Dairy Industry in Pakistan”.

Reema Nayar, Pablo Gottret, Pradeep Mitra, Gordon Betcherman, Yue Man Lee, Indhira Santos, Mahesh Dahal and Maheshwor Shrestha (2012), “More and Better Jobs in South Asia”, World Bank. Available at: < <http://hdl.handle.net/10986/2391>>

Rehana Siddiqui, Hafiz Hanzla Jalil, M. Nasir, Waseem Malik and M. Khalid (2011), “The Cost of Unserved Energy: Evidence from Selected Industrial Cities of Pakistan”, PIDE Working Papers 2011:75. Pakistan Institute of Development Economics. Available at: <<http://www.pide.org.pk/pdf/Working%20Paper/WorkingPaper-75.pdf>>

Syed Turab Hussain, Kashif Zaheer Malik, Usman Khan, Adeel Faheem (2010), “The Constraints to Industry in Punjab, Pakistan”, International Growth Centre Working Paper. Available at: <<http://www.theigc.org/project/constraints-faced-by-industry-in-punjab>>

Tahir Andrabi, Asim Khawaja, Jishnu Das, Tristan Zajonc, Tara Vishwanath and LEAPS TEAM (2007), “Learning and Educational Achievements in Punjab Schools (LEAPS): Insights to Inform the Education Policy Debate.” Available at: <<http://www.leapsproject.org/site/>>

Tahir Andrabi, Jishnu Das and Asim Khwaja (2013). “Students Today, Teachers Tomorrow: Do Public Investments Alleviate Constraints on the Provision of Private Education?” *Journal of Public Economics*, Vol. 100(1): 1-14. Available at: <<http://economics-files.pomona.edu/Andrabi/Research/StudentsToday.pdf>>

Tavrow, P, J. Shahbahang, and S. Makama (2002), “Vendor-to-Vendor Education to improve malaria treatment by drug outlets in Kenya.” Operations Research Results, Volume 2(3).

Theresa Chaudhry and Chris Woodruff (2013), “Incentive and Productivity: Work Groups vs. production lines,” International Growth Centre working paper. Available at: <<http://www.theigc.org/project/incentives-and-productivity-work-groups-vs-production-lines>>

The Urban Unit, Government of Punjab (2013), “Enhancement of Own Source Revenue in Five Large Cities of Punjab: Situation Analysis and Action Plans.” Report for the Punjab Cities Governance Improvement Project.

UNESCO (2011), “Policy Analysis for Education in Punjab Province”.

Woodrow Wilson Center (2014), “Pakistan’s Runaway Urbanization: What can be done?” edited by Michael Kugelman. Available at: <<http://www.wilsoncenter.org/publication/pakistans-runaway-urbanization>>

World Bank (2008), “World Development Report 2008: Agriculture for Development”. Available at: < <http://go.worldbank.org/J2B95EUJS0>>

World Bank (2011), “The economic impacts of inadequate sanitation in Pakistan.” Available at: <<http://documents.worldbank.org/curated/en/2011/01/16232510/economic-impacts-inadequate-sanitation-pakistan>>

World Bank (2012a). “World Development Report 2013: Jobs.” Washington, D.C. Available at: <<http://go.worldbank.org/J45XE332F0>>

World Bank (2012b), “Skills or jobs – which comes first?” from World Development Report 2013: Jobs. Available at: <<http://go.worldbank.org/AES3P9WI20>>

World Bank (2014a). “The Skills Towards Employment and Productivity (STEP) Skills Measurement Program”, Pakistan module. Unpublished report.

World Bank (2014b). “Punjab Skills and Training”, Policy Note for the Government of Punjab. Unpublished draft.

Yasin Janjua, Kamran Sadiq, Aamir Rana and Wajeeha Bajwa (2010), “Developing Market-Led Skills and Enterprise Development Programs for Pakistan Poverty Alleviation Fund”. Mimeo.

Zeba Sathar, Asif Wazir and Maqsood Sadiq (2014), “Prioritizing Family Planning for Achieving Provincial Maternal Child Health and Development Goals”, Final Report. Population Council, Islamabad. Available at:
<http://www.popcouncil.org/uploads/pdfs/2014RH_PrioritizingFP_RAF-Report.pdf>

Zeba Sathar, Rabbi Royan and John Bongaarts, editors (2013), “Capturing the Demographic Dividend in Pakistan”. Population Council Book Series: 1 (1). Available at:
<[http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)2326-4624](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)2326-4624)>