Government of Punjab

Punjab Urban Development Sector Plan 2018

Enabling Cities to be engines of growth

PUNJAB URBAN SECTOR PLAN 2018
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Government of the Punjab

Housing, Urban Development & PHE Department
Local Government & Community Development Department
Transport Department
Lahore Development Authority and other Development Authorities
Water and Sanitation Authorities
The Urban Unit
Punjab Municipal Development Fund Company
Punjab Housing & Town Planning Authority
Directorate of Katchi Abadies

Planning & Development Department

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TABLE OF CONTENTS

SECTION 1. INTRODUCTION

Punjab is in the midst of an urban transition due high rate of urbanization and shift of economy towards manufacturing and services sectors. The impact of urbanization will be felt in all spheres of human life and pose challenges to the service providers to cater to the emerging needs especially for the public sector organizations. Nevertheless, there is a unique opportunity to build more sustainable, vibrant, innovative and equitable communities as well.

The main principle of Punjab's Urban Growth Strategy is that "density" and "agglomeration" are central to economic development, higher productivity, social equity and human development. To make Punjab competitive for investment and development, cities may play a vital role, because they can benefit from a large and skilled labor 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.

Further rural-urban migration and urbanization can only lead to higher income if manufacturing and services grow fast enough to absorb the supply of labor. Pakistan will have to invest in many cities at the same time to ensure a more geographically balanced rate of urbanization 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 job creation and higher growth of 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.

The sector plan on urban development is an attempt to achieve the desired objectives in planned and coordinated manner.

1. Context and Background

Confirming to the worldwide trend, the urban centers in Pakistan, as well as Punjab, have also become the drivers of economic growth. It is estimated that cities contribute 78% of the country's GDP[1]. Punjab alone contributes half of the country's GDP and its five large cities account for 50% of the gross value of industrial production[2].

Of Pakistan's current population of about 177 million, over 65 million (or 37%) live in cities[3] compared to 43 million (32%) in 1998.[4] Currently more than half of the urban population dwells in or near eight cities – Karachi, Lahore, Faisalabad, Rawalpindi, Multan, Hyderabad, Gujranwala and Peshawar. It is anticipated that by 2030, half of the country's population will be living in cities and that 12 cities have a population of one million.

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 population living in urban Punjab. The projections estimate that the urban population in Punjab will rise to about 52 million by 2025 and 59 million by 2030. While Lahore, the capital of Punjab and its largest city, is currently home to about 8 million people, its population is expected to reach 10.8 million people in 2025[5] owing to its position as an urban magnet in the region. Punjab has four other cities with populations in excess of one million, namely Faisalabad (3 million), Gujranwala and Rawalpindi (2 million each), and Multan (1.7 million)[6]. Collectively, about half of the urban population in Punjab is concentrated in these five cities. In addition, three other large cities (Sialkot, Bahawalpur and Sargodha) are poised to cross the one million mark.

The cities in the Punjab face many challenges. They have inadequate infrastructure and urban management capacities to meet current needs, let alone an ability to respond to growing demand. While achievement on Millennium Development Goals indicates good progress in water supply and sanitation targets, but the infrastructure and services are inadequate[7]. Service provision is not financially sustainable due to a combination of low tariffs, low collections, and the steep increase in energy tariffs. Aquifers are over exploited: for instance in Rawalpindi, the water table has gone down from 8-20 meters in 1985-86 to 40-85 meters by 2010. Wastewater is disposed untreated in

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1 Planning Commission, Government of Pakistan (2011), "Task Force Report on Urban Development".

2 Government of Punjab, Asian Development Bank, World Bank and UK Department for International Development (2005). "Pakistan: Punjab Economic Report".

3 Government of Pakistan (2011), "Economic Survey of Pakistan 2010-11".

4 Government of Pakistan (2001), "1998 Census Report of Pakistan".

5 Government of the Punjab (2006), "Poverty Focused Investment Strategy for Punjab". This figure would be 12.4 million if projected on the basis of the inter-census growth rates from the last census are used.

6 Projected on the basis of the inter-census growth rates from the last (1998) population census.

7 Government of Pakistan (2013), "Pakistan Millennium Development Goals Report 2013".

natural channels and water-bodies. Similarly, the solid waste service collects only about half of the waste being collected; and this waste is disposed of in substandard dumps and waterways. Poor public transport and weak traffic management render roads heavily encroached and congested, constraining urban mobility. There is a shortage of housing facilities in the urban centers. This affects living conditions and retards business growth reducing the productive potential of cities.

2. Benefiting from Concepts of Density and Agglomeration

An underlying principle of the Punjab Growth Strategy's focus on urban development is that "density" and "agglomeration" are central to economic development, higher productivity, social equity and human development.

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 labor 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.

Further rural-urban migration and urbanization can only lead to higher income if manufacturing and services grow fast enough to absorb the supply of labor. Pakistan will have to invest in many cities at the same time to ensure a more geographically balanced rate of urbanization 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 job creation and higher growth of productivity.

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.[8]

3. Policy Framework

With the shifting population trends and massive urbanization, the government has also focused on urban development in important policy frameworks and guidelines. The Ministry of Planning, Development and Reforms' Pakistan Vision 2025, approved by National Economic Council and Framework for Economic Growth envisions Pakistan as a just and prosperous and modern nation characterized by sustainable development, competitive growth and good governance.

The Government of Punjab puts urban development at the forefront of its strategy to address the challenges of urban development. The Punjab Growth Strategy 2018 has been adopted by the Government to accelerate the rate of economic growth primarily through the means of inclusive

[8] Government of Pakistan (2011). "Framework for Economic Growth", Chapter 7: "Creative Cities". Available at: <http://www.pc.gov.pk/feg/>

growth and social development. The strategy adopts a holistic and integrated approach to growth by catering to both rural and urban development.

4. Sector Strategy, Programmes and Projects

The Government's Mid-Term Development Framework 2014-17 incorporates the Urban Development agenda and seeks to develop modern and efficiently managed urban centers to serve as engines of growth for provincial economy. The key priority areas within the sector include; supply of potable drinking water and its efficient use; provision of effective and efficient sewerage and drainage system; environment friendly disposal of sewage; safe and efficient roads infrastructure; provision of solid waste management services; strategic planning for growth of cities on scientific lines including efficient land use planning and regulatory building controls.

5. Urban Development Sector Plan 2018

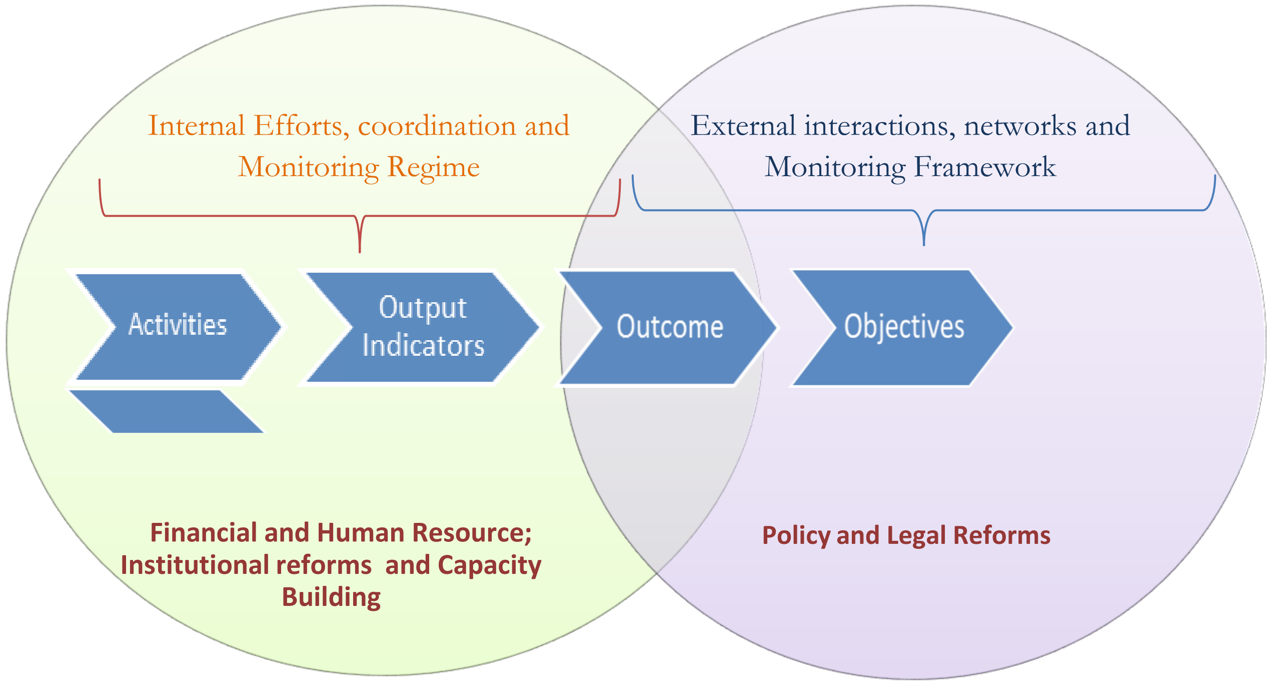
The Government of Punjab has developed this Urban Development Sector Plan to determine outcomes, objectives, priorities and programs till 2018. These programs will then be reflected in the various Administrative Departments' Annual Development Programs (ADP) till 2018.

In order to achieve the objectives of the Punjab Growth Strategy 2018, the sector plan for the Urban Development has been developed by active coordination of HUD&PHE Department, LG&CD Department, Transport Department, LDA, the Urban Unit, PMDFC and PHATA which provides a clear link between identified outcomes, outputs and inputs for the following subsectors:

- Housing and Urban Planning
- Water and Sanitation in Urban Areas
- Urban Solid Waste Management
- Public Transport

The plan defines the objectives, outcomes, output indicators and the activities till 2018 for each sub-sector mentioned above. The Departments also identified programs, projects and interventions and the resource requirement for implementing the programs and projects. Moreover, the key policy reforms and institutional changes have also been mentioned that would complement the achievement of these objectives.

This Sector Plan also provides a strategy for building and improving capacity of the government departments for implementing the Programs and projects identified above. This can be explained as under:



5.1. Contribution of various Government Departments and agencies

In order to coordinate activities to achieve the economic potential of urban development, this Sector Plan has been developed with input of the following Government Departments and agencies:

1. Housing, Urban Development and Public Health Engineering Department (HUD&PHED)
2. Local Government and Community Development Department (LG&CDD)
3. Transport Department
4. Lahore Development Authority (LDA) and other Development Authorities
5. Water and Sanitation Authorities
6. Urban Sector Planning & Management Services Unit (Pvt.) Ltd. (The Urban Unit)
7. Punjab Municipal Development Fund Company (PMDFC)
8. Punjab Housing and Town Planning Authority (PHATA)

6. Other major Government initiatives in the Urban Sector

There are a number of other initiatives taken by the government which reflect the Government's determination and efforts to improve the existing situation of urban infrastructure and governance. Some of these are discussed below:

Sr. No.	Name of the Project / Program	Description	Location / Scope	Time Period	Total Cost	Sources of Funding
1.	**Punjab Cities Governance Improvement Project (PCGIP)**	Focused on strengthening of systems and governance improvement for enhanced service delivery, to support cities in strengthening systems for improved planning, resource management, and accountability, and to improve the capacity to respond promptly and effectively to an Eligible Crisis or Emergency. Lead agency: The Urban Unit	5 large cities	5 years (2012-17)	USD 154 million	World Bank (loan) USD 150 million Remainder GOPb
2.	**Punjab Intermediate Cities Improvement Investment Programme (PICIIP)**	To resolve urban development challenges by ensuring integrated planning, improved institutional framework, transparent business procedures, strengthened urban infrastructure and improved service delivery in the intermediate cities. Lead agency: The Urban Unit	12 intermediate cities	10 years Expected to be started in FY 2015-16	USD 500 million	Asian Development Bank (loan) USD 350 million GOPb USD 150 million
3.	**Punjab Municipal Services Improvement Programme - II (PMSIP II)**	Envisions that every municipal committee shall be equally proficient in responding to municipal services needs of its citizens. Objective: to enhance efficiency, performance and effectiveness of urban local governments such as TMAs, leading to improved governance, better public service, improved municipal service delivery leading to quick response to public complaints &	All Punjab towns except the five largest cities	5 years 2014-19	Rs. 4.5 Billion	World Bank (loan) Rs. 4.3 Billion GOPb Rs. 200 Million

Sr. No.	Name of the Project / Program	Description	Location / Scope	Time Period	Total Cost	Sources of Funding
		demands. Lead agency: PMDFC				
4.	**Automation of Urban Immovable Property Tax (UIPT)**	The Excise and Taxation Department, in collaboration with The Urban Unit, has done Sialkot Pilot Project for computerization of Urban Immovable Property Tax (UIPT). The Government has developed a computerized property tax system to improve and modernize the system and bring greater transparency to the process. The system covers all property tax operations, from the issuance of challan forms to the final submission of the property tax.	Sialkot and five large cities of Punjab	1 year (2013-14)	Rs. 623 Million	GOPb
5.	**Punjab Urban Resilience Agenda**	Joint agenda of World Bank, the GFDRR, LEAD Pakistan and other national agencies towards resilient cities. The Urban Unit shall work closely with national, provincial and local entities to assess selected urban areas and conduct GIS based risk mapping.	Urban Pakistan	On going	USD 500,000	World Bank and GFDRR
6.	**Ravi Riverfront Development**	Being one of the biggest area development projects for expansion of Lahore, the project involves developing a Master Plan for the riverfront with details such as areas for residential, commercial, industrial, educational, recreational and mixed use development. It also includes designing infrastructure development aspects such as cleansing Ravi River with wastewater / sewage treatment plants, developing an area to contain any possible flood and	Lahore	12 years	Rs. 900 Million	Bonds and Equity (Govt of Punjab)

Sr. No.	Name of the Project / Program	Description	Location / Scope	Time Period	Total Cost	Sources of Funding
		channelizing the river. Lead agency: Lahore Development Authority				
7.	**Ashyana Housing Scheme (affordable housing)**	Launched through the Punjab Land Development Company, to increase the provision of housing to middle and low income groups.	Entire Punjab	On going	Rs. 1.0 Billion	Interest Rate subsidy by GoPb through mortgage-backed financing PLDC Asset leveraging by Private Partner
8.	**Energy Efficient Cities - Rainwater Harvesting**	The Urban Unit in collaboration with WASA Lahore conducted a pilot project in Lahore to develop a groundwater recharge structure for rainwater harvesting. The project aimed to purify the surface and improve water management. Through rainwater harvesting techniques, rainfall runoff may be utilized and rainwater consumption may be reduced. Lead agency: The Urban Unit	Various Pond sites in Lahore (GOR)	3 months	Rs. 600,000	GoPb (Urban Unit)
9.	**Draft WASH Master Plan 2014**	With the technical support from UNICEF, the Urban Unit, HUD&PHED and relevant other entities are in the process of developing a comprehensive WASH Master Plan focusing on the water, sanitation and hygiene condition as well as service delivery in both rural areas and in peri-urban areas. The plan will provide a road map for prioritizing	Punjab	2 years – in progress		GoPb and UNICEF

Sr. No.	Name of the Project / Program	Description	Location / Scope	Time Period	Total Cost	Sources of Funding
		strategic actions, conduct investment profiling and design a comprehensive monitoring and evaluation framework.				
10	**Punjab Saaf Pani Company**	A public owned entity that has taken upon the "Clean Water for All" initiative in which the company shall prioritize areas (rural and peri-urban) and then undertake interventions to ensure clean drinking water for everyone.	Rural and peri-urban areas	Phased; 2014	For the first phase – Rs. 15 Million	GoPb
11	**JICA Grant Aid**	JICA Grant Aid aims to improve the sewage system through updating the machinery used at WASAs. ***Punjab Water and Sanitation Academy*** has been established by the Government of Punjab in collaboration with JICA that has been formed to build capacity of staff in PHED and LG&CDD at the TMA level. Training shall be linked to promotion.	Commenced in WASA Faisalabad; shall be expanded to WASA Lahore and Gujranwala	Phased 2009 to date	Rs. 273 Million (Gujranwala Sewerage System)	JICA
12.	**Changa Paani Programme**	Integrates water supply schemes and sewage services and involves a strong component sharing model. Lead Agency: HUD& PHED	Faisalabad and Bhawalnagar	Phased 2013 to date	Rs. 44 Million	Government – 69% Community – 31%
13.	**Pakistan Sustainable Transport (PAKSTRAN) Project**	The Urban Unit, UNDP, GEF, Governments of Punjab and Sindh and Ministry of Industry and Production are collaborating on this project, aimed to create an environment conducive to investment in sustainable transport, formulate an institutional and policy framework to govern	Punjab, Sindh and Islamabad	5 years	Rs. 7.8 Billion	UNDP and GEF

Sr. No.	Name of the Project / Program	Description	Location / Scope	Time Period	Total Cost	Sources of Funding
		urban transit development, enhance fuel efficiency, and impart awareness pertaining to sustainable transit.				
14.	**Establishment of Waste Management Companies**	7 waste management companies have been established in as many cities in Punjab. These companies are committed to making their respective cities cleaner places to live in by motivating citizens to reduce waste, increasing awareness about waste management, creating safe disposal sites and collaborating with international agencies for knowledge sharing.	Lahore, Faisalabad, Multan, Gujranwala, Rawalpindi, Bahawalpur and Sialkot.	On going	As per requirement	GoPb and User Fees and such other charges

SECTION 2. URBAN PLANNING AND HOUSING

This section relates to the following Departments / agencies:

1. **Housing, Urban Development & Public Health Engineering Department**
2. **Local Government & Community Development Department**
3. **Lahore Development Authority and other Development Authorities**
4. **Directorate of Katchi Abadis Punjab**
5. **Punjab Housing and Town Planning Agency (PHATA)**
6. **Punjab Land Development Company**
7. **The Urban Sector Planning and Management Services Unit Pvt. Ltd.**
8. **Punjab Municipal Development Fund Company**
9. **Tehsil Municipal Administrations.**

Punjab's rapid urbanization and unplanned growth, as well as the historic nature of our governance structures, has led to numerous problems which adversely affect the life of its citizens. 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.

There exists a range of impediments to efficient urban land and housing market performance including excessive public land ownership, inadequate infrastructure services, weak property rights, counterproductive urban planning policies and regulations, costly subdivision and construction regulations, limited financing for property development and acquisition, rent controls, and distortive taxation mechanisms. To foster sustainable economic growth and reduce poverty, the Punjab's main urban centers need to accommodate additional urban growth which requires sound planning, well-functioning urban land and housing markets, and capacity of the local institutions to enforce laws and regulate the sector.

1. Situation Analysis

Punjab is in the midst of an urban transition driven by structural economic change. It is transforming from an agriculturally-based economy to a manufacturing and service based economy, which is being accompanied by urbanization. This transformation will continue in the near future.

To foster sustainable economic growth and reduce poverty, Punjab's main urban centers need to accommodate additional urban growth which requires sound planning, well-functioning urban land and housing markets, and capacity of the local institutions to enforce laws and regulate the sector.

However, there exists a range of impediments to efficient urban land and housing market performance. These include large public land ownership in urban centers, inadequate infrastructure services, weak property rights, ineffective urban planning policies and regulations, costly land use and construction regulations, limited financing for property development and acquisition, and distortive taxation mechanisms among others (WB 2006)[9].

Shortage of Housing: The Government estimates that the cumulative housing shortage (rural and urban) in the province is 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 both public and private sector will be able to provide only 5.2 million units. This implies a shortage of 2.2 million housing unit in urban centers alone. The demand for urban housing in the five largest cities of Punjab alone will be 5.8 million units by 2035, which accounts for 78% of the total.

In urban Pakistan, for 2009 alone, projected effective demand amounted to 470,000 housing units, at a total construction cost of USD 5.6 billion, or a gap of USD 2.0 billion in financing[10].

27.5 million people live in slums across Pakistan. Similarly, the country showed low improvement in slums as compared to other Asian countries[11].

During the last three decades a large number of housing schemes have been developed in Punjab by public, private and cooperative sectors. It is expected that the number of these residential schemes will exceed in the coming years due to urbanization. The current scenario of housing schemes is portraying a difficult situation because many of the schemes are not properly utilized and remain vacant. Land speculation is affecting colonization of housing schemes and also contributing to the problem of deterioration of infrastructure.

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[9] World Bank (2006), "Urban Land and Housing Markets in the Punjab, Pakistan".

[10] Census reports and Affordable Housing reports, McKinsey & Company 2012

[11] UN-Habitat urban indicators 2007

Weak systems 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 in vague for urban areas. In addition to this, many Authorities, Societies and other agencies have their own systems of maintaining land records and titles – and in the case of some old city areas there are limited records. This has led to a situation where a major portion of urban properties remain outside the ambit of the formal economy. The situation is further made difficult due to unclear legal titles in some cases, resulting in low investment in construction.

Ineffective urban land-use planning and development controls are impeding urban development. The 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 a need to modify building regulations and land use across urban areas to facilitate higher density and promote mixed-use development. (WB 2006).

The existing organizational arrangement for Housing and urban planning has been explained as follows:

Sr #	Organization	Level	Responsibilities
1	Housing, Urban Development & Public Health Engineering Department (HUD &PHED)	Provincial	Provision of housing facilities to the population, up gradation and development of big cities
2	Punjab Housing and Town Planning Agency (PHATA) established under the PHATA Ordinance, 2002	Provincial	• Develop and regulate Low Income Housing • Area Development Schemes. • Three Marla Housing Schemes. • Regulate private housing schemes • Physical / Spatial Planning • Regional Development Plans. • Master Plans. • Outline Development Plans. • Small Town Development Plans. • Provincial Land-use Plan. • District/Tehsil/Union Council Plans. • Provide technical assistance to the TMAs and District Governments in the housing and spatial planning
3	Kachi Abadies Directorate subsidiary of Board of Revenue	Provincial	Regularization, rehabilitation and up gradation of Katchi Abadies under the provision Punjab Katchi Abadis Act 1992 (Amendment Ordinance XVIII of 2007)
4	Punjab Land Development Company (PLDC) created in 2010	Provincial	Affordable housing
5	Tehsil Municipal Administrations (TMAs). Under PLGO 2001	Local	provision of housing to low-income population, and control on the growth of areas/settlements on

Sr #	Organization	Level	Responsibilities
			scientific lines
6	Development Authorities (DAs) are subsidiaries of PHUD&PHED created under LDA Act 1975 and the Punjab Development of Cities Act 1976	Local	Spatial planning of a city, building control and planning, development-housing scheme and provision of serviced plots in various housing schemes

Source: "Low Income Housing in a Crunch of Institutional Mismatch", Syeda Shabnum Najaf.

2. Vision

In the light of situation analysis, the government has set the following vision and the objectives for urban housing and urban planning sub sector to improve the situation over a period of four years.

"Provide affordable & quality housing solutions for the growing population of the Province; foster more effective urban planning that has economic value; and establishment of an enabling environment for making the cities engines of economic growth".

3. Sector Objectives

- Facilitate the provision of affordable housing for the growing population.
- Master and strategic Planning for all urban centres to guide all future investments.
- Strategic Regional Planning in Punjab to cater for growth of economic regions.
- Promotion of vertical growth of cities instead of horizontal growth for efficiency gains.
- Computerization of urban land titles and records.
- Better legal, institutional and institutional frameworks for empowered, responsive, efficient and accountable government entities.
- Provision of adequate and efficient urban services in cities, to provide enabling environment for making them Engines of Economic Growth.
- Streamlining city limits and functional and operational alignment of various institutions to improve city management and governance.

4. Sector Outcomes and Outputs for PHATA (HUD&PHED) and TMAs (LG&CDD)

Outputs	Projects/Indicators/Activities	Responsible Agency	Targets	Medium Term Targets		
			2014-15	2015-16	2016-17	2017-18
Outcome 1: Combat Housing Shortage for Low Income Groups with quality infrastructure						
1.1 Provided serviced plots by 3 Marla (pro poor) schemes for affordable housing to the low income segment of the society	1.1.1 Numbers of 3 Marlas (pro poor) Schemes	PHATA	2	2	4	4
	1.1.2 Land acquired for 3 Marla Housing Schemes in acres	PHATA	100	50	50	50
	1.1.3 Number of Schemes developed	PHATA	3	2	4	4
	1.1.4 Number of plots developed	PHATA	6000	3000	6000	6000
	1.1.5 Number of persons benefitted from the 3-Marla schemes	PHATA	36000	18000	36000	36000
1.2 Provided Affordable Housing and Area Development Schemes Solutions for low and middle income groups	1.2.1 Number of Area Development Schemes developed	PHATA	11	10	10	10
	1.2.2 Number of plots created through area development schemes	PHATA	16308	8400	ongoing	6000
	1.2.3 Number of persons benefited from area development schemes	PHATA	97848	50400	ongoing	36000
	1.2.4 Number of plots reserved for low cost housing in new housing schemes(DAs)	HUD&PHED	1618	10824	10824	10124
	1.2.5 Number of small and medium cities where Percentage of plots reserved for low cost housing in private schemes registered with TMAs	LG&CDD		30	35	40
	1.2.6 Number of population benefited from construction of affordable flats	HUD&PHED	9708	64944	64944	60744
1.3 Katchi Abadis Upgraded, Regularized and restricted	1.3.1 Number of Katchi Abadis regularised	DGKA	44	50	50	50
	1.3.2 Percentage of beneficiaries of regularized Kachi Abadis as against the total target population	DGKA	6	16	13	15
	1.3.3 Number of Katchi Abadis up-graded	DGKA	0	110	110	100
	1.3.4 Percentage of beneficiaries of up-graded Kachi Abadis as against the target population	DGKA	0	5.3	5.6	4.8

Outputs	Projects/Indicators/Activities	Responsible Agency	Targets	Medium Term Targets		
			2014-15	2015-16	2016-17	2017-18
	living in Kachi Abadis					
Outcome 2 **Foster efficient urban & regional planning and infrastructure development for economic growth**						
2.1 Urban & Regional Plans Prepared	2.1.1 Number of Integrated Strategic/Action Development Plans prepared against the total number of city districts and TMAs	LG&CDD and PMDFC		30	35	40
	2.1.2 Number of Outline Development Plans prepared of urban Centers having population more than 300,000 as against the total.	PHATA	4	4	4	4
2.2 Infrastructure developed and improved for better living in Urban areas	2.3.1 Number of schemes planned for Infrastructure improvement by TMAs	LG&CDD and PMDFC	8			
	2.3.2 Number of schemes planned for Infrastructure improvement by DAs & PHAs except LDA	HUD&PHED	11			
Outcome 3 **Improve institutional framework for public lands, construction and building regulatory system**						
3.1 Public ownership of land reduced	3.1.1 Number of cities where properties would be surveyed (GIS based) owned by the government	LG&CDD and PMDFC	75 (Phase I)	70 (Phase I)	50 (Phase II)	45 (Phase II)
	3.1.2 Percentage of properties entered in computerized database	LG&CDD and PMDFC	100% (Phase I)	100% (Phase I)	100% (Phase II)	100% (Phase II)
	3.1.3 Number of cities where public land as against the total cities	LG&CDD	75 (Phase I)	70 (Phase I)	50	45
	3.1.4 Number of cities where amount is collected from public land re-use	LG&CDD and PMDFC		20	30	30
Outcome 4 **Improved governance and internal monitoring systems**						
4.1 GIS based survey conducted to identify revenue potential and update the tax base (such as illegal land use, rents, commercialization potential, and for other	4.1.1 Number of small and medium cities where revenue will be increased through survey	LG&CDD, PMDFC and Urban Unit		30	35	40
	4.1.2 Number of large cities where revenue will	DGs/Urban	5	contd	contd	

Outputs	Projects/Indicators/Activities	Responsible Agency	Targets	Medium Term Targets		
			2014-15	2015-16	2016-17	2017-18
related taxes, penalties, fee and fines).	be increased through survey	Unit				
4.2 Billing and collection system improved	4.2.1 Number of small and medium cities where clients entered into database	LG&CDD and PMDFC		30	30	35
	4.2.2 Number of small and medium cities where clients got computerised billing and have access to web based application	LG&CDD and PMDFC		30	30	35
	4.2.3 Number of small and medium cities where amount collected against the bills generated improved	LG&CDD and PMDFC		30	30	35
	4.2.4 Number of small and medium cities where arrears reduced	LG&CDD and PMDFC		30	30	35
	4.2.5 Number of large cities where billing and collection system improved	DGs/Urban Unit	5	contd	contd	

5. Programs and projects to achieve Outcomes - PHATA (HUD&PHED) and TMAs (LG&CDD)

The following table shows the list of the major projects, programmes to be carried out by various agencies to achieve the stated outcomes. It also includes the investments that have to be made by the Development Authorities (DAs) except the LDA.

All figures in Rs. Millions

Names of Schemes/Projects/Programmes	Responsible Agency	Funding Source	Estimate 2014-15	Projection for 2016	Projection for 2017	Projection for 2018
Outcome 1: Combat Housing Shortage for Low Income Groups with quality infrastructure						
Infrastructure development for Area Development and low income housing schemes (ongoing)	PHATA	GOPb	210.456	70		
Infrastructure development for Area Development and low income housing schemes (new)	PHATA	GOPb	160	870	950	1000
Land Acquisition and Partial Development	PHATA	GOPb	90	3510	1990	1300
Aashiyana Housing Scheme	HUD&PHED	GOPb	1000	-	-	-
Estimated expenditure on up gradtion	DGKA	GOPb	0	1255 m	1580 m	1400 m
Outcome 2 Foster efficient urban & regional planning and infrastructure development for economic growth						
Outline Development Plans	HUD&PHED	GOPb	9.745	10	10	10
Development of Strategic / Action development Plan	LG&CDD and PMDFC	GOPb		60	70	80
Comprehensive study / database for area development schemes implemented	LG&CDD and PMDFC	GOPb		15	18	20
Establishment of Children Park at Pipnakka Gujranwala	LG&CDD	GOPb	25.972			
City Park Gujrat	LG&CDD	GOPb	40	80		
Providing and laying tuff tiles from Bijli Ghar to district complex Narowal	LG&CDD and PMDFC	GOPb	37.028			
Sustainable development of Walled City Lahore	LG&CDD and WCLA	GOPb	200	100		
Establishment of Sangla Hill Park	LG&CDD	GOPb	30	35		
Construction of Central Park in Layyah	LG&CDD	GOPb	30	12.992		
New Development Schemes of BDA	LG&CDD	GOPb	50			
Improvement of condition of public graveyards in	LG&CDD	GOPb	1000			

Names of Schemes/Projects/Programmes	Responsible Agency	Funding Source	Estimate 2014-15	Projection for 2016	Projection for 2017	Projection for 2018
Punjab						
Allocation for Green Development Fund	HUD&PHED	GOPb	500			
Widening and Improvement of Double Road from Murree Road to IJP Road Rawalpindi	RDA	GOPb	142.992			
Construction of Road from Samanabad Chungi to GT Road Gujranwala	GDA	GOPb	135.148			
Construction of Canal Express Way from Gatwala Bridge to Sahianwala Interchange Faisalabad	FDA	GOPb/CDG	1000	1000	1000	1825
Improvement of Jhal Khanuana Chowk, Faisalabad	FDA	GOPb/CDG	100	500	448.628	
Faisalabad Link Roads Development Programme	FDA	GOPb/CDG	50	350		
Pedestrian Bridge at Airport road Rawalpindi	RDA	GOPb	23.293			
Rehabilitation of Airport Road from Ammar Chowk to Karal Chowk Rawalpindi	RDA	GOPb	100	350		
Dualization of Adayala road Rawalpindi	RDA	GOPb	100	225		
Rehabilitation /Improvement of High court Road Rawalpindi	RDA	GOPb	100	225		
Rehabilitation & Improvement of Road Junction, Gujranwala	GDA	GOPb	80			
Construction of Road along Gujranwala Main Drain	GDA	GOPb	200			
Outcome 3 **Improve institutional framework for public lands, construction and building regulatory system**						
Assets Management of Municipal Properties	LG&CDD and PMDFC	GOPb	50	50		
Outcome 4 **Improved governance and internal monitoring systems**						
Survey of Professional & Trade Licenses in TMAs	LG&CDD	GOPb		21	25	28
Urban Land Record System	HUD&PHED/Urban Unit/BOR	GOPb		1000		
GIS based survey conducted to identify revenue potential and update the tax base (such as illegal land use, rents, commercialization potential, and for other related taxes, penalties, fee and fines) for TMAs of medium and intermediate cities.	LG&CDD, PMDFC and Urban Unit	GOPb/World Bank/ADP	Under PMSIP II and PICIIP Project			

Names of Schemes/Projects/Programmes	Responsible Agency	Funding Source	Estimate 2014-15	Projection for 2016	Projection for 2017	Projection for 2018
Billing and collection system improved for medium and intermediate cities	LG&CDD and PMDFC	GOPb/World Bank/ADP	Under PMSIP II and PICIIP Project			
GIS based survey conducted to identify revenue potential and update the tax base (such as illegal land use, rents, commercialization potential, and for other related taxes, penalties, fee and fines) for five large cities.	DGs/Urban Unit	GOPb/World Bank	Under PCGIP Project			
Billing and collection system improved for five large cities.	DGs/Urban Unit	GOPb/World Bank	Under PCGIP Project			

6. Sector Outcomes and Outputs for LDA

The Sector Plan cover the outcome and output objectives of the Lahore Development Authority out of the total five Development Authorities mandated to plan and implement the development agenda of the five big cities respectively. This serves as an example for the other DAs who may follow suit.

Outputs	Indicators	Targets	Medium Term Targets		
		2014-15	2015-16	2016-17	2017-18
Outcome 1: Managing Urbanization Effectively					
1.1 Proactive urban planning	1.1.1 Integrated Strategic Regional Development Plan for Lahore Division	33%	33%	34%	-
	1.1.2 Strategic development plans for industrial and business growth	2	0	0	0
	1.1.3 Number of urban centres in Lahore Division for which 20-year plans developed for (Lahore city considered as one urban centre)-land use; transport infrastructure; public transport; water supply sewerage and reclassification and zoning drainage	2	2	2	2
1.2 Provision of improved urban infrastructure					
	1.2.1 Aggregate implementation of 20-year development plans across all urban centres of Lahore Division (@5% of plan each year for each centre that plan has been developed for)land use; transport infrastructure; public transport; water supply; sewerage and drainage; reclassification and zoning	0.4%	1.3%	2.5%	4.2%
1.3 Provision of efficient transport infrastructure	1.3.1 Annual traffic catered to with new transport links	15m	15m	15m	15m
	1.3.2 Number of vehicle minutes saved annually with new transport links	100m	100m	100m	100m
	1.3.3 Length of new roads laid (km)	20km	20km	20km	20km
	1.3.4 Length of road repaired and maintained (km)	30km	30km	30km	30km
1.4 Regularisation of private housing schemes	1.4.1 Number of housing schemes approved	2	2	2	2
	1.4.2 Percentage decrease in illegal housing schemes	3%	3%	3%	3%
Outcome 2 Improvement of Living Standards					

Outputs	Indicators	Targets	Medium Term Targets		
		2014-15	2015-16	2016-17	2017-18
2.1 Creation of social facilities	2.1.1 Number of educational sites effectively utilized in housing schemes	5	5	10	10
	2.1.2 Number of annual users of new health and sports facilities	0.5m	1m	1.5m	2m
	2.1.3 Number of annual visitors of new theme parks and recreational centres	0.2m	0.2m	1m	1m
2.2 Redevelopment and urban renewal	2.2.1 Number of alternate housing units provided to the families residing in *katchi abadis*	-	200	300	500
	2.2.2 Area of *katchi abadis* redeveloped into commercial areas	-	20 acres	25 acres	30 acres
Outcome 3 **Equitable Provision of Housing**					
3.1 Reduction of housing stock deficit	3.1.1 Number of plots developed	-	15,000	30,000	40,000
	3.1.2 Number of beneficiaries assisted in getting house financing	-	100	200	300
	3.1.3 Number of plot ownership deeds computerized	20,000	10,000	10,000	5,000
3.2 Provision of low cost and affordable housing	3.2.1 Number of affordable housing constructed for low income groups	-	10,000	10,000	10,000
	3.2.2 Number of plots reserved for low cost housing in new private housing schemes	1000	1000	1000	1000
Outcome 4 **Capitalizing the City Potential through Revenue Generation, Investment and Economic Growth**					
4.1 Revenue generation from fees and fines	4.1.1 Amount of revenues generated from existing sources and fees	5b	5.5b	6b	6.5b
	4.1.2 Amount of revenues from new fees and taxes	1b	1.5b	2b	2.5b
	4.1.3 Number of properties granted permanent commercialization license	2,000	1,000	500	500
	4.1.4 Number of properties granted temporary commercialization license	5,000	15,000	25,000	30,000
4.2 Mobilization of private investment	4.2.1 Amount of private investment attracted via joint venture and public- private partnership projects	10b	20b	20b	30b
	4.2.2 Amount of development expenditure	15b	20b	25b	30b
4.3 Generating economic growth	4.3.1 Number of heritage sites developed for tourism growth	1	1	2	2
	4.3.2 Area developed for commercial corridors	66 acres	-	1,000 acres	1,000 acres

Outputs	Indicators	Targets	Medium Term Targets		
		2014-15	2015-16	2016-17	2017-18
	4.3.3 Area developed for industrial estates	-	-	-	-
	4.3.4 Area developed for central business districts	50 acres	-	1,200 acres	-

7. Programs and projects to achieve Outcomes - LDA

All figures in Rs. Billions

Name of Projects	Provision for 2014-2015	Projection for 2016	Projection for 2017	Projection for 2018
Outcome 1 - Managing urbanization efficiently				
Proactive urban planning				
i. Integrated Strategic Development Plan	0.2 bill			
ii. Water and Sanitation Master plans for Sheikhupura, Kasur and Nankana Sahib				
iii. Quaid-e-Azam Apparel Park Master Plan				
iv. Ravi Riverfront Urban Development	.15 bill	100 bill	100 bill	100 bill
Provision of efficient transport infrastructure				
i. Elevated Expressway from Gulberg to Ring Road	5.7 bill			
ii. Maintenance of Canal Road	1.4 bill			
iii. Remodeling of Wahdat Road	1.0 bill			
iv. Remodeling of GT Road from Co-op Store to Do Moria Pul	0.5 bill			
v. Remodeling of Inner Circular Road	0.7 bill			
vi. Alternate Route to Raiwind Road	3.0 bill			
vii. Construction of Structure Plan Road from Raiwind Road to Defence Road	3.0 bill	3.0 bill		
viii. Flyover from Ferozepur Road to DHA over Ghazi Road	3.2 bill	0.8 bill		
ix. Extension of College Road from Ghazi Chowk to Defence Road	1.2 bill	0.3 bill		
x. Construction of Structure Plan Road from Kayban e Junnah to Defence Road to Ring Road (Butcher Khan Distributory) to Railway Line, Parallel to Raiwind Road	2.4 bill	0.6 bill		
xi. Constrcution of Structure Plan Road from Madar-e-Millat Road to Defence Road	1.6 bill	0.4 bill		
xii Flyover at Canal/New Campus Crossing	1.2 bill	0.3 bill		
xiii. Flyover at Ek Moria to Railway Station				
Total Provisions	**25.2 bill**	**105.4 bill**	**100 bill**	**100 bill**
With 15% Escalation	**-**	**134.4 bill**	**221.2 bill**	**215 bill**

Name of Projects	Provision for 2014-2015	Projection for 2016	Projection for 2017	Projection for 2018
Outcome 2: Improvement of Living Standards				
Creation of Social Facilities				
i. Shahi Bagh Project	22.4 b	5.6 b	-	-
ii. Amusement Park at FTC, Johar Town	3. b	0.9 b	-	-
Total Provisions	26.8 b	6.5 b		
With 15% Escalation	-	37.3 b		
Outcome 3: Equitable Provision of Housing				
3.1 Reduction of Housing Stock Deficit				
i. LDA City	-	-	-	-
Total Provisions	-	-	-	-
Outcome 4: Capitalizing the City Potential through Revenue Generation, Investment & Economic Growth				
Revenue Generation from fees and fines 1	35.8 bill	8.3 bill	-	-
Mobilization of Private Investment				
i. Luxury Apartments at FTC, Johar Town	7.7 bill	1.9 bill	-	-
ii. Mixed Use Tower at Jail Road	4.5 bill	1.1 bill	-	-
iii. GT Road Expressway (PPP)	4.6 bill	1.1 bill	-	-
iv. Sharaqpur Link (PPP)	4.3 bill	1.0 bill	-	-
v. Southern Bypass (PPP)	5.1 bill	1.2 bill	-	-
vi. LED Streetlights (PPP)	1.28 bill	0.3 bill	-	-
Generating Economics Growth				
i. Restoration of Jahangir Tomb & Baradri	1.2 bill	0.3 bill	-	-
ii. Restoration of Hiran Minar, Shiekhupura	-	-	-	-
Total Provisions	**64.6 bill**	**15.5 bill**		
With 15% Escalation	**-**	**89.8 bill**		

Total Provision of Projects as per Objectives - Lahore Development Authority

All figures in Rs. Billions

Programs and Projects to Achieve Objectives – LDA					
Sr No.	**Outcomes**	**Provision for 2014-15**	**Projections for 2016**	**Projections for 2017**	**Projections for 2018**
1	**Managing Urbanization Effectively**	25.2 bill	134.4 bill	221.2 bill	215 bill
2	**Improvement of Living Standards**	26.8 bill	37.3 bill	-	-
3	**Equitable Provision of Housing**	-	-	-	-
4	**Capitalization of City Potential**	64.6 bill	89.8 bill		

Assumptions:

Provisions are set on the basis of following criterion:

Project Duration	**Yearly Cost Breakup**	
	Year 1	**Year 2**
Greater than 1 Year	80%	20%

8. Policy and Legal reforms for Urban Planning and Housing

Sr No.	Policy Reform	Justification	Responsibility	Timeline
1	Draft Punjab Regional & Urban Planning Act	Revise and adopt the Punjab Regional and Urban Planning Act to mandate n integrated economic, urban, and infrastructure development approach to regional planning, regular updating of the plans through stakeholder consultation and integrated land use and transportation planning in the value chain for priority sectors	Urban Unit, Law HUD&PHED LG&CD Depts.	December 2015
2	Draft Punjab Urban Land Records Act	At the moment there is no legal framework to confer conclusive title to the owners as well as maintain a comprehensive data base to ensure strengthening of property rights and improve efficiency of land titling and registration. Vacuum should be filled immediately. The draft has been prepared by the Urban Unit.	BOR, HUD&PHED, DAs, Urban Unit	December 2014
3	Draft Punjab Building Control Act	In order to ensure the enforcement of building regulations, it is important to provide legal framework for it.	LG&CDD, Urban Unit	May 2014
4	Draft Punjab Multiple ownership Premises Act	To allow for common ownership of property. The current draft of the Act should be broadened from residential land use to all land uses, including industrial land, so that the unit holders of industrial estates can take over the management (through Boards of Management) of common property within the site.	HUD & PHED, Urban Unit	December 2015
5	Revise the Punjab Land Use Rules and building and zoning regulations	Urban master plans and zoning regulations need to be revised to better align urban land supply with market demands. Plans should be developed based on more careful and rigorous analysis of future development trends. Assessed through market studies rather than perceived "need" based on demographic trends. This would allow planners to explicitly consider economic as well as social, environmental and physical implications of alternative master plans and zoning.	LG&CDD, DAs	December 2015
6	Incentive for large scale low cost housing facilities	There is need to incentivize the large scale housing facilities in big cities against the creation of plots	HUD&PHED, LG&CDD	December 2015
7	Provision of Multi-	Given the space constraints and distorted	TMAs, DAs in	2014-18

Sr No.	Policy Reform	Justification	Responsibility	Timeline
	Story Flats on Public Lands (PPP basis)	housing market, it is important to utilize public land in urban centers for Multi-story quality flats.	their area of jurisdiction	
8	Legal framework for housing facilities in large factories	The large industries should develop labour colonies near the industrial estates. The government should enact laws requiring large industries (employing 200 or more workers) to build housing for at least 50 percent of their employees near their industries (with sufficient safeguard from environmental hazards)	Labour Department, DAs	FY 2015-16
9	Introduce tax on vacant land/plots and enforcement of non-utilization	Land is a precious commodity. Generally people now prefer to invest in plots rather than productive sectors to harvest speculative dividends. The National housing policy 2001 and many studies done in the past have been emphasizing upon imposing of tax on vacant developed plots after a certain period of time. Amendment Urban Immovable Property Tax (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.	DAs, TMAs, Cooperative Department in their respective areas of jurisdiction.	FY 2015-16
10	Rationalize tariffs and fees	The development Authorities, TMAs and other public service provision agencies at local levels charge very nominal fee for its services. These user charges need to be rationalized in accordance with the rate of inflation.	DAs, TMAs, UCs	FY 2015-16
11	Reduce levels of public land ownership through auctions and use proceeds to finance critical infrastructure and engage in a reform of public land development agencies.	An initial step would be to conduct a comprehensive survey of public land ownership in Punjabi cities. Holdings should be evaluated for potential development. High value sites should be auctioned off and the proceeds used to finance infrastructure. At the same time, the Government of Punjab should undertake a thorough assessment of the performance of public land development agencies and undertaking the necessary adjustments. Those may include restructuring, full or partial privatization, liquidation of agencies as well as	DAs, LG&CDD, HUD&PHED	2014-18

Sr No.	Policy Reform	Justification	Responsibility	Timeline
		auctioning of public land holdings and concentrating on provision of infrastructure.		
12	Revision of Punjab Development Cities Act 1976	Review the development authorities' acts (LDA 1975, etc) and Development of Cities Act to determine if existing structures such as Development Authorities (DAs) may function as Special Purpose Organizations (SPO) for planning and development of growth corridors and industrial regions that span divisions, starting with the Punjab Golden Triangle.	HUD & PHED, DAs	December 2015
13	Up- scaling of Model Projects for Slum development	Review/Analysis of present development model and identification of bottlenecks in implementation of OPPs component sharing development model. Suggest doable strategy/programme to adopt the model at larger Scale	DGKA, LG&CDD	2014-15
14	Up scaling and learning from successful affordable model of Khuda Ki Basti	Up- scaling of KKBs Incremental Hosing Development Programme.	PHATA, PLDC, DGKA	2014-6
15	Formulation of Punjab Low Income Housing Rules	On the basis of Low income Housing needs and successful experiences of other similar countries, separate would be framed for low income housing schemes	HUD, PLDC, DGKA	2015-16
16	Draft Punjab Disposal of State Land Act	On the analogy of Sind-dh o, for disposal of state land esp for low income housing	BOR, HUD, DGKA	2015-16

9. Institutional strengthening and capacity enhancement

The following steps need to be undertaken to achieve the above stated vision, objectives and outcomes:

1. Capacity Building of professional staff of TMAs and DAs
2. Establish Divisional Building Control Authorities
3. Establish Divisional Urban Planning Authority
4. Establishment of Regional Land Records Authority and Tribunals
5. Establish Land Market Information System and land development facilitation centers

10. Organizational tools for achieving Outcomes and implementing programs

The Local Government & Community Development Department will try to improve the capacity of the employees of the TMAs through "Punjab Municipal Services Improvement Project (PMSIP)" funded by World Bank with active involvement of Punjab Municipal Development Fund Company (PMDFC). Similarly, the Urban Unit will assist the District Governments and TMAs to improve their efficiencies through Punjab Cities Government Improvement Project (PCGIP) and Punjab Intermediate Cities Improvement Project (PICIP) respectively. The LDA has established a special Planning Unit to undertake large area development schemes. This Unit may facilitate the LDA to monitor the Sector plan activities. The function of formulation of Area Development Plans of medium and intermediate cities should be given to PHATA or the Urban Unit for time being as the TMAs do not possess the capacity to do the same.

11. Monitoring of Outcomes

Sr #	Outcomes	Performance Targets and Indicators	Data Source and Reporting Mechanisms
1	**Combat Housing Shortage for Low Income Groups with quality infrastructure**	Provided serviced plots by area development/ 3 Marla schemes for affordable housing to the low income segment of the society Provided Affordable Housing Solutions for low income groups Katchi Abadis Upgraded, Regularized and restricted	GOPb MICS Departmental Reports Various departmental and international agencies' reports
2	**Foster efficient urban & regional planning and infrastructure development for economic growth**	Urban & Regional Plans Prepared Area development schemes implemented Provision of improved urban infrastructure Provision of efficient transport infrastructure	Various departmental and international agencies' reports PHEDD and LG&CDD project completion Reports GOPb Municipal Surveys GOPb Service Delivery Surveys
3	**Improve institutional framework for public lands, construction and building regulatory system**	Public ownership of land reduced Regularisation of private housing schemes	Independent verifiers Reports
4	**Improved governance and internal monitoring systems**	Billing and collection system improved GIS based survey conducted to identify revenue potential and update the tax base Generating economic growth	GOPb Municipal Surveys GOPb Service Delivery Surveys

SECTION 3. URBAN WATER SUPPLY AND SANITATION

This section relates to the following Departments / agencies:

1. **Housing, Urban Development & Public Health Engineering Department**
2. **Local Government & Community Development Department**
3. **Water and Sanitation Authorities**
4. **Punjab Municipal Development Fund Company**
5. **The Urban Unit Pvt. Ltd.**

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 labor force, which will lead to economic growth.

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 labor. The Government is therefore prioritizing investments in improving sanitation facilities especially in deprived areas on a need basis.

1. Urban Water Supply

Urban Water and Sanitation Authorities (WASA's) service the 5 largest cities in Punjab, while the remaining urban population in small and intermediate cities is serviced by Tehsil Municipal Administrations (TMAs).

Underground water sources are fast being depleting due to unsustainably high withdrawals. The amount of per capita water resources in Pakistan has decreased from 5,300 cubic meters in the 1950s to about 1,000 cubic meters in 2011 – the international definition of water stress.

Surface water supplies are increasingly threatened by waste water pollution, since only 50% of waste water is collected and 10% treated. Moreover, the groundwater is now being over-exploited in many areas, and its quality is deteriorating.

While Punjab has made progress in providing its population with access to drinking water, it is also critical to determine whether the water has been treated to ensure that it is safe to drink. Water treatment trends are higher in large cities where 31% of the residents use some form of treatment. Majority of urban schemes are provided with water treatment facilities, although this does not always translate into effective or consistent practices for water treatment. A lot more needs to be done by the Government to improve availability of safe drinking water for all.

On the operational fronts virtually all of the 5 Urban Water and Sanitation Authorities (WASA's) are faced with a grim fiscal situation, leaving them unable to meet their operating requirements. Outside the largest cities, the urban population is serviced by TMAs that are faced with a similar financial crunch. Stuck with weak and outdated tariff structures and limited mandates or capacities for generating other revenue sources, Punjab's TMAs are mostly reliant on annual transfers from Provincial Government[12].

In addition, the sector's institutions at times have overlapping roles, especially in non-WASA areas. Service provision and regulation functions are currently intertwined within the broad roles of WASAs and TMAs. There is a lack of a formal and structured W&S institutional group for sector or sub-sector wide review with all relevant Government agencies on board. There is also no consolidated geo-referenced database which will assist planning.

To reiterate, the following are the major constraints in sustained supply of improved water in urban areas[13]:

- Depletion of water level due to excessive supply of underground water and decreasing recharge of aquifers due to shortage in the movement of water through river basins and concretization of urban areas.

[12] Punjab Service Delivery Assessment 2013

[13] Salman Yusuf (2011), "Challenges and opportunities in urban water supply in Punjab province 2011", HUD & PHE Department, Government of Punjab.

- Wastage of sweet drinking water as a result of lack of awareness absence of regulatory frameworks, non-existence of demand management tools such as consumer meters and highly inappropriate tariffs.
- Contamination of surface and underground water aquifer due to discharge of untreated industrial, domestic and commercial effluent.
- Arsenic levels and other contaminants in the underground aquifer and of urban drinking water due to leakage in over aged water and sewerage pipes.
- Financial constraints
- Institutional bottlenecks
- Lack of capacity

2. Urban Sanitation:

Data from MICS 2011 shows that Punjab coverage for Sanitation from safe sources is 84%. Flush toilet is the prominent source of sanitation in urban areas.

The urban sewerage system faces many problems. These include frequent blockage of sewers due to inadequate maintenance; uncontrolled raw sewage that flows either directly into residential lanes or into small open or covered drains, or into sewers along these lanes, or accumulates to form ponds, or percolates into shallow groundwater contaminating the aquifer often used by households for their water supply.

The Government is committed to provide adequate facilities of improved sanitation facilities to the entire population of the province in general and the urban areas in particular. This commitment has been manifested at number of Forums and policy documents such as Medium Term Development Framework 2014-17, adoption of MDGs wherein the target 10 of Goal 7 is to halve by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation. In the South Asian Conference on Sanitation (SACOSAN –V) it has been committed to have an Open Defecation Free Environment by 2023. The Punjab Growth Strategy 2018 echoes that the provision of clean drinking water and adequate sanitation and sewage facilities to urban residents is a priority area of the Government.

At the provincial level, the Punjab Local Government & Community Development Department (LG&CDD), including local bodies and municipalities, and the Housing, Urban Development and Public Health Engineering Department (HUD&PHED), including WASAs and CDGs, has been mainly entrusted to translate the public policy into reality.

3. Sector Vision

"Provision of sustainable and safe water and adequate sanitation services to the entire population and for the economic activities in the urban areas of Punjab"

4. Sector Objectives and priorities:

The strategic objectives for water and sanitation sub sector are as follows:

- Provision of safe drinking water and sanitation facilities to the urban communities of Punjab to achieve Millennium Development Goals (MDGs) by 2015.
- Ensuring water quality through provision of water filtration plants.
- Improving sanitation and environmental sustainability.
- Ensuring priority in resource distribution for sanitation sector.
- Effective Measures to make maximum area of Southern Punjab is Open Defecation Free (ODF).
- Rehabilitation of dysfunctional schemes in brackish and barani areas.
- Ensuring regional equity (North & South Zones) in the developmental portfolio.

5. Sector Outcomes and Outputs

The HUD & PHED and LG & CD Departments have converted their agenda of priorities, described above, into measureable and achievable targets in annual and medium term perspective necessary to achieve the objectives of the sector.

A number of changes are on the cards in near future in terms of functional hierarchies and organizational arrangements within the HUD & PHE Department, such as formulation of District water authorities, turning WASAs into companies and enhancing the role of Saaf Pani Company. However, the targets listed below may remain the same even if there are changes in the implementing agencies.

Outputs	Activities	Responsible Agency	Targets	Medium Term Targets		
			2014-15	2015-16	2016-17	2017-18
Outcome 1: "Expanded service coverage to give access to 100% of the population of Urban areas to safe drinking water and improved sanitation facilities"						
1.1 Improved sanitation facilities to 100% population in Urban Areas	1.1.1 Percentage of population having improved sanitation services	HUD & PHED	93%	95%	97%	100%
1.2 Access to adequate quantity of improved drinking water provided to 100% population of urban areas	1.2.1 Percentage of population having improved drinking water	HUD & PHED	90%	93%	96%	100%
	1.2.2 Number of existing water supply schemes replaced/rehabilitated	LG&CD and PMDFC		6	6	4
1.3 Water quality testing labs operationalized in all districts	1.3.1 Number of water quality Testing laboratories in operation	HUD & PHED	[3] 35	36 [4] (1 new)	36	- 36
	1.3.2 Number of water samples examined	HUD & PHED	14400	14400	14800	14800
Outcome 2: "Sustained and environment friendly service provision through resource management and technical efficiency"						
2.1 Water resources effectively managed	2.1.1 Number of cities (District HQs/Urban Centers) where rainwater harvesting systems institutionalized through Notifications	LG&CDD		5	12	19
	2.1.2 Number of ground water recharge system	WASAs	1	3	10	10

Outputs	Activities	Responsible Agency	Targets	Medium Term Targets		
			2014-15	2015-16	2016-17	2017-18
	developed for aquifer replenishment (institutionalization and investments)					
	2.1.3 No. of cities where Production cost reduced through Energy Audit investments & conservation against the total number	LG&CD		15 cities (5%)	20 cities (10%)	20 cities (15%)
		WASAs		5	contd	contd
	2.1.4 Number of cities where ground water level monitored through provincial GIS/MIS based system.	IPD/Urban Unit		System Established	36	contd
2.2 Environment friendly disposal of sewage water	2.2.1 Number of feasible studies for treatment system of wastewaters conducted	EPD/PHED	1	2	2	
	2.2.2 Number of pilot decentralized Sewage water treatment system constructed one in big city, one intermediate and one in small city	WASAs/LG&CDD/PMDFC		(1)WASAs	1 (LG &CDD)	1
2.3 Community mobilized for efficiency gains.	2.3.1 Number of Teachers trained on health education and environmental education (conservation and protection of potable water & hygiene)	LG&CDD/ Education		10,000	10,000	10,000
	2.3.2 Number of employees trained as Master Trainers on water conservation methods and techniques	Punjab WATSAN Academy		360		
	2.3.3 Number of targeted households aware on water conservation through communication strategy	HUD & PHED /Information Dept			50%	50%
	2.3.4 Number of small and medium cities where Changa Paani/component sharing project scaled up/expanded	LG&CDD		3	5	5
Outcome 3: "Improved Governance and administrative systems for better and efficient service delivery"						
3.1 Resource planning carried out	3.1.1 Percentage of total number of big cities with Master Plans for sanitation , Water supply and drainage upto 2035	WASAs		4	Contd	
	3.1.2 Percentage of total number of intermediate	LG&CDD		4	4	4

Outputs	Activities	Responsible Agency	Targets	Medium Term Targets		
			2014-15	2015-16	2016-17	2017-18
	cities with Master Plans for sanitation, Water supply and drainage upto 2035					
	3.1.3 Number of cities GIS based survey of facilities/Asset Management	LG&CDD and PMDFC	75 (Phase I)	70 (Phase I)	50 (Phase I)	45 (Phase I)
		WASAs		5	contd	contd
	3.1.3 Number of cities where Energy Audit of Production Facilities carried out/ and appropriate corrective investments planned and undertaken.	WASAs		5	contd	contd
	3.1.4 Number of cities where bulk meters installed at major distribution system, tubewells, disposal stations and overhead reservoirs to measure quantity pumped of water.	LG&CDD		20	30	30
		WASAs		5	contd	contd
3.2 Efficient Billing and collection system put in place for enhanced revenue collection	3.2.1 Number of cities where Unit cost for each service calculated	LG&CDD and PMDFC		20	30	30
		WASAs		5	contd	contd
	3.2.2 Number of cities where improved system for customer reference numbers developed	LG&CDD and PMDFC		30	30	45
		WASAs		5	contd	contd
	3.2.3 Number of cities where computerized billing and collection system established	LG&CDD and PMDFC		30	30	45
		WASAs		5	contd	contd
	3.2.4 Billing ratio increased for each service for small & medium cities and five big cities(water supplies) as per agreed KPIs through efficient means (such as outsourcing)	LG&CDD and PMDFC		30 cities (10%)	30 cities (10%)	45 cities (10%)
		WASAs		5	contd	contd
	3.2.5 Collection ratio increased for each service for small and medium cities (water supplies) and five big cities as per agreed KPIs through efficient means (such as outsourcing)	LG&CDD and PMDFC		30 cities (10%)	30 cities (10%)	45 cities (10%)
		WASAs		5	contd	contd
	3.2.6 Amount of arrears recorded and recovered for small and medium cities (water supplies) and five big cities as per agreed KPIs through efficient means (such as outsourcing)	LG&CDD and PMDFC		10	15	15
		WASAs		5	contd	contd

Outputs	Activities	Responsible Agency	Targets	Medium Term Targets		
			2014-15	2015-16	2016-17	2017-18
	3.2.7 Illegal connections detected and regularized for small and medium cities (water supplies) and five big cities	LG&CDD		20	20	30
		WASAs		5	contd	contd
	3.2.8 Consumer water meters installed for accurate billing for small and medium cities (water supplies) and five big cities (through service connection fee/ govt support)	LG&CDD and PMDFC		10	10	10
		WASAs		5	contd	contd

6. Programs and projects to achieve Outcomes

In this section, those initiatives have been reflected that would be financed from the capital and/or development budget (whether through local or foreign funding or in the form of PPP projects). The activities to be financed from the revenue / current budget have not been incorporated in this section.

Projects / Programs	Responsible Agency	Funding Source	Budget Estimates 2015	Projection for 2016	Projection for 2017	Projection for 2018
			All figures in Rs. Million			
Outcome 1: "Expanded service coverage to give access to 100% of the population of Urban areas to safe drinking water and improved sanitation facilities"						
Water supply New and Ongoing schemes in Urban Areas	HUD &PHED	GOPb /PICIIP /Own source revenues	3207.96	**7000**** (3197 MTDF + +3808 addl)	**6000** (3532 MTDF + 2468 a(ddl)	**6000** (3960 MTDF + 2040 addl)
Provision of Water Supply facilities in poor localities of Faisalabad	WASA-F	GOPb	86.805			
Augmentation of water Supply System in Multan	WASA-M	GOPb	150			
Number of existing water supply schemes replaced/rehabilitated	LG&CDD and PMDFC	PMSIP – II		150	150	100
Replacement of Outlives, Deeper and Inadequate Water Supply Lines , Lahore	WASA-L	Gastro Phase II	800	400	508	
Replacement of Outlives, Deeper and Inadequate Water Supply Lines , Faisalabad	WASA-F	Gastro Phase II	100	75		
Replacement of Outlived, Rusty & Leaking pipelines in Multan	WASA-M	Gastro Phase II	39.157			
Replacement of Outlived, Rusty & Leaking pipelines in Gujranwala	WASA-G	Gastro Phase II	100	60		
Replacement of Outlived, Rusty & Leaking pipelines in Gujranwala	WASA-G	GOPb	200	400	400	
Rehabilitation/Replacement of 20 No. inefficient and Abandoned Tubewells with	WASA-R	GOPb	20			

Projects / Programs	Responsible Agency	Funding Source	Budget Estimates 2015	Projection for 2016	Projection for 2017	Projection for 2018
			All figures in Rs. Million			
pumping machinery and Allied Works Rawalpindi						
Comprehensive water supply scheme for various localities of RWP	WASA-R	GOPb	200	340	300	300
Feasibility and detailed design for Augmentation of water supply of Rawalpindi based on Chahan Dam Source for new areas added in jurisdiction	WASA-R	GOPb	20			
Improvement of Water Supply schemes in various localities of Lahore	WASA-L	GOPb	1300	1000	1879.447	1500
Water Supply Distribution Network in Gujranwala City	WASA-G	GOPb	75	75		
New and Ongoing Schemes for urban sanitation	HUD &PHED	GOPb /PICIIP /Own source revenues	3592.288	**4400*** 1441 (MTDF) + 2959 (addl)	**4500** 1208 (MTDF) + 3292 (addl)	**4500** 1208 (MTDF) + 3292 (addl)
Restoration of original cross section of Sattu Katla Drain from Ferozpur road to Peco Road Lahore	WASA-L	GOPb	110.789			
Miscellaneous Sewerage & Drainage Requirements of different towns of Lahore	WASA-L	GOPb	100	141		
Provision of Sewerage in UC 117.118,& 120 Lahore	WASA-L	GOPb	1400	1000	509.806	
Elimination of Sewerage inlets in Lahore Branch Canal from Harbanspra Interchange to BRB canal	WASA –L	GOPb	100	220		
Sewerage System from Larex Colony to Gulshan-e-Ravi lahore	WASA –L	GOPb	50	500	800	1516
Construction of RCC Conduit Sewer from Shaukat Khanam Hospital chowk to Sattu Katla Drain	WASA –L	GOPb	100	200	300	400

Projects / Programs	Responsible Agency	Funding Source	Budget Estimates 2015	Projection for 2016	Projection for 2017	Projection for 2018
			All figures in Rs. Million			
Laying of Forvce-main from Bhogiwal Road Disposal Station to Shalimar Escape Channel	WASA –L	GOPb	400			
Comprehensive Sewerage Scheme for Gujranwala City	WASA-G	GOPb	843.730			
Up grading of mechanical system for sewerage and drainage services in Gujranwala	WASA-G	GOPb	75	100	36.468	
Replacement of Outlived Sewer lines in four towns of Faisalabad	WASA-F	GOPb	100	89.932		
Provision of Sewerage Facilities in various Abadis of Faisalabad	WASA-F	GOPb	100	216.096		
Remodeling of Channel # 4 Faisalabad	WASA-F	GOPb	67.416			
Remodeling of Channel # 1-F Faisalabad	WASA-F	GOPb	43.412			
Rehabilitation of/Replacement of existing pumping machinery at Inline Booster Pump Station & Terminal Reservior Pump Station , Faisalabad	WASA-F	JICA Grant	10	50	60	
P/L Sewerage Lines of Sewer Deficient Areas, Faisalabad	WASA-F	GOPb	50	130		
Dredging/Desilting of Lai Nullah, Rawalpindi	WASA-R	GOPb	30.700			
Laying of Trunk, secondary and lateral sewer in eastern side of Muree road	WASA-R	GOPb	100	100		
Construction of Leftover Works of Sullage carrier from Bosam Road Disposal Station to Seagw treatment plant at Suraj Mianai and STP to River Ghenab Multan	WASA-M	GOPb	501.360			
Construction of RCC Drain Qila MianSingh Minor from Rajkot disposal station to Western Bypass Gujranwala	WASA-G	GOPb	500	460		
Sewerage scheme Rakh Kikranwali, Gujranwala	WASA-G	GOPb	76.125			

Projects / Programs	Responsible Agency	Funding Source	Budget Estimates 2015	Projection for 2016	Projection for 2017	Projection for 2018
			All figures in Rs. Million			
Water Testing Lab in Channiot	HUD &PHED	GOPb		1.00		
Outcome 2: "Sustained and environment friendly service provision through resource management and technical efficiency"						
Training of Master Trainers by HUD&PHED	HUD &PHED	GOPb		4.86		
Training by master trainers (mobilization) by HUD&PHED	HUD &PHED	GOPb			40	40
Rainwater harvesting initiatives	LG&CDD	GOPb		5		
Water Managements through aquifer replenishment.	WASAs	GOPb	5	15	50	50
Extension of Water Resources for Faisalabad	WASA-F	GOPb	887			
Changa Paani Programme Shamabad Faisalabad	WASA-F	GOPb	44			
Upgradation/Rehabilitation of Rawal lake Filteration Plant Rawalpindi	WASA-R	GOPb	200			
Production cost reduced (energy conservation) against the total number in small and intermediate cities	LG&CDD	GOPb		61.5	75	75
People educated on health hygiene practices, conservation and protection of potable water for						
Small and medium cities where Changa Paani project scaled up/expanded						
Production cost reduced (energy conservation) against the total number in five big cities	WASAs	PCGIP	One of the components of the action plan agreed by WASAs through PCGIP funds.			
Feasibility study for Hadyara Drain for treatment of drain wastewaters	Environment	GOPb	50			
Decentralized Sewage water treatment system constructed	WASAs / LG&CDD / PMDFC	GOPb		60 (WASAs)	50 (LG)	50 (LG)

Projects / Programs	Responsible Agency	Funding Source	Budget Estimates 2015	Projection for 2016	Projection for 2017	Projection for 2018
			All figures in Rs. Million			
Feasibility study for surface water induction and construction of water treatment plant Lahore	WASA	GOPb	8			
Outcome 3: "Improved Governance and administrative systems for better and efficient service delivery"						
Punjab Water and Sanitation Academy, Lahore	WASA Urban Unit	JICA	19.538	20	100	286.292
Local Government initiatives to improve governance and administrative systems and efficient service delivery in small and intermediate cities	LG&CDD	GOPb		452.5	480	603.8
	LG&CDD and PMDFC	PMSIP-II		35	35	30
Preparation of Master Plan for Water Supply, Sewerage & Drainage System for Lahore	WASA-L	ADP PCGIP	80	110		
Master Plan for Water Supply, Sewerage and Water Treatment Plant for Faisalabad	WASA-F	GOPb	66			
Master Plan for Water Supply, Sewerage and Water Treatment Plant for Rawalpindi	WASA-R	GOPb	25	25		
Master planning of Water Supply, Sewerage and Drainage System of WASA Multan	WASA-M	GOPb	20	50		
Feasibility study for integrated solution of water supply, sewerage, Drainage, and waste water treatment system in Faisalabad	WASA-F	French Grant	10			
Reform Programme to improve governance and administrative systems and efficient service delivery in five large	WASAs	PCGIP	One of the components of the action plan agreed by WASAs through PCGIP funds.			

Projects / Programs	Responsible Agency	Funding Source	Budget Estimates 2015	Projection for 2016	Projection for 2017	Projection for 2018
			All figures in Rs. Million			
Cities						

*This is 57% of the total cost because the trend (MICS) shows that people themselves invest for the rest of the cost for improved sanitation.

** This is about 51% of the total cost because the trend (MICS) shows that people themselves invest for the rest of the cost for improved water.

7. Policy and Legal reforms in Urban Water and Sanitation

a) Draft Punjab Water Act:

At the moment there is a lack of an overarching provincial legal framework that covers all aspects of sound water management and ensures this basic service to the people, today and tomorrow, on a sustained and environmentally friendly basis. The draft of such an Act has been prepared by the Government and, after meaningful consultations, may be presented in the provincial legislature for approval. This Act will cover the following features:

- Water Appropriation
- Water Treatment and Bulk Supply
- Water Services
- Penal Provisions
- Defining and Categorizing Municipal Water

b) Punjab Drinking Water Policy

The aim of this policy is the provision of safe drinking water of an adequate quantity at an affordable cost through equitable, efficient and sustainable services to all citizens by 2020. This Policy will cover the following features:

- Improving the Standards
- M&E System
- Conservation of Water Resources
- Sector Strategies
- Resources Mobilization
- Capacity Building
- Demand Responsiveness

c) Punjab Sanitation Policy

The draft for Punjab Sanitation Policy is ready for approval to ensure that the entire population of Punjab has access to safe and affordable sanitation for quality life by 2025. The salient features of the policy have been summarised below:

- Sustainable Results-Based Service Delivery
- Inclusive and Equitable Approach to Sanitation
- Integrated Approach at Institutional Level
- Development of Sector Strategies
- Roadmap for Resources Mobilization

- Research and Development
- Capacity Building

d) User fee rationalization for water and sanitation

It is evident that WASAs and TMAs are in a significant financial crunch due to leakages as well as the non-revision of water rate since 2003. Resultantly, the cost of production of water is increasing whereas the collection is falling behind. In this scenario, it is imperative to link the water tariff with the cost of producing and delivering the water. Moreover, the collection ratio can also be increased through capacity building of the relevant agencies.

e) Rainwater Harvesting Rules

The Government seeks to address the issue of overexploitation of ground water resources and encourage and regulate recharge of ground water through Rain Water Harvesting. The Punjab Local Government Act 2013 decrees that building permissions will be granted after provision is made for Rain Water Harvesting System. It is therefore necessary to include the provision of Rain Water Harvesting Scheme within Building Control Rules & Bylaws. For this purpose, directions to all the Development Authorities, District Governments and Local Government entities to modify the building control regulations to incorporate installation of Rain Water Harvesting Systems will be issued, especially in the larger cities.

8. Institutional strengthening and capacity enhancement

a. Water and Sanitation Authority/Company at Five WASAs (corporate).

An important institutional reform to achieve the desired objectives is to transform WASAs into independent entities to be governed by Board of Directors under the HUD & PHED Act.

b. Punjab WATSAN Academy

The Punjab WATSAN Academy has been planned by the Government and JICA through JICA Grant in Aid Technical Support. The overall goal is to build the capacity of the professionals in the sector with the objective to improve the delivery of service to the people.

c. Improvement in Service Cadres and Mandatory Training

It is important to review the service cadres engaged in sector service delivery (at all levels) with a view to developing a coherent service cadre for the sector and introduce mandatory trainings for promotions. This will require assessment of existing capacities and HR needs for: (i) strategic planning and management; (ii) engineering and technical; (iii) financial management; (iv) urban management; (v) social/community development/customer focus.

9. Monitoring Framework for Outcomes

Sr #	Outcomes	Performance Targets and Indicators	Data Source and Reporting Mechanisms
1	**Expanded service coverage to give access to 100% of the population of Urban areas to safe drinking water and improved sanitation facilities**	Improved sanitation facilities to 100% population in Urban Areas Access to adequate quantity of improved drinking water provided to 100% population of urban areas Water quality testing labs operationalized in all districts	GOPb MICS GOPb MICS Departmental Reports
2	**Sustained and environment friendly service provision through resource management and technical efficiency**	Water resources effectively managed Environment friendly disposal of sewage water Community mobilized for efficiency gains.	Various departmental and international agencies' reports PHEDD and LG&CDD project completion Reports GOPb Municipal Surveys GOPb Service Delivery Surveys
3	**Improved Governance and administrative systems for better and efficient service delivery**	Resource planning carried out Efficient Billing and collection system put in place for enhanced revenue collection	GOPb MICS Independent verifiers Reports GOPb Municipal Surveys GOPb Service Delivery Surveys

SECTION 4. URBAN SOLID WASTE MANAGEMENT

This section relates to the following Departments / agencies:

1. **Local Government & Community Development Department**
2. **Punjab Municipal Development Fund Company**
3. **Tehsil Municipal Authorities**
4. **Solid Waste Management Companies**

Solid waste collection in cities of Punjab is far less than the desired goal. Treatment and disposal technologies such as sanitary land filling, composting and incineration are comparatively new in Pakistan. The aim of the Government is to provide a healthy and clean environment to the entire urban population through improved solid waste management services.

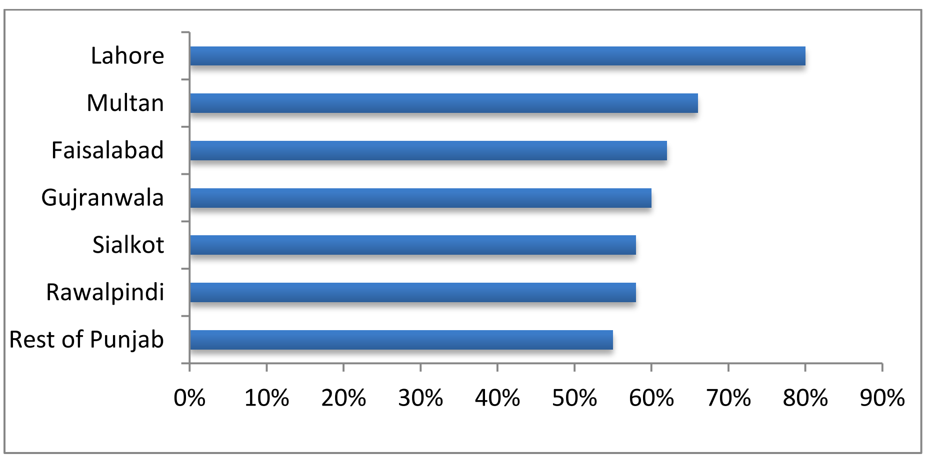
While solid waste management (SWM) Companies will be responsible for service delivery in large cities, the remaining urban centers in Punjab need additional resources and better management to overcome the crisis of solid waste, which causes large health and environmental hazards. The Government will 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.

1. Situation Analysis

Solid Waste is a major environment and health hazard in the urban areas of Punjab. Cities economies are fast growing leading to rapid urbanization and changed consumption patterns driving up solid waste quantities causing unprecedented deterioration in the ecosystem. It has been estimated that about 22,600 tons of solid waste is generated in urban Punjab per day, out of which the seven largest cities generate 10,910 tons. Organic materials account for more than a half of total waste even though the composition of waste changes from the point of generation to final disposal sites.

The responsibility of solid waste management rests with municipalities. Traditionally, in Pakistan's large cities, the local governments collect waste from households in middle to high-income areas and are also in charge of street sweeping. Solid waste collection in Punjab's cities, like the rest of Pakistan, is well below the desired goal. The uncollected waste remains on street or road corners, open spaces and vacant plots, etc., polluting the environment and creating health hazards.

Figure 1. Waste Collection Percentage (Urban areas)



Source: LG & CD Department, Government of Punjab

At present none of the municipalities have a formal recycling system in place. The mostly informal classification activities take place at various step of the cycle, from the source to the disposal site. There are a number of open dumping sites at any open space. Delivered garbage is dumped without any base protection from potential leachate infiltration into ground water, leachate collection and treatment nor other basic requirements for an acceptable practice.

Treatment and disposal technologies such as sanitary land filling, composting and incineration are comparatively new concepts in Pakistan. Open dumping is the most common practice throughout

Pakistan and dumpsites are commonly set on fire to reduce the volume of accumulating waste, hence adding to the pollution.

Most municipalities do not levy the waste collection fee at proper level, or charge a very nominal amount. Therefore, direct cost recovery through user fee / charges is very low.

To reiterate, the problems of the sector may be summarized as under:

- Lack of appropriate collection services
- Improper solid waste disposal facilities
- Poor institutional and financial arrangements
- Lack of reliable data for municipal waste management
- Challenges pertaining to the presence of scavengers
- Low level of public understanding and support

2. Sector Vision

"Provide healthy and clean environment to the entire urban population of Punjab through improved solid waste management services"

3. Sector Objectives

- Provision of solid waste management services
- Collection of Transfer of solid waste from the urban areas of Punjab on scientific lines
- Environment friendly disposal of solid waste
- Capacity building of TMAs for provision of services
- Purchase of machinery and equipment for improved services

4. Sector Outcomes and Outputs

The following indicators have been developed by the Local Government and Community Development Department for TMAs. The government has formed Waste Management Companies in seven big cities. They receive a single line budget from the Government, and prioritise their activities accordingly.

Outputs	Schemes and Projects	Responsible Agency	Targets	Medium Term Targets		
			2014-15	2015-16	2016-17	2017-18
Outcome 1: Enhanced Solid Waste collection and transfer ratios and system in urban areas						
1.1 Improved efficiency in waste collection	1.1.1. Number of cities where Percentage of Municipal waste generators serviced by municipal collection as a percentage of total number of generators (coverage).	LG&CDD and PMDFC		50% (20 cities)	60% (20 cities)	70% (20 cities)
	1.1.2. Number of cities where Percentage of garbage/ waste collected against the estimate/amount of garbage produced	LG&CDD and PMDFC	50%	70% (20 Cities)	70% (20 Cities)	70% (20 Cities)
1.2 Improved solid waste transfer efficiency	1.2.1 Number of cities where residual waste reaching disposal sites as a percentage of total residual waste generation	LG&CDD and PMDFC	50%	70% (20 Cities)	70% (20 Cities)	70% (20 Cities)
	1.2.2 Number of cities where secondary collection points established for small and medium cities	LG&CDD and PMDFC	-	20	20	20
	1.2.3 Number of Cities to solicit public support to eliminate the illicit dumping of wastes.	LG&CDD	-	20	20	20
Outcome 2: Improved Waste disposal System						
2.1 Improved system in waste disposal	2.1.1 Number of cities where solid waste treated (SEGREGATION) before disposal (by degree of environmental protection) for small and medium cities	LG&CDD	-	20	20	20

	2.1.2 Percent of waste final disposed	LG&CDD	50%	70% (14 Cities)	70% (20 Cities)	70% (20 Cities)
	2.1.4 Number of cities where informal dump sites cleaned up	LG&CDD	-	14	10	20
	2.1.5 Number of cities where hospital hazardous waste shall be managed and disposed of	LG&CDD	-	30	30	40
2.2 Land Fill sites established	2.2.1 Land fill sites constructed in accordance with the standards for cities	LG&CDD and PMDFC	-	*14	10	20
	2.2.2 Percentage of waste disposed at land fil sites against the total waste collected for cities.	LG&CDD		75% (20 cities)	75% (20 cities)	75% (20 cities)
Outcome 3: "Improved planning, monitoring and financial system for better and efficient service delivery"						
3.1 Resource planning carried out	3.1.1 Number of cities for Reliable data collected for each category of the waste generators against total number of cities.	LG&CDD and PMDFC		30	35	40
	3.1.2 Number of cities with Master plans for solid waste management	LG&CDD		20	20	20
	3.1.3 Number of cities where MIS Developed for human and physical Resources available for SWM	LG&CDD		30	35	40
	3.1.4 Number of cities where market potential assessed and different compost qualities determined.	LG&CDD		10	10	10
	3.1.5 Number of cities where GIS based survey of waste generators and formal/informal landfill sites carried out	LG&CDD		30	35	40
	3.1.6 Number of cities where necessary equipment requirements assessed.	LG&CDD and PMDFC		20	20	20
	3.1.7 Number of seminars and conferences arranged on SWM initiatives (Divisional basis)	LG&CDD		9	9	9
3.2 Better Monitoring tools employed	3.2.1 Number of cities where Android based attendance system employed	LG&CDD and PMDFC		25	20	20
	3.2.2 Number of cities where community members involved for monitoring	LG&CDD and PMDFC		20	20	20

	3.2.3 Number of computerized complaint cell established	LG&CDD and PMDFC	105 (ensure proper functioning)			
	3.2.4 Standard performance evaluation indicators developed for sound SWM on localized basis for small and medium cities	LG&CDD and PMDFC	***105	30	35	40
3.3 Efficient financial system put in place for enhanced revenue collection	3.2.1 Number of cities where Unit cost for service calculated.	LG&CDD and PMDFC		20	30	30
	3.2.2 Number of cities where user charges introduced.	LG&CDD and PMDFC		20	20	20
	3.2.3 Number of cities where proper cost accounting system introduced for SWM activities.	LG&CDD and PMDFC		30	35	40

*Already created under PMSIP and SPBUSP

** Already plan to be piloted by PMDFC in 2014-15

***one indicator is already being tracked regarding solid waste disposal on monthly basis which will be continued in 2014-15.

More indicators are planned to be finalized after consultation with TMAs to track the progress of solid waste sector from 2015-16 onwards.

5. Programs and projects to achieve Outcomes

All figures in Rs. Million

Name of Schemes	Responsible Agency	Provision for 2014-15	Projection for 2016	Projection for 2017	Projection for 2018
Outcome 1 & 2: **Enhanced Solid Waste collection and transfer ratios and system in urban areas** **Improved Waste disposal System**					
Solid Waste Management Schemes under PMSIP- II	LG&CDD with PMDFC		1200	1200	1200
Outcome 3: Improved planning, monitoring and financial system for better and efficient service delivery					
Capacity Building Initiatives under PMSIP II	LG&CDD with PMDFC		75	75	50
*Piloting of Android Application, Unit Cost determination exercise & Community based Monitoring (planned by PMDFC)	LG&CDD with PMDFC		-	-	-
Total Cost			1275	1275	1250

Note: Initiatives under PMSIP II will be managed through foreign funding

6. Policy and Legal Reforms for Urban Solid Waste Management

Sr. #	Policy Reforms	Justifications	Deadlines for target
1	Solid Waste Management Regulation Act	• Essential for the provision SWM rules which regulates and mitigates the adverse impacts associated with the uncontrolled generation and disposal of waste. • To promote integrated waste management strategies for sustainable economic growth, social development and environmental protection. • Solid waste management Regulation Act can lead to develop IRRC (Integrated Resource Recovery centers) for the betterment of waste recovery and recycling.	2014-2015
2	Rationalization of User fee	• Required for revenue generation to fulfill resources expenditure. • Important to minimize burden on government finances and to overcome expenditures of outsourced services. • Solid Waste department will be little independent through such capital generation.	2015-2016
3	Public Private Partnership for the SWM activities	• Important to incorporate the experts to improve existing system, identify the gaps and to design SWM system on technical basis. • Accommodation of Public sector is important for investment and to run the system on scientific basis. • Improvement of recycling, segregation, and waste to energy projects require public sector involvement.	Till 2017
4	Introduction of incentive system to take waste to official dump sites (e.g. payment of drivers according to amount delivered).	• Need to pay incentives as an attraction to work in a tough work environment as well as to ensure the completion of the task.	FY 2015-16
5	Explore revenue potentials in solid waste	• Recycling and waste to energy projects are highly profitable for revenue generation. • Integrated waste management system can lead to generate revenue potentials through, recycling of waste, segregation of waste at source, waste to energy projects and development of landfill sites. • User fee collection from commercial and residential areas.	2014-2015

Sr. #	Policy Reforms	Justifications	Deadlines for target
6	IT based M&E mechanism	• To be updated with technical assistance of IT based system for proper collection, transportation and dumping of solid waste. • To minimize Gaps of manual handling of solid waste. • Android based attendance, VTMS, video wall establishment and computerized evaluation help to cater data compilation and record keeping issues.	need no deadline
7	Development of landfill sites	• Disposal of solid waste on scientific basis to minimize soil, air and water pollution. • Landfill site eventually help to establish waste to energy plants and treatment of waste which help in revenue generation and to treat waste. • Need to develop modern land fill sites at divisional level in intermediate cities.	2014-2015
8	Capacity building of local informal solid waste pickers	• It will help to incorporate scavengers in solid waste sector which will help in waste recycling and to compile data /record keeping of waste originally generate and being collected.	2015-2016

7. Institutional strengthening and capacity enhancement

1. Formation of Divisional Regulatory Authority for Solid Waste Management System under the Local Government and Community Development Department to strengthen the TMAs and provide necessary technical support.

2. Capacity enhancement of Local Bodies by LG&CD Department, via the existing capacity of PMDFC, through:

    a. Trainings of key officers in Lalamusa Academy
    b. Hands on trainings to support and field staff in Lalamusa Academy
    c. Introduction of **"Computerized Complaint Tracking System (CCTS)"**
    d. Implementation of **"Operation and Maintenance Framework"** for all municipal services
    e. Introduction of **"Computerized Performance Management System (CPMS)"**
    f. GIS mapping of city areas and disposal stations.
    g. Introduction of **"Computerized Financial Management System (CFMS)"** for accounting and budgeting

3. Provision of new machinery for each TMA

8. Organizational tools for achieving Outcomes and implementing programs

Local Government & Community Development Department will achieve the required outcomes by entrusting the work to Punjab Municipal Development Fund Company (PMDFC) which is equipped with expertise and trained staff and has performed these tasks in selected local bodies under the World Bank-funded Punjab Municipal Services Improvement Project (PMSIP).

9. Monitoring of Outcomes

Sr #	Outcomes	Performance Targets and Indicators	Data Source and Reporting Mechanisms
1	Enhanced Solid Waste collection and transfer ratios and system in urban areas	Improved efficiency in waste collection Improved solid waste transfer efficiency	GOPb MICS Departmental Reports
2	Improved Waste disposal System	Improved system in waste disposal Land Fill sites established	Various departmental and international agencies' reports GOPb Municipal Surveys Departmental Reports
3	Improved planning, monitoring and financial system for better and efficient service delivery	Resource planning carried out Better Monitoring tools employed Efficient financial system put in place for enhanced revenue collection	GOPb Municipal Surveys GOPb Service Delivery Surveys Departmental Reports

SECTION 5. URBAN TRANSPORT

This section relates to the following Departments / agencies:

1. **Transport Department and attached / subordinate entities**
2. **Lahore Transport Company**
3. **Punjab MetroBus Authority**

Economic and social development of cities is linked with the sufficiency of their transport networks. An efficient, affordable and convenient transport system for all is critical to provide access to market and services for achieving a sustainable growth momentum and competitiveness. Particularly, the significance of public transport network in providing transportation choices to people and connecting people with their desired activity locations has been the priority of recent transportation reforms. In case of non-availability of accessibility and mobility means, people are considered socially excluded from the society.

Urban transport in Punjab is one of the most important sectors facing extreme challenges due to rapid urbanization and motorization. The current public transport services suffer from inappropriate operation timetables, inefficient use of road space and poor condition of public transport facilities (including bus terminals and buses) due to the absence of proper government regulations. Nevertheless, the government is bent upon to increase the transport network in urban areas of Punjab especially in big cities.

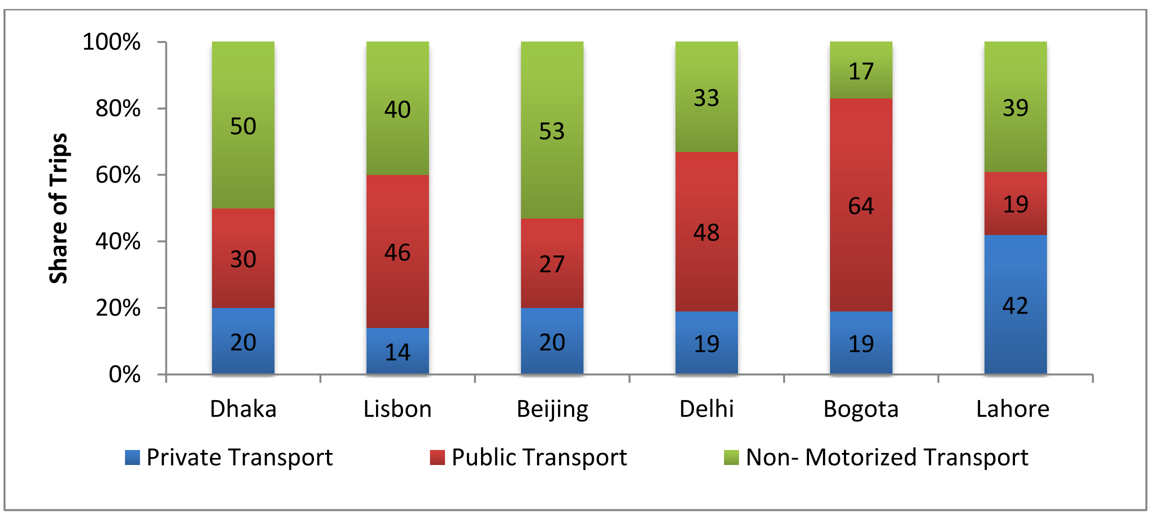
1. Situation Analysis:

Urban transport in Punjab is one of the most important sectors facing extreme challenges due to rapid urbanization and motorization. The vehicle traffic increase, without adequate traffic management, is becoming a serious problem for cities and is a major causes of congestion, pollution and accidents in the cities. The number of registered vehicles in Punjab is increasing at a rapid rate.

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 1000 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.

When compared to similar cities, the role of public transport in Lahore is extremely limited, while most of the trips are made on inefficient, polluting and costly private transport – as shown in the figure below.

Figure 2. Comparison of Mode Share in Various Cities



Source: Transport Department, Government of Punjab

The current public transport services suffer from inappropriate operations in terms of timetables, headways, frequency and service quality. The problem further leads to an inefficient use of road space and poor condition of public transport facilities (including bus terminals and buses) due to weak enforcement of regulations. There are around 1,200 large sized buses operating in Lahore, Multan, Gujranwala and Faisalabad. There is a large shortage of public transport across Punjab's cities. As a result, most of the public transport is overcrowded and poorly managed.

1.1. Existing Institutional Arrangement in Public Transport Sector

The following institutional arrangement is responsible to provide transportation and related facilities to citizens:

- The Punjab Transport Department is responsible for public transport administration and policy making and planning in the province. It is responsible for the licensing of public transport services outside of the major cities throughout the Provincial Transport Authority (PTA) and, by a statutory exemption, the licensing of bus service in large cities.
- The District Road Transport Authorities issue route permits for minibuses.
- The Government has established Punjab Metrobus Authority (PMA) for construction, operations and maintenance of mass transit system in Punjab.

The Lahore Transport Company (LTC) is wholly owned by the Government and regulates public transport services in Lahore.

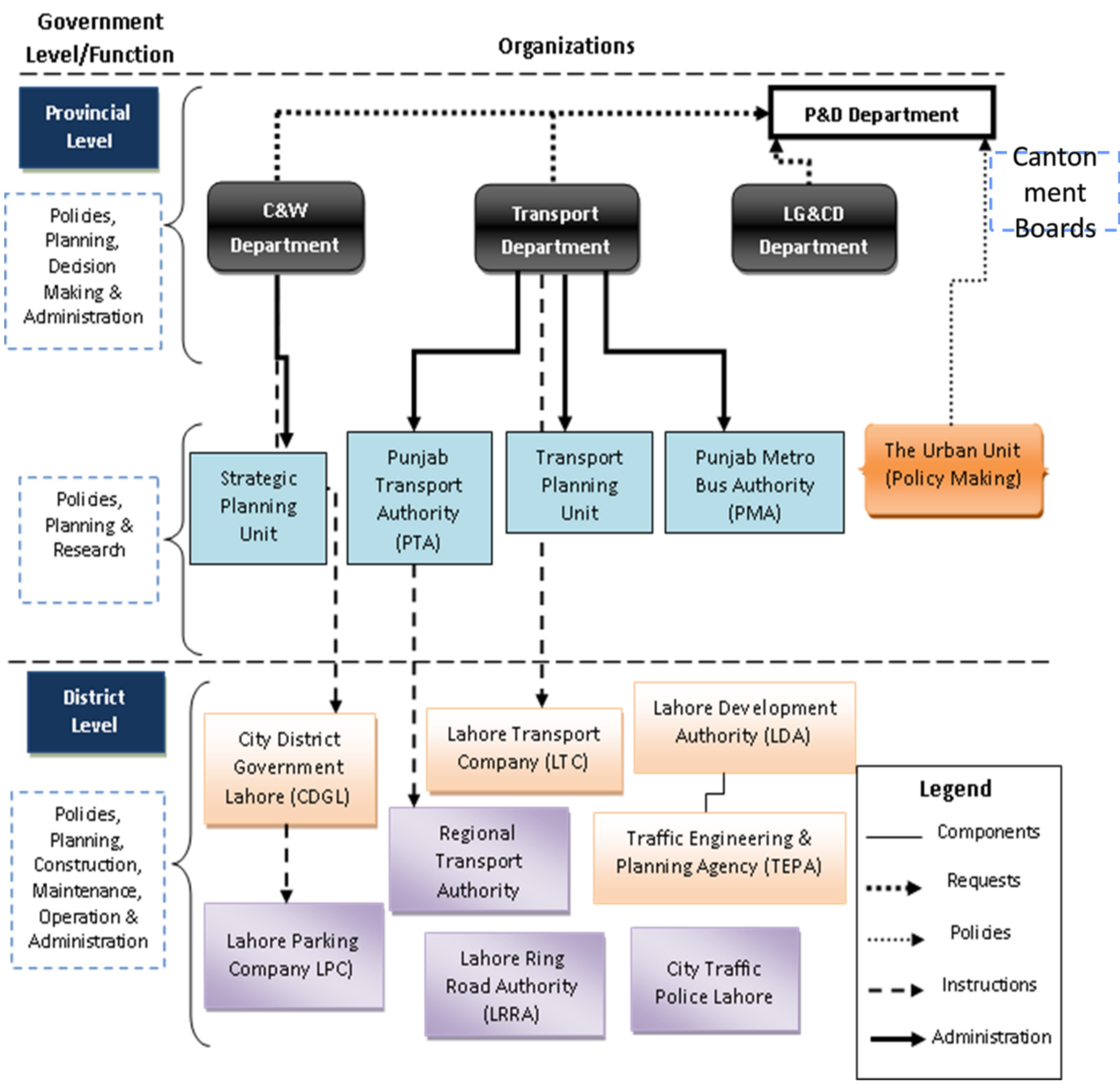
2. Vision

"To provide safe, efficient and affordable urban transportation system in Punjab"

3. Objectives

- Up-scaling public transport system including Mass Transit System
- Affordable, accessible and integrated public transport network and services
- Enhancing vehicle and passenger's safety
- Institutional realignment and regulation

Figure 3. Existing Institutional Structure in Public Transport sector



The Government has also established a Transport Planning Unit housed in Transport House Lahore. The main objective of the Unit is to carryout research and planning to provide better transport facilities in the province.

4. Sector Outcomes and Outputs

The Transport Department has converted their agenda of priorities, described above, into measureable and achievable targets in annual and medium term perspective. This is detailed below.

Outputs	Activities/Indicators	Responsible Agency	Targets	Medium Term Targets		
			2014-15	2015-16	2016-17	2017-18
Outcome 1: "Improving accessibility by public transport"						
1.1 Mass Transit Networks developed	1.1.1 Number of Mass Transit Networks developed	PMA	1	1	1	-
	1.1.2 Numbers of commuters benefitted from Metro Bus Service	PMA	135,000	152,000	Feasibility study in progress	
1.2 Improved capacity and quality of existing public transport system	1.2.1 Number of buses included in the existing fleet in Lahore	LTC	422+100=522	522+177= 699	699+125= 824	824+200= 1024
	1.2.2 Number of buses per thousand population in Lahore	LTC	0.06	0.08	0.09	0.11
	1.2.3 Number of buses included in the existing fleet in other major cities (Fsd, Rwp, Multan, Guj, Sialkot, Bhawalpur)	TD	-	125	150	200
	1.2.4 Number of Motor cycle rickshaws phased out	LTC	32649 Enrolled in Lahore	(Phasing out as per policy decision linked with increasing existing bus fleet to cater demand)		
1.3 Transit and travel facilities improved	1.3.1 Number of Intercity Bus Terminal to be developed	TD/ DRTAs/ CDGs	1	1	2	
	1.3.2 Number of Intercity Bus Terminals to be Improved	DRTAs/ CDGs	8	10	12	12
	1.3.3 Number of Intra-city Bus Terminal developed	LTC		1		
	1.3.4 Number of Public Transport Bus stops, Bays and Bus Shelters Renovated in Lahore	LTC	166	250	250	310

Outputs	Activities/Indicators	Responsible Agency	Targets	Medium Term Targets		
			2014-15	2015-16	2016-17	2017-18
Outcome 2: " Ensure safe journey for the commuters"						
2.1 Public Service Vehicles (PSVs) checked for safe journey	2.1.1 Percentage of vehicles inspected and certified against the total vehicles	PTA/ DRTAs	43%	50%	60%	70%
	2.1.2 Number of complaint cells established	TD	Compliant desks to be established within the integrated facilitation management centers developed by PIBT GOPb			
	2.1.2 Reduced ratio in PSVs accidents due to mechanical failure against the base current year	TD/ PTA/ DRTAs	12%	10%	7%	Less than 5%
2.2 Enforcement mechanism Improved	2.2.1 Number of VICS compliance monitoring cells established	TD		1		
	2.2.2 Percentage of Stands having digital monitoring and regulation	PTA/ DRTAs	30%	50%	70%	100%
	2.2.3 Percentage of staff trained as against the total	TD/ PTA	24%	35%	50%	70%
	2.2.4 Provision of vehicles in district for checking and monitoring and vehicle inspections and route permits (2 vehicles/ district)	TD/ PTA/ DRTAs	10	20	21	21
	2.2.5 Establishment of an integrated road accidents data collection and reporting system	TD/ Health Deptt/ Traffic Police/ Rescue 1122	An integrated data collection, management and reporting system for precise and scientific recording and publication of road accidents in Punjab			
Outcome 3: "Improve planning for public transport system and better regulatory and service delivery regime"						
3.1 Improved planning for public transport system	3.1.1 Master Plan Studies for major cities of the province conducted	TPU	Gujranwala	Sialkot	Bahawalpur	Sahiwal
	3.1.2 Number of Feasibility Studies/ Route Planning and Realignment Studies of selected cities conducted	TPU/ PMA	Gujranwala/ Sialkot (TPU) Rawalpindi (PMA)	Faisalabad/ Multan (PMA) Sargodha (TPU)	Bahawalpur/ Sahiwal (TPU)	

Outputs	Activities/Indicators	Responsible Agency	Targets	Medium Term Targets		
			2014-15	2015-16	2016-17	2017-18
	3.1.3 Planning wing established in Lahore	TD	1			
	3.1.4 Planning wing established in each division headquarter	TD/ PTA/ Commissioner Office	Continuous	Continuous	Continuous	Continuous
	3.1.5 Zoning Policy Study for Establishment of Bus Terminals/ Stands conducted	TD/ TPU/ DRTAs	5 Districts	7 Districts	8 Districts	16 Districts
3.2 Improved regulations and service delivery	3.2.1 Percentage of beneficiaries of Computerization of PRTC pension data	TD/ PRTC		100%	100%	100%
	3.2.2 Number of cities where One Window Operation established for Issuance of Route Permits along Major Highways/ Motorway	TD/ PTA/ DRTAs	2 District	5 Districts	5 Districts	5 Districts
	3.2.3 Monitoring and control centers established in Transport department	TD	1			
	3.2.4 Punjab Transport Infrastructure Management System (Bus Terminals, Route Alignment, Intra-city public transport and journey planner)	TPU	50% (Online and Continuous Updating)	100%	Online and Continuous Updating	Online and Continuous
	3.2.5 Number of Districts where Transport Department Automation System Implemented	TD/ DRTAs	All 36 Districts			
	3.2.6 Replacing Obsolete ticketing system in district by opening bank accounts	DRTAs/ PTA	5 Major districts	Remaining 31 districts		
	3.2.7 Number of districts where separate bank accounts opened for collection of bus terminal fee/ revenues and expenditure	TD/ PTA	10	20	36	

5. Programs and projects to achieve Outcomes

In the table below, those initiatives are reflected that will be financed from capital and/or development (either through local or foreign funding or as PPP projects). Activities in this sector which will be financed from the revenue / current budget have not been incorporated in the table below.

Projects / Programs	Responsible Agency	Funding Source	Budget Estimates 2015	Projection for 2016	Projection for 2017	Projection for 2018
			All figures in Rs. Million			
Outcome 1: "Improving accessibility by public transport"						
Transport Modeling and Feasibility Study for Mass Transit System in Rawal pindi, Multan and Faisalabad.	PMA	GOPb	20000 (Estimated for Rawalpindi part only)	37000	45000	
Number of buses included in the existing fleet in Lahore (20% upfront subsidy to be paid to operators for buses by GoPb under the existing model)	LTC	GOPb		354	250	400
Number of buses included in the existing fleet in major cities (20% upfront subsidy to be paid to operators for buses by GoPb under the existing model)	TD	GOPb		250	300	400
Intercity Bus Terminals to be developed	TD/DRTAs	PPP Mode		2500 M on PPP mode by Concessionaire Land + 750 M by Govt for outside infrastructure development	2000 M on PPP mode by Concessionaire Land + 750 M by Govt for outside infrastructure development	
Construction of new General Bus Stand, Rahim Yar Khan	TD	GOPb (Approved Scheme)	60.00	40.00		
Outcome 2: " Ensure safe journey for the commuters"						

Projects / Programs	Responsible Agency	Funding Source	Budget Estimates 2015	Projection for 2016	Projection for 2017	Projection for 2018
			All figures in Rs. Million			
Establishment of Vehicle Inspection and Certification System in Punjab	TD	PPP (BOT)		200 by Concessionaire Govt to provide land on lease/ rental basis	700 by Concessionaire Govt to provide land on lease/ rental basis	100 by Concessionaire
Land Acquisition for Vehicle Inspection and Certification System	TD	GOPb	10			
Provision of vehicles in district for checking and monitoring and vehicle inspections and route permits (2 vehicles/ district)	TD	GOPb		120	50.4	50.4
Outcome 3: "Improve planning for public transport system and better regulatory and service delivery regime"						
Establishment of Transport Planning Unit for execution of Transport Master Plan, Public Transport Improvement and Route Planning Studies	TD	GOPb (Approved Scheme)	39.00	37.53	38.00	38.00
Establishment of Monitoring Cell & Control Room at TD	TD	GOPb		10	10	10
Transport Data Automation System	TD	GOPb	110			

6. Policy and Legal reforms for Urban Transport

The following policy and legal reforms have been planned by the Transport Department to achieve the desired outcomes.

Sr #	Policy Reforms	Justification	Timeline	Responsibility
1	Punjab Urban Transport Policy	Direction for future Investment priorities in Transport Sector	December 2015	Transport Department
2	Draft Punjab Road Safety Act	Safety Guidelines for Public Service Vehicles	December 2015	Transport Department
3	Review and Updating Motor Vehicle Rules 1969	Improved Regulations for effective Monitoring Especially inclusion of private vehicles inspection and certification	December 2015	Transport Department
4	Revamping of Fee Collection system	Elimination of Pilferages, transparency and enhancement of Government revenue	June 2015	Transport Department/ PTA
5	Subsidizing public transport system	To encourage private sector investment as well keeping fares at affordable level	Continuous	Transport Department/ LTC/ PMA

7. Institutional strengthening and capacity enhancement

- Establishing Transport Planning Offices at District Level
- Devolution of Department activities to the Division level and enhanced role for Divisional Commissioners
- Establishing a Monitoring Cell at Transport Department

8. Monitoring Framework for Outcomes

Sr#	Outcomes	Performance Targets and Indicators	Data Source and Reporting Mechanisms
1	Improving accessibility by public transport	New Mass Transit Networks developed. Improved capacity and quality of existing public transport system Transit and travel facilities improved	GOPb Service Delivery Surveys PSLM GOPb Service Delivery Surveys Various departmental and international agencies' reports Metro Bus daily passenger ridership data
2	Ensure safe journey for the commuters	Transport vehicles checked for safe journey Enforcement mechanism Improved	Various departmental reports GOPb Service Delivery Surveys
3	Improve planning for public transport system and better regulatory and service delivery regime	Improved planning for public transport system Improved regulations and service delivery	GOPb Surveys; Third party reports GOPb Service Delivery Surveys

Planning and Development Department
Government of Punjab