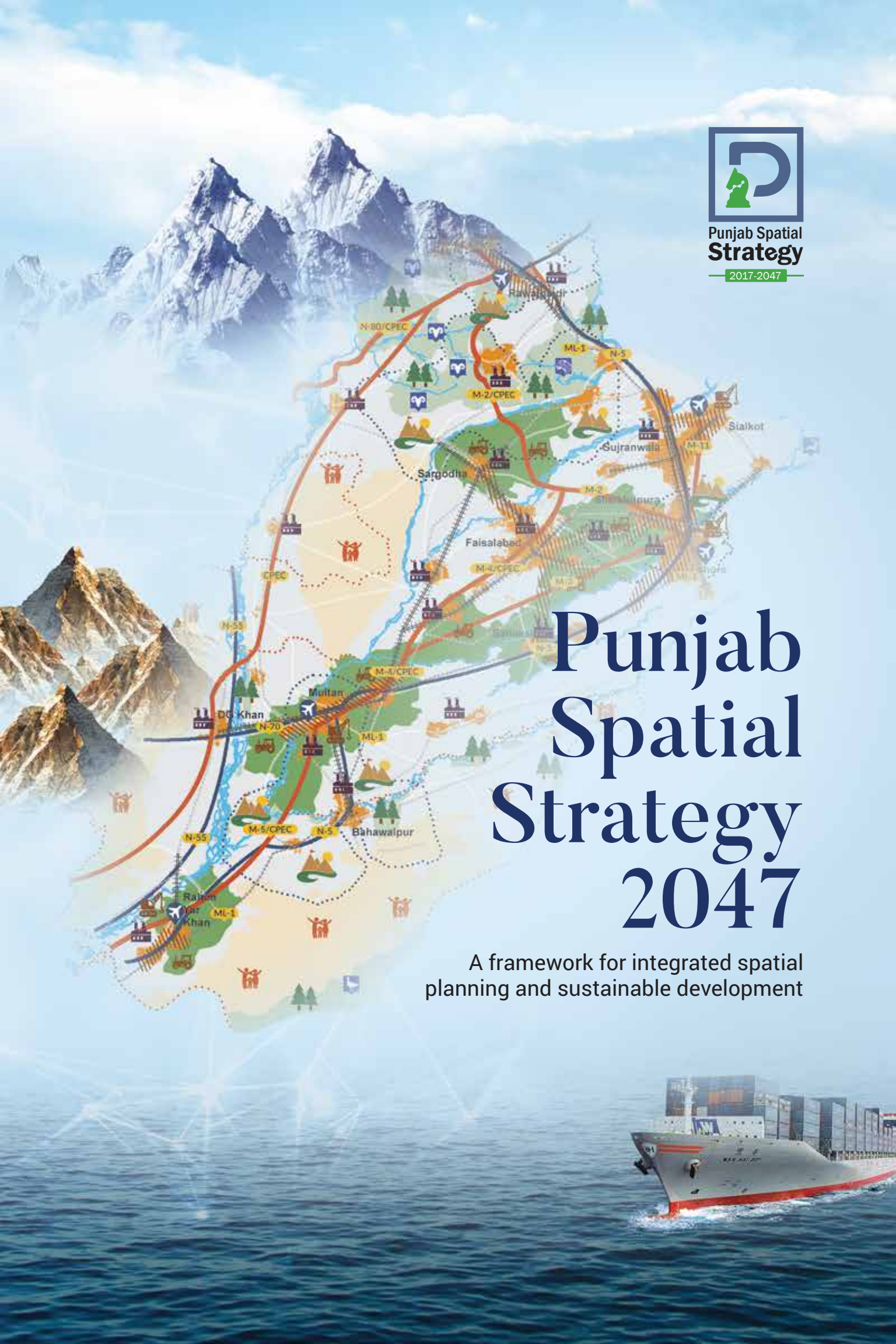

Punjab Spatial Strategy 2047

A framework for integrated spatial planning and sustainable development

Punjab Spatial Strategy 2047

A framework for integrated spatial planning and sustainable development

Punjab Spatial Strategy
2017-2047

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Acronyms

ADP	Annual Development Plan
AI	Artificial Intelligance
AJWA	Al-Jazzari Water and Sanitation Academy
AQI	Air Quality Index
BAT	Best Available Techniques
BOS	Bureau of Statistics
C&W	Communication and Works
CAREC	Central Asia Regional Economic Cooperation
CBD	Convention on Biological Diversity
CDWP	Central Development Working Party
CETP	Combined Effluent Treatment Plants
CMI	Census of Manufacturing Industries
CO	Carbon Dioxide
CPEC	China Pakistan Economic Corridor
DDC	District Development Committee
DDSC	Departmental Development Sub-Committee
DDWP	Divisional Development Working Party
DG M&E	Directorate General Monitoring and Evaluation
ECNEC	Executive Committee of the National Economic Council
EHS	Environment Health and Safety
EU	European Union
FDI	Foreign Direct Investment
FY	Fiscal year
GDP	Gross Domestic Product
GHG	Green House Gas
GIS	Geographical Information System
ICT	Information and Communication Tools
IPCC	Intergovernmental Panel on Climate Change
IRSA	Indus River System Authority
IT	Information Technology
LDA	Lahore Development Authority
LG	Local Government
LTP	Long Term Plan
MAF	Million Acre Feet
MANF	Manufacturing
MBI	Market Based Instruments
MICS	Multiple Indicators Cluster Survey
MPDD	Management & Professional Development Department
MPI	Multi-dimensional Poverty Index
MTDF	Medium Term Development Framework
NDC	Nationally Determined Contribution
NHA	National Highway Authority
NRW	Non-Revenue Water

Acronyms

OSR	Own Source Revenues
P&D	Planning and Development
PBS	Punjab Bureau of Statistics
PC	Project Conception
PCGIP	Punjab Cities Governance Improvement Project
PDWP	Provincial Development Working Party
PEQS	Punjab Environmental Quality Standards
PGS	Punjab Growth Strategy
PITB	Punjab Information Technology Board
PLGA	Punjab Local Government Academy
PM	Particulate Matter
PPIC3	Punjab Police's Integrated Command, Control and Communication
PPP	Public Private Partnership
PS	Policy Statement
PSCA	Punjab Safe Cities Authority
PSLM	Pakistan Standard of Living Measurement
PSS	Punjab Spatial Strategy
PTA	Provincial Transport Authority
PWON	Pakistan Water Operator Network
R&D	Research and Development
SDGs	Sustainable Development Goals
SEZs	Special Economic Zones
SMDP	Smart Monitoring of Development Projects
SME	Small and Medium Enterprise
SNE	Scheduled New Expenditure
SO	Strategic Objective
SPAP	Spatial Planning Authority of Punjab
SPCP	Spatial Planning Council of Punjab
SSU	Strategic Support Unit
SWM	Solid Waste Management
TEPA	Traffic Engineering and Transport Planning Agency
TOD	Transit Oriented Development
UC	Union Council
UCN	Union for Conservation of Nature
UIPT	Urban Immovable Property Tax
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
WHO	World Health Organization
WQI	Water Quality Index
WSS	Water Supply and Sanitation

Foreword

Punjab Spatial Strategy (PSS) is a long-term spatial planning framework for the province of Punjab. The objective of the strategy is to reflect current trends and functional relationships across multiple sectors throughout the province. This information is further used to assess each region's potential to contribute to sustainable development in Punjab.

A diverse team, supported by international experts with a wide range of sectoral backgrounds, was engaged for developing the PSS to ensure inclusion of multiple contemporary perspectives. The multi-sectoral nature of the PSS required incorporation and integration of suggestions and opinion of public officials, subject experts, academicians and private sector representatives. This was managed via interactive stakeholder engagement and consultative sessions. Stakeholders from key government departments and agencies were consulted throughout the development of the PSS, ensuring a collaborative approach.

This process has led to a Strategy that aims to ensure integrated spatial planning for transforming Punjab into an economically developed and sustainable region by adding a spatial dimension to the development and planning process. The strategy also identifies potential growth corridors and nodes around which to prioritize and coordinate investments. The PSS not only integrates spatial planning vertically across provincial, regional and local levels but also links it horizontally across various public sector stakeholders. This approach will enable Punjab to move in a unified direction, building on comparative advantage and enhance competitiveness. At the same time, this approach will ensure balanced and organized spatial development across the province.

The Strategy's vision is driven by seven Strategic Objectives (SOs) layered with 25 Policy Statements (PSs) each elaborating on policy rationale, targets, key actions and stakeholders. It sets out spatial policies to provide direction to the broad pattern of public and private investment in Punjab and acts as a layout plan for continuous and sustainable development in the province.

The PSS advocates spatial planning across sectors that include industry, agriculture, connectivity, urban, environment, social and tourism. It also focuses on improving Punjab's global positioning in terms of attractiveness and competitiveness by way of leveraging its endowments and comparative advantage. The role of urban settlements is strongly anchored within the strategy's growth framework that plans to transform these settlements into smart, competitive and livable places. Improving people's quality of life by reducing intra- and inter-regional disparities and ensuring access to economic opportunities resonates through each policy objective. Sustainable Development Goals (SDGs) are internalized as policy achievement targets in each area, while ensuring their alignment to national, international, provincial and sectoral vision. Sustainability and resilience remain at the core of the PSS. Role of environment protection and conservation is pivotal in enhancing the quality of life of the people of Punjab. Finally, for the implementation of an integrated spatial planning system, a strong implementation, monitoring and evaluation framework is proposed along with assigned roles for all key public sector stakeholders.

The PSS is expected to have a lasting spatial impact on policymaking, planning and development interventions by both the public and private sectors in Punjab. Therefore, its implementation and institutionalization requires strong institutional anchorage on a sustainable basis through a sound regulatory framework. The proposed Spatial Planning Authority of Punjab, to be guided by the Spatial Planning Council of Punjab, will be paramount in taking forward the spatial planning strategy, its implementation and regulatory aspects. Ultimately, the success of the Strategy will rely on implementation of its spatial policies by concerned Departments and Agencies to be guided by the Planning and Development (P&D) Board.

Government of the Punjab envisions that Punjab will play a key role in equitable and sustainable development of Pakistan.

The vision of Naya Pakistan hinges upon principles of justice and equity. There are drastic spatial disparities across Punjab and I believe it is high time for the Government of Punjab to focus on creating a more equitable province, and to eradicate regional imbalances. The same principles of balanced development are reflected in the Punjab Spatial Strategy 2047, that aims to enhance competitiveness of each region and build infrastructure around it. This will enable efficient resource allocation and more economic returns that will crystalize into economic growth and jobs for people of all the areas of Punjab.

The youth bulge of Punjab needs more opportunities and avenues for channelization of their energies. This strategy aims to make Punjab a global hub for investment and trade while undertaking transformations across all sectors. To transform Punjab into an Upper Middle Income economy, there is a need to have modern and data driven policies and planning tools – the development of this Strategy is one such overarching measure to make this happen.

The Strategy is prepared in tandem with the sectoral priorities of various departments. It sets out the province's strategic objectives that will give direction to the broad pattern of public investments in Punjab, and act as a master plan for sustainable and balanced development of Punjab.

Punjab Spatial Strategy 2047 will enable the Government to prioritize its investments in an optimum manner in order to ensure that the maximum benefits are realized for the people of Punjab. I firmly believe that all citizens of Punjab deserve accessible and quality infrastructure and opportunities, and this Strategy will be the first step in achieving these objectives.

Sardar Usman Buzdar
Chief Minister of Punjab

Punjab possesses the critical mass that can potentially propel the nation towards a high growth trajectory.

The enormous agriculture base, emerging industrial sectors and bourgeoning services sectors along with abundance of human resources and existing clusters, place Punjab at a very high competitive position for growth in the regional context.

The Urban Unit developed Punjab Spatial Strategy 2047 (PSS) along with other Government departments and through the active support from World Bank's Jobs & Competitiveness Program (J&C). A diverse team at the Urban Unit, supported by international experts with a wide range of sectoral backgrounds, was engaged for developing the PSS to ensure inclusion of multiple contemporary perspectives.

PSS is a future spatial portrait of the province with an objective to support sustainable cities and rapid economic development. Primarily, this Strategy assesses the potential of Punjab's growth corridors and growth nodes and helps prioritize and coordinate public sector investments that will further channelize private investments.

The multi-sectoral nature of the PSS required incorporation and integration of suggestions and opinions of public officials, subject experts, academics and private sector representatives. This was managed via interactive stakeholder engagement and consultative sessions. Stakeholders from key government departments and agencies were consulted throughout the development of PSS, ensuring a collaborative approach.

The PSS's vision is driven by seven Strategic Objectives (SOs) layered with 25 Policy Statements (PSs), each elaborating on policy rationale, targets, key action and stakeholders. 80% of infrastructure investments in Punjab will be aligned through PSS leading to a more prosperous and equitable province.

The success of this strategy hinges upon the implementation of its policies by the concerned departments and the adoption of more detailed regional development plans being developed in light of this core strategy. The proposed Spatial Planning Authority of Punjab, supported by the Spatial Planning Council of Punjab, will be paramount in taking forward the Spatial Planning Strategy, its implementation and regulatory aspects.

Habib ur Rehman Gilani
Chairman Planning & Development Board

Pakistan has been left behind in the 'Economic Race of Nations'. Around fifty years ago, Pakistan and South Korea had comparable per capita incomes.

Since then South Korea has been able to increase its per capita income by a factor of 184, while Pakistan could only increase it by 11 times. Similarly, twenty years ago, Pakistan and China had similar per capita incomes. Yet China was able to reform its economy to become an export powerhouse and 'Factory of the World'. It was able to increase its per capita income by a multiple of 17 times and lifted 700 million out of poverty. In the same period, Pakistan's per capita income only increased by 3 times to reach $1,510.

As a result seventy years after attaining independence we are still mired in poverty with an inward looking low value adding agriculture, a backward manufacturing base and an equally weak services sector primarily serving the domestic economy. Pakistan has not been able to keep up with the high performing countries due to multiple reasons, including persistent wars in West Asia, global terrorism, coupled with poor governance, dismal investment climate and lack of needed economic reforms. Deprived of the required domestic and international investment, the economy is beset with plummeting productivity and low global competitiveness. Pakistan has not been able to climb the ladder of development by ensuring increasing integration in Global Value Chains of major product lines that dominate the world markets. With regional conflicts and war on terror gradually receding, Pakistan has an amazing opportunity to catch up. It must leverage its large young population, rapid urbanization rates, the Indus river system, natural resources and its emerging role as a unique economic corridor (CPEC) to strategically pursue the goal of rapid economic transformation needed to become a major prosperous participant in global supply chains and the world economy.

The Province of Punjab has a major role in this economic transformation of Pakistan. Punjab is well positioned to change from its current inward looking agrarian focus to a competitive, export driven, high growth economic paradigm fueled by socio-economic transformations required for creating a global competitive advantage for Pakistan.

The Punjab Spatial Strategy 2047 (PSS) has been developed to achieve the goal of rapid economic & development transformation leading to middle income status in the coming decade. This will require structural changes in the economy that can only be strategically undertaken through evidence-based planning systems. The formulation of PSS ensures integration of spatial planning data and tools into the development and planning roadmap for transforming Punjab into an economically vibrant and prosperous province of dynamic Pakistan. Punjab is blessed with basic components of both the rural and Urban economies. It has nine divisions, 36 districts comprising of approximately 24,000 villages and 194 urban settlements ranging from mega to intermediate and small cities. PSS is expected to have a lasting spatial impact on policymaking, planning and development interventions by both the public and private sectors in Punjab. For the first time it will systematically integrate sectorial economics and spatial economics in designing economic strategy in Pakistan. Successful integration would need transforming the existing Governance Systems to ensure flawless implementation and execution supported by strong institutional and state facilitation to achieve balanced and sustainable economic growth.

Dr. Salman Shah
Advisor to CM on Economic Affairs,
Planning & Development

Across the public and private sectors, a new generation of data-driven leaders is needed to bring a different outlook to Punjab's most pressing policy challenges.

In milieu of this, the Urban Unit has reinvigorated the vision of **'Data2Policy'** and **"Data2Knowledge & Innovation"** to form its forte. The Urban Unit aspires to become a gold source of data for Pakistan, assisting Government in policy formulation and strategy execution. This will enable the Urban Unit to provide smart knowledge-based services and solutions tailored to the needs of its clientele.

Evidence-based data driven Decision support systems adapting a proactive approach through Big Data analytics, Information Visualization, Predictive Modeling and Artificial Intelligence techniques, will go a long way in the achievement of development and service delivery targets of the Unit. These systems will assist the government departments in adopting latest paradigms such as Industry 4.0, Integrated Climate Smart Agriculture revolution and digitized knowledge-oriented service economy.

Punjab, the nucleus of Pakistan's economic and social development requires an evidence-based planning framework that rationally utilizes its scarce resources. Spatial planning provides a fresh perspective in the policy development arena of Punjab, advocating for optimal utilization of resources, development of comparative advantage, and for a balanced and equitable development across the province.

The Urban Unit can proudly claim to have developed the Punjab Spatial Strategy 2047 (PSS) that provides a long-term spatial planning framework for the province of Punjab. PSS envisions Punjab as a healthy, educated, prosperous, equitable and sustainable federating unit of a dynamic Pakistan, emerging as a member of Upper-Middle Income Group of Countries.

This vision is driven by spatial policies to provide direction to the broad pattern of public and private investment in Punjab and acts as a layout plan for continuous and sustainable development in the province. A diverse team of sector specialists supported by international experts were arduously engaged for the development of this strategy, so that multiple contemporary policy perspectives were incorporated. The Unit was able to liaise and incorporate the suggestions and opinions of public officials, subject experts, academicians and private sector representatives.

The PSS advocates spatial planning across multiple sectors including industry, agriculture, connectivity, urban, environment, social and tourism. Sustainable Development Goals (SDGs) are internalized as policy achievement targets in each area, while ensuring their alignment to national, international, provincial and sectoral vision. The strategy also focuses on improving the Punjab's global positioning in terms of attractiveness and competitiveness by way of leveraging existing endowments. The strategy aims to create an environment that fosters economic opportunity, improve the quality of life by reducing disparities and progress settlements into smart, competitive and livable places.

PSS is expected to structurally transform the province into an industrious and technologically driven center with a recognized global footprint. Therefore, the implementation of this strategy will require strong institutional anchorage and a sound regulatory framework. The success of the Strategy is rooted in effective implementation of its spatial policies by concerned Departments and Agencies to be guided by the Planning and Development (P&D) Board.

Khalid Sherdil
CEO The Urban Unit

"Punjab as a healthy, educated, prosperous, equitable and sustainable federating unit of a dynamic Pakistan emerging as a member of 'Upper-Middle Income Group of Countries'"

Punjab Spatial Strategy Twenty 47

SO 01

Improve the global position of Punjab in terms of attractiveness & competitiveness

Global hub for trade & investment

Enabling environment for research & innovation

Value addition & Hi tech exports

Emerging global tourist destination

SO 02

Develop regions based on their comparative advantages

Leveraging CPEC opportunities

Enhancing regional connectivity

Developing potential growth corridors

SO 03

Transform cities into smart, competitive & livable cities

Guiding urban growth through coordinated regional planning

Promoting mixed land use & transit oriented development

Affordable housing for all

Provision of urban services for all

Improving mobility through efficient public transport connections

Embedding ICT infrastructure in cities

SO 04

Sustainable natural resource allocation & management

Productivity & efficiency principles for efficient resource use

Sustainable management of water & energy

Integrated development of agro zones

SO 05

Enhance the quality of life for all segments of society

Social inclusivity

Balanced access to healthcare & education services

SO 06

Enhance environment protection & management

Tackling climate change

Improving livability & quality of life

Focus on biodiversity & conservation

Improving ground water quality & management

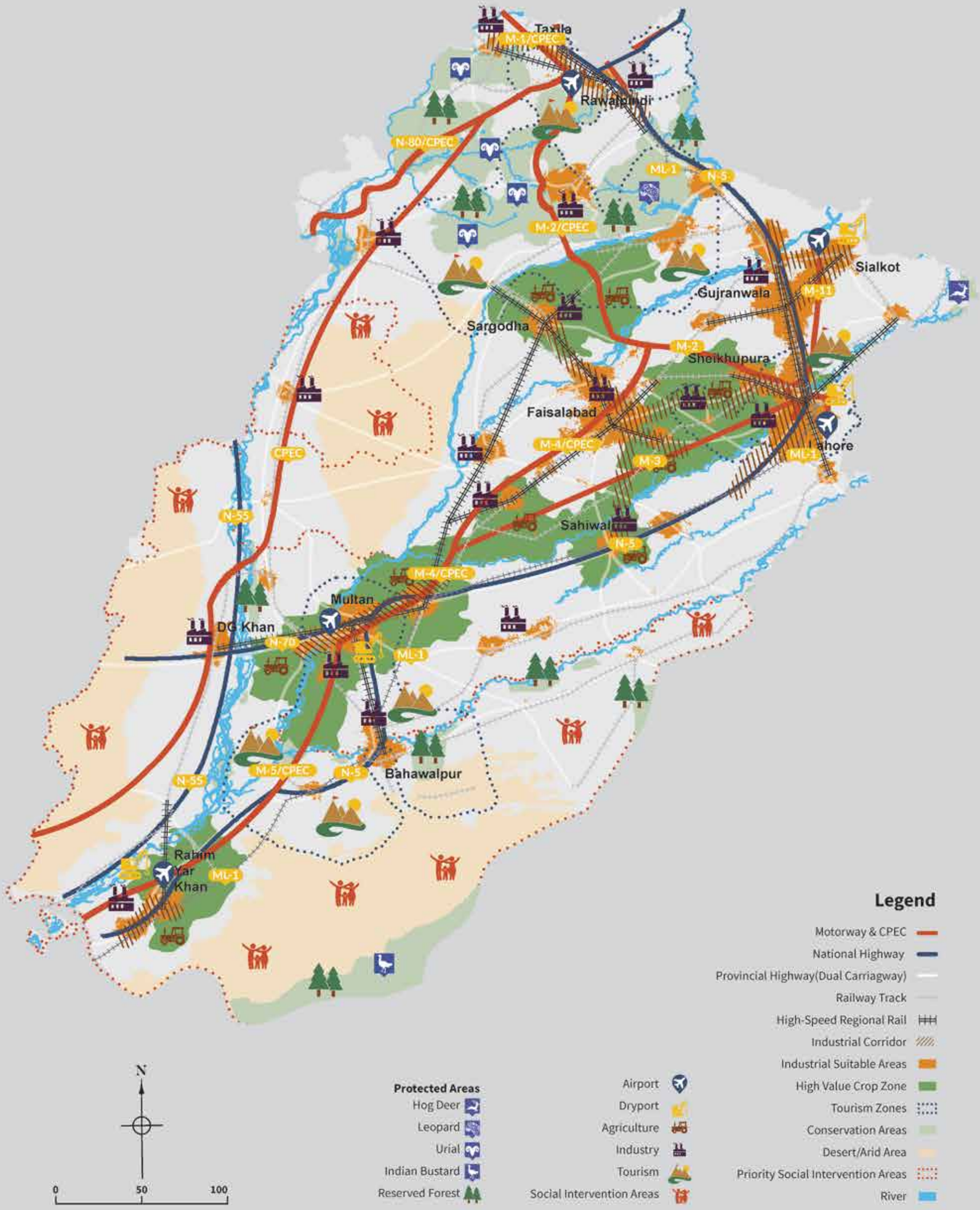
Improving air quality & management

SO 07

Implementation of an integrated spatial planning system

Institutional capacity building | Evidence based integrated planning | Robust implementation & monitoring

Spatial Vision of Punjab 2047



Map 1.1: Spatial Vision of Punjab 2047

01

VISION, STRATEGIC OBJECTIVES & POLICY STATEMENTS

1.1 Vision for Punjab

Punjab as a healthy, educated, prosperous, equitable and sustainable federating unit of a dynamic Pakistan, emerging as a member of 'Upper-Middle Income Group of Countries.'

Ever since Pakistan's creation in 1947, Punjab has undergone a transformative change. As the most populous province of Pakistan, second largest by area, and as the largest contributor to the country's GDP, Punjab's geo-strategic significance is immense. Owing to inequitable distribution of funds in the past, provincial development strategies have exacerbated inequalities within the province. Today, Punjab aspires to be on the pathway to sustainable development. In this regard, the Punjab Spatial Strategy (PSS) will provide invaluable assistance. The PSS envisages Punjab as a prosperous unit that gives due consideration to social, environmental and economic elements in working towards sustainable development. It is premised on an equitable distribution of resources.

To transform Punjab from an inward-looking agrarian-driven economy to an outward-looking export-driven knowledge-based economy, its comparative spatial advantage needs to be scaled up into a global competitive advantage. The spatial lens of the PSS provides an overarching framework through which development across multiple sectors can be integrated and its cross-sectoral impacts better analyzed. Building on regional strengths across Punjab, the effective incorporation of Information & Communication Tools (ICT) such as Geographic Information System (GIS) provides decision-makers a wider perspective of development, based on the interaction of various sectors, locations and socioeconomic indicators.

Envisioning a prosperous Punjab at 100 by 2047, 11 areas of transformation have been identified (Figure 1.1.2) through a demand-driven approach, prioritizing regional competitiveness and bridging of current gaps, while adopting global best practices. The identified areas will be targeted through three means of transformation – People, Land, and Technology – and the processes via which they interact (Figure 1.1.1).

1.1.1

Means of Transformation

The Strategy aims to leverage the potential of Punjab to achieve sustainable development. The means of transformation – People, Land, and Technology – are necessary for achieving sustainable, inclusive, and rapid economic development (Figure 1.1.1).

Figure 1.1.1: Means of Transformation

People

With a population of 110 million, people of Punjab are a key resource. Hence improvement in their skills and knowledge will be a key focus of the PSS. Ensuring welfare of the people of Punjab is a fundamental principle of the Strategy and remains a key ingredient for enhancing productivity and regional competitiveness. Higher productivity will lead to greater economic activity, creating opportunities for investment, job creation, and ultimately citizens' welfare. Improvements in human capital and increasing productivity will enhance comparative advantage across each sector, and overall aggregate national economic welfare.

Land

Land is one of Punjab's primary assets. Its optimal utilization is essential for sustainable development. Despite an abundance of rich fertile land, the province faces low agricultural productivity. This is primarily due to emphasis on low value produce limiting income generation in the agriculture sector and contributing to rural poverty. The transition from subsistence -level agriculture towards value-added export-oriented agriculture will generate wealth in the agriculture sector. It will also ensure greater food security and strengthen the national economy. Punjab will also have to invest in its cities to reduce inter-city disparity. The PSS provides details of targeted interventions to achieve the above.

Technology

The PSS aims to improve the contribution of Punjab's manufacturing sector to the GDP. Industrialization, in conjunction with improved productivity of factor inputs and a competitive economic landscape, can become a driver of further economic growth. Investments in technology will be a primary contributor to efficiency of Punjab's industrial sector. China Pakistan Economic Corridor (CPEC) will further lead to technology transfer that will improve sectoral productivity across agriculture, industry and services sectors.

Processes

Critical Processes that will make the PSS vision a reality include digitizing strategic operations, mapping baseline data on tools such as GIS and management Information System (MIS), introduction of innovative practices, regular monitoring of activities, and optimization of current operations. These will enable temporal and spatial scalability. To effectively utilize the potential of land, people and technology as a means of transformation, the interaction of these factors through a well-designed and thought-out processes remain essential.

AREAS OF TRANSFORMATION

COMPETITVENESS
Growth Potential
Linkages
Phasing

SUSTAINABILITY
Land
Water
Human Resource

SOCIAL DEVELOPEMENT
Healthcare
Education
Inequality
Affordable Housing

INDUSTRIAL
Global Value Chain
Value Added & Hi Tech Exports
Industrial Corridors

AGRICULTURAL
Productivity
Efficiency
Livestock Development

CITIES
Urban Services
Smart & Safe cities
New Economic City

CONNECTIVITY
Gateways & Corridors
Mass Transit system
Public Private Partnership

ENVIRONMENT
Climate Change
Livability
Biodiversity

HUMAN CAPITAL
Human Development
Skills Development
Institutional Capacity Building

GOVERNANCE
Spatial Planning
Evidence based Planning

TOURISM
Eco Tourism
Heritage Tourism

1.1.2

Punjab has immense growth potential for leveraging its natural endowments and human resources and for promoting technological advancement. It has the highest urbanization rate in the country – there are 194 urban centers across the province, with over 37% of the population living within demarcated city boundaries growing at an annual rate of more than 3%. Even though Punjab contributes to 60% of the national economy, it has limited global interconnectedness and export orientation. The challenge now is to change its comparative advantage towards its competitive advantage.

To do this, the PSS has identified key areas (Figure 1.1.2) of structural transformation on the basis of a demand-driven approach, guided by sectoral strategic objectives and policy goals.

Figure 1.1.2: Areas of Transformation

SO-1

Improve the global position of Punjab in terms of attractiveness and competitiveness

PS 1.1: Leverage international opportunities to transform Punjab into a global hub for trade & investment

PS 1.2: Enable diversification through support of modern technologies and innovations

PS 1.3: Develop human capital to enhance productivity

PS 1.4: Preserve & promote the cultural heritage and natural sites to maximize tourism potential

01 Strategic Objective

Improve the global position of Punjab in terms of attractivenes and competitiveness

The image of Punjab in the global context plays a crucial role in Pakistan's appeal to international investment. CPEC has presented itself as a great opportunity for strengthening ties between entrepreneurs and investors across Asia. This opportunity, if optimally leveraged, can lead to technology transfer and job creation in Punjab. The next step for Punjab should be to enter into value-added manufacturing, supported by an environment that is business-friendly and export-oriented. This will enable Punjab to enter Global Value Chains (GVCs), particularly in low technology labor-intensive sectors.

Traditionally, however, Punjab has had an economic advantage in the agriculture sector. The abundance of labor, natural endowments and locational advantages can become a basis for expanding the existing agricultural base and move towards sustainable economic development. Spatially informed decisions can ensure appropriate measures are taken for the development of agricultural and industrial zones, directed towards targeted areas and sectors. High value export-oriented crop zones supported by integrated facilities framework can augment agricultural production. Industrial corridors with necessary infrastructure, support mechanisms, access to utilities and common facilities can improve Punjab's industrial competitiveness. Such spatially informed and targeted interventions in both agriculture and industries can result in economy-wide value addition.

The province has an abundant human resource endowment. However, much of this resource lacks training in contemporary skills – only 5.6% of the population has received tertiary education, with a mere 0.5% with any kind of technical education. There is lack of innovation in production processes and a lesser focus on research, which leads to low productivity levels across sectors.

In addition to making investments in agriculture and industries, Punjab's natural and cultural endowments must also be leveraged. These endowments create an immense potential for tourism. Promoting Punjab, as a foreign friendly region and a business destination can be an important aspect of pushing tourism for economic growth in Punjab. A vibrant business community supported by conducive infrastructure and policies can provide the necessary shift towards innovation driven entrepreneurship in an emerging international business arena.

PS 1.1

Leverage International Opportunities to Transform Punjab into a Global Hub for Trade & Investment

Policy Background

Between 2013 and 2018, Pakistan's total exports, the majority of which arose from Punjab, witnessed an unprecedented decline of more than 5% despite free market access to the European Union (EU). Meanwhile, imports have surged by more than 80%. With only 6% of the firms having an export orientation, the export base of Punjab's labor-intensive sectors is not expanding, leading to a shrinking share of exports in international markets. For instance, in the period between 2012 and 2016 the share of fresh food fell from 0.5% to 0.44%, textiles from 3.15% to 2.6%, and leather products from 0.32% to 0.24%. However, the province has the potential and resources to turn its comparative advantages into a significant competitive advantage. Global connectivity through emerging opportunities (CPEC and Central Asia Regional Economic Cooperation (CAREC)) aspire Punjab towards becoming a 'Future Factory of the World.' China's labor-intensive and light manufacturing industry has already begun relocation of 85 million jobs where Punjab, through provision of a conducive environment, stands a good chance to become a potential but ideal destination for some of these jobs.

Relevance to National Visions and Strategies

Pakistan Vision 2025
Make 'Made in Pakistan' a symbol of quality

CPEC Long Term Plan 2030
Make Punjab's industry more competitive

Punjab Growth Strategy 2018
Achieve positive growth for all sectors through an increase in the share of global exports

Strategic Trade Policy Framework 2018
Increase share in regional trade

Industries Sector Plan 2018
Increase Punjab's exports by 15% every year

Relevance to Sustainable Development Goals

Goal 9
Industry, Innovation and Infrastructure

Target 9.B
Support domestic technology development, research and innovation to promote industrial diversification and value addition

Goal 17
Partnerships to achieve the Goal

Target 17.3
Mobilize additional financial resources for developing countries from multiple sources

Target 17.11
Significantly increase exports

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Punjab industrial production index growth	Survey of Industrial Production and Employment Report 2017, BOS, Punjab	4.1%	> 10%	>15%	~15%
Punjab's firms in export business	Census for Manufacturing Industries (CMI) 2016	6%	15%	25%	40%
Foreign Direct Investment in production sectors		No data is available	5% of the Provincial GDP	10% of the Provincial GDP	15% of the Provincial GDP
Pakistan's share in global markets of basic & labor-intensive sectors	International Trade Centre 2016	Food 0.12% Textiles 2.6% Clothing 1% Leather 0.3% Basic Manf. 0.6%	Food 1% Textiles 5% Clothing 3% Leather 1% Basic Manf. 2%	Food 2% Textiles 8% Clothing 8% Leather 3% Basic Manf. 5%	Food 5% Textiles 10% Clothing 15% Leather 5% Basic Manf. 15%

Key Actions Required

Develop and incentivize services and business parks in priority corridors and in large cities for achieving integrated and organized development.

Develop and implement provincial-level industrial policy and product plans to capture optimum opportunities within priority locations and thrust areas.

Provide, on priority, localized support, incentives and facilitations to support investments in areas having a high concentration of labor-intensive sectors and Small and Medium Enterprises that will expand industrial sector base and export-orientation.

Offer and upgrade both hard and soft infrastructure in high-potential areas to spur integrated industrial development in product specific categories.

Encourage import-substitution by strengthening domestic commerce, attracting investments and technology, leveraging growing middle-income class.

Deploy certification and reward mechanism at local levels to promote exports and to ensure quality, environment, social and safety related compliances of products and firms with international standards.

Undertake and pioneer the 'Made in Pakistan' as a special program with support from the Federal Government to promote Punjab's industry and attract investments from across the globe in Punjab's Special Economic Zones (SEZs) and industrial corridors.

Expected Outcome

Development of knowledge-based investment and trade hubs at Lahore, Multan, Faisalabad, Gujranwala and Sialkot

Leveraging potential benefits of opportunities brought forth by CPEC and CAREC

Key Stakeholders

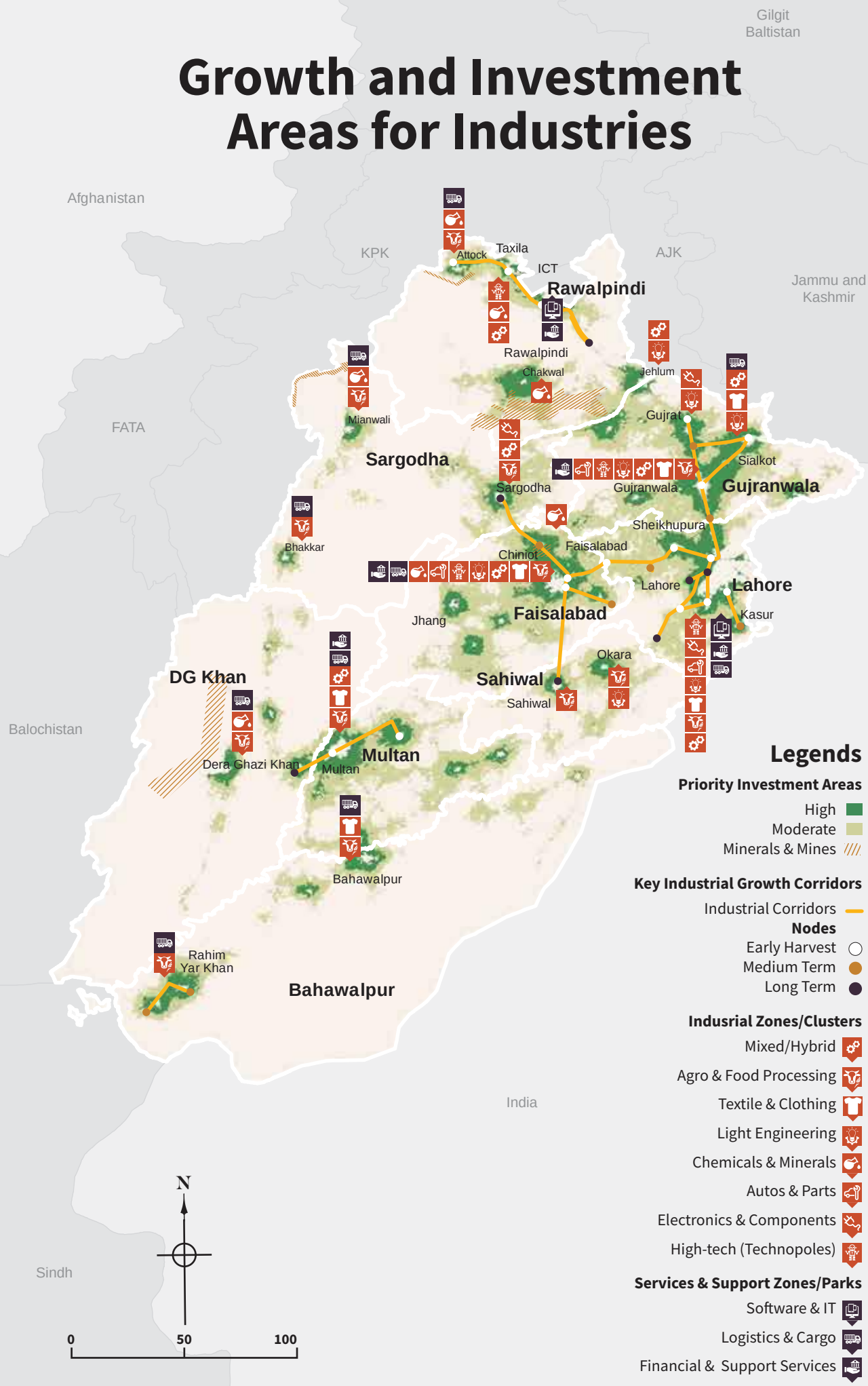
Federal
Ministry of Planning, Development & Reform,
Ministry of Industries & Production and
Ministry of Commerce & Trade

Provincial
Technical Education & Vocational Training Authority,
Livestock & Dairy Development Department,
Mines & Minerals Department and
Agriculture Department

Key Agency

Industries, Commerce & Investment Department

Growth and Investment Areas for Industries



Legends

Priority Investment Areas

- High
- Moderate
- Minerals & Mines

Key Industrial Growth Corridors

- Industrial Corridors

Nodes

- Early Harvest
- Medium Term
- Long Term

Indusrial Zones/Clusters

- Mixed/Hybrid
- Agro & Food Processing
- Textile & Clothing
- Light Engineering
- Chemicals & Minerals
- Autos & Parts
- Electronics & Components
- High-tech (Technopoles)

Services & Support Zones/Parks

- Software & IT
- Logistics & Cargo
- Financial & Support Services

Map 1.1.1: Growth and Investment Areas for Industries

PS 1.2

Enable Diversification through Support of Modern Technologies & Innovation

Policy Background

Over the past decade, regional economies like China and India have been able to increase exports in high-technology sectors. However Punjab's integration in global value chains and its share in such exports has remained limited. In 2016, the share of Pakistan's exports from the hi-tech sectors was only 2% of its total exports, compared to 7% and 25% for India and China respectively. Most of Pakistan's access to the global markets of Pakistan is limited to agriculture or labor-intensive value chains with low value additions. Pakistan has only three markets for its electrical components industry as compared to 26 and 9 for India and China, respectively. Low diversification, innovation and outreach are partly a result of a lack of support for technology integration. Public sector expenditure levels for Research & Development (R&D) in Pakistan stands at 0.25% of the GDP compared to 0.69% in India and 2.1% in China. Thus Punjab must develop a strong knowledge and innovation base to propel Pakistan into higher value added and diversified value chains.

Relevance to National Visions and Strategies

CPEC Long Term Plan 2030
Pakistan's vision: Strengthen exchanges and cooperation among educational and research institutions promoting technology transfer

Pakistan Vision 2025
Pillar VI: Knowledge economy

National Science, Technology and Innovation Policy 2012
Objectives: R&D Infrastructure

Strategic Trade Policy Framework 2018
Product Sophistication & Diversification

Industries Sector Plan 2018
Industrial Support Centers

Relevance to Sustainable Development Goals

Goal 4
Quality Education

Target 4.4
Increase youth technical capabilities including ICT skills

Goal 8
Decent Work and Economic Growth

Target 8.2
Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, with a focus on high-value added and labor-intensive sectors

Goal 9
Industry, Innovation and Infrastructure

Target 9.4
By 2030, upgrade infrastructure and retrofit industries to make them sustainable through efficient technologies.

Target 9.5
Enhance scientific research and technological capability of industry by encouraging innovation and R & D

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Share of manufacturing employment other than present top-five sectors	Census for Manufacturing Industries (CMI) 2016	32%	45%	50%	60%
Share of hi-tech in overall manufacturing employment	CMI 2016	Less than 1%	2%	5%	15%
Number of products in manufacturing sectors	CMI 2016	Textiles: 8 Food: 13 Metal: 8 Chemicals: 8	Double from baseline	Retain maximum diversification in value chains	Attain maximum value additions

Key Actions Required

Launch technology-upgrading schemes for high potential districts and clusters with incentives for firms and businesses to adopt Best Available Techniques (BAT) and modern production systems.

Develop and launch a long-term strategic framework to trigger technology-driven development in outward-looking and high value-added sectors.

Develop centers of excellence to promote R&D for industry, agriculture and other economic sectors within industrial corridors with global linkages.

Establish incubation centers with state-of-the-art laboratories, testing facilities and display halls in large cities (nodes of industrial corridors) along with enabling instruments for promotion of innovation and knowledge centre.

Develop software and IT parks in mega and large cities to link Punjab's youth to the digital world.

Support establishment of effluent treatment facilities in industrial corridors to curtail negative externalities.

Support economic agglomeration and large-scale manufacturing with a focus on corridors and large cities to foster global interconnectedness and interaction.

Expected Outcome

Developed high-potential areas like Rawalpindi, Lahore, Faisalabad, Gujranwala and Multan into Punjab's technology hubs and innovation centers

Incorporation of modern technologies and innovation ecosystem into industrial corridors

Local firms enabled to improve their productivity and efficiency, allowing them to gain global competitiveness

Established specialized support for exporting hubs in industrial corridors

Key Stakeholders

Federal
Ministry of Science & Technology,
Ministry of Industries & Production,
Ministry of Commerce & Trade,
Ministry of National Food Security & Research,
Small & Medium Enterprises Development Authority,
National Agricultural Research Centre and
Higher Education Commission

Provincial
Punjab Board of Investment & Trade,
Punjab Information Technology Board,
Agriculture Department and
Higher Education Department

Key Agency

Industries, Commerce & Investment Department

PS 1.3

Develop Human Capital to Enhance Productivity

Policy Background

Punjab is impeded by inadequate human capital and low entrepreneurship capabilities, and has remained unable to attract regional investments. Low labor productivity in agriculture, industry and services has hindered provincial competitiveness despite low wages. With only 5.6% of the population with tertiary education, and a mere 0.5% trained in technical education, Punjab is not adequately equipped to attract international investments. Due to a lack of focus on human capital development, the educational and training infrastructure is insufficient to cater to the demands of various economic sectors. Dissemination of skills-focused trainings is essential to realize demographic dividends from the growing youth bulge. Demand-driven skills are needed to support productivity and innovations across all sectors including industry, agriculture, livestock and services. An appropriate skills development infrastructure will therefore, act as the main driver for improving labor productivity and enhancing attractiveness of Punjab as an investment destination.

Relevance to National Visions and Strategies

National Education Policy 2017
Universal access/enrollment; universal retention; and universal achievement

Pakistan Vision 2025
Pillar IV: Knowledge Economy

Punjab Growth Strategy 2018
Training 2 million graduates

Industries Sectoral Plan 2018
Addressing technical capacity

Punjab Agriculture Policy 2017
Capacity development

Punjab Youth Policy 2012
Development of human resource base of the youth as knowledge workers

Auto Development Policy 2016-21
Build technical capacity

Relevance to Sustainable Development Goals

Goal 4
Quality Education

Target 4.4
Increase youth technical capabilities including ICT skills

4.a) Upgrade education & training infrastructure

4.b) Provide funding to promote research and innovation

Goal 9
Industry, Innovation and Infrastructure

Target 9.5
Enhance scientific research, upgrade the technological capabilities of industrial sectors

Goal 17
Partnerships to achieve the Goal

Target 17.8
Capacity building on modern technologies and systems for optimization

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Population with Tertiary Education	Pakistan Standard of Living Measurement (PSLM) 2015	5.6%	10%	15%	30%
Population with technical education and formal trainings	PSLM 2015	0.5%	5%	8%	10%
Worker productivity per employed worker	Various sources	$4,350	Double from baseline	Four times from baseline	Eight times from baseline
Trained farmers at cluster level		No specific skills training	20% of total farmers	40% of total farmers	60% of total farmers

Key Actions Required

Develop and implement a long-term human capital transformation plan to support spatially balanced economic development.

Promote and support localized reforms in skills development and higher education, based on comparative advantages, while enabling local institutions to lead with active private sector collaborations and participation of women.

Prioritize public sector investments for up-gradation of existing facilities and establishment of new general universities, applied universities and incubation, business, training, and R&D centers as per the cities' needs.

Improve industry-academia linkages to support demand-driven skills development and encourage Public-Private Partnerships for investments and trainings in high priority industrial and agricultural clusters.

Offer cluster-based specialized trainings to farmers for supporting diversifications and for the introduction of modern farming techniques and improving crop yield and input efficiencies.

Deploy certification mechanism for all trades, skills and professions to ensure and authenticate trained individuals and also to create a repository of localized human capital pool.

Support youth to integrate them into global talent value chains especially in IT and other high-tech fields.

Expected Outcome

Enhanced productivity in all sectors supported by improved training and skills in all cities, corridors, clusters and zones

Reduction of regional disparities supported by local development in areas with limited economic activities and skills through knowledge and demand-driven technical skills required for labor-intensive sectors

Improved competitiveness in all sectors through promotion of industry-academia linkages and localized R&D

Key Stakeholders

Federal
Ministry of Industries & Production,
Small & Medium Enterprise Development Authority,
Ministry of Science & Technology,
Ministry of Youth Affairs,
Ministry of Women Development,
National Vocational & Technical Training Commission,
and Higher Education Commission

Provincial
School Education Department,
Technical Education & Vocational Training Authority,
Punjab Vocational Training Council,
Industries, Commerce & Investment Department,
Agriculture Department,
Punjab Small Industrial Corporation,
Labor & Human Resource Department,
Youth Affairs, Sports, Archaeology & Tourism Department and
Women Development Department

Key Agency

Higher Education Department

Human Capital Development Spatial Framework

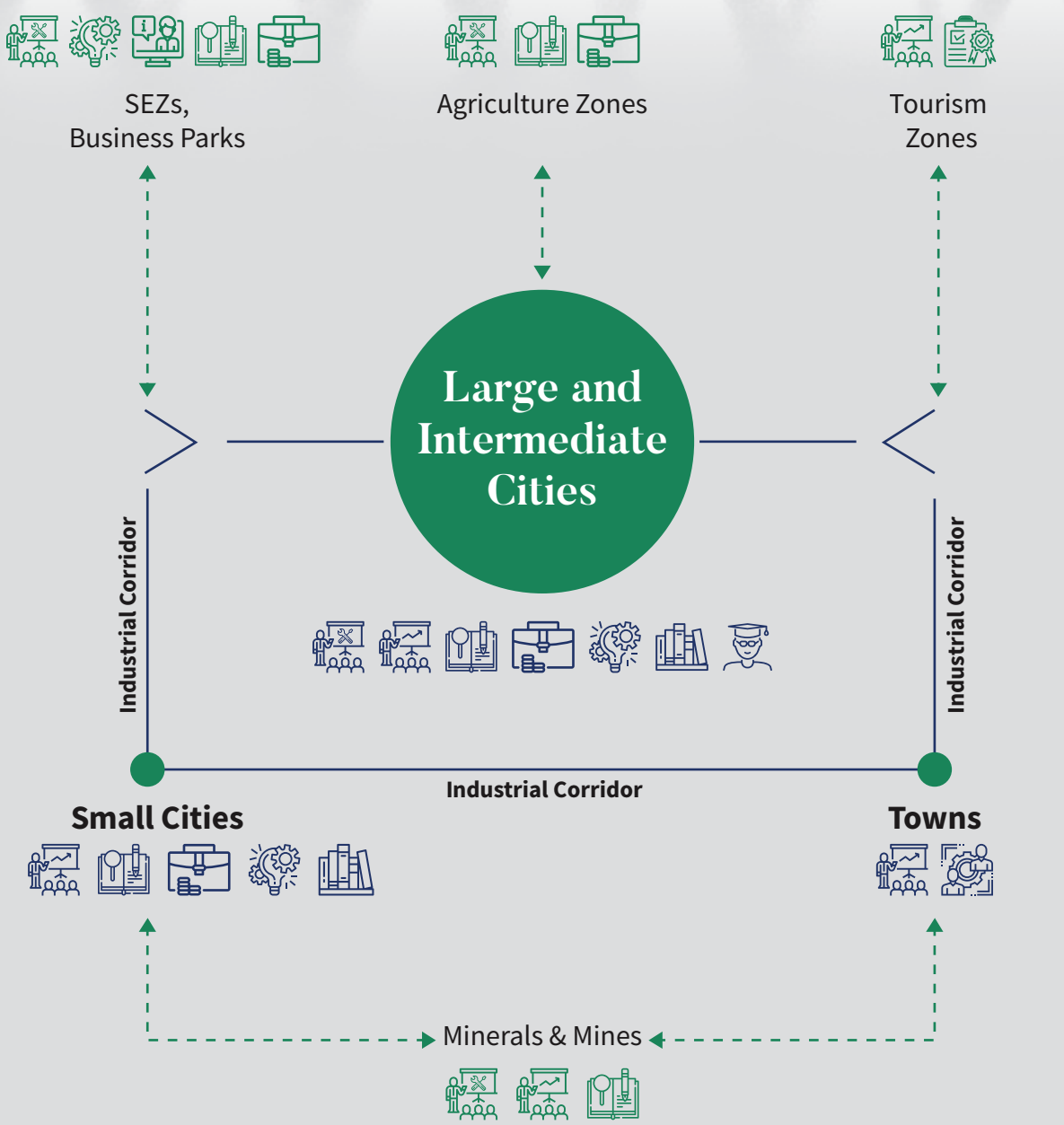


Figure 1.1.3: Human Capital Development Spatial Framework

PS 1.4

Preserve & Promote Cultural Heritage and Natural Sites to Maximize Tourism Potential

Policy Background

The tourism sector contributes a tenth to the global GDP. The South Asian region is witnessing the fastest growth in tourism according to the World Travel and Tourism Council. Pakistan does not compare well with countries like Vietnam, India and Sri Lanka. This is even more concerning as the tourism sector has an important part to play in bringing capital into the domestic economy. Tourism has proven to be a source of poverty reduction and job creation, and has positive impacts on a country's international image, all of which are essential for attracting Foreign Direct Investment (FDI). Unfortunately, public spending in Punjab's tourism sector remains very low. Through the PSS, the initial focus will be on developing three zones for capitalizing existing urban and connectivity infrastructure and proximity to major sights with potential to attract tourism. These three zones will need distinct marketing strategies and formulation of a province-wide destination calendar catering to different tourist seasons for each zone. Additionally, developments of new tourist destinations are required due to a spatial imbalance in Punjab and to offset the current load of domestic tourism on existing destinations.

Relevance to National Visions and Strategies

Tourism Policy 2009
Create niche for Pakistan in the global tourism market by projecting it as a four-season tourist destination with a rich cultural and historical heritage

Relevance to Sustainable Development Goals

Goal 8
Decent Work and Economic Growth

Target 8.9
By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products

Goal 11
Sustainable Cities and Communities

Target 11.4
Strengthen efforts to protect and safeguard the world's cultural and natural heritage

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Tourist Arrivals	A Provincial Database of Tourist Visits to all sites, both Domestic and International: Starting with Fiscal Year FY19	Initiate data collection at tourism destinations across the province	Improve by 30% of 2019 Baseline	Improve by 60% of 2019 Baseline	Improve by 100% of 2019 Baseline
Public Spending on Tourism as a percentage of Annual Development Plan	Planning and Development Board. ADP Record: Starting with FY19	Initiate Report on Annual Spending on Tourism	Increase two fold	Increase three fold	Increase four fold

Key Actions Required

Initiate provincial standards for tourism services in both private and public sectors prioritizing hygiene and service-orientation.

Establish a database of tourist visits, both domestic and international, at various sites to update future policy.

Develop a marketing and branding plan for Punjab to encompass tourism and investments flows.

Highlight the diversity of Punjab's culture and the three tourism zones, building on input from on-ground stakeholders

Restore, conserve and develop heritage & natural sites at a priority.

Restore and develop UNESCO sites in the three zones.

Conserve the natural environment surrounding the destinations, especially in the north zone

Develop Provincial tourism zones with distinct identities and proximity to potential cultural and heritage sites in a Hub-and-Spoke model

Develop the identified one-day destinations around Lahore, Rawalpindi and Multan

Market the zones based on their distinct identity with respect to culture/language and tourism potential

Upgrade and standardize facilities at each urban hub and its nearby destinations

Urban centers to include tourism areas as part of their city master plans where hospitality and tourism investments are to be encouraged through both private & public sectors.

Develop two new tourist destinations – Fort Monroe and Soon Valley - to limit the strain on existing tourism infrastructure based on principles of sustainability, with a focus on eco-tourism.

Enhance connectivity of these two sites with the rest of the province

Establish hotels and infrastructure that is future-ready

Expected Outcome

Development of three tourism zones through a Hub-and Spoke model so that potential tourism assets are developed in the form of clusters catering to various kinds of tourism including historic, adventure, urban and natural and eco-tourism.
Zone 1: Lahore Zone | **Hub:** Lahore
Potential: Urban, Religious (Sikh), Historic (Mughal), Cultural

Zone 2: North Zone | **Hub:** Rawalpindi/Islamabad
Potential: Historic (Gandhara), Cultural & Adventure, Natural

Zone 3: South Zone | **Hub:** Multan
Potential: Historic, Cultural, Religious (Sufi), Adventure

Intervention Destination 1
Soon Valley and near-by sites
Potential for Eco-Tourism Zone

Intervention Destination 2
Fort Monroe and near-by sites
Potential for Alternate Hill Destination

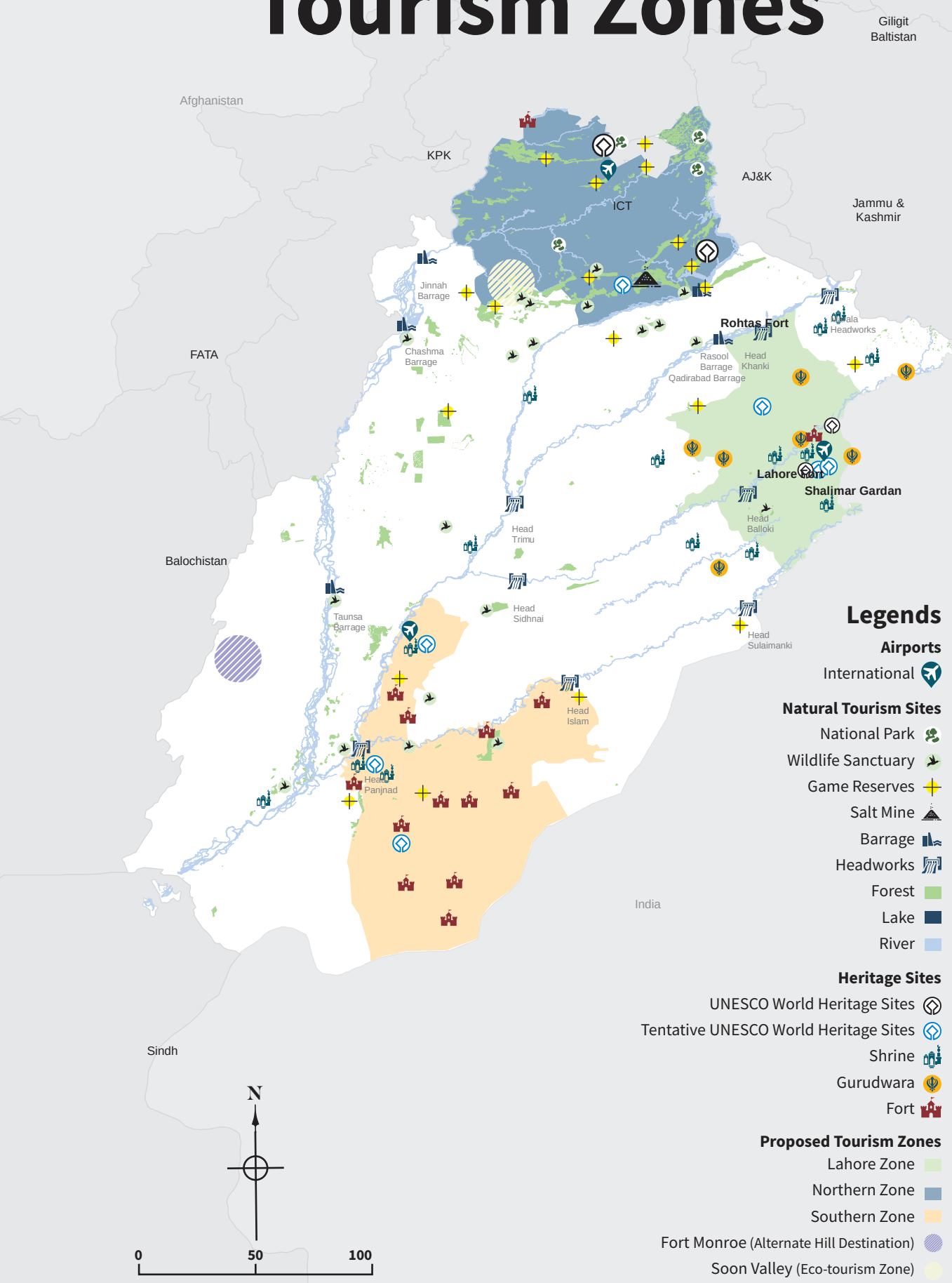
Key Stakeholders

Provincial
Tourism Development Corporation of Punjab, Auqaf & Religious Affairs Department, Development Authorities and Local Governments

Key Agency

Youth Affairs, Sports, Archaeology & Tourism Department

Tourism Zones



Legends

Airports
- International

Natural Tourism Sites
- National Park
- Wildlife Sanctuary
- Game Reserves
- Salt Mine
- Barrage
- Headworks
- Forest
- Lake
- River

Heritage Sites
- UNESCO World Heritage Sites
- Tentative UNESCO World Heritage Sites
- Shrine
- Gurudwara
- Fort

Proposed Tourism Zones
- Lahore Zone
- Northern Zone
- Southern Zone
- Fort Monroe (Alternate Hill Destination)
- Soon Valley (Eco-tourism Zone)

Map 1.1.4: Tourism Zones

SO-2

Develop regions based on their comparative advantages

PS 2.1: Leveraging the benefits from CPEC to advance regional and international trade

PS 2.2: Build an efficient road transport network for economic growth and integrated regional connectivity

PS 2.3: Leverage areas to their full potential and enhance competitive advantages

02

Strategic Objective

Develop regions based on their comparative advantages

CPEC has the potential to improve the global standing of Punjab by making it the main transit hub of the region. To leverage this geographic potential and realize sustainable economic growth, it is essential to develop an evidence-based long-term spatial plan for Punjab.

In the past, absence of spatial criteria in infrastructure investment decisions has led to an allocation of non-optimal locations, leading to a lower return on investments. This has resulted in unevenness in the road network that runs from north to south but does not provide any east-west connectivity. Hence development of the western side of Punjab has lagged behind. This has created an impediment to trade, socio-economic development, and integration with the rest of the province & Pakistan. Likewise, industrial concentration is also in the north and east of the province while agriculture remains concentrated in the eastern, central and northern parts of Punjab. For example, districts of Bahawalpur, Sahiwal and Dera Ghazi Khan are primarily agricultural, with a limited industrial and services sector.

Spatial sensitivity makes for effective connectivity within the province. Under the PSS, Punjab will promote connectivity by linking the north-south and east-west sections of the province and aligning these with CPEC. These networks will also connect to the seaport towards the south of Pakistan. This port connection will allow Punjab-based goods and services to gain access to Middle Eastern and wider global markets. These networks will employ land freights as the primary instrument for increasing trade with regional partners like China, Central Asia, Afghanistan and Iran.

To develop the comparative advantage of regions, industrial corridors and agricultural zones will be set up. These corridors and zones will be supported by specialized and targeted infrastructure that will incorporate hard and soft features including extension services, Research & Development (R&D), trainings, breeding, seeding, nursing and warehousing based on product requirements. The focus will be on ensuring alignment between various training and research facilities.

PS 2.1

Leveraging the Benefits from CPEC to Advance Regional and International Trade

Policy Background

CPEC provides an opportunity to upgrade the freight transport sector of Punjab. In order to leverage benefits from CPEC, Punjab has to transform its road corridors into freight corridors by linking its agriculture and industrial corridors with its dry ports and by developing freight terminals to facilitate goods delivery. Punjab has typically had a disorganized freight transport sector due to lack of freight corridors and terminals, spatial disintegration of dry ports and industrial units, and poor multi-modal road freight operations resulting from a fragmented trucking industry. Deteriorating train freight operations has worsened the situation. Further, there is no multi-modal freight terminal where both container and bulk freight can be handled. The trucking sector's performance is below par due to a weak system of financing and leasing, high freight rates, and inadequate serviceability. Punjab needs to define a high-speed freight network using CPEC as its primary corridor. All other roads within the hierarchal road system of the province will act as feeder routes to this primary corridor. Development of a trunk and feeder road system will not only help in the timely delivery of goods but also stimulate industrial and agriculture productivity.

Relevance to National Visions and Strategies

Pakistan Vision 2025
Pillar VII; Modernize infrastructure and strengthen regional connectivity

Trucking Policy 2007
Recommendations for freight and logistics industry

National Transport Policy of Pakistan 2017
Target policy directives for multimodal logistics

Relevance to Sustainable Development Goals

Goal 9
Industry, Innovation and Infrastructure

Target 9.1
Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Percentage of Industrial units with access to high-speed provincial highway links (30 min)	National Highway Authority Database, Communication & Works (C&W) Department, Urban Unit Road Network Database, and Census of Manufacturing Industries 2016	85	>95	>97	>99
Number of freight terminals	Ministry of Communication and Transport Department	0	4	7	9
Number of dry ports	Ministry of Communication and Ministry of Railway	7	9	12	16

Key Actions Required

Develop freight corridors by linking industries with high-speed road network.

Establish freight terminals for efficient handling and delivery of container and bulk cargo across the province.

Develop dry ports considering spatial distribution of industries for improved freight logistics.

Up-gradation of the trucking sector for enhancing the efficiency of freight operations.

Build a hierarchal freight delivery network to facilitate regional, trans-provincial and international trade.

Expected Outcome

Integration of production and consumer locations through spatially distributed freight terminals (Rawalpindi, Gujranwala, Lahore, Faisalabad, Mianwali, Bhakkar, Arifwala, Multan and Rahim Yar Khan)

Establishment of high-speed links between farms and markets

Efficient movement of goods through spatially matched dry ports at Mianwali, Rahim Yar Khan, Bhawalnagar and Pindi Bhattian with freight corridors and industrial nodes

Reduction of freight cost of agriculture produce

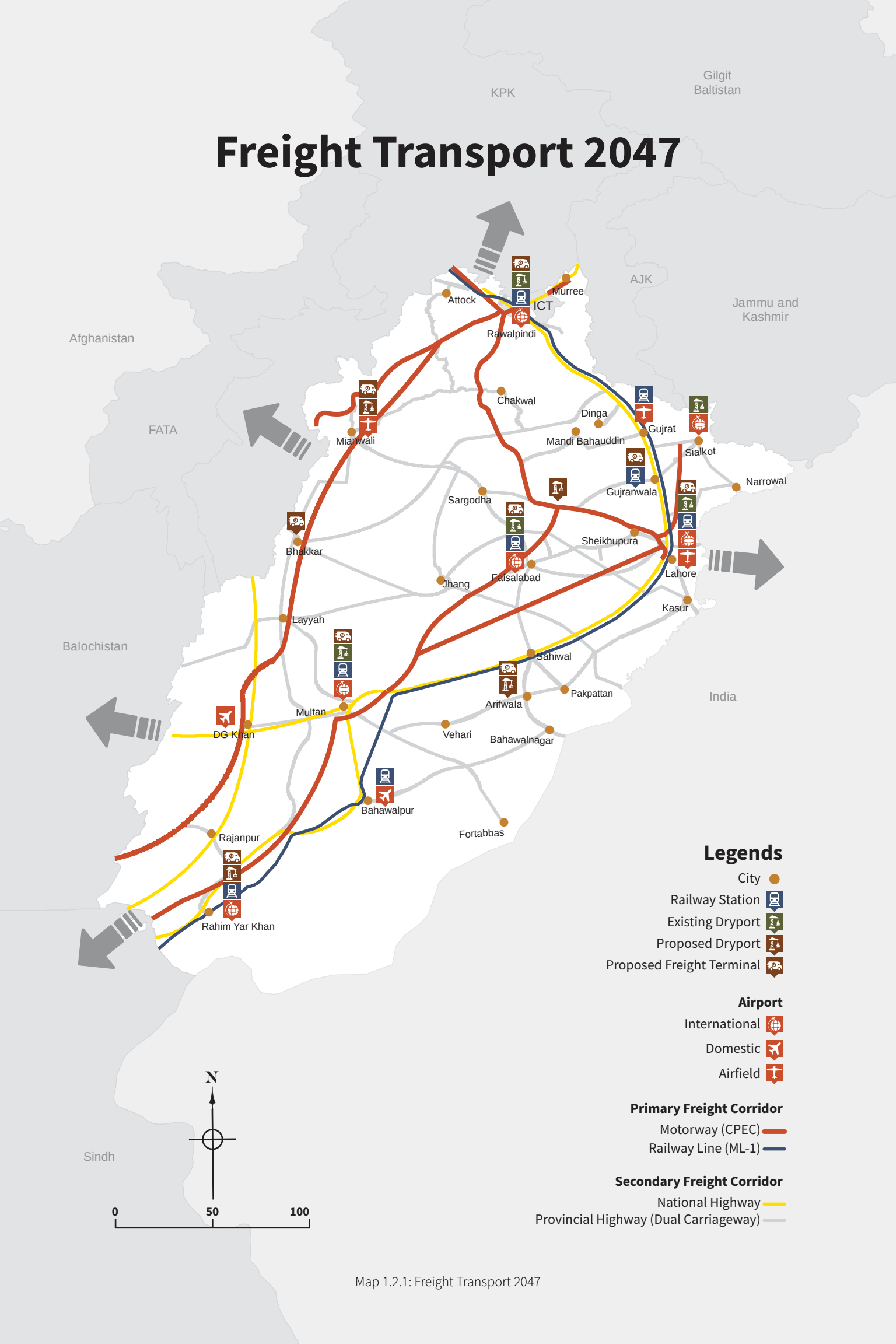
Key Stakeholders

Federal
Ministry of Communications,
Ministry of Industries & Production and
Ministry of Railways

Provincial
Communication & Works Department

Key Agency

Transport Department



Map 1.2.1: Freight Transport 2047

PS 2.2

Build an Efficient Road Transport Network for Economic Growth and Integrated Regional Connectivity

Policy Background

Differential transport operations coupled with ad hoc development of road infrastructure, chronic neglect of railways, and poor management has led to a fragmented transport network resulting in high connectivity and freight delivery costs. Natural preference for development along existing water channels has resulted in road and rail network development in a north-south direction with poor east-west linkages. The latter region therefore suffers from lack of adequate development. Connecting high potential industrial and agriculture growth corridors and nodes and supporting under-developed areas through faster connections with the rest of the province using an efficient road transport network for multimodal operations will not only provide regional, trans-provincial and international competitiveness but will also help in achieving development goals.

Relevance to National Visions and Strategies

Pakistan Vision 2025
Pillar VII; Modernize infrastructure and strengthen regional connectivity

National Transport Policy 2018
Improve connectivity and accessibility for all

Policy Paper for Road Infrastructure in Punjab 2016
Sector Plan of Communication and Works Department, Punjab

Relevance to Sustainable Development Goals

Goal 9
Industry, Innovation and Infrastructure

Target 9.1
Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Percentage of population with 30min access time to High-Speed Link (Dual Carriageways)	National Highway Authority (NHA) Database, Communication &Works (C&W) Department, Urban Unit Road Network Database	77	>83	>90	>98
Percentage share of Dual Carriageways with in provincial highways	C&W Department, Urban Unit Road Network Database	12	>21	>33	>40

Key Actions Required

Develop reliable inter-city and inter-regional road infrastructure for connecting industrial, agricultural corridors and services nodes.

Develop new and upgrade existing road links for regional, trans-provincial and international trade and competitiveness.

Construct missing links to ensure access to high speed links for safe and efficient movement of both people and goods.

Develop East-West connectivity for CPEC and equitable growth across the province.

Make spatially informed decisions for the Road sector under Annual Development Plan allocations and spending aimed at achieving desired targets.

Build institutional capacities for better planning and management.

Expected Outcome

Enhanced connectivity through high speed links spatially integrating industrial, agriculture and housing nodes across Punjab

Achieve socioeconomic prosperity and spatial cohesion of deprived areas via spatially integrated linkages across the province

Elimination of any spatial mismatch by geographic inclusion through a high-speed road network

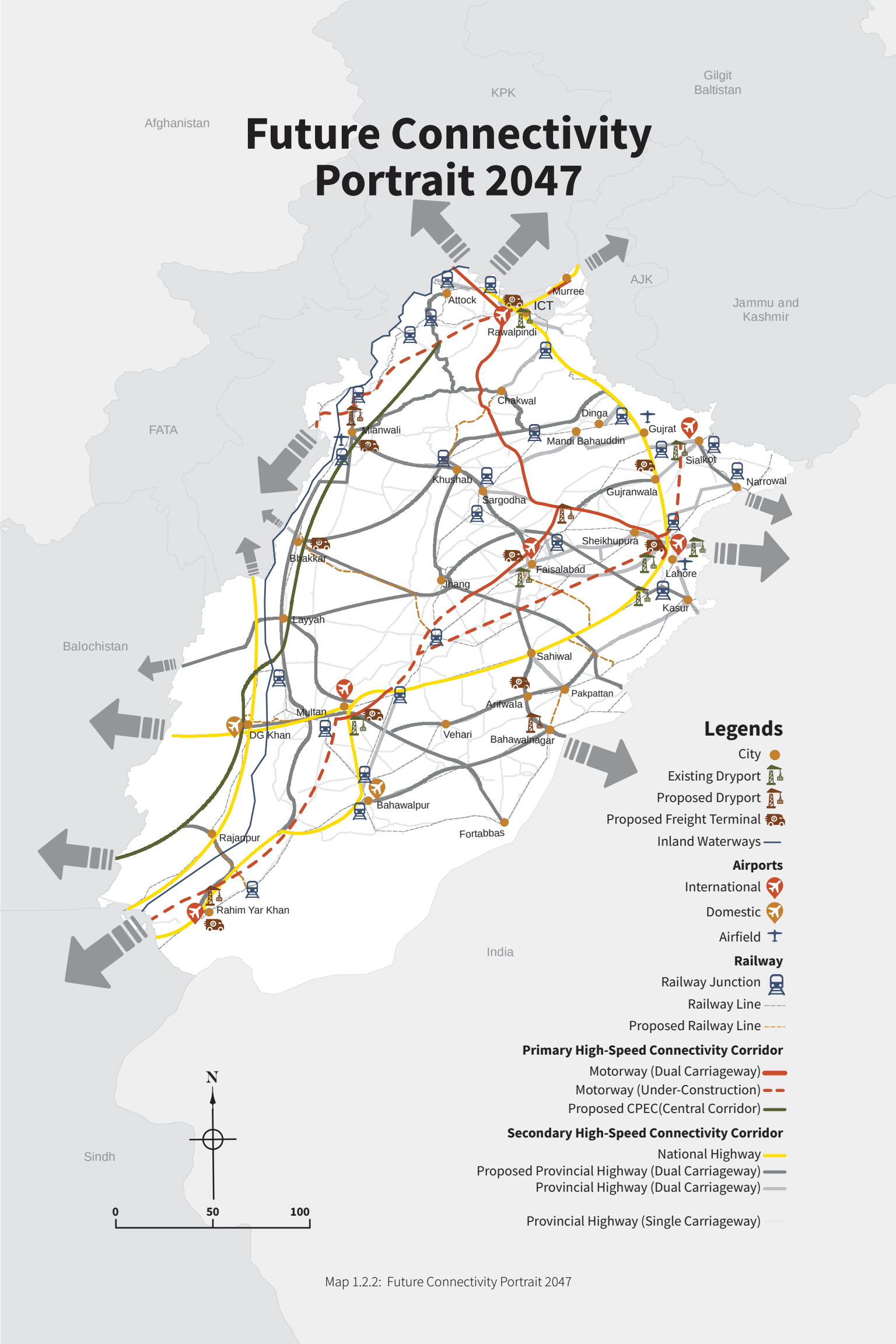
Key Stakeholders

Federal
Ministry of Communications,
National Highway Authority and
National Transport Research Centre

Provincial
Transport Department

Key Agency

Communication & Works Department



Map 1.2.2: Future Connectivity Portrait 2047

PS 2.3

Leverage Areas to their Full Potential and Enhance Competitive Advantages

Policy Background

Cluster development supported by industrial zones and corridors is fast becoming a preferred mode of industrial development. This also holds true for agriculture zones, recognized as engines for productivity enhancement. In Punjab the manufacturing sector is largely concentrated in five major districts that provide around 70% of the manufacture sector employment. The Golden Triangle (Gujranwala, Sialkot, Gujrat) cluster represents the Small and Medium Enterprise (SME) sector and houses around 70% of the electric equipment and appliances industry in Punjab. Five major cities represent 60% of the urban population – Lahore alone accounts for 28% of the total population and 42% of the total migration from Punjab. In Agriculture, Sargodha accounts for 60% of the citrus produce, Multan 50% of the mango produce while Rajanpur district's onion yield remains three times the average of Punjab. South Punjab has the highest livestock and dairy-related commodity production. These economic hubs across Punjab have developed spontaneously and now require specialized support and focused interventions to enhance their economic standing.

Relevance to National Visions and Strategies

CPEC Long Term Plan 2030
Balanced regional development

Pakistan Vision 2025
Pillar II Sustained, indigenous & inclusive growth

Punjab Growth Strategy 2018
8% growth rate, increase private investment to USD 17.5 billion

SME Policy 2007
SME Development Vision; creating entrepreneurs, reducing poverty and enabling growth

Agriculture Policy 2018
Research for modern practices in agro industry

Relevance to Sustainable Development Goals

Goal 8
Decent work and economic growth

Target 8.1
Sustain per capita economic growth. Increase GDP growth to at least 7%

Goal 9
Industry, innovation and infrastructure

Target 9.1
Develop quality, reliable, sustainable & resilient infrastructure to support economic development

Target 9.2
Promote sustainable industrialization

Target 9.4
By 2030, upgrade infrastructure and retrofit industries to make them sustainable through efficient technologies

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Industrial corridors are developed	Industrial corridors are demarcated along major roads and connected by major cities	No corridor development framework	5 priority corridors	10 priority corridors	All major Corridors
Agriculture, livestock, & dairy product specific zones are developed	Agriculture zoning prioritizes specific crops in specific areas to optimize cropping patterns	No framework for crop-specific or livestock zones	5 zones supported	15 zones supported	25 zones supported

Key Actions Required

Demarcate and support areas for the economic development leveraging local advantages and emerging opportunities.

Develop industrial corridors using a robust framework with long-term development plans featuring programs (and investment projects including Special Economic Zones), support network capitalizing on the existing infrastructures and businesses for their optimum utilization and maximize economic returns.

Introduce integrated zoning for agriculture, livestock and allied sectors to provide specialized and targeted support and infrastructure covering extensions services, Research & Development (R&D), trainings, breeding, seeding, nursing, logistics and processing facilities for value additions.

Embrace sustainable, efficient and resilient infrastructure development approaches while planning for development.

Attract and facilitate private sector investments under Public Private Partnerships to develop high potential corridors.

Support infrastructure and institutional support to benefit key locations by enhancing their indigenous locational advantages and trigger economic growth while creating new jobs and attracting investments.

Expected Outcome

Development of 22 industrial corridors with supporting infrastructure and facilities conducive to industrial growth, agglomeration and value addition

Development of 25 agriculture zones highly suitable to growing specific crops and fruits with targeted support services in each zone

Key Stakeholders

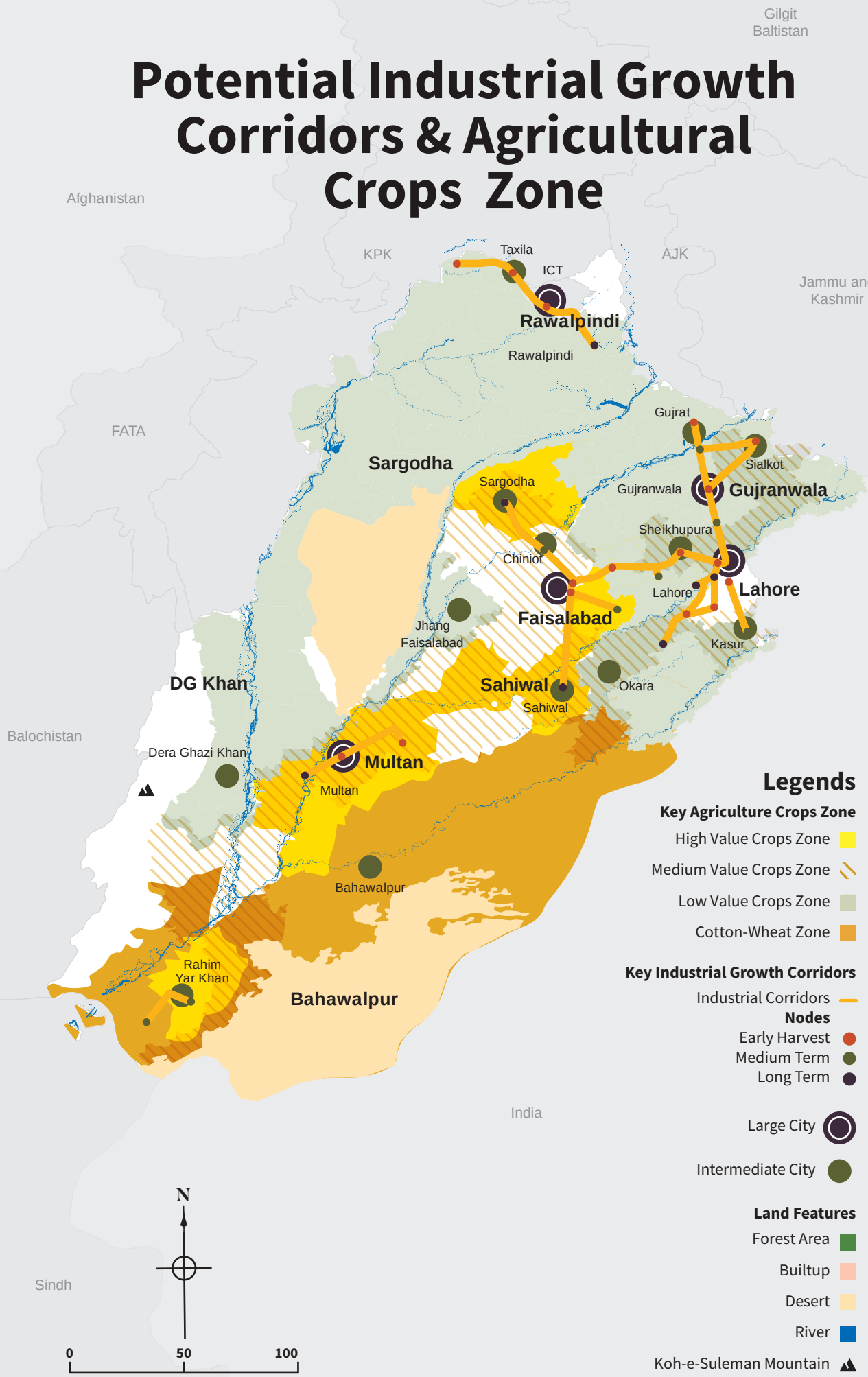
Federal
Ministry of Planning, Development & Reform,
Ministry of Industries & Production,
Ministry of Commerce and
Small & Medium Enterprise Development Authority

Provincial
Livestock, Dairy Development Department,
Communication & Works Department and
Technical Education & Vocational Training Authority

Key Agency

Industries, Commerce & Investment Department
and Agriculture Department

Potential Industrial Growth Corridors & Agricultural Crops Zone



Map 1.2.3: Potential Industrial Growth Corridors & Agricultural Crops Zone

SO-3

Transform cities into smart, competitive and livable places

PS 3.1: Guide spatial development of cities through coordinated urban and regional planning

PS 3.2: Manage and guide growth in cities by prioritising mixed use development and adjusting densities

PS 3.3: Develop and extend options in land supply and housing for multiple target groups

PS 3.4: Inclusive and balanced access to WASH services

PS 3.5: Accommodate emerging urban population mobility needs through availability of efficient transportation

PS 3.6: Incorporate ICT infrastructure in urban systems to enhance efficiency, public safety and convenience in services delivery

03 Strategic Objective

Transform cities into smart, competitive and livable places

With 110 million inhabitants, Punjab is growing as one of South Asia's most populous and fast urbanizing regions. It is experiencing a consistent and long-term demographic shift from rural to urban areas, with close to 40% of the population now living in urban Punjab. Its cities are facing challenges on multiple fronts: uncontrolled urbanization, incompatible land-use, sprawl, pollution, and municipal deficiencies. 50 of its 194 cities house 87% of the total urban population, with an additional 53 million expected by 2047 to become part of Punjab's urban population.

A strong foundation of urban and regional planning is required for spatial development in the future. The need for legislative instruments is well established, along with the provision of a requisite mandate to a regulatory body to perform periodic audits related to spatial planning, land use and regulation.

Lack of master planning and proper implementation has subjected rural areas to development malpractices, impacting the quality of life of both rural and urban residents. This is particularly acute in large cities such as Lahore, Faisalabad and Multan. Demarcation of urban growth boundaries is needed to contain development within city limits.

One of the primary benefits of urban planning in Punjab is regulation of its population density. The average density of the 50 largest cities in Punjab is over 12,000 people/km^2. However, the density in city centers or core locations in Lahore, Rawalpindi and Multan is over 40,000 people/km^2. In many residential locations, it is less than 18,000 people/km^2. To address this disparity, urban design guidelines that encourage mixed-use development need to be adopted as part of city planning. In the case of large cities, where mass transit projects are underway, Transit Oriented Development (TOD) zones should be introduced. These TOD zones will encourage walkability, reduce car dependency, and limit commute distances.

Inadequacies in public transport provision create barriers to individual and community participation in employment, health, and education-related activities.

Large cities of Punjab today are subject to a growing sprawl, leading to stress on urban infrastructure and service delivery departments. Along with ensuring access to water and sanitation services for all urban residents, there is a need to update land use policies and zoning regulations to allow for provision of greater diversity of housing types in main urban centers. Where issues of affordable housing arise, private market regulations are required to incorporate rules of inclusionary zoning by which an optimum percentage of housing units can be rented/sold at rates affordable to low income groups. Reforms in land titling will enable better management and up gradation of squatter settlements, also leading to improvements in the quality of life of urban residents.

In addition to addressing issues of housing and land use, Punjab's cities need to improve their public transport infrastructure, in terms of both capacity and connectivity. Inadequacies in public transport provision create barriers to individual and community participation in employment, health, and education-related activities. A rapid increase in population has resulted in an undesirably large number of private vehicles plying the road network, leading to traffic congestion. Where mass transit exists, it has limited connectivity with residential locations. Urban transport plans that focus on reduced car dependency and enhanced walkability need to be incorporated as part of city master plans. Additionally, district-level transport planning entities are required to ensure district-level application of the PSS.

With growing usage of ICT, cities in Punjab can innovate in terms of service delivery mechanisms related to transport, policing, land registration, water and sanitation, health, education, housing and others. An initiative in the form of Punjab Safe Cities Authority (PSCA) already operates in Lahore. Its mandate includes regulating traffic violations and increasing public safety. The model is set for replication in other cities of Punjab. With such ICT infrastructure already in place, hardware for monitoring air and water quality can be incorporated to facilitate other functions of the city. This requires establishment of control centers throughout urban Punjab for monitoring and maintaining ICT and GIS systems.

PS 3.1

Guide Spatial Development of Cities through Coordinated Urban and Regional Planning

Policy Background

Almost 37% of Punjab's population is urban, with majority of it concentrated in 50 of its 194 cities. However, the expansion of cities has been haphazard due to lack of planning laws to establish the legal premise for urban and regional planning, incoherent land use rules, and inadequate and fragmented implementation mechanisms. Development projects implemented by various tiers of government are not mandated to abide by the provisions of city plans. For example, Lahore has a city master plan, but it is not legally binding and no law has been promulgated to give this plan a legal cover. Moreover, the existing city plan needs to be reviewed to ascertain its validity, spatial accuracy, incorporation of developments that have taken place since its preparation, and an assessment of deviations over time. The plan can be retrofitted to include the present policy framework, investment strategies, and design guidelines formulated by the government. The increase in private sector contributions in spatial development, its qualitative and measurable assessment and regulation also need to be dovetailed in the exercise. Furthermore, there is a need to regulate land use based on output, such as contribution to social and economic value of the area. This methodology of performance-based regulation supersedes dimension and standard based regulations, allowing for a more robust and dynamic city plan. Initially up to 5 cities will be selected as pilot sites for the proposed regulatory methodology. Successful development and implementation of city master plans remains highly dependent on adequate and consistent interaction with stakeholders and general public.

Relevance to National Visions and Strategies

Punjab Growth Strategy 2018
Based on the Punjab Regional and Urban Planning Act, develop by-laws, rules and regulations to enable urban design schemes, adjustment of densities and Transit Oriented Development (TOD) projects

Relevance to Sustainable Development Goals

Goal 9
Industry, Innovation and Infrastructure

Target 9.1
Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.

Goal 11
Sustainable Cities and Communities

Target 11.a
Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Number of cities implementing a City master plan	Updating the cities atlas every five years	None	1 mega city and 5 large cities	1 mega city, 6 large cities, and 15 intermediate cities	1 mega city, 12 large cities and 43 intermediate cities
Number of cities with a sectoral integration profile	Prepare a sectoral integration profile based on federal, provincial and local development projects by mapping and statistical profile of all development projects	None	1 mega city and 5 large cities	1 mega city, 6 large cities, and 15 intermediate cities	1 mega city, 12 large cities and 43 intermediate cities

Key Actions Required

Designate a Spatial Planning Authority of Punjab that will grant land ownership and define regional land classification (urban, peri-urban, and agriculture).

Promulgate and implement a Punjab Spatial Planning Act to establish city master plans as a legally binding document. This Act will create an effective premise with requisite mandate of a regulatory body that will perform periodic audits related to spatial planning, land use, and regulation.

City master plans will be developed by respective local governments with assistance from development authorities of mega and large cities and be regulated by Regional Planning Committees.

Capacity building of development authorities of intermediate and small cities to allow them to develop in future, city master plans without assistance.

Update the methodology of regulations. Current regulations focus on physical dimensions and standards, whereas land use needs to be regulated in terms of performance and socioeconomic contribution.

City master plans to be updated every 10 years as per changing dynamics of the city.

Provincial audit to take place every 10 years and penalties to be issued if land use is not in accordance with the latest city master plan.

Urban growth boundaries to be defined for mega and large cities.

City master plan, land use, building, and zoning to be governed and regulated by the Regional Planning Committees and executed by respective individual cities.

Expected Outcome

Gradient transitions of densities; reduction in city cores and rise in other neighborhoods.

Urban physical patterns that promote planned mixed-use developments.

Regulated public and private development in cities.

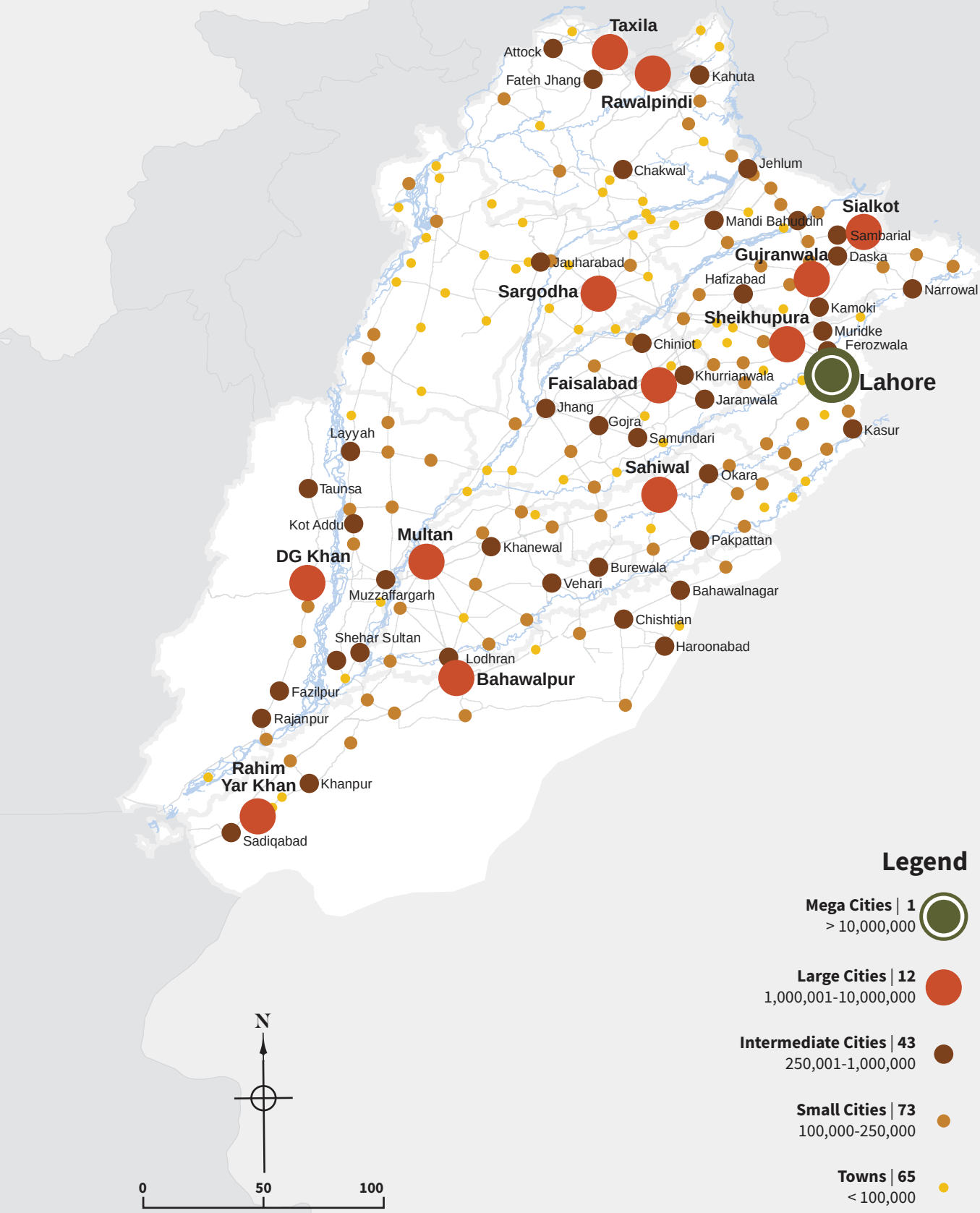
Key Stakeholders

Provincial
Housing, Urban Development & Public Health Engineering Department

Key Agency

Local Government & Community Development Department

Punjab Cities 2047



Legend

Mega Cities | 1
> 10,000,000

Large Cities | 12
1,000,001-10,000,000

Intermediate Cities | 43
250,001-1,000,000

Small Cities | 73
100,000-250,000

Towns | 65
< 100,000

Map 1.3.1: Punjab Cities 2047

PS 3.2

Manage and Guide Growth in Cities by Prioritising Mixed Use Development and Adjusting Densities

Policy Background

The average population density of cities in Punjab is over 12,000 people/km^2. In city centers such as Lahore, Rawalpindi and Multan, the population density is over 40,000 people/km^2. However, the population density in many residential locations and neighborhoods is less than 18,000 people/km^2. By devising appropriate urban design mechanisms and tools, low densities can be enhanced. Through regulation of congestion and overcrowding and by shifting population to areas capable of more absorption, the pressure on locations with very high densities can be eased. This way a balanced population distribution can be achieved. Encouraging mixed-use developments, promoting Transit Oriented Developments (TOD), instituting time bound urban growth boundaries, and retrofitting planning and designs of existing neighborhoods can be effective and helpful. A framework aiming to regulate these developments through evidence-based data can facilitate and uphold efficiency in infrastructural components and promote a decent life style for a more diverse range of citizens.

Relevance to National Visions and Strategies

Punjab Growth Strategy 2018
Building regulations and land use planning. Government will seek to revise zoning and land use rules by encouraging mixed land use classification and high-density transportation nodes.

Relevance to Sustainable Development Goals

Goal 9
Industry, Innovation and Infrastructure

Target 9.1
Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.

Goal 11
Sustainable Cities and Communities

Target 11.3
By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Number of cities with spatial density data	Updating the cities atlas every five years	None	1 mega city and 5 large cities	1 mega city, 6 large cities, and 10 intermediate cities	1 mega city, 12 large cities and 15 intermediate cities
Number of cities implementing bylaws to regulate density	Notified bylaws, regulations & manuals	Lahore	5 large cities	6 large cities, and 10 intermediate cities	12 large cities and 15 intermediate cities
Number of TOD projects in cities	Preparation of ToD projects	None	One project each in 1 mega city and 5 large cities	4 projects each in 1 mega city and 6 large cities 1 project each in 10 intermediate cities	8 projects each in 1 mega city and 13 large cities 2 projects each in 15 intermediate cities
Number of cities with time bound growth rings	Prepare time bound growth rings of cities with determination of city boundaries	None	1 mega city and 5 large cities	1 mega city, 6 large cities, and 10 intermediate cities	1 mega city, 12 large cities and 15 intermediate cities
Number of cities applying urban design guidelines	Preparation of neighbourhood & sub-neighbourhood level manuals	None	1 mega city and 5 large cities	1 mega city, 6 large cities, and 10 intermediate cities	1 mega city, 12 large cities and 15 intermediate cities

Key Actions Required

Assessments of the density status of areas within cities and identification of locations in need of interventions, such as creating retail and cafe streets leading to station entrances along main pedestrian connections.

Preparing urban design schemes as a follow-up to proposed policy statements.

Mobilizing and facilitating stakeholder consultations around development schemes.

Developing and enforcing urban design guidelines to dictate provision of setbacks, shop fronts, street furniture and fixtures, and pedestrian and bicycle infrastructure.

Initiating detailed designing and implementation of development schemes in a sequential manner.

Monitoring and oversight by concerned regulatory bodies in consultation with stakeholders.

Integration of TOD zones in land use rules to allow for dense mixed-use development within the zone.

Introducing new transit stations in locations with highest ridership potential and development opportunities.

Enhancing multi-modal connections, making transfers easy and direct.

Expected Outcome

Guided evolution of density adjustment in cities through project initiation and policies

Clear demarcation of city boundaries and service areas for social and physical infrastructure.

Visible decongestion from city cores and facilitating gradual densification in relatively distant neighborhoods

Implementation of model TOD projects in designated locations

Key Stakeholders

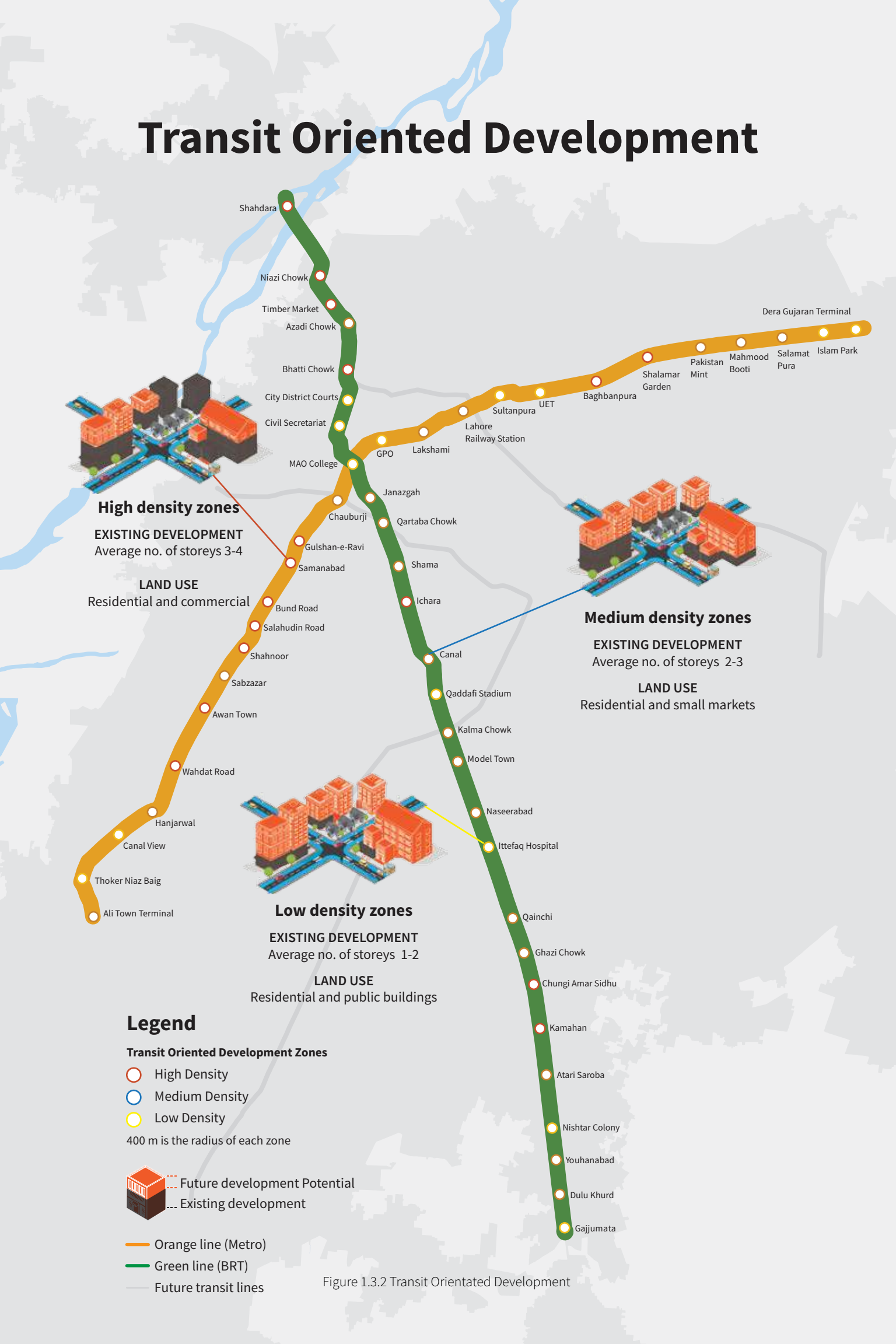
Federal
Federal agencies with land ownership in identified cities

Provincial
Punjab Board of Revenue,
Development Authorities of Municipal Bodies and Local Government & Community Development Department

Key Agency

Housing, Urban Development & Public Health Engineering Department

Transit Oriented Development



High density zones

EXISTING DEVELOPMENT
Average no. of storeys 3-4

LAND USE
Residential and commercial

Medium density zones

EXISTING DEVELOPMENT
Average no. of storeys 2-3

LAND USE
Residential and small markets

Low density zones

EXISTING DEVELOPMENT
Average no. of storeys 1-2

LAND USE
Residential and public buildings

Legend

Transit Oriented Development Zones

- High Density
- Medium Density
- Low Density

400 m is the radius of each zone

- Future development Potential
- Existing development

- Orange line (Metro)
- Green line (BRT)
- Future transit lines

Figure 1.3.2 Transit Orientated Development

PS 3.3

Develop and Extend Options in Land Supply and Housing for Multiple Target Groups

Policy Background

Access to housing is a basic need. The existing average household size in Punjab is 6.4 people per household, with a total of 6.3 million urban households in the province. By 2047, an additional 11.3 million urban households are expected in Punjab, for whom housing is currently not available. Some of the key challenges in this regard include lack of availability of suitable state land for housing, high prices of private land, low percentage of housing mortgage options, higher demand for housing owing to population increase and migration and rising prices of construction material. In addition, options for rental housing are also limited. Lack of trust between landlord and tenants, long process of conflict/dispute resolutions between tenants and landowners and a general preference of people to become house owners are further constraints. In many cases, unauthorized sub-division of land for housing - particularly in peri-urban agricultural locations - puts a heavy strain on infrastructural agencies to stretch services beyond prescribed service zones.

By 2047, an additional 11.3 million urban households are expected in Punjab, for whom housing is currently not available.

Housing options for more than one third of the low-income population remain limited. The changing sociological dynamics in urban areas have directly resulted in an increase in housing needs. The joint family structure in cities is changing and nuclear families are growing. It is expected that by 2047, household size will decrease to 5.8 people per household. The demand for housing apartments in large cities such as Lahore and single unit houses in other urban locations is hence growing. Social and economic needs also cause movements towards cities, especially large urban centers. Lahore hosts over 140 migrants/km^2. The demand for housing is further affected by migration to cities for better healthcare, educational, employment & entrepreneurial opportunities as well as due to security concerns. In the past, land was considered a social asset. Now it is increasingly traded as a saleable commodity. Urban land has become a product, attracting huge capital investment. This leads to the lower and middle-income strata being priced out of affordable housing. The large metropolitan centers suffer from encroachments on public lands. This further limits housing choices for the citizenry. At a more macro level, the fundamental mismatch is between political interests in land supply and distribution, and the social and development need for housing.

Relevance to National Visions and Strategies

Pakistan Vision 2025
Private sector will be encouraged to provide housing facilities and katchi abadis and unapproved land sub-divisions will be upgraded to low income residential buildings with adequate provision of basic utilities

Urban Development Sector Plan 2014 – 2018
Affordable housing for all and a stronger legal & institutional framework

Naya Pakistan Housing Project
Build five million Houses in the next five years

Relevance to Sustainable Development Goals

Goal 11
Sustainable Cities and Communities

Target 11.1
By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

Target 11.3
By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Population growth in need of a house	Additional housing units to be provided between 2017 & 2047, considering decrease in average household size from 6.4 to 5.8. This does not include existing housing shortage.	By 2047, it is predicted that an additional 11.3 million housing units will be required	2.5 million housing units	6.1 million housing units	11.3 million housing units
Proportion of urban population living in slums, informal settlements or inadequate housing	Sustainable Development Goals (SDG) indicator 11.1.1	No data	40% reduction from baseline	65% reduction from baseline	85% reduction from baseline

Key Actions Required

Identify government land for development to effectively manage unused land.

Provision of strategic land subsidies from government in urban centers for low cost and affordable housing.

Redevelopment of inadequate housing areas to provide quality, safe and affordable housing within cities.

Update land use, building and zoning regulations to encourage development of low- and middle-income units in development.

Ensure infrastructure has the capacity to support dense residential zones.

Update private housing scheme regulations and specify percentage of affordable units (not plots) in all residential schemes.

Develop multiple typologies of buildings and housing units to increase housing unit supply and quality.

Reform apartment design to local lifestyles towards encouraging apartment living.

Promote rental housing by enforcing rental laws and providing tax incentives on rental incomes.

Efficient implementation of a foreclosure law to protect banks, lenders, and land owners.

Implement a land titling reform through computerization of urban land records by one single authority for ease of residential landownership.

Enact and implement a Condominium Act that caters to multiple ownership of one land parcel in vertical structures, and binding builder accountability for maintenance and repair of shared areas.

Policy framework to discourage land hoarding and speculation, and tax vacant plots after a period of time.

Introduce Public Private Partnership interventions for housing construction and finance.

Publish data regarding quantity and quality of housing units and inadequate housing based on Population Census 2017 to accurately assess housing needs.

Expected Outcome

Provision of low income and affordable housing in urban centers near sources of employment

Explore Public Private Partnerships in construction and financing, and grant of government subsidies of land

Prominence of apartment buildings to increase housing supply of units and better utilization of land within cities

Priority interventions to tackle housing shortage in high priority areas

Improvement in living conditions and quality of life in cities

Key Stakeholders

Federal
Naya Pakistan Housing Authority and Pakistan Bureau of Statistics

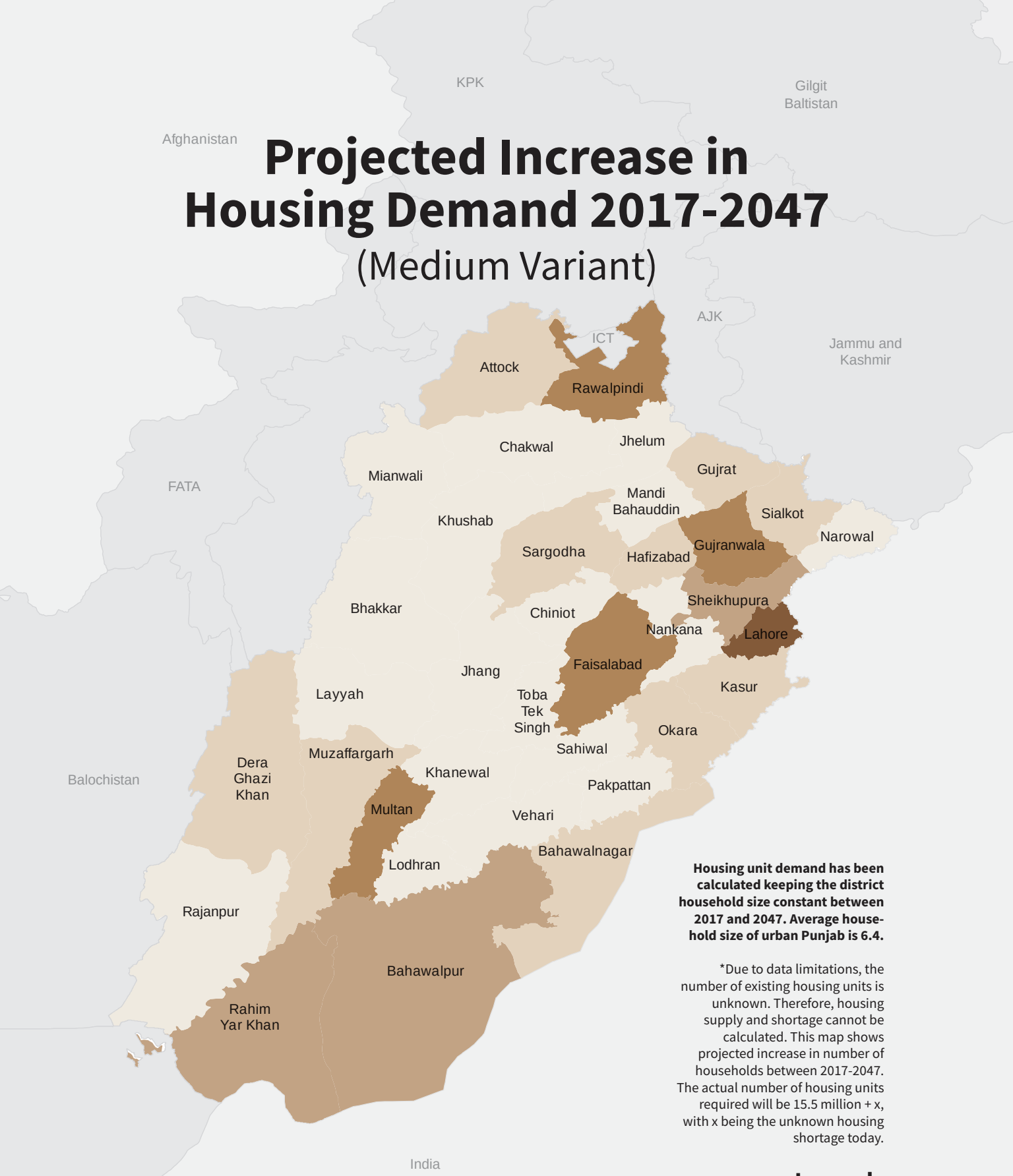
Provincial
Punjab Land Development Company, Punjab Housing & Town Planning Agency, Private housing buildings, real estate developers and scheme owners

Key Agency

Housing, Urban Development & Public Health Engineering Department

Projected Increase in Housing Demand 2017-2047

(Medium Variant)



Housing unit demand has been calculated keeping the district household size constant between 2017 and 2047. Average household size of urban Punjab is 6.4.

*Due to data limitations, the number of existing housing units is unknown. Therefore, housing supply and shortage cannot be calculated. This map shows projected increase in number of households between 2017-2047. The actual number of housing units required will be 15.5 million + x, with x being the unknown housing shortage today.

Legends

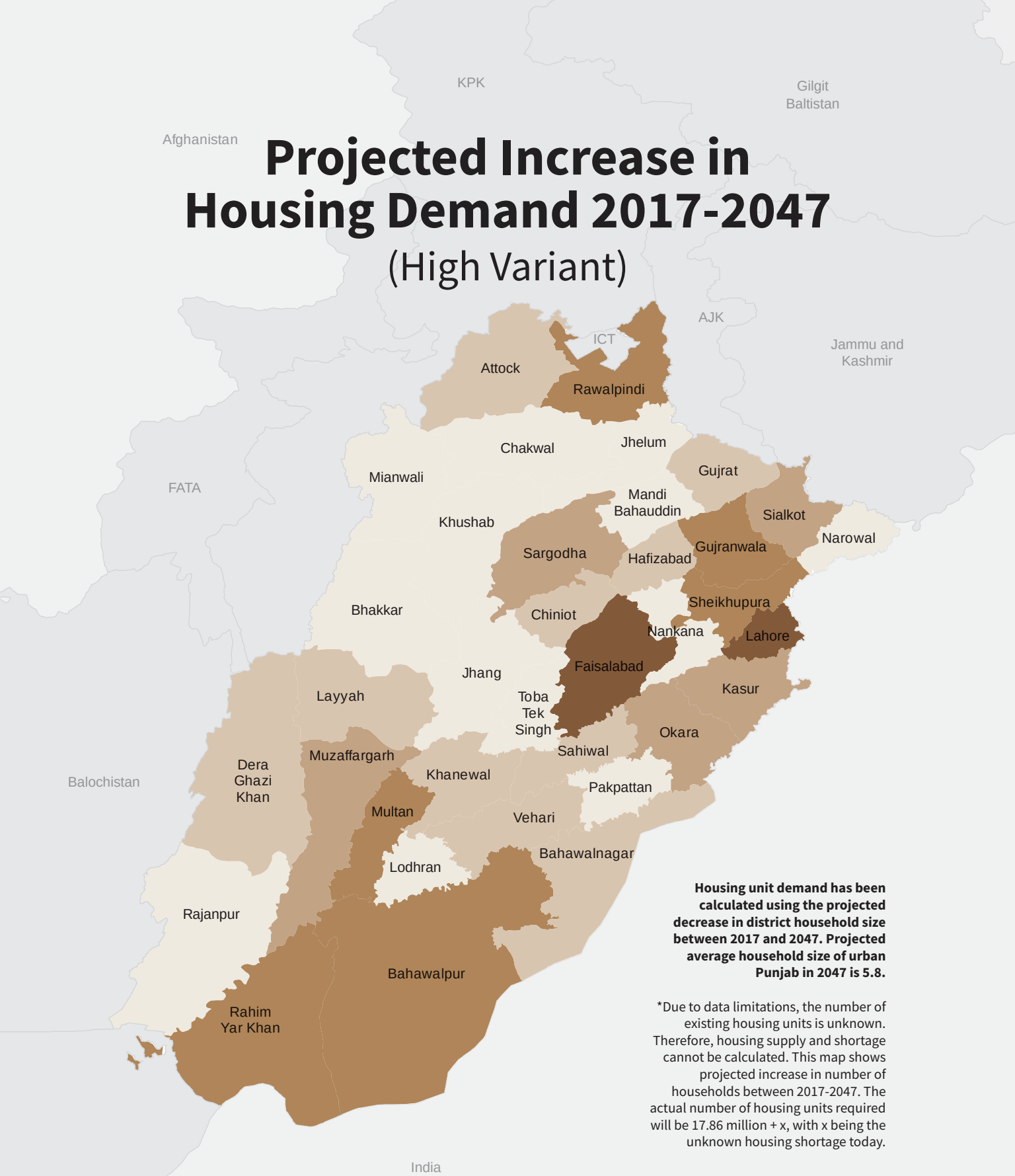
Projected Increase in Household 2017-47

- 30,805 - 75,000
- 75,001 - 150,000
- 150,001 - 250,000
- 250,001 - 700,000
- 700,001 - 4,059,440

Map 1.3.3A: Projected Increase in Housing Demand 2017-2047 (Medium Variant)

Projected Increase in Housing Demand 2017-2047

(High Variant)



Housing unit demand has been calculated using the projected decrease in district household size between 2017 and 2047. Projected average household size of urban Punjab in 2047 is 5.8.

*Due to data limitations, the number of existing housing units is unknown. Therefore, housing supply and shortage cannot be calculated. This map shows projected increase in number of households between 2017-2047. The actual number of housing units required will be 17.86 million + x, with x being the unknown housing shortage today.

Legends

Projected Increase in Household 2017-47

- 36,323 - 75,000
- 75,001 - 150,000
- 150,001 - 250,000
- 250,001 - 700,000
- 700,001 - 5,371,030

Map 1.3.3B: Projected Increase in Housing Demand 2017-2047 (High Variant)

PS 3.4

Inclusive and Balanced Access to Wash Services

Policy Background

To improve inclusive socioeconomic development, access to safe drinking water and improved sanitation facilities remain critical. Due to rapid urbanization and population growth, Pakistan has stressed its water resources, reducing access to safe drinking water and sanitation facilities. Municipal services – primarily, Water Supply and Sanitation (WSS), and Solid Waste Management (SWM) – are dependent on provincial transfers. The five largest cities of the Punjab generate Own Source Revenues (OSRs) that are less than 5% of total city receipts. Enabling quality access to municipal services is one of the main drivers of competitiveness in cities. The provision of safe drinking water and sanitation services through improved physical infrastructure needs to be developed in light of existing spatial deprivations.

Relevance to National Visions and Strategies

Punjab Growth Strategy 2018
Provision of sustainable and safe water and adequate sanitation services to the entire population. Provide healthy and clean environment through improved solid waste management services.

Relevance to Sustainable Development Goals

Goal 6
Clean Water and Sanitation

Target 6.1
By 2030, achieve universal and equitable access to safe & affordable drinking water for all

Target 6.2
By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation

Goal 11
Sustainable Cities and Communities

Target 11.6
By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Water Supply Coverage	Punjab Cities Governance Improvement Project (PCGIP) Reports and Pakistan Water Operator Network (PWON)	68% (Large cities)	80%	85%	90%
Sewerage Coverage	PCGIP Reports	67% (Large cities)	75%	80%	85%
SWM Coverage	Waste Management Companies & Local Governments	69%	85%	95%	95%

Key Actions Required

Development of an improved governance model for service delivery.

Good governance with clarity in institutional jurisdiction over services, improved development planning, linking public officials' promotion with training and performance, improved financial planning, incorporation of Public Private Partnership mode and outsourcing model

Technical assistance in all areas of planning and execution to entities responsible for service provision

Development of an efficient service delivery model.

Special interventions to increase operational efficiency, such as by reducing Non-Revenue Water (NRW) through new targets in the Annual Development Plan

Addressing operational inefficiencies by increasing customer base and energy conservation practices

Allocation of resources to deprived areas and provision of physical infrastructure for safe drinking water, sanitation and SWM

'Awareness for all' to improve household practices for improved sanitation and hygiene

Development of revenue generation model to ensure sustainability of service delivery.

Critical review of revenue and receipts of entities and implementation of revenue improvement actions like tariff structuring on SWM, volumetric charge for WSS, customer database, revamping Urban Immovable Property Tax (UIPT) system for additional revenue base, harnessing potential of unused land of local governments, and notification of municipal taxes and user charges

Development of an integrated revenue billing and collection system for all property-based taxes, fees and user charges.

Expected Outcome

Cities/areas to be provided quality and sustainable municipal service infrastructure on priority

Reduced intra-regional disparities where districts such as Bahawalpur, Bahawalnagar D.G Khan, Rajanpur, Muzaffargarh and Rahim Yar Khan are on high priority

Key Stakeholders

Provincial
Water & Sanitation Agencies,
Punjab Housing & Town Planning Agency,
Al Jazzari Water & Sanitation Academy and
Local Governments and Development Authorities

Key Agency

Housing, Urban Development & Public Health Engineering Department

PS 3.5

Accommodate Emerging Urban Population Mobility Needs through Availability of Efficient Transportation

Policy Background

Inadequacies in public transport provision create barriers and limit individual participation in economic activities. In Punjab rapid population and economic growth has increased traffic on the existing road network. Around 1600 buses are currently providing intra-city public transport services in seven cities of Punjab, while the required number is above 3800. This demand and supply gap remains a big challenge. Moreover, there is also no sub-urban or regional train service. At the moment, various modes of intra-city transport operate in isolation. Further, inter-city public transport is not strictly regulated in Punjab. An unreliable and inefficient public transport system has led to high dependency on private transport modes, in particular bikes. Motor vehicle registration statistics from the last ten years show a more than 300% increase in the number of two wheelers plying the roads. Similarly, there has been an increase of more than 90% in motorcar use over the last decade.

Relevance to National Visions and Strategies

Pakistan Vision 2025
Pillar VII; Modernize infrastructure and strengthen regional connectivity

National Transport Policy 2018
Foster sustainable urban development

Pakistan Railway Strategic Plan (2017)
Sets the overall direction for the future development of Pakistan Railway

Integrated Bus Operation Studies
For different cities of Punjab

Relevance to Sustainable Development Goals

Goal 9
Industry, Innovation and Infrastructure

Target 9.1
Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

Goal 11
Sustainable Cities and Communities

Target 11.2
By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Number of cities with intra-city Public Transportation	Transport Department	6	12	16	20
Percentage of population with access to intra-city public transport in twenty cities	Transport Department, Land Scan population database	75	>82	>88	>95
Number of cities with Mass Transit System	Transport Department, Punjab Mass Transit Authority	3 Cities (Single Line)	3 Cities (Corridors) 3 Cities (Priority Lines)	5 Cities (Corridors) 5 Cities (Priority Lines)	7 Cities (Corridors) 7 Cities (Priority Lines)
Number of cities with Sub-Urban Rail Connections	Pakistan Railways Transport Department	0	25	40	50
Improvements in percentage Intra-city Bus Stops w.r.t multi-modal facilities	Transport Department, Punjab Mass Transit Authority	0	>33	>66	>99
Improvements in percentage Intercity Bus Terminals w.r.t multi-modal facilities	Transport Department	0	>33	>66	>99

Key Actions Required

Developing urban transport plans with a focus on promoting public transport.

Transit Oriented Developments (TODs) by integrating land use and transport planning.

Prioritizing pedestrians and non-motorized modes within local area plans.

Facilitating multi-modal intra-city transport services through spatial and temporal integration of various modes.

Upgrading existing and developing new intercity bus terminal for facilitating multi-modal operations.

Spatially informed decision-making for developing new or upgrading existing bus stops allowing multi-modal operations.

Upgrade existing and constructing new high-speed rail links for sub-urban commuters.

Establishment of district-level transport planning entities to ensure application of provincial strategy at the district level.

Expected Outcome

Spatial planning to enhance people's mobility regarding desired activities

Land use efficiency optimization through TOD

Improved accessibility to all parts of the cities through availability of multiple modes

Reduced traffic congestion through improved local urban transport plans

Spatial integration, social cohesion and inclusive growth due to availability of alternate affordable modes

Key Stakeholders

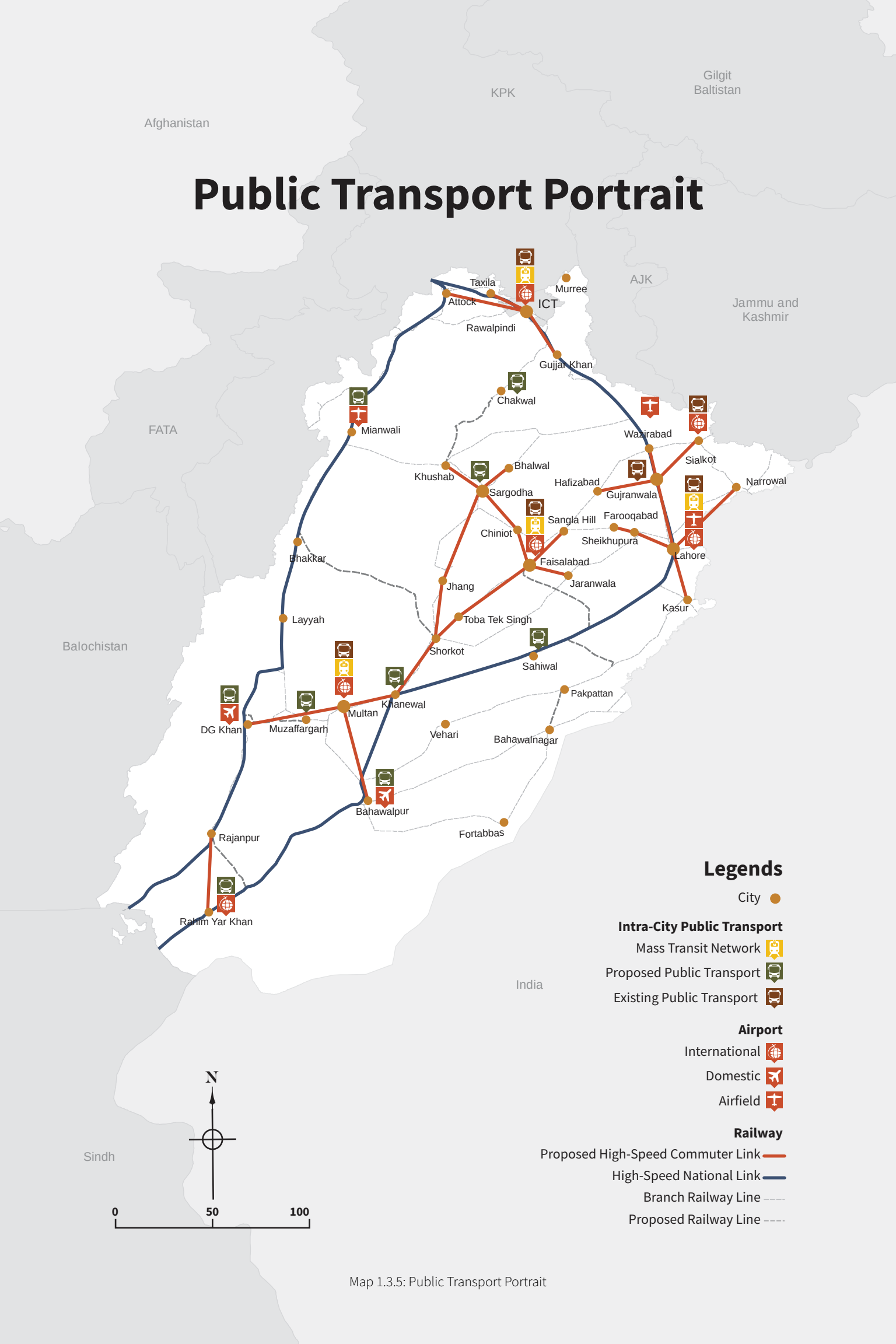
Federal
Ministry of Communications,
National Highway Authority,
Pakistan Railways and
National Transport Research Centre

Provincial
Provincial Transport Authority,
Punjab Masstransit Authority and
Lahore Transport Company

Key Agency

Transport Department

Public Transport Portrait



Map 1.3.5: Public Transport Portrait

PS 3.6

Incorporate ICT Infrastrcutre in Urban Systems to Enhance Efficiency, Public Safety and Convenience in Services Delivery

Policy Background

ICT usage is rapidly increasing in Punjab with more than 72% of the population currently owning mobile. Many urban functions are increasingly relying on ICT, such as the Punjab Safe Cities project. A proper regulatory mechanism is required to ensure growth, safe avenues of investments, cyber security, and innovation across Punjab.

Relevance to National Visions and Strategies

Pakistan Vision 2025
Strategic Intervention:
Urban development and smart cities

Relevance to Sustainable Development Goals

Goal 9
Industry, Innovation and Infrastructure

Target 9.4
By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Number of cities monitored under the safe cities program	Punjab Police's Integrated Command, Control and Communication (PPIC3) Projects- Punjab Safe Cities Authority (PSCA)	1 Lahore	1 mega city & 5 large cities	1 mega city, 6 large cities, & 15 intermediate cities	1 mega city, 12 large cities & 43 intermediate cities
Tele density	Annual report by Provincial Transport Authority (PTA) informing about coverage details in cities in Punjab	Information does not exist for cities in Punjab	Full coverage in 1 mega city & 5 large cities	Full coverage in 1 mega city, 6 large cities, & 5 intermediate cities	Full coverage in 1 mega city, 12 large cities, & 15 intermediate cities
Mobile phone usage	Punjab in figures 2018, Bureau of Statistics, Planning and Development Board	72%	80%	90%	100%
ICT usage in transportation services	Application in mass transit schemes/Bus Rapid Transit projects	None	1 mega city & 5 large cities	1 mega city, 6 large cities & 10 intermediate cities	1 mega city, 13 large cities & 15 intermediate cities
ICT usage in safety	Safe city ICT infrastructure	Lahore	1 mega city & 5 large cities	1 mega city, 6 large cities & 10 intermediate cities	1 mega city, 13 large cities & 15 intermediate cities
Multiple tools for facilitating service delivery and e-governance	Different tools including complaint reports, ownership records, user profiles and reports	None	1 mega city & 5 large cities	1 mega city, 6 large cities and 10 intermediate cities	1 mega city, 13 large cities & 15 intermediate cities

Key Actions Required

Establish a Spatial Planning Authority of Punjab to coordinate with PTA/Punjab Information Technology Board (PITB) to acquire city and region-specific data on ICT.

PITB to review existing regulation and rules for managing ICT infrastructure and services.

Devise a mechanism for periodic replacement of service delivery mechanism in transport, policing, land registration, water and sanitation, health, education, housing and other suitors for incorporating ICT.

Extend training and capacity building of existing staff in respect to ICT.

An integrated Command, Control and Communication Centre to be established and operated by the safe cities' authority.

Setup of control centers to monitor and maintain ICT and GIS systems for the city.

Incorporation of ICT infrastructure in government departments to establish e-governance systems and establish citizen participation platforms, while ensuring protection of private data collected through the ICT infrastructure.

Sensor-aided monitoring of air and water quality in cities.

Upgrading of urban transport systems by integrating ICT infrastructure for traffic signals, road signage, parking lots, and public transit corridors.

Expected Outcome

Established ICT infrastructure in mega, large and intermediate cities of Punjab as per plan

Established safe cities authorities in the mega city and five large cities and then expand into intermediate cities as per plan

Established funding mechanism to finance building technology for Lahore, Rawalpindi, Multan, Gujranwala, and Faisalabad

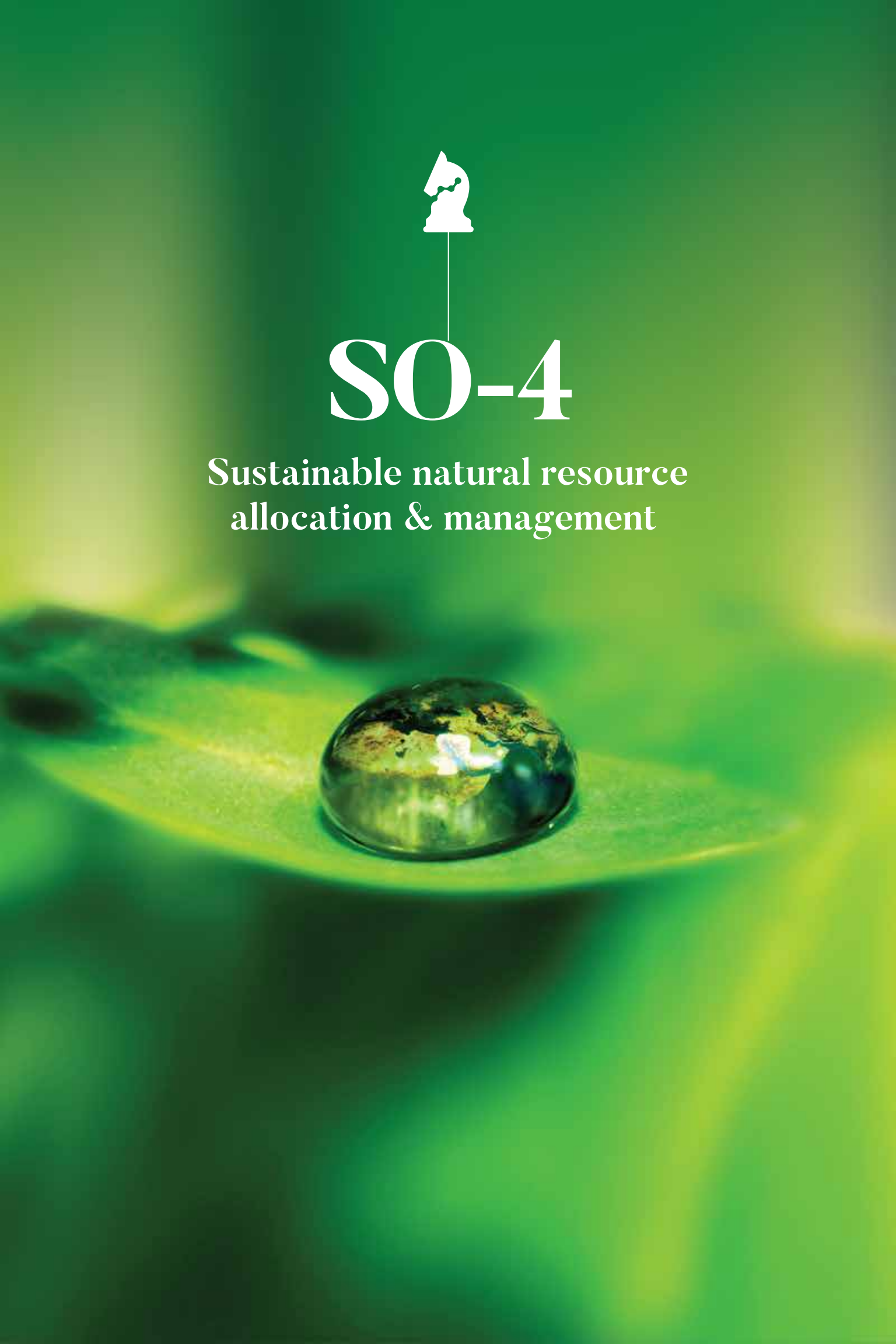
Key Stakeholders

Federal
Federal agencies with land ownership in identified cities

Provincial
Punjab Board of Revenue,
Development Authorities,
Punjab Safe Cities Authority,
Housing, Urban Development & Public Health Engineering Department and
Punjab Information Technology Board

Key Agency

Local Governments



SO-4

Sustainable natural resource allocation & management

PS 4.1: Maximising the agriculture potential through efficient use of land

PS 4.2: Enhance output per drop of water in agriculture through efficient water management

PS 4.3: Promote use of sustainable energy sources to meet the ever growing demand

04 Strategic Objective

Sustainable natural resource allocation & management

Natural resources include both raw materials necessary for human activities and different environmental media, such as air, water and soil that sustain life. Careful management and use of these resources is an important element of sustainable development.

Punjab's natural resources are divided amongst a population of over 110 million people. With population figures projected to increase to over 200 million in 2047, the strain on natural resources will also increase. Currently, there is significant wastage, misallocation and mismanagement of natural resources. This calls for efficient management required to ensure optimal use of natural resources.

Agriculture contributes approximately 19% to the country's GDP and provides employment to 42% of the population. There is a need to improve existing cropping patterns to draw maximum benefit from land. At present Pakistan's per acre crop yields are amongst the lowest in the world. More efficient land use can be ensured by improving the value of produce per unit of land, as well as by making more land arable. To this end, high value cropping zones have been identified in the PSS that can lead to maximizing yield per area of land utilized. In order to put this framework in place, a strong mechanism to replace subsidies and government support will be required.

Surface water as a depleting natural resource also requires better management. Industrial, domestic and agricultural water use suffers from an absence of incentives to conserve water by recycling or reusing it. Industries and municipalities discharge 90% of their untreated water into river streams, and the agricultural sector wastes up to 50%[1] in transmission, conveyance and on the field. Punjab is one of the regions heading towards absolute water scarcity by 2025, as measured by the Falkenmark Index. Pakistan is also one of countries most vulnerable to climate change. There is hence a dire need for reforms in the water sector to ensure sustainable economic growth.

Similarly, fossil fuels are a key resource of generating electricity to cater to industrial and household demands. Overuse of these resources stresses the national resource endowment as well as foreign exchange reserves. Relying upon renewable resources and making a greater effort towards conserving energy can improve efficiency in resource management and use.

[1] Indus River System Authority (IRSA) 2017.

PS 4.1

Maximizing the Agriculture Potential through Efficient Use of Land

Policy Background

At present spatial analysis is not incorporated into policymaking and zoning for agriculture. Punjab has a total cultivated area of 31 million acres. There are two cropping seasons per year - Rabi and Kharif. Rabi crops occupy 22.7 million acres while Kharif crops 18.4 million acres. Cotton, rice, fodder and sugarcane make up 70% of the total Kharif cropped area in Punjab while 75% of the Rabi cropped area is used for growing wheat. Only 6% of the cropped area is cultivated with fruits and vegetables even though it is more profitable to grow them instead of traditional crops. Currently, therefore, profits are not being optimized. The Punjab Spatial Strategy (PSS) seeks to delimit specific zones where high value crops can be cultivated. In such zones targeted infrastructural support will be provided with the aim of enhancing Punjab's agricultural GDP.

Relevance to National Visions and Strategies

Pakistan Vision 2025
Envisages food security in the context of the entire supply chain from production, processing, storage and distribution of consumption by optimizing production and supply mix in line with current and projected needs

National Food Security Policy 2017
To ensure modern and efficient food production and distribution system

Punjab Agriculture Sector Plan 2015
Promotion of high value crops in agriculture and transform agriculture sector into a diversified, sustainable and market driven sector through improved practices

Agriculture Policy of Punjab 2018
To ensure inclusive growth, poverty reduction and food security

Relevance to Sustainable Development Goals

Goal 1
No Poverty

Target 1.1
Eradicate extreme poverty

Goal 2
Zero hunger

Target 2.1
End Hunger and ensure access by all people

Target 2.3
Double the agriculture productivity and income of small scale food producers

Target 2.4
Ensure sustainable food production systems and increase productivity

Goal 12
Responsible Consumption and Production

Target 12.1
Implement the 10 year framework of programs of sustainable consumption and production patterns

Target 12.2
Achieve the sustainable management and efficient use of natural resources

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Area under high value crops	Optimal cropping pattern from low value crops to high value crops	Currently used only 6 % area under high value crops	Increase area upto 12%	Increase area upto 18%	Increase area upto 25%
Share of fruits & vegetables in agriculture total export	Increase share of fruits and vegetables in total export of agriculture	20%	30%	40%	50%
Export of processed fruits and vegetables (Value added)	Increase current share of processed fruits and vegetables in total export of fruits and vegetables	8%	16%	32%	50%

Key Actions Required

Increase production of high value export-oriented crops by increasing cropped area in specific zones.

Provide specialized and targeted support system for each crop zone, including seeding and nursing infrastructure, specialized extension services, availability of fertilizers, and farmer trainings on better technologies and solutions.

Provide better logistical support like storage and transportation in each high value export-oriented crop zone.

Promote agro-based industry in each zone focused on particular crops to aid value addition.

Establish export centers for each crop zone to provide updated information on demand, price and quality for each crop (raw and/or processed) in the international market.

Expected Outcome

25 crop zones developed with specific support services in each zone and high priority accorded to high value export-oriented crops

Employment creation and value addition in each zone through establishment of agro-based industries

Key Stakeholders

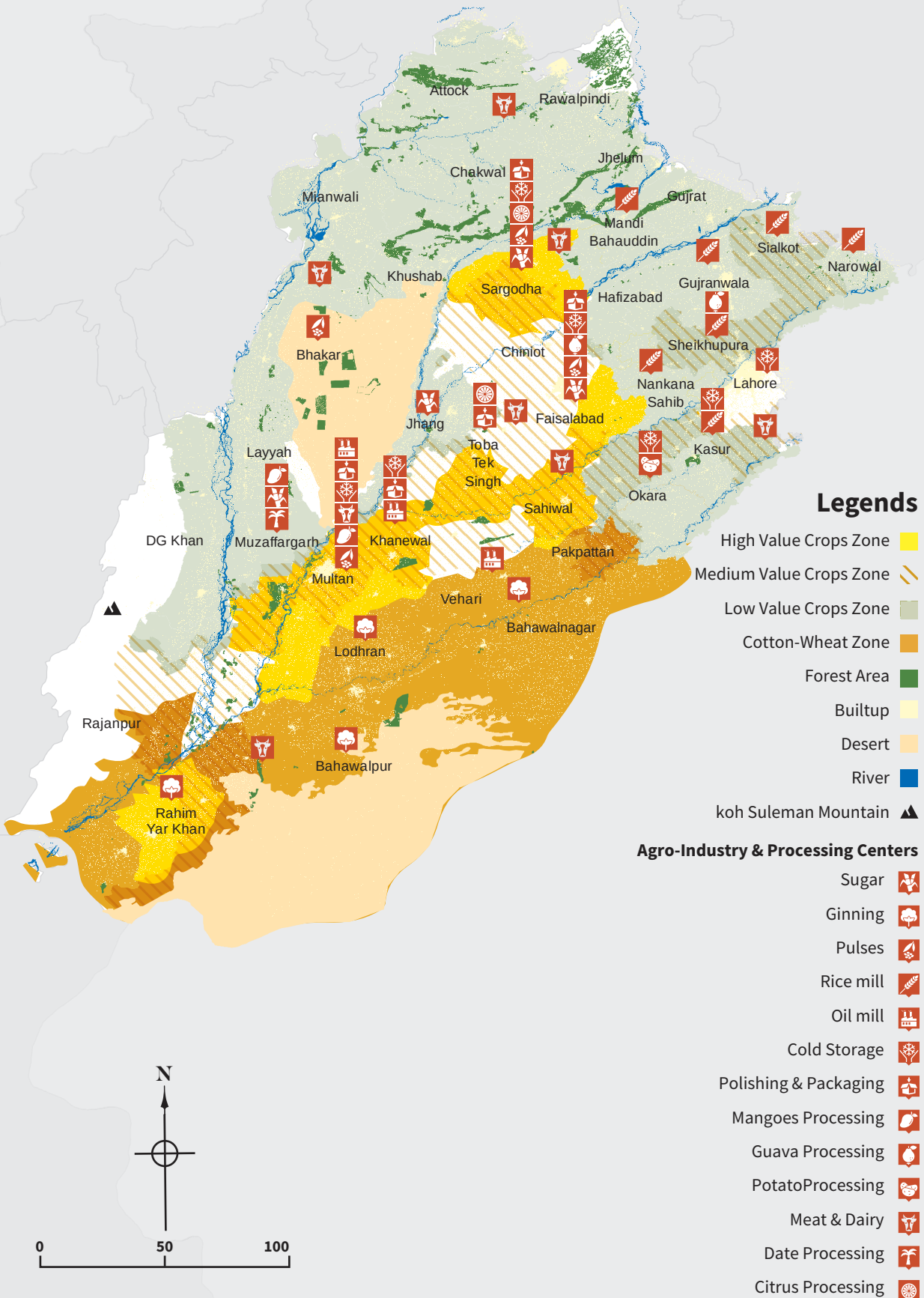
Federal
Ministry of National Food Security & Research

Provincial
Industries, Commerce & Investment Department and Technical Education & Vocational Training Authority

Key Agency

Agriculture Department

Potential Agricultural Crops Zone



Map 1.4.1: Potential Agricultural Crops Zone

PS 4.2

Enhance Output Per Drop of Water in Agriculture through Efficient Water Management

Policy Background

Almost 92% of Punjab's surface water is used for irrigation purposes alone. With Punjab's population projected to double by 2047, there is a need to reallocate and redistribute water across the different sectoral demands and enhance agricultural productivity so that reallocation does not negatively impact agricultural output. Nearly 45% of irrigation water is lost in transmission from canal to farm through underground seepage, and an additional 25% is lost in field application. There are no incentives for farmers to conserve water, ensure its efficient use or grow high value crops that lead to higher output per drop. There is a need to use water more efficiently in agriculture, especially to ensure its availability to the other sectors of the economy.

Relevance to National Visions and Strategies

Pakistan Vision 2025
Pillar IV: sufficient, reliable, clean and cost-effective availability of water

Water National Policy 2018
Objective 2.18
Promoting measures for the long-term sustainability of the irrigation system

Relevance to Sustainable Development Goals

Goal 6
Clean Water and Sanitation

Target 6.4
By 2030, substantially increase water-use efficiency across all sector

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Field application losses	Irrigation Department and Agricultural Department	21 Million Acre Feet (MAF)	18 MAF	15 MAF	5 MAF
Canal conveyance losses	Irrigation Department	23 MAF	20 MAF	15 MAF	10 MAF

Key Actions Required

Build institutional capacity for water accounting frameworks that lead to policies that enhance water efficiency.

Capacity building of public officials and awareness campaigns for water users i.e. farmers and general public.

Incentivize farmers to sow crops that require less water and produce higher yields per acre.

Introduce water conservation techniques through awareness campaigns and interventions at farm level.

Introduce modern irrigation techniques, such as drip, spray and fine nozzle, to farmers with a cost-effective delivery mechanism to ensure take up.

Identify priority areas (like secondary, tributary or minor canals) where interventions can be targeted to limit leakage without affecting groundwater recharge.

Expected Outcome

Developed water efficient corridors along high value crop zones

Efficient water management techniques along each crop zone

Key Stakeholders

Federal
Indus River System Authority,
Water & Power Development Authority and
Pakistan Commissioner for Indus Waters

Provincial
Agriculture Department

Key Agency

Irrigation Department

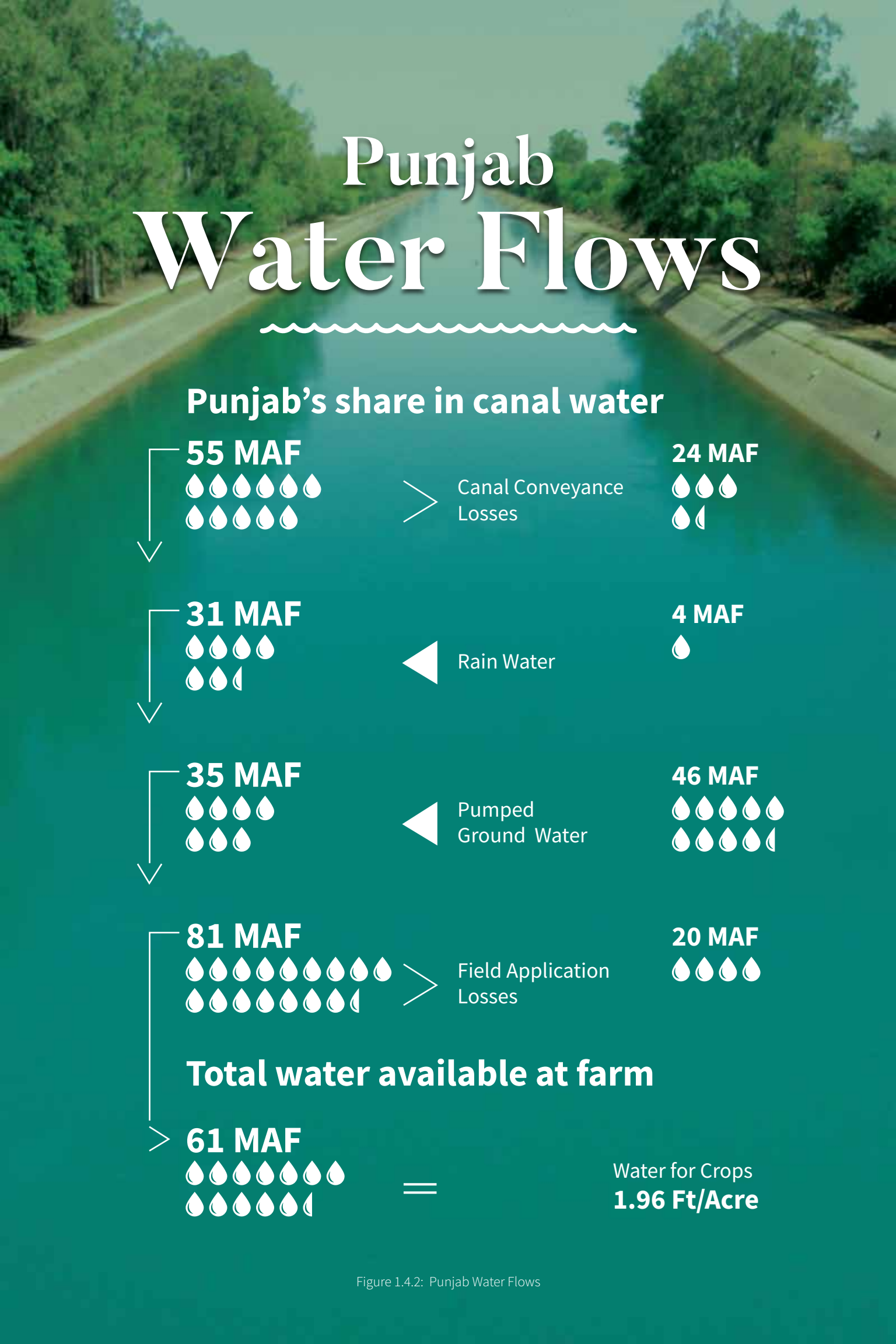


Figure 1.4.2: Punjab Water Flows

PS 4.3

Promote Use of Sustainable Energy Sources to Meet the Ever Growing Demand

Policy Background

In 2011, the United Nations initiated Sustainable Energy for All to serve as a global forum for countries to make a joint effort towards achieving three key objectives - a) universal access to energy b) doubling the rates of energy efficiency and conservation and c) doubling the share of renewable energy in the overall energy mix. Pakistan joined this global initiative in 2013. Between 2012 and 2017, energy consumption in Punjab rose by 30%, at an average rate of 6% per annum. To keep up with such high demand, it has become necessary to tap into renewable energy solutions. Further, fossil fuel exploitation has negative consequences for the environment. Punjab can tap into alternate resources such as biomass, solar energy and micro hydel. Punjab's biomass potential is around 61,000 Gigawatt hours (Gwh), solar energy potential is 4.5 to 5 kilowatt hours (kh)/m2/day in South Punjab while micro hydel potential is ~7,000 megawatt (MW).

Relevance to National Visions and Strategies

Pakistan Vision 2025
Pillar IV: sufficient, reliable, clean and cost-effective availability of energy

Punjab Growth Strategy 2018
Resolving electricity shortage

Punjab Power Generation Policy
To provide adequate power generation capacity at the least cost and to protect the environment

Relevance to Sustainable Development Goals

Goal 7
Affordable and Clean Energy

Target 7.2
By 2030, increase substantially the share of renewable energy in the global energy mix

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Renewable share in energy mix (Hydro, Thermal and Wind)	Energy Year Book	34%	40%	45%	50%
Energy savings across sectors		No Baseline	15% network energy saved through conservation and technology shifts	10% network energy saved through conservation and technology shifts	5% network energy saved through conservation and technology shifts

Key Actions Required

Enhance public awareness about energy conservation in domestic and commercial sectors.

Leverage spatial and geological advantages, develop renewable energy corridors to support future energy demands.

Promote and incentivize investment in renewable energy resources in the domestic and commercial spheres through mechanisms such as Public-Private Partnerships.

Introduce mandatory use of an energy efficiency-labeling framework.

Use smart technology for streetlights and public buildings.

Generate on-site power for industrial sectors to reduce transmission losses.

Declare South Punjab as priority solar zone to develop on/off grid renewable energy projects.

Develop necessary collection and transfer mechanisms in agricultural zones to provide easy access to raw materials.

Pioneer net metering at government offices and expand it to urban centers.

Develop energy management plans for all utilities and conduct energy audits.

Promote reliance of rural villages and settlements on renewable resources to ensure self-sufficiency.

Expected Outcome

Develop South Punjab as a solar energy zone with less reliance on the national grid

Power large cities to produce a domestic consumer shift towards self-generated and municipal solid waste

Cost-effective generation of power through effective utilization of residuals from zones of rice, wheat and other crops

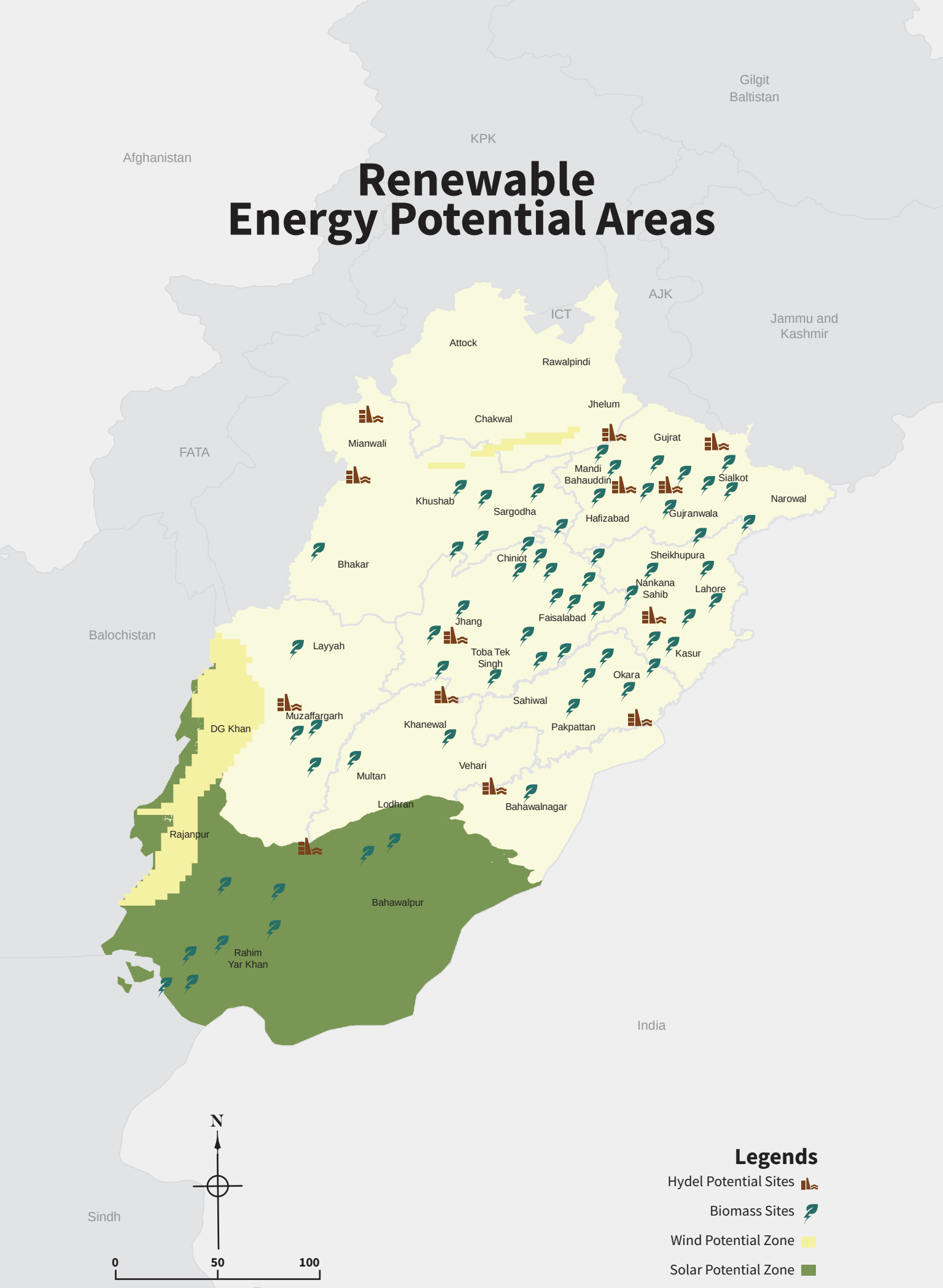
Key Stakeholders

Federal
National Electric Power Regulatory Authority

Provincial
Punjab Power Development Board,
Housing Urban Development & Public Health Engineering Department,
Agriculture Department and
Local Governments

Key Agency

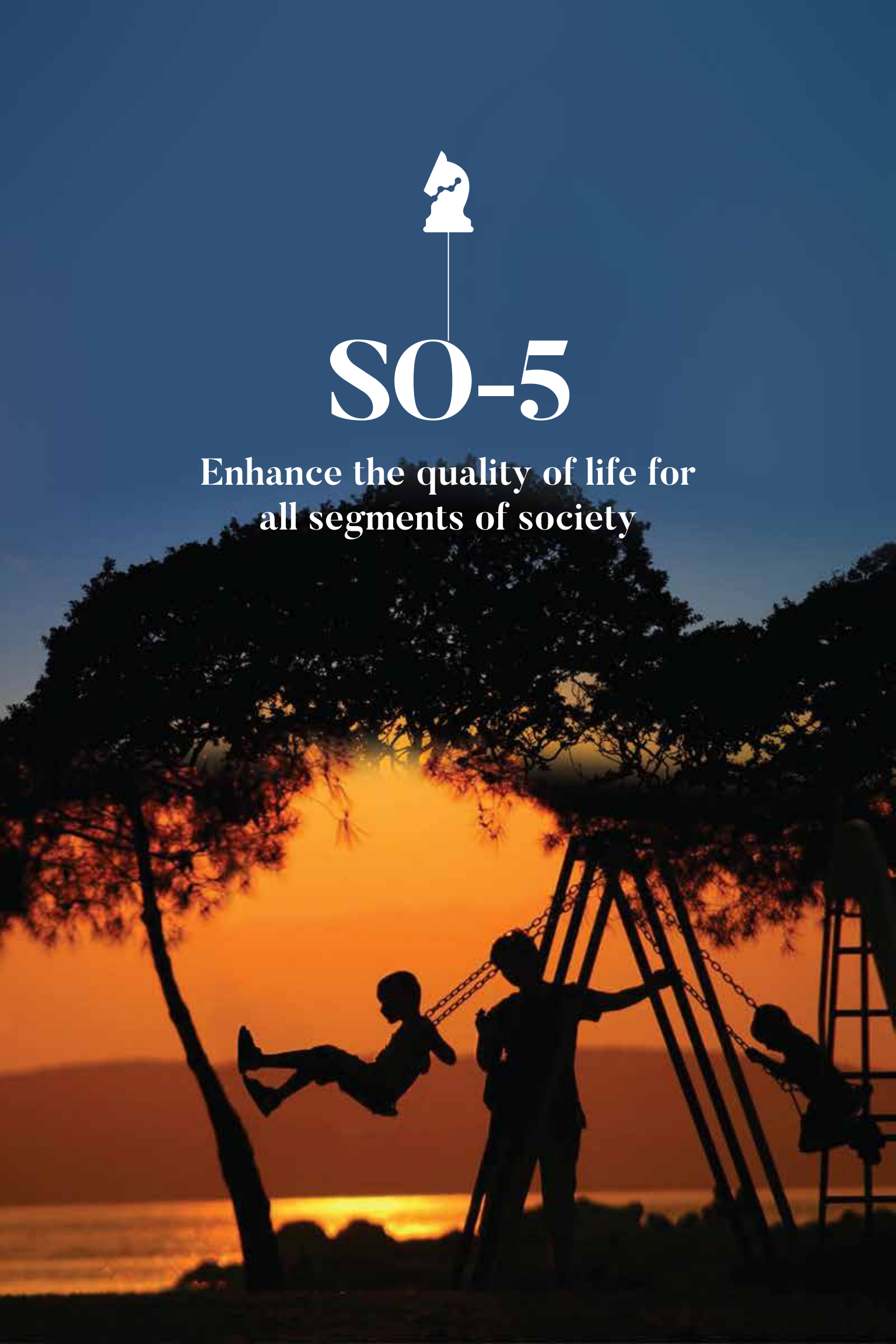
Energy Department



Map 1.4.3: Renewable Energy Potential Areas

SO-5

Enhance the quality of life for all segments of society



PS 5.1: Reduce poverty, disparity & deprivation

PS 5.2: Inclusive and balanced access to quality healthcare services

PS 5.3: Inclusive and balanced access to quality basic education

05 Strategic Objective

Enhance the quality of life for all segments of society

The 2030 agenda for Sustainable Development calls for a world with universal access to quality education, health care and social protection such that physical, mental and social wellbeing are assured. Enabling quality of life through improved socioeconomic wellbeing is necessary for equitable and inclusive national development. Punjab faces multiple intra-regional disparities, as shown in the Multi-dimensional Poverty Index (MPI)[2] that hinder attainment of Sustainable Development Goals (SDGs). As long as spatial disparities persist, achieving SDGs may not be possible. The north-south & urban-rural spatial inequalities should be addressed if significant progress is to be made for achieving equitable growth and SDGs.

The prevailing conditions suggest that districts in South Punjab lag behind in education, health, sanitation and access to safe drinking water[3] as shown by the Social Progress Index[4]. Investing in health is essential to enhance workforce productivity and increase workers' physical capabilities, including strength and endurance. The child mortality rate per 1000 live births fluctuates from a high 145 in Mandi Bahauddin to a low 44 in Chakwal, with most of South Punjab's districts falling in the bottom tier in terms of basic health indicators. This calls for an integrated healthcare system with targeted interventions in the most deprived districts and make SDGs attainment a realizable goal.

Human capital, i.e. an educated workforce, is vital for economic growth. The relationship between productivity and educational capabilities of any workforce is well established. Existing development indices reflect deepening urban-rural and north-south disparities, increasing consistently due to rapid urbanization and population growth. For instance, net primary enrollment is less than 60% and net secondary enrollment less than 40% in most districts of South Punjab.

[2] A study of the Planning Commission of Pakistan (2014-15) with mapping input by the Urban Unit.
[3] Policies on poverty reduction, health and education are given under this strategic objective. The policy for WASH is given under SO 3 as PS 3.4.
[4] The index is based on analysis by the Urban Unit.

PS 5.1

Reduce Poverty, Disparity and Deprivation

Policy Background

The 2030 Agenda for Sustainable Development recognizes eradication of poverty as the greatest global challenge and an indispensable requirement for achieving sustainable development. Punjab is Pakistan's most economically unequal province. Its per capita income inequality (provincial Gini Coefficient) has increased from 0.35 in 1987-88 to 0.43 in 2013-14. In terms of Multi-dimensional Poverty Index (MPI), Punjab fares comparatively better than other provinces. However, intra-provincial disparity is immense with the MPI varying from 4.3% in Lahore to 64.4% in Rajanpur. Such disparity calls for spatially sensitive policy reform. Inclusive development requires strategic prioritization of social sectors and a consolidated effort towards inclusive growth.

Relevance to National Visions and Strategies

Pakistan Vision 2025
Pillar-II: Achieving sustained, indigenous and inclusive growth

Punjab Growth Strategy 2018
Targeted interventions for poor segment in terms of human capital/ skills development, social sector and job creation

Relevance to Sustainable Development Goals

Goal 1
No Poverty

Target: 1.1
End Extreme Poverty

Target 1.2
Half Poverty by 2030

Target 1.3
Implement Social Protection Mechanism

Target 1.5
Build Resilience for the Poor

Goal 8
Decent Work and Economic Growth

Target 8.5
By 2030 achieve full and productive employment and decent work for all

Goal 10
Reduced Inequality

Target 10.3
Ensure equal opportunity and reduce inequalities of outcome

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Extreme Poverty (percentage of people at USD 1.9/day)	World Bank (National), Target Source: SDGs (0% by 2030)	6.1% (2013)	2%	0%	0%
Incidence of Poverty, Headcount in percentage (Multidimensional)	Planning Commission, Target Source: SDG (Half by 2030)	31.45% (2014-15) Rural: 43.7% Urban: 6.3%	16% 28% 5%	14% 24% 4%	12% 22% 3%
Income Inequality (Income Gini)	Zaidi (2016)*, Target Source: Linking to SDG poverty target (almost half of baseline)	0.43 (2014-15) Rural: 0.40 Urban: 0.45	0.25 0.23 0.27	0.22 0.21 0.23	0.20 0.20 0.21
District Level Incidence of Poverty (MPI by district)	Planning Commission Target Source: Localizing SDG targets (Half by 2030)	Top District: 64.4% Bottom: 4.3%	Top District: 36% Bottom: 4%	Top District: 30% Bottom: 4%	Top District: 25% Bottom: 3%

* Zaidi, S. Akbar (2016). “An overview of inequality in Pakistan”. Development Advocate Pakistan, 3 (2): 2 -9.

Key Actions Required

Allocate and prioritize development budget for deprived areas.

Target the development of each area according to its potential vis-à-vis human capital endowment, proximity to markets and rural and urban centers.

Improve the identification mechanism for vulnerable population groups for social protection provision (for instance, through the Benazir Income Support Program, Punjab Social Protection Authority Khidmat Cards, Health Cards etc.) in each area.

Implement minimum wage laws especially in high priority (deprived) areas.

Expand focus of micro-loaning system to high priority (deprived) areas.

Develop a spatial decision support system for Annual Development Plan allocation and use formula-based development spending for deprived areas.

Expected Outcome

Reduced spatial disparity amongst districts

Improved social cohesion in society

Improved rural-urban cohesion

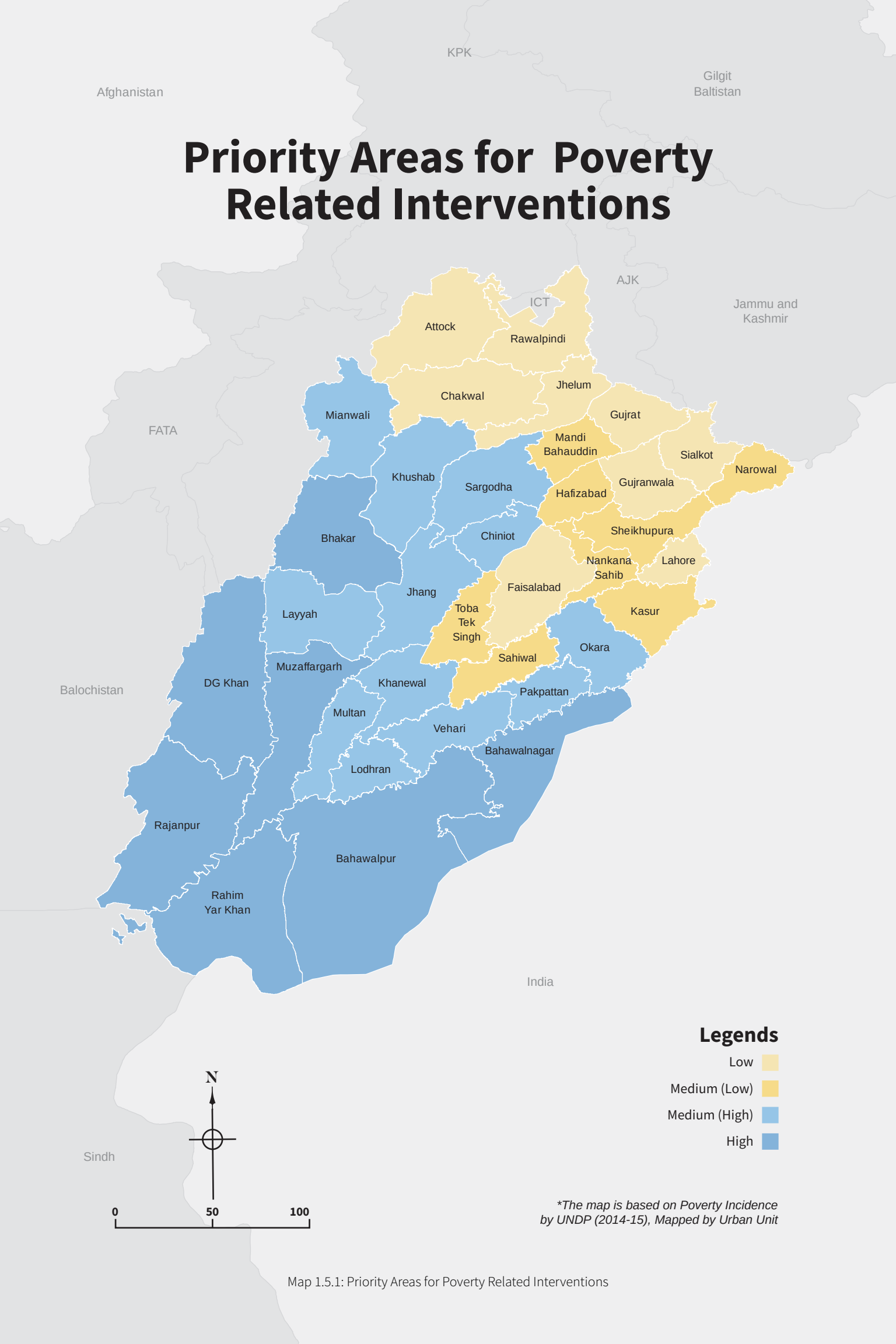
Key Stakeholders

Federal
Planning Commission (Ministry of Planning, Development & Reforms) and
Poverty Reduction Strategy Paper Secretariat (Ministry of Finance)

Provincial
Punjab Social Protection Authority,
Labor & Human Resource Department and
Social Welfare Department

Key Agency

Planning & Development Board



Map 1.5.1: Priority Areas for Poverty Related Interventions

PS 5.2

Inclusive and Balanced Access to Quality Healthcare Services

Policy Background

Provision of inclusive, affordable and quality healthcare is an important measure of the quality of life. According to the Economic Survey of Pakistan 2011, healthcare in Pakistan is administered mainly by the private sector, accounting for approximately 80% of all outpatient visits. Punjab faces major disparities in terms of health, affecting inclusive human development and access to quality healthcare services. Existing disparities are evident spatially, hindering achievement of sustainable socioeconomic development. The disparity is evident, in terms of health indicators, at the intra-provincial level across the north-south and rural-urban divide. Child mortality rate per 1,000 live births fluctuate from being as high as 145 in Mandi Bahauddin to 44 for Chakwal, with most of South Punjab districts falling at the bottom tier in terms of basic health indicators. Health infrastructure development needs to account for prevalent inequalities in the South to bring these regions at par with Central and North Punjab. Access to an integrated health eco-system with adequate expenditure on health sector should target most deprived districts on high priority if Sustainable Development Goals (SDGs) are to be achieved.

Relevance to National Visions and Strategies

Pakistan Vision 2025
Pillar I: Developing social and human capital and empowering women

Punjab Growth Strategy 2018
Pillar IV: Better performing social sectors and a stronger social safety net

Relevance to Sustainable Development Goals

Goal 3
Good health & well-being

Target 3.1
By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births

Target 3.2
By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Infant Mortality (0-12 months) per 1,000 live births	Multiple Indicators Cluster Survey (MICS) (2014-15) Target 2027: National SDG Framework (2018)	Punjab: 75 Bottom tier Districts: 74-111 Top tier Districts: 37 - 68	25	12	10
Child Mortality (under 5) per 1,000 live births	MICS (2014-15) Target 2027: National SDG Framework (2018)	Punjab: 93 Bottom tier Districts: 93 - 145 Top tier Districts: 44 - 88	40	17	15

Key Actions Required

Optimize financial and non-financial resources for healthcare in underserved areas, especially South Punjab, through geographically targeted interventions.

Increase awareness of preventive healthcare.

Improve quality of maternal healthcare delivery services.

Integrate the existing healthcare management system in both rural and urban areas through provision of adequate medical infrastructure for newborns.

Increase Public-Private Partnerships to expand health outreach, particularly in underserved areas where the private sector does not readily invest.

Localize the healthcare related SDGs targets by focusing on primary, secondary and tertiary healthcare.

Expected Outcome

Reduced intra-provincial disparities in healthcare by focusing on high-priority intervention areas

Reduced rural-urban disparities in healthcare by expanding outreach to underserved areas on the periphery

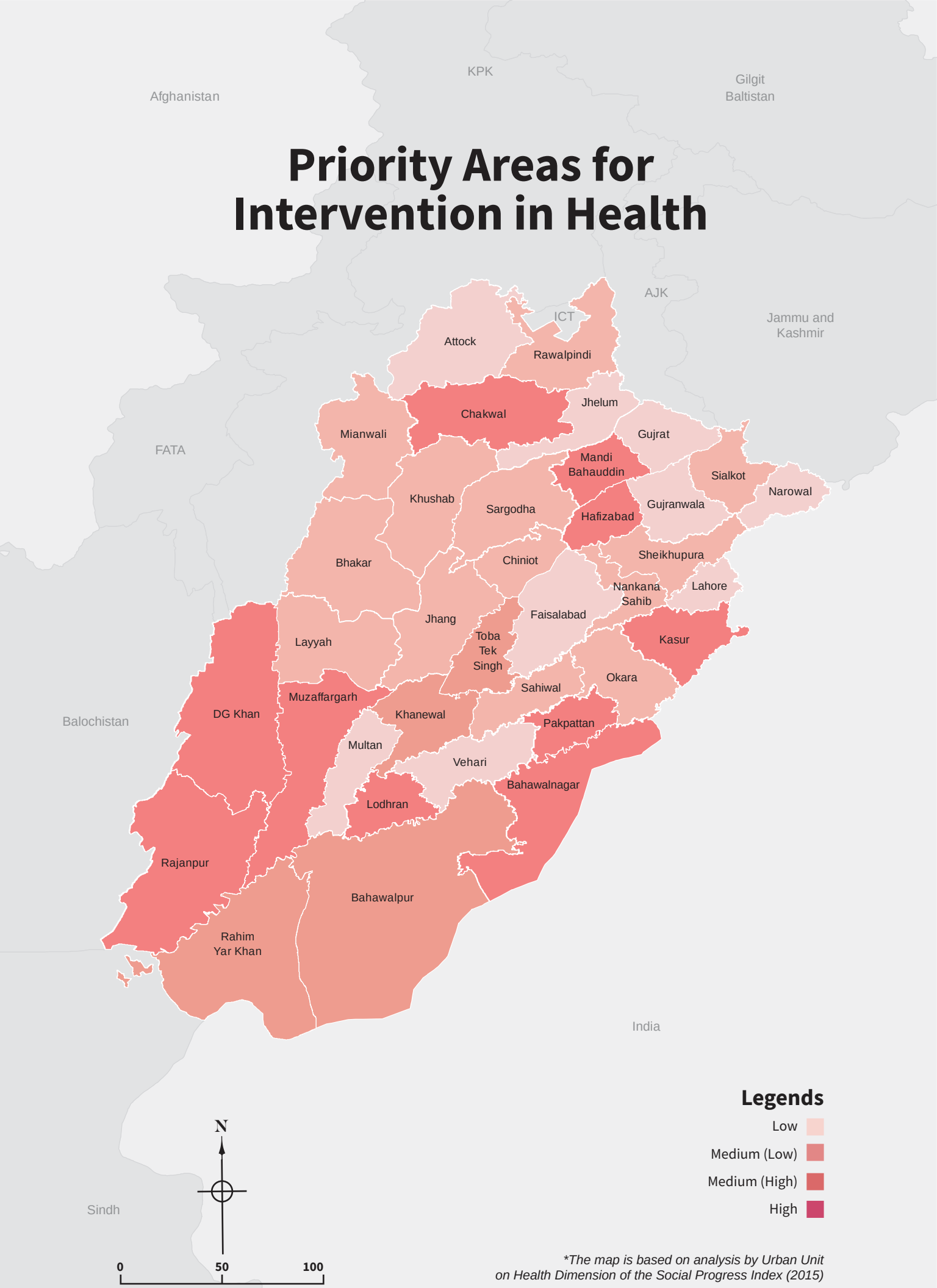
Key Stakeholders

Provincial
Punjab Healthcare Commission and Local Governments

Key Agency

Primary & Secondary Healthcare Department and Specialized Healthcare & Medical Education Department

Priority Areas for Intervention in Health



The map is based on analysis by Urban Unit on Health Dimension of the Social Progress Index (2015)

Map 1.5.2: Priority Areas for Interventions in Health

PS 5.3

Inclusive and Balanced Access to Quality Basic Education

Policy Background

Access to education is central to achieving inclusive socioeconomic growth. Current education indicators reflect that distinct urban-rural and north-south disparities are constantly on the rise due to rapid urbanization and population growth. For instance, net primary enrollment remains less than 60% and net secondary enrollment less than 40% for most of South Punjab. Punjab also has limited public education infrastructure. At present there are 0.54 educational institutions per 1,000 people. The education infrastructure thus needs a dire upgrade to ensure that universal access to education is made a reality for all.

Relevance to National Visions and Strategies

Pakistan Vision 2025
Pillar I: Developing social and human capital and empowering women

Punjab Growth Strategy 2018
Pillar IV, Better performing social sectors and a stronger social safety net

Relevance to Sustainable Development Goals

Goal 4
Quality Education

Target 4.1
By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes

Target 4.2
By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Net Enrollment Rate (primary)	Pakistan Standard of Living Measurement (PSLM) (2014-15) Target 2027: National Sustainable Development Goal (SDG) Framework (2018)	Punjab 72 Bottom tier Districts: 38 - 60 Top tier Districts: 58 - 82	100	100	100
Primary or higher level completion rate (%)	PSLM (2014-15) Target 2027: National SDG Framework (2018)	Punjab: 69 Bottom tier Districts: 29 - 51 Top tier Districts: 52 - 75	100	100	100
Youth Literacy rate (16-25)	Multiple Indicators Cluster Survey (MICS) (2014-15) Target 2027: National SDG Framework (2018)	75.9	100	100	100
Gender Parity Index (primary)	PSLM (2014-15) Target 2027: National SDG Framework (2018)	0.88	1	1	1

Key Actions Required

Spatially map schools in districts of Punjab to identify under-served areas, for more targeted investment.

Identifying pockets of areas, where accessibility to higher levels of education is limited (middle, secondary, higher secondary) and improving quality and accessibility to higher levels of education.

Increase Public-Private Partnerships to expand education outreach to underserved areas.

Provide targeted infrastructure development to underserved areas.

Improve quality of educational services in schools.

Design interventions in the education sector, such as capacity building initiatives for teachers.

Create awareness of 'education for all' targeting out-of-school children.

Expected Outcome

Reduced intra-provincial disparities in education by focusing on South Punjab

Reduced rural-urban disparities in education by extending educational facilities to peripheral and underserved areas

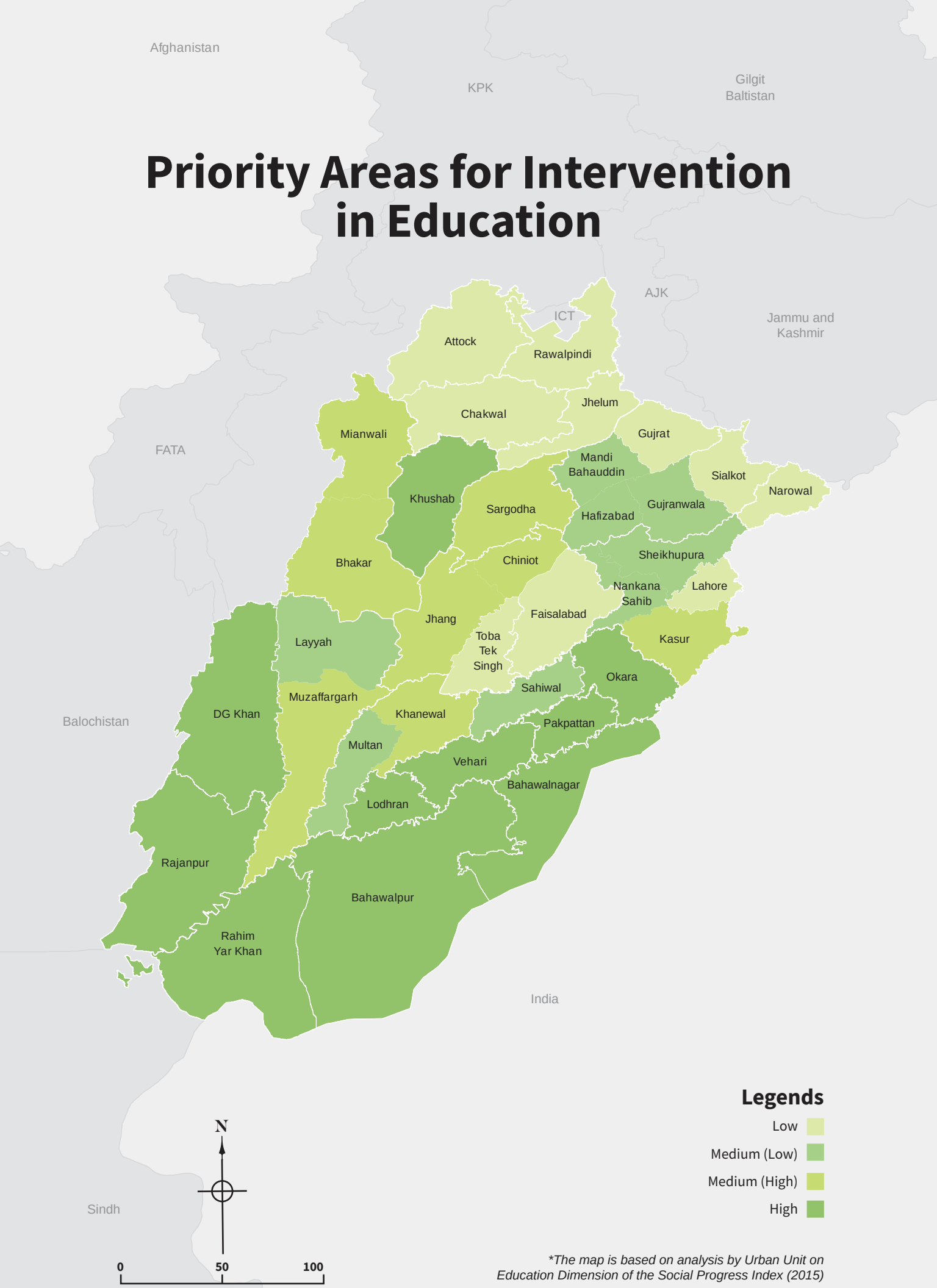
Key Stakeholders

Provincial
Local Governments and Literacy & Non-formal Basic Education Department

Key Agency

School Education Department

Priority Areas for Intervention in Education



The map is based on analysis by Urban Unit on Education Dimension of the Social Progress Index (2015)

Map 1.5.3: Priority Areas for Interventions in Education

SO-6

Enhance environment protection & management

PS 6.1: Conserve and enhance biodiversity and environmental value

PS 6.2: Greening of regions for improving livability

PS 6.3: Align development to climate change resilience

06 Strategic Objective

Enhance environment protection & management

Punjab, especially its urban areas present a dire need for environment protection and management owing to various issues widely linked to uncontrolled urbanization, haphazard industrialization, air quality deterioration, declining water quality and quantity, improper waste disposal and mismanagement of natural resources. This has seriously impacted public health and livability of Punjab's inhabitants.

Being the most populous province of Pakistan, and with heavy dependence on natural resources, improvement in Punjab's environment can contribute to economic development at the macro level. This strategic objective complements the Punjab Spatial Strategy environment-related objectives of conservation of natural resources through sustainable development and protection and improvement of environment. Implementing policy statements that broadly target climate change, livability and forest cover can make Punjab an environmentally sustainable province.

Pakistan is among top 10 countries most affected by climate change as per the 2017 Global Climate Risk Index. According to the Food and Agriculture Organization[5], the forest degradation rate in Pakistan is the highest in Asia and the country is ranked 110th in the world with respect to forest cover. Punjab's Environment Protection Department, the prime authority responsible for protection, conservation and improvement of the environment along with promotion of sustainable development, has unfortunately been unable to perform its mandated functions efficiently. Issues such as limited capacity and insufficient human resource vis a vis. demand, inappropriate monitoring, limited funds and over 2,500 pending assessment cases have led to a poor state of environmental governance in Punjab.

The overarching impacts of interventions under these policy statements are expected to trickle down and ultimately improve the current state of Punjab's environment. Environmental considerations need to be mainstreamed at both the macro and micro level in Punjab. By implementing identified key actions and using the strategic management tools under PSS, it is hoped that environmental governance and monitoring will be improved along with environment's quality, thereby leading to a clean, green, climate resilient and livable Punjab.

[5] Food and Agriculture Organization, United Nations, 2012

PS 6.1

Conserve and Enhance Biodiversity & Environmental Value

Policy Background

Pakistan is home to over 2000 living species including mammals, birds, reptiles, fish, amphibians and invertebrates that are under various International Union for Conservation of Nature (IUCN) categories of threat: critically endangered, endangered, vulnerable, near threatened. Some of the world's rarest animals like the Indus River dolphin and the snow leopard are local to Pakistan. Forest cover in Pakistan is just 2% of its total area, while Punjab's forest cover is 3.2%. Of the 80 mammal varieties found in Punjab, six are threatened as per IUCN's red list while of the 670 bird species, 21 have an IUCN status demanding conservation. The total area of high conservation priority in Punjab is approximately 63,695 km^2 (29.72%). There are 120,788 km2 (56.35%) with a moderate conservation value, and 29,870 km^2 (13.93%) with a low conservation priority. The protected area of Punjab constitutes only 1.03% of its total area. According to the Punjab Protection Preservation Conservation and Management Act, special permission will be required for development in wildlife sanctuaries and national parks.

Relevance to National Visions and Strategies

Pakistan Vision 2025
Promote long-term sustainability, conservation and protection of natural resources.

Punjab Growth Strategy 2018
Improving land resources and environment, by tackling water logging and improving soil quality, and mitigating the impact of climate change.

Biodiversity Action Plan of Pakistan, 2000
Mainstreaming of biodiversity into policies and plans for sustainable development

Convention on Biological Diversity (CBD)
Develop national strategies, plans or programmes, or adapt existing plans, to address the provisions of the convention; and to integrate biodiversity work into sectoral and cross-sectoral plans, programmes and policies

Relevance to Sustainable Development Goals

Goal 15
Life on Land

Target 15.1
By 2020, ensure conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and dry lands, in line with obligations under international agreements

Target 15.5
Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Forest area	Forest, Wildlife & Fisheries Department and the World Bank	Punjab's forest cover is 3.2%	Increase Punjab's forest cover to 6%	Increase Punjab's forest cover to 10%	Increase Punjab's forest cover to 15%
High value conservation areas transformation into protected areas	Forest, Wildlife & Fisheries Department, and IUCN	**National Parks 5** **Wildlife Sanctuary 36** **Game Reserves 23** Total land covered by Punjab's protected areas is 3,315,803 ha (16.14%) classified as above	The protected areas network will be expanded through at least two new areas so as to cover at least 18% of Punjab's terrestrial area	The protected areas network will be expanded through at least three new areas so as to cover at least 20% of Punjab's terrestrial area	The protected areas network will be expanded through at least four new areas so as to cover at least 22% of Punjab's terrestrial area

Key Actions Required

Development and implementation of Biodiversity Strategy and Action Plan with creation of a biodiversity inventory for Punjab.

Expand and improve the information base on biodiversity by appointing a provincial center to coordinate biodiversity identification and monitoring activities e.g. through introduction of a Forest Management Information System.

Promote factors contributing to biodiversity richness, and restoration of protected sites.

Regular monitoring by agencies responsible for conservation and sustainable use of natural resources.

Develop an effective legal framework for implementation of the Convention on Biological Diversity, along with a mechanism linking Punjab with federal entities such as the Ministry of Climate Change.

Expected Outcome

Improved conservation of existing protected areas and their habitat e.g. Murree (for snow leopards), Attock (Kala Chitta National Park)

High conservation value areas promoted, and new protected areas developed –such as Chakwal and Rawalpindi (for Urial), Khushab (for Indian Pangolin), Narowal (for Hog Deer), Cholistan (for Houbara Buster)

Key Stakeholders

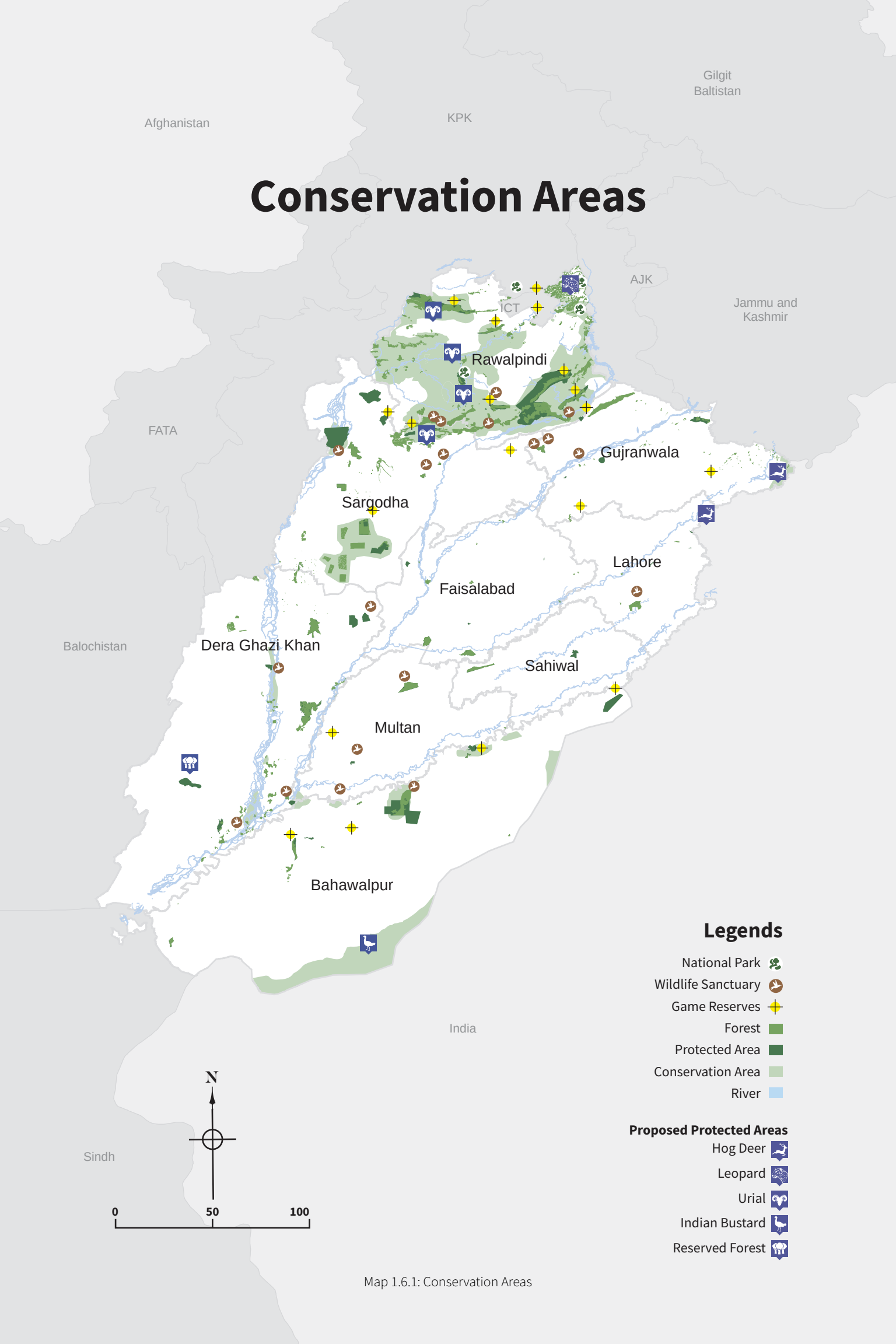
Federal
Ministry of Climate Change

Provincial
Environment Protection Department

Key Agency

Forest, Wildlife & Fisheries Department

Conservation Areas



Map 1.6.1: Conservation Areas

PS 6.2

Greening of Regions for Improving Livability

Policy Background

Clean environment including breathable air and safe water with regard to accessibility, availability and quality impacts the livability and public health of the community. A reduced amount of public space negatively impacts life in the cities. Concentration of Particulate Matter (PM) 2.5 is alarmingly high in Punjab, over the levels deemed acceptable by Punjab Environmental Quality Standards (PEQS) and six times higher than the WHO standard. Almost 68% of the polluting industries in Punjab lie within city boundaries causing serious externalities in the form of poor air and water quality and depleting water quantity. High levels of total dissolved solids, arsenic, nitrate and fluoride have contributed to poor water quality index in the region. Wastewater in Punjab is discharged untreated into water bodies due to lack of proper facilities for waste disposal, thereby polluting and making water unsuitable for drinking, industrial, agricultural and recreational consumption. According to World Cities Culture Forum, the lowest quartile of cities in terms of percentage of public green space includes Dubai (2%), Istanbul (2.2%), Mumbai (2.5%) and Shanghai (2.8%). Cities in Punjab are expected to match at least these values. Uncontrolled urbanization, haphazard industrialization, improper waste management, out-dated technologies and rapid increase in transportation have deteriorated environmental quality of Punjab. Livability of Punjab's population has to be improved through green growth.

Relevance to National Visions and Strategies

Pakistan Vision 2025
Development of an integrated energy development model and promote long-term sustainability, conservation and protection of natural resources

Punjab Growth Strategy 2018
Punjab's growth has to be private sector-led, employment-intensive and export-oriented while being regionally balanced and environmentally sound and improving land resources and environment, by tackling water logging and improving soil quality, and mitigating the impact of climate change

Smog Policy 2017
Identify reasons behind formation of dense smog and on the onset of winters each year and provide plan including measures for protection of school going children; minimizing road accidents & creating mass awareness on precautionary measures for citizens at large

Relevance to Sustainable Development Goals

Goal 6
Clean Water and Sanitation

Target 6.3
By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

Goal 9
Industry, Innovation and Infrastructure

Target 9.4
By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities

Goal 11
Sustainable Cities and Communities

Target 11.6
By 2030 reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Air Quality Index (AQI)	Environment Protection Department	PM2.5 levels are above PEQS in entire Punjab	Bring AQI to the value of 51-100 for 10 large cities	Bring AQI to the value of 0-50 for all cities	Bring AQI to the value of 0-30 for all cities
Water Quality Index (WQI)	Environment Protection Department	Poor Water Quality index shows that poor quality is affecting 16 million people	Bring WQI to the value of 26-50 for 10 large cities	Bring WQI to the value of 26-50 for all cities	Bring WQI to the value of 0-25 for all cities
Urban forest	Forest, Wildlife & Fisheries Department and Local Governments	To be determined	Increase urban forest cover by 6%	Increase urban forest cover by 10%	Increase urban forest cover by 15%
PEQS compliant urban industries	Environment Protection Department	To be determined	20% of the urban industries to comply to PEQS	40% of the urban industries to comply to PEQS	70% of the urban industries to comply to PEQS
Health and safety related incidents and accidents	International Labor organization Labour & Human Resource Department	To be determined	Development and notification of Environment Health and Safety (EHS) Act, 20% reduction in EHS related incidents	40% reduction in EHS related incidents	70% reduction in EHS related incidents
Percentage of public green space	World Cities Culture Forum	To be determined	Increase percentage of public green space to 3% in 5 large cities of Punjab	Increase percentage of public green space to 4% in 10 large cities of Punjab	Increase percentage of public green space to 5% in 25 large cities of Punjab

Key Actions Required

Restructure Environment Protection Department and revise the Environment Protection Act for improved environmental governance.

Regularly monitor industries (especially those within cities) to comply with PEQS.

Digitally map sources of pollution such as industrial zones and demarcate high-risk zones based on pollution loads and peak pollution timings of the year.

Implement intervention measures in identified priority areas.

Prepare and implement plantation projects with special focus on greening cities.

Install air quality monitor to verify air quality baseline.

Develop and implement Health, Safety and Environmental Policy in large and medium size industries.

Introduce Best Available Techniques (BAT) and Market Based Instruments (MBIs) for controlling industrial pollution.

Approve new industrial estates subject to the development of Combined Effluent Treatment Plants (CETP) and bind current industrial estates to develop within their boundaries.

Expected Outcome

Increase compliance of PEQS for air and water quality by greening industries in four major concentrations: Faisalabad, the Golden Triangle, Lahore and Multan

Improved aesthetic value, environmental condition and public health of the province through provision of adequate green spaces and afforestation

Reduced industrial and municipal pollution loads into rivers and other tributaries and thus, improve quality and aesthetic value of water bodies

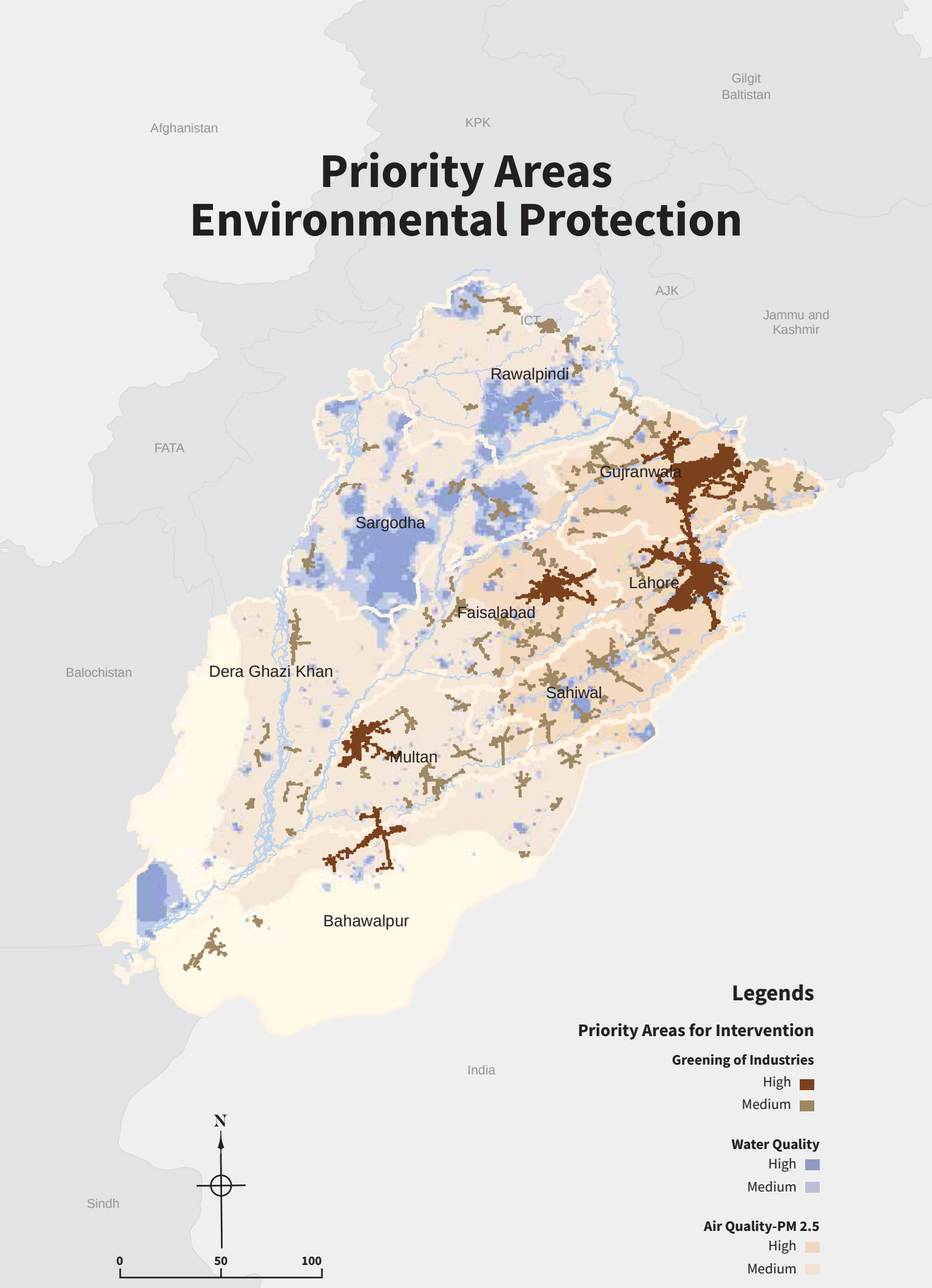
Key Stakeholders

Provincial
Industries, Commerce & Investment Department,
Parks & Horticulture Authorities,
Water & Sanitation Agencies,
Local Governments and
Development Authorities

Key Agency

Environmental Protection Department

Priority Areas Environmental Protection



Map 1.6.2: Priority Areas Environmental Protection

PS 6.3

Align Development to Climate Change Resilience

Policy Background

Pakistan lies in the high-risk extreme category according to the Climate Change Vulnerability Index. The negative effect of floods alone is estimated to be USD 6 billion/year. Road traffic remains a main source of fine air pollutant (Particulate Matter - PM2.5 and Carbon Dioxide -CO) in Pakistan. Pakistan's urban air pollution is among the highest in South Asia and the resulting damage has caused high rate of mortality and morbidity in the region. Such variability has led to considerable increase in the frequency and intensity of extreme weather events, erratic monsoon rain and floods, posing a threat to water, food, energy and even national security. With increasing global focus on actions to counter climate change, there is a dire need to address climate change in planning and implementation of development projects across Punjab.

Relevance to National Visions and Strategies

Pakistan Vision 2025
Design water, food and energy security policies and plans of the country with specific reference to the profound challenges posed by climate change and explicit recognition of the relevant risks associated economic and social costs and implementation of well-defined mitigation and adaptation strategies/measures and protecting natural resources and addressing climate change.

National Climate Change Policy
Mainstreaming of climate change into economically and socially vulnerable sectors of the economy and to steer Pakistan towards climate resilient development.

Punjab Growth Strategy 2018
Improving land resources and environment and mitigating the impact of Climate Change

Smog Policy 2017
Identify reasons behind formation of dense smog and on the onset of winters each year and provide plan including measures for protection of school going children; minimizing road accidents and creating mass awareness on precautionary measures for citizens at large

United Nations Framework Convention on Climate Change (UNFCCC)
Pakistan's Nationally Determined Contribution (NDC) to the Paris Agreement is 20% reduction of 2030 projected Green House Gas (GHG) emissions

Relevance to Sustainable Development Goals

Goal 13
Climate Action

Targets 13.1
Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

Target 13.2
Integrate climate change measures into policies, strategies and planning

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
GHG emissions	Intergovernmental Panel on Climate Change (IPCC)	Pakistan ranked seventh amongst the most adversely affected countries by Climate Change	18% reduction in the provincial GHG emissions	25% reduction in the provincial GHG emissions	35% reduction in the provincial GHG emissions
Urban heat island	Environment Protection Department and Transport Department	60 to 70% of the urban air quality degradation is related to vehicular emissions in Pakistan	Reduce temperature difference in affected areas by two degree (identified as High priority areas)	Reduce temperature difference in affected areas by one degree (identified as Medium priority areas)	Reduce temperature difference in affected areas by one degrees (identified as low priority areas)
Urban forest	Forest, Wildlife & Fisheries Department and Local Governments	To be determined	Increase urban forest cover by 6%	Increase urban forest cover by 10%	Increase urban forest cover by 15%
Percent Urban population with access to intra-city public transport (also listed in PS 3.6)	Transportation Department Punjab and Land Scan population database	75	>82	>88	>95

Key Actions Required

Improve environmental governance through development of a Climate Change Act and Climate Change Resilient Infrastructure Codes and Rules.

Develop an active GHG inventory at provincial level starting with the ten largest cities.

Introduce Best Available Techniques (BAT) in the system to obtain environmental permits for industries.

Develop future climate change scenarios with quantification and mapping of risks to urban service delivery sectors (water storage, transport, health, solid waste, energy systems) with the help of impact assessment models, identification of adaptation strategies to enhance resilience of the climate sensitive development projects' components at design and construction phases.

Afforestation to help more forests to act as carbon sinks.

Expected Outcome

Reduced impact of climate change in large and intermediate cities for 2047 through climate resilient infrastructure and greening

Reduced impact of urban heat island and smog in the ten largest and intermediate cities by 2047

Key Stakeholders

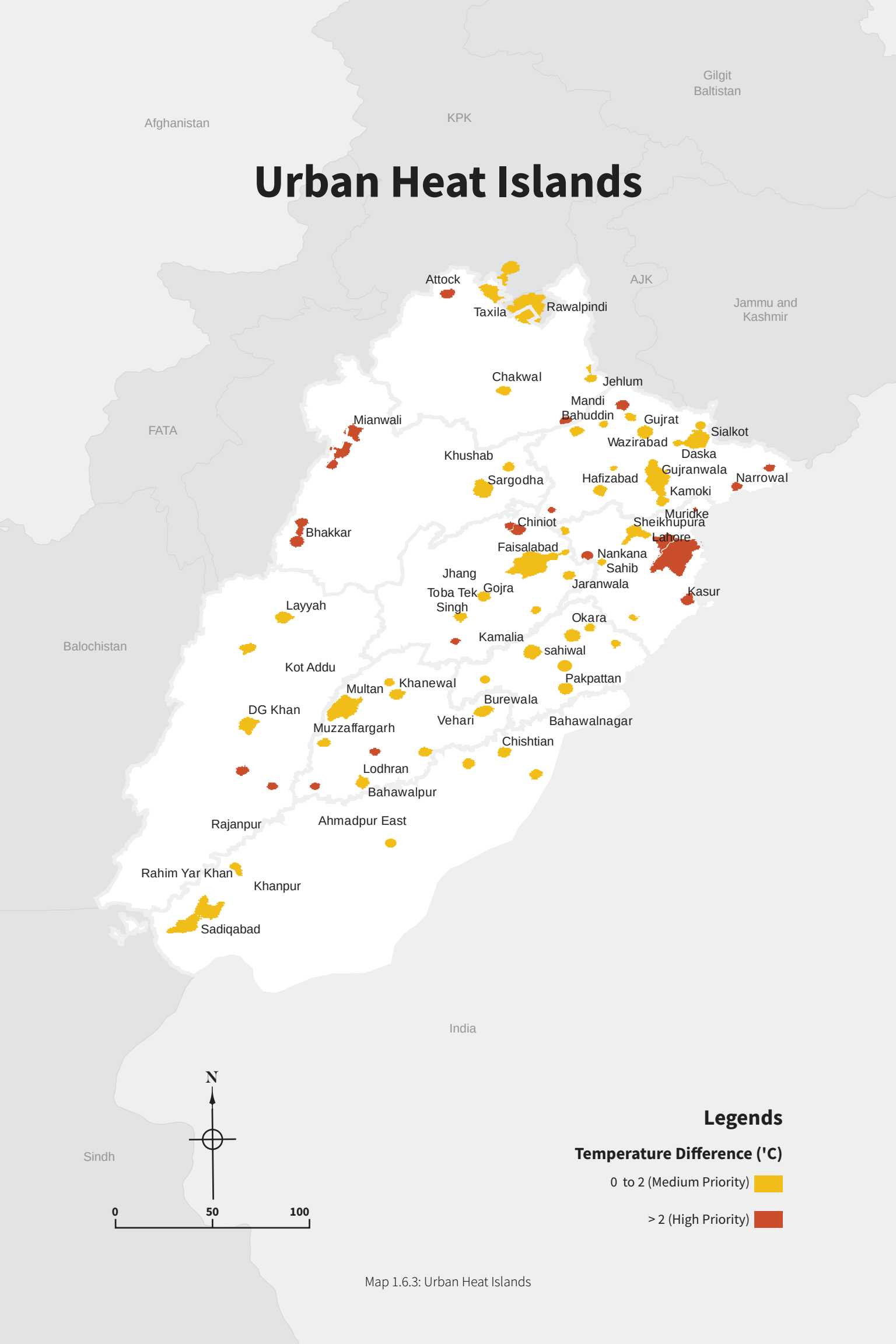
Federal
Ministry of Climate Change

Provincial
Forest, Wildlife & Fisheries Department

Key Agency

Environmental Protection Department

Urban Heat Islands



Map 1.6.3: Urban Heat Islands

SO-7

Implementation of an integrated spatial planning system

PS 7.1: Implement geographically disaggregated data driven decision support system and tools

PS 7.2: Institutional capacity building to plan and implement Punjab Spatial Strategy

PS 7.3: Implement policies and align institutions through integrated development planning frameworks

07 Strategic Objective

Implementation of integrated spatial planning system

An essential component of successful implementation of government reform is strong governance. Overlapping mandates of multiple institutions in the urban sector, disintegrated development efforts and lack of spatial focus in planning systems have aggravated policy ineffectiveness in Punjab. When institutions operate in silos, it creates a disconnect between individual schemes and the larger development vision. The key aim of the Punjab Spatial Strategy (PSS) is to enhance sustainable development in Punjab by 2047 through targeted policy actions, reforms, and mechanisms by ensuring an integrated mechanism for planning via an evidence-based spatial lens. Implementation of this system will require development of a strong foundation in spatial data and analysis, capacity building of departments and agencies, and ensure vertical and horizontal integration of planning systems.

Lack of updated spatial data and evidence-based decision-making remains a barrier to effective policy solutions. Using new technologies and strategies for geospatial data, Punjab can exploit alternative information sources such as acquiring remotely sensed data in addition to using conventional survey technology. The aim is not only to build foundations of geospatial data but also maintain a database for use in policymaking. Standardization will be a prerequisite for developing and sharing the geospatial data, information, and services efficiently. Standards for interoperability of spatial data will also be a priority. Organizations - local, foreign, public and private - may also require some of this spatial data for decision-making, leading to direct investments in priority areas of the government.

Due to a lack of appropriate human resources with technological understanding, strategies for capacity building remain a central part of strategy's framework. Existing technical and institutional gaps in the governance system can only be addressed via capacity building and training programs for public officials. The training needs can be identified by the departments in need of such services, in addition to specifying thematic areas under which a specialized focused is required. Capacity building of the Bureau of Statistics at the provincial and local level, as well as establishment of city level support service offices, can ensure efficient data collection and dissemination. Additional institutions such as an economic development department in cities, and regulatory bodies to manage these institutions, can facilitate cities to emerge as efficient drivers of the economy.

Another significant issue remains the lack of technical knowledge and spatial planning at the regional and city levels. Moreover, overlapping mandates of multiple institutions accentuate inefficiency and delays in service provision. Spatial data provision, regional spatial planning, and integrated planning system from provincial and local government bodies will be the first steps for reducing such inefficiencies. Effective governance also requires both horizontal and vertical integration at all levels. The PSS proposes policies, which through support of federal and provincial level institutions can create a conducive environment for sustainable economic development in Punjab.

PS 7.1

Implement Geographically Disaggregated Data-Driven Decision Support Systems & Tools

Policy Background

Many advanced and developing countries are engaged in spatial data development that involves the formulation of geospatial services to support policymaking and public service delivery and ultimately economic growth, improved governance, and environmental sustainability. Public sector investment decisions across Punjab, especially in growth-related infrastructure projects, have been implemented without spatial sensitivity resulting in imbalanced and inequitable development. Such sub-optimal selection of infrastructure projects affects the outcomes in many ways. The government policy of developing an industrial estate in every district coupled with absence of a location selection mechanism has cost the exchequer significantly while impacts are yet to translate into any kind of industrial development. Similarly, agriculture-related infrastructure is not always optimally positioned and lacks integration with existing infrastructure, leading to wasted potential of specific areas.

Relevance to National Visions and Strategies

Pakistan Vision 2025
Pillar II: Informed decision-making

Pakistan Growth Strategy 2018
Identification of areas to be earmarked as Special Economic Zones

Textiles Policy 2014-19
Clusters would be systematically developed and existing clusters will be strengthened

Relevance to Sustainable Development Goals

Goal 10
Reduce inequalities

Target 10.1
Ensure equal opportunity and reduced inequalities of income

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Annual Development Plans (ADPs) are aligned with PSS to support integrated development	Planning and Development Board	N/A	90%	95%	100%
Data-driven Spatial Decision Support System	Technical House (The Urban Unit)	Tools for industries, roads, water supply and sanitation, health and schools	All major data sets are in geographically disaggregated forms to support policy decisions	Developed and widely used for decision making in all key sectors	AI supported decision making

Key Actions Required

Develop and implement enabling instruments and guiding frameworks aligned with the Punjab Spatial Strategy to ensure evidence-based decision-making.

Prioritize and align public sector investments based on localized competitiveness, needs and priorities with set principals and criteria using ICT.

Establish a central repository of data with a special focus on geospatial data to support policymaking.

Enact necessary spatial data policies through legal instruments to ensure collection and usage of standardized spatial data for policies at provincial, regional and local levels.

Develop a provincial data eco-system that integrates national statistical data and also covers departments, agencies and the private sector.

Introduce a district and city level GDP measurement mechanism starting with annual monitoring.

Expected Outcome

With informed decision-making, the strategy will offer a framework to support and promote investments in highly feasible projects with spatial and regional linkages. All departments and agencies will be supported and trained to align their development initiatives and projects for a spatially integrated, equitable and prosperous Punjab

Key Stakeholders

Federal
Ministry of Planning, Development and Reforms and Pakistan Bureau of Statistics

Provincial
All other Government Departments and Agencies
and the Urban Unit as Technical Home of PSS

Key Agency

Planning and Development Board

Data-Driven Spatial Decision Support System

Theoretical Framework
Deploy a fully integrated system displaying all data and information covering socio-economic fabrics of Punjab on a single platform which offer evidence-driven spatial planning tools.

Multi-data Archives
A centralized data warehouse enlisting geographical datasets

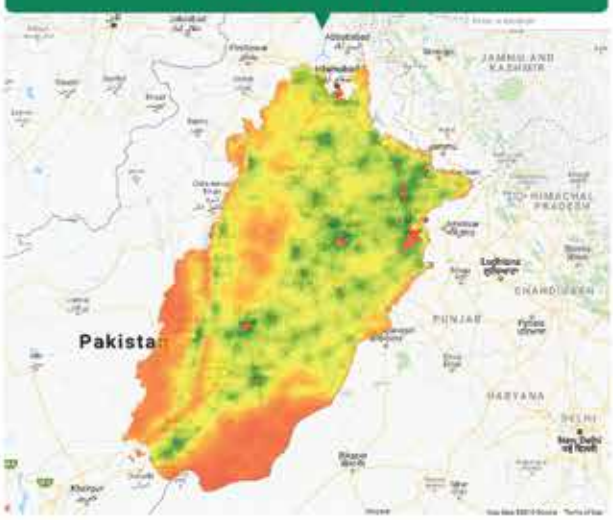
Analytical Framework

Integration into GIS data portal
Geographical data will be transformed into GIS layers for spatial analysis

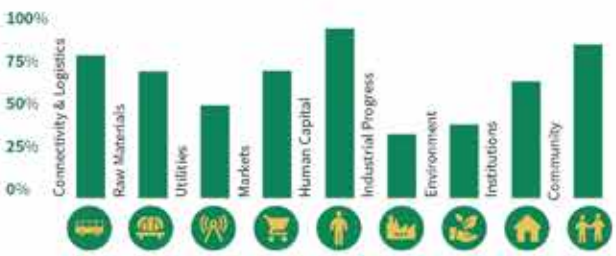
Selection Criteria
Suitability of the site is evaluated against the specific requirements

Decision-Makers/Users
Spatial decision support tool available to all stakeholders to align public sector investments

SITE SUITABILITY



DISTRICT RANKING ACROSS INDICATORS



TOOLS FOR SITE ALLIGNMENT TO SUPPORT POLICY & DECISION MAKING

SITE READINESS GAUGES

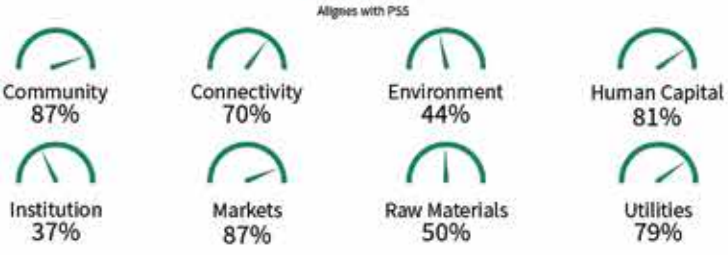


Figure 1.7.1: Data Driven Spatial Decision Support System

PS 7.2

Institutional Capacity Building to Plan and Implement Punjab Spatial Strategy

Policy Background

Capacity building is integral to building strong and effective institutions. At present, government departments are not fully equipped with spatial data and to undertake evidence-based decision-making owing to data constraints and lack of analytical assessment frameworks and tools. In order to successfully integrate the Punjab Spatial Strategy (PSS) into department plans, there is a need to enhance government's institutional capacity. Such capacity enhancement will be required at all levels-provincial, sectoral, regional and local-including relevant departments and regional and local stakeholders. This process will equip the government to utilize spatial data and tools for projects in accordance with strategic objectives and policy views of PSS. Existing resources within Punjab can utilize this infrastructure to achieve the targets set under PSS. Institutions like Al-Jazari Water and Sanitation Academy (AJWA), Management & Professional Development Department (MPDD), Punjab Local Government Academy (PLGA) in Lala Musa can be leveraged to make these important interventions through curriculum enrichment, training design and implementation of training programs.

Relevance to National Visions and Strategies

Pakistan Vision 2025
Focuses on technical and vocational training of public and private officials. Capacity building programs include but not limited to areas of alternative service delivery, project management, public private partnership, tourism, and entrepreneurship

Punjab Growth Strategy 2018
Focuses on demand driven good quality skills training opportunities

Relevance to Sustainable Development Goals

Goal 17
Partnership for the Goals

Target 17.9
Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the SDGs, including through north-south, south-south and triangular cooperation

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Deployment of Curriculum	Technical Home of PSS (Urban Unit)	Nil	Provincial, Department and Regional level	Local Governments	Private Sector Stakeholders
Trained Human Resources	MPDD, AJWA, PLGA	Nil	+3,000 officials trained	+6,000 officials trained	+10,000 officials trained

Key Actions Required

Renew curriculum and improve areas of service delivery, PSS checklists, environmental assessment, spatial planning, GIS, governance, monitoring, and impact assessment.

Establish training programs in agriculture, industries, urban development, municipal services, and environment i.e. the core areas of reform under the PSS.

Undertake capacity building for training of trainers and public servants in collaboration with international partners.

Notify AJWA and PLGA as training centers for capacity building of municipal services and establish a renewed rewards system built into performance appraisal.

Establish MPDD and AJWA in South Punjab and a Solid Waste Management (SWM) training center in Sahiwal.

Expected Outcome

Developed capacities in relation to PSS policies at the provincial, regional and local levels

Development of Spatial Strategy Nodes in key departments, fully trained to support them

Improved capacity of departments to result in successful implementation and institutionalization of PSS

Key Stakeholders

Provincial
Al-Jazari Water & Sanitation Academy,
Management & Professional Development Department,
Punjab Local Government Academy,
and the Urban Unit

Key Agency

Planning & Development Board

Capacity Building Framework

Figure 1.7.2: Capacity Building Framework

PS 7.3

Implement Policies and Align Institutions Through Integrated Development Planning Frameworks

Policy Background

At present there is an absence of spatial and evidence-based planning in Punjab. Different departments of the provincial government prepare development schemes to address sectoral needs identified by various stakeholders. After assessment and due review, these schemes inform the Annual Development Plans. In addition, the federal government also undertakes development projects in different sectors in coordination with relevant provincial departments. At the local level, municipal institutions prepare and launch small-scale schemes and projects within their jurisdictions according to local needs and requirements. All these initiatives, though essential and important, respond to sectoral demands with limited attention to the need for integration across sectors to attain maximum spatial benefit and impact. It is essential therefore to integrate these sectoral development initiatives with the urban and regional planning process via a spatial lens. Assessment of environmental impacts in different territories, calculation of demographic variations in the implementation of development projects, prioritization of land utilization for different competing demands, examining the possibilities of migration of under privileged communities and value addition and economic gains from sectoral investments are some key elements that should be addressed through integrated planning. Possible intervention instruments include regional and urban coordination frameworks.

Relevance to National Visions and Strategies

Pakistan Vision 2025
Institutional reform and modernization of public sector

Punjab Growth Strategy 2018
Propose institutional reforms and capacity building

Relevance to Sustainable Development Goals

Goal 17
Partnership for goals

Target 17.14
Enhance policy coherence for sustainable development

Goal 11
Sustainable Cities and Communities

Target 11.a
Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning

Expected Targets

Indicator	Details & Source	Baseline	Target 2027	Target 2037	Target 2047
Integrated Development Planning	Nil	Punjab Spatial Strategy & Regional Strategies by 2020	Development of district plans and City master plan of 50 cities	Development of town plans of all cities in Punjab	Local Development planning till Union Council (UC) level

Key Actions Required

Adopt a Local Development Framework by local governments for spatial planning.

Form Regional Planning Committees to develop and coordinate regional and local plans with the provincial strategy.

Add a Directorate General Strategic Support Unit under Planning and Development Board to oversee inter-regional coordination and give effect to spatial policies at the provincial and regional level.

Develop Spatial Strategy Nodes at key departments and regions under PSS, responsible for providing technical assistance and support in development of spatial plans and evidence-based interventions in the form of projects.

Undertake capacity building of departments and local governments for systemized data collection and survey activities to ensure timely provision of data for development planning.

Develop information systems for managing, consolidating and sharing of data for the region.

Expected Outcome

Better directed and sustained public and private investments in areas of comparative and competitive advantage, under a regional vision and marketing plan

Improved coordination of sectoral investments ensured through accurate assessment of its spatial dimensions

Key Stakeholders

Provincial
Housing, Urban Development & Public Health Engineering Department,
Local Governments,
Development Authorities and
Local Government & Community Development Department

Key Agency

Planning & Development Board

Integration of Regional & Local Development Frameworks

Planning Hierarchy

Province
Provides the direction for development and legislative support

Regions (Divisions)
Form the economic units based on a regional vision & development plans

Districts
Form the basic administrative tier. Focus on resource strategies & administration as per the regional strategy

Cities
Metopolitan and Municipal Corporations oversee land use & development in collaboration with development authorities

Tehsils/Towns
Headed by either Municipal Corporations or Municipal Committees

Union Councils
Lowest tier of local government responsible for safeguarding citizen needs

Regional Development Framework

Regional tiers allow for strategic planning & coordination mechanisms for local government for long term coordinated development under a unified vision.

Punjab
Rawalpindi - Sargodha - Multan - D.G. Khan
Bahawalpur - Gujranwala - Faisalabad
Sahiwal - Lahore

Local Development Framework

LDFs lay down which documents & plans are to be made by who and when for integrated city development. Focus remains on aligning local priorities with the provincial and regional vision. (city, rural areas & towns)

Spatial planning, economic planning, transport, zoning, policies, mega projects, data management

Town planning, land-use planning, regulations, enforcement, surveys, inter-departmental coordination

Problem identification, community engagement, local oversight, coordination for implementation

Planning Instrument

Core Strategy

Regional Spatial Development Plans

District Development Plans

Master Plans

Town Plans

Figure 1.7.3: Integration of Regional & Local Development Frameworks

02

IMPLEMENTATION FRAMEWORK FOR INSTITUTIONAL & LEGAL REFORM

2.1 Overview

The Punjab Spatial Strategy (PSS) with its policies and planning landscape will have a lasting spatial impact on policymaking, planning and development interventions by both public and private sector in Punjab.

Therefore, implementation and institutionalization of PSS requires strong and sustainable institutional anchorage through a sound regulatory framework. In order to achieve the overarching mandate of provincial and regional spatial planning in Punjab, provincial legislation in the form of a Punjab Spatial Planning Act passed by the Provincial Assembly, will give effect to both provincial and regional spatial strategies, frameworks, policies, and plans.

The Punjab Spatial Planning Act will enact a governance structure comprising of a Spatial Planning Council of Punjab (SPCP – the Council) at the approval level and a Spatial Planning Authority of Punjab (SPAP – the Authority) for policy, regulatory and execution purposes. The role of SPAP will be paramount in taking forward spatial planning along with its implementation and regulatory aspects at the provincial and regional level. It will be guided by a high-level approving forum, which will be the SPCP.

The following overarching institutional design and arrangement is also proposed for the Policy:

Figure 2.1.1: Proposed Institutional Arrangement for Spatial Planning

The SPAP will formulate and execute cross-cutting policies for spatial planning, zoning and structure plans for Punjab and its regions, including, but not limited to, the following:

- Crop zones for improved productivity & cropping patterns
- Surface and ground water management zones for water conservation, management and support systems, under the Water Regulatory Authority
- Disaster prone areas and sensitive areas as negative zones especially in relation to infrastructure
- Connectivity, freight and transport corridors at provincial, inter-district and intra-district levels
- Negative areas where energy generation activities are to be forbidden
- Conservation, protected areas, national parks and/or biological zones for conservation and management of environment for improved environmental governance
- System of cities, based on economic potential as mega, large and intermediate, for development interventions and support systems
- Suitable areas for industrial estate development and industrial corridors, with support mechanisms including technical and vocational training
- Priority and negative areas for animal breeding, dairy, and poultry farming
- Negative area zoning for mining activities
- Tourism zones and circuits for development and interventions
- Urban and peri-urban forest policies
- Taxation and fiscal measures zones and areas to support spatial planning interventions
- Capacity building in areas relevant to spatial planning
- Regional land use planning
- Others

2.2 Spatial Planning Council Punjab

The Council shall be a high-level approval forum in Punjab with a key objective to provide advisory support, and guidance and propose policy for spatial and regional planning in Punjab. It shall also act as a high-level body for coordination and liaison with the Federal Government and other Provincial Governments.

Proposed membership of the said Council is as follows, with the private/elected members to be notified by the Government, and the Chair having authority to co-opt further members:

i. Chief Minister Punjab (Chair)
ii. Minister Planning (Vice Chair)
iii. Minister Finance
iv. Minister Law
v. Minister Agriculture
vi.Minister Communications & Works
vii. Minister Environment
viii. Minister Housing
ix. Minister Industries
x. Minister Irrigation
xi. Minister Local Government
xii. Minister Tourism
xiii. Chief Secretary Punjab
xiv. Chairman P&D Board
xv. Senior Member, BOR
xvi. Inspector General Police
xvii. Finance Secretary
xviii. Director General SPAP (Secretary)
xix. CEO Urban Unit
xx. Two Spatial Planning Experts, as may be prescribed by the Chair
xxi. Three Members of the Provincial Assembly Punjab
xxii. Three Members of NGOs/ Civil Society
xxiii. Two Research Representatives from Academia or Research Institutes

In case of busy schedule of the Chair, or absence of the Chair for any reasons, the Vice Chair shall periodically hold the meetings and submit approved minutes to the Chair. The Council shall perform the following functions, including but not limited to:

- Review the strategies, frameworks policies and plans pertaining to provincial, regional and local spatial planning

- Review and coordinate implementation of the measures taken under Punjab Spatial Strategy and periodic updating of the same

- Ensure implementation of legislation, strategies, frameworks, policies, plans and guidelines for provincial, regional and local spatial planning

- Planning and coordination for spatial planning activities among concerned organizations as well as provincial departments to achieve objectives of organized spatial and economic development

- Create an enabling environment that shall promote broader multi-stakeholder participation and integrated spatial planning with due consideration for sustainable balanced and equitable developments

- Review, in consultation with concerned organizations, the progress on spatial planning

In case the Council fails to meet over a six-month period, the Authority Punjab shall be allowed to undertake any or all of the above functions and seek post facto approval whenever the Council meets next.

2.3 Spatial Planning Authority Punjab

There shall be a Spatial Planning Authority Punjab to regulate and supervise spatial planning in Punjab and its regions. Its key objective will be to provide policy execution, rule making and regulation for spatial planning in Punjab.

The Authority shall comprise of the following:

i. Chairman P&D (Chair)
ii. Secretary Finance Department
iii. Secretary FW&F Department
iv. Secretary Agriculture Department
v. Secretary C&W Department
vi. Secretary Environment Protection Department
vii. Secretary HUD&PHE Department
viii. Secretary IC&I Department
ix. Secretary Irrigation Department
x. Secretary LG&CD Department
xi. Secretary YASAT Department
xii. Secretary Food Department
xiii. Secretary L&DD Department
xiv. Secretary Cooperatives Department
xv. Secretary Labour & HR Department
xvi. Representative of Senior Member, BOR
xvii. Additional IG Police (Operations)
xviii. Director General SPAP (Secretary)
xix. Director General Provincial Disaster Management Authority
xx. Director General Lahore Development Authority
xxi. Director General Parks and Horticulture Authority Lahore
xxii. Director General Civil Defence
xxiii. Director General Punjab Emergency Services (Rescue 1122)
xxiv. Director General Punjab Social Protection Authority
xxv. CEO Infrastructure Development Authority of Punjab
xxvi. CEO Urban Unit
xxvii. Representatives of the Federal Government institutions, co-opted by the Chair
xxviii. Any other person co-opted by the Chair

For implementing this policy and any consequent legislation on it under this policy or under the Punjab Spatial Strategy, the Authority shall have the following functions:

- Allowing, declaring and restricting the structure or layout plan of certain areas under spatial and regional planning, keeping in view the principles of sustainability and economic development

- Technical advice, oversight and consultancies in the field of Urban Planning & Architecture, Regional Planning, Institutional Development, Capacity Building, Environmental and Social Safeguards, Urban Economics, Municipal Finance, Solid Waste Management, Industrial and Agricultural Planning, Water & Sanitation, Tourism Development, Urban Transport & Connectivity, GIS and Remote Sensing and Capacity Building

- Plan, promote, organize, re-organize, implement and execute programs (as executing agency) either as a Project Management Unit or otherwise in the fields of Governance, Urban Planning and Development, Regional Planning, Architecture and Design, Environmental Management and Governance, Solid Waste Management, Water and Sanitation, Survey and Census, Taxation Systems, Asset Management, and GIS Development

- Prepare annual budget of the Authority

- Case studies, surveys, consultancies, experiments or technical researches to be made and contribute towards the cost of any such studies, surveys, consultancies, experiments or technical researches made by any other agency for furtherance of objectives of this legislation

- Lay down policies and guidelines on spatial planning or any other related aspect

- Approve the strategies, plans, policies, frameworks and guidelines on spatial planning and ensure alignments of the plans prepared by the departments of the provincial government

- Direct any provincial department or private entity to take any actions pertaining to the implementation of the strategies, frameworks, polices, plans, or of rules thereof, related to spatial planning

- Lay down guidelines on spatial planning to be followed by the provincial departments
- Approve any regional, zonal or local strategies, frameworks, plans and policies related to spatial planning

- Make policies or rules for utilization of the Fund maintained by the DG

- Act as the implementing, executing, coordinating and monitory body for spatial planning in Punjab, as executing agency

- Promote general education and awareness in the matters related to spatial planning

- Make necessary appointments or to borrow human resources from the Government

- Maintain its own Fund known as Spatial Planning & Development Fund and its accounts in prescribed manner

- Ensure development and maintenance of GIS based spatial data infrastructure and decision support systems/tools and take all necessary measures to give effect to the same

- Prepare projects and schemes for construction, development, rehabilitation, improvement, operations, maintenance, execution, widening, planning, designing and monitoring in relation to spatial planning and development in order to achieve objectives of the Authority

- Promote, regulate and guide provincial and regional spatial planning and local master planning through development of necessary frameworks, procedures, policies, standards and guidelines including but not limited to resilience, SMART, sustainable infrastructure, monitoring and evaluation procedures, green development, urban forest, conservation principles, and others

The Government may, on the request of the Authority, transfer the services of an employee to the Authority on the terms and conditions, which shall not be less favorable than those admissible to him immediately before his transfer to the Authority. An employee transferred so shall continue to be the employee of the Government, liable to be transferred back to the Government unless, with the consent of the employee and approval of the, Government, he is absorbed in the service of the Authority in such manner and on such terms and conditions as may be prescribed, and until so prescribed as the Authority may determine.

2.3.1

Director General of the Authority

The post of Director General of the Authority shall be created in Directorate General SPAP (Implementation & Regulation). Director General will be the administrative head of the Authority and shall be appointed by Government on such terms and conditions as it may determine.

Director General shall be responsible for the functions, and additional regulatory functions may be assigned to the Director General through the proposed Punjab Spatial Planning Act of the Provincial Assembly. He/She shall inter alia perform following functions, and assume all the responsibilities and powers:

- Implement any or all of the functions assigned to the Authority
- Exercise such powers and perform such functions as the Authority may assign or delegate
- Arrange for, and oversee, provision of funds for the spatial planning, and to maintain the Fund's bank account (in a non-lapsable assignment account)
- Provide such other support to other departments or institutions, whether they be public or private, to implement spatial strategy, policies, plans and guidelines
- Formulate strategies, frameworks, policies, plans and guidelines for spatial planning at provincial level
- Lay down guidelines for preparation of plans by different departments and regions
- Provide necessary technical assistance to the departments for aligning their strategies and plans according to the spatial strategy
- Monitor the execution of plans of the departments and private entities, and to direct them in case of non-compliance or for improving their efficiency
- Take other measures to prevent any developments contrary to spatial strategy or plans, or for implementation of the strategy, policies, frameworks and plans and preparedness and capacity building for enforcing it, as it considered necessary
- Direct any provincial department or private entity to take any action pertaining to the implementation of the strategy, frameworks, plans, guidelines or of rules thereof, related to spatial planning
- Give directions to any provincial department or private institute regarding actions to be taken for fulfillment of the policy objectives, or for responding to any violations of the same
- Coordinate between all departments and private entities for any measure pertaining to spatial planning
- Requisition the services of any person from other departments, for any specific purpose or for general assistance.
- Perform such other functions as the Authority may assign to it

2.3.2

Regional Planning Committees

The said Authority may designate Regional Planning Committees (at Division level) under the chairmanship of the relevant Commissioner, with Deputy Commissioners, head of relevant Development Authority and key local government representatives as its members.

The said Committees shall undertake planning and supervise enforcement of spatial strategy, framework, plan and other key policy documents at a regional level, to be approved by the said Authority. It shall also ensure alignment of the public sector development program with the PSS. It shall further ensure alignment of private sector developments with the PSS and report the same to Authority for enforcement actions.

2.3.3

Spatial Planning and Development Fund

There shall be a Fund known as the Spatial Planning and Development Fund to be administered and controlled by the Authority. The Authority shall meet all its expenses from this Fund and carry out activities to achieve objectives of Punjab Spatial Planning Act.

The Fund shall consist of:

- Funds provided by the Provincial Government;
- Loans or grants by the Provincial or Federal Government;
- Loans or funds obtained by the Authority;
- Grants and loans negotiated and raised, or otherwise obtained, by the Authority;
- Income from toll, fee, charges, rentals and fines collected by the Authority and from the lease or sale of property;
- Funds raised by issuance of bonds or securities with the approval of the Provincial Government; and
- Any other sums received by the Authority.

The Provincial Government shall, in its annual budget, make provision for funds for the purpose of carrying out key activities, schemes and programs set out in spatial strategy, plans, framework and policies.

The Funds shall be kept in one or more accounts maintained by the Authority, in local or foreign currency, in a scheduled bank in Pakistan and shall be operated in accordance with the directions of the Authority.

03

IMPLEMENTATION FRAMEWORK FOR DEVELOPMENT PLANNING

3.1 Overview

The Punjab Spatial Strategy (PSS) will be a long-term spatial planning and development framework for the province of Punjab. It is designed to ensure integrated spatial planning that aims to structurally transform Punjab into an economically developed region.

The PSS sets out an ambitious agenda for shaping the contours of development in Punjab - over the next three decades – to be based on integrated and coordinated spatial planning across multiple sectors of the economy. Structures and mechanisms will be put in place to ensure that the PSS influences the spatial aspects of public sector planning, policies and programs, including decisions on prioritizing future investment. Implementation of the PSS requires a concrete framework that will need to be integrated within the existing provincial development and planning procedures of the Government of Punjab.

The PSS will be implemented by the Planning and Development (P&D) Board with support of

- Government Departments
- Development Authorities and Agencies involved with physical or social infrastructure provision, such as the Lahore Development Authority (LDA) and Traffic Engineering and Planning Agency (TEPA).
- Local Governments such as Metropolitan and Municipal Corporations, Municipal Committees and other entities performing infrastructure-related municipal functions.
- Private sector stakeholders associated with the provision of development-related interventions.

The implementation process will have the following key components:

- **An Approval Mechanism** to provide a systematic approach for endorsing the PSS at the provincial level.
- **An Implementation Framework** to provide a step-by-step guiding roadmap to align the existing functions of the Government of Punjab through a proposed spatial data-oriented setting for development planning.
- **A Monitoring and Evaluation Framework** to ensure tracking of progress via periodic reporting and monitoring actions.
- **A Review Mechanism** to ensure incorporation of necessary amendments in the PSS to achieve long-term goals in Punjab.

The institutional design proposed for implementation of the PSS entails the following:

An Institutional Home: The P&D Board will act as the Institutional Home for the PSS. A unified supporting entity within the P&D Board will be needed to integrate the activities of various stakeholders. For this purpose, a Strategic Support Unit (SSU) will be created as an SNE and placed under the P&D Board. It will be headed by a Head of SSU, who will also be a member of the Provincial Development Working Party (PDWP), along with ancillary/support staff. The Institutional Home will be responsible for:

1. Ensuring safe custody and management of legal requirements for notification, maintenance, dissemination, distribution, implementation and revision of the PSS.

2. Ensuring that PC-Is submitted by the departments are aligned with the PSS, and accordingly guiding PDWP and departments.

3. Undertaking capacity building of Line Departments and Development Authorities.

An Implementation Home: Administrative Departments will form the Implementation Home, responsible for providing guidance and support to individual Local Governments and all administrative and attached Departments and Authorities covering all aspects of projects and plans in accordance with the PSS requirements.

An Operational Home: Line Departments, Development Authorities and Local Government bodies will form the Operational Home responsible for preparing, implementing and managing the process at the Local Government and field level.

A Technical Home: The Urban Unit will be the Technical Home responsible for providing technical assistance to the Institutional, Implementation and Operational Homes.

Spatial Strategy Nodes: Few key departments already have technical or planning wings. Support mechanisms in the form of **Spatial Strategy Nodes** can be set up to ensure alignment of sector strategies and development plans with the PSS.

3.2 Approval Mechanism

The PSS has been prepared in consultation with Line Departments and other key stakeholders. It will be validated by a PSS technical committee of experts as notified by the P&D Board. The final version has already been shared with the Institutional Home for consent and approval. The Institutional Home has reviewed the Strategy. The Program Steering Committee of Punjab Jobs and Competitiveness Program has also endorsed the PSS. The complete and final document has now been placed for approval by the Cabinet[6]. (Figure 3.2.1).

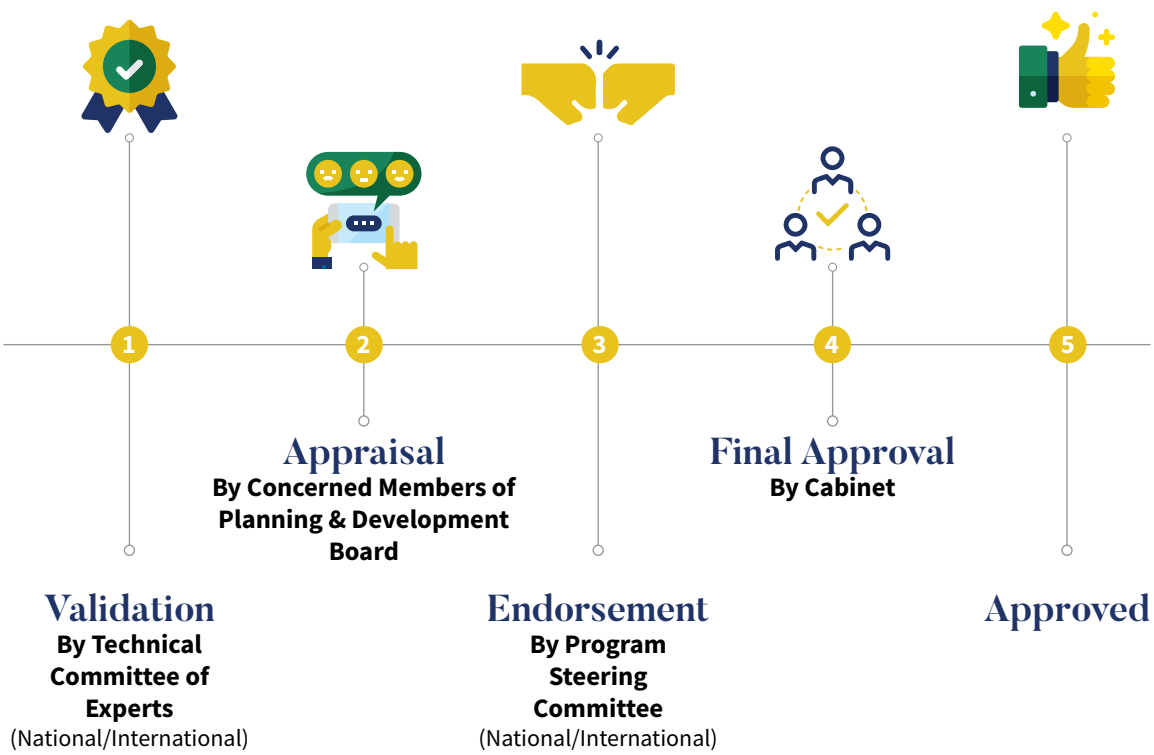


Figure 3.2.1: Approval Mechanism

[6] As per the Rules of Business 2011 [Part E -24 (e) & (f)], all the cases involving major economic and administrative policies and/or the cases, which the Minister considers important, have to be brought before the Cabinet for its ultimate approval.

3.3 Implementation Framework

In Punjab development planning depends upon multiple factors varying across the province. Generally, departments are responsible for developing schemes. Some schemes have local stakeholder input, while others are promoted by public representatives or conceived by donor agencies.

To implement a successful scheme, the Provincial Government needs to determine priorities for development in relevant areas. Planners require robust tools to assist them in determining needs and prioritizing, particularly related to achieving development goals. The PSS provides a long-term strategy for Punjab to help Departments and Agencies formulate and prioritize schemes and plans, accordingly.

To ensure appropriate prioritization and coordination of public investments in Punjab, 80% of the total value of all infrastructure and industrial sector PC-Is need to be consistent with the PSS. Infrastructure PC-Is cover the PC-Is/Umbrella PC-Is for projects or programs with a value of PKR 400 million or above, bundled in Annual Development Programs (ADPs) under infrastructure and urban development, water supply or sanitation, industries, commerce and investment.

The P&D Board plays an integral role in issuing ADP Formulation Guidelines for Line Departments, formulation of ADPs, approval and monitoring of development projects and programs per PC-Is, acquiring concept clearance approvals and funding of consultancies and developing feasibility studies as per PC-Is, monitoring and evaluation of projects and issuing PC-IVs. P&D Board is also the secretariat for the PDWP and a clearinghouse for development schemes under the jurisdiction of the Central Development Working Party (CDWP) and the Executive Committee of the National Economic Council (ECNEC).

The most critical stage in the project life cycle[7] is identification of projects (Figure 3.3.1). The Line Departments play an essential role in 'accurately' identifying projects that are aligned with the development portfolio of the Government. In view of existing planning and approval procedures, key interventions will be required for implementation of the PSS.

Integration of the PSS in the planning, development and approval processes of various projects is crucial. All projects forming part of the ADP and the Medium Term Development Framework (MTDF) need to be closely aligned with the PSS, and the national and provincial policy frameworks along with the overall development portfolio.

Involvement of key stakeholders is essential in guiding implementation efforts. These stakeholders include Government Departments such as the Industries, Commerce and Investment Department, Housing, Urban Development and Public Health Engineering Department, Transport Department, Agriculture Department, Environment Protection Department, Youth Affairs, Sports, Archeology and Tourism Department and Local Government and Community Development Department, Development Authorities along with agencies involved in physical or social infrastructure provision (such as LDA and TEPA), Local Government bodies such as Metropolitan Corporations, Municipal Corporations and Committees, and private sector actors involved in provision of infrastructure.

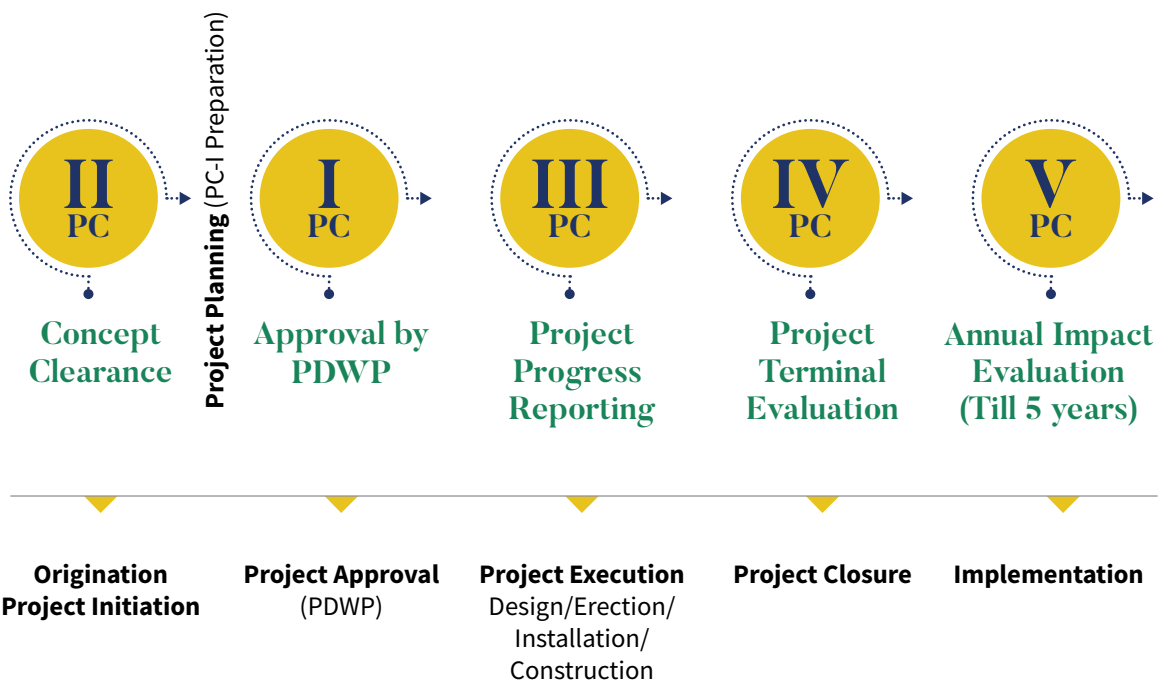


Figure 3.3.1: Life Cycle of Development Projects

[7] PC – I: Detailed project document
PC – II: For preparation of pre-feasibility and feasibility surveys
PC – III: For submission of monthly/annual monitoring/progress report of project
PC – IV: For submission of completion report of project
PC – V: For submission of evaluation/implementation report on annual basis for five years

3.3.1

Institutional Arrangement

To implement the project efficiently and in line with the PSS, interventions will be required at every stage. Integrating the activities of various organizations will require a focal agency. The P&D Board (supported by the SSU) will be the Institutional Home responsible for ensuring safe custody and management of legal requirements for notification, maintenance, dissemination, distribution, implementation and revision of the PSS.

The Urban Unit will be the Technical Home, providing technical assistance to the Institutional, Implementation and Operational Homes. It may house experts in relevant fields and will work in harmony with all sectors of the Institutional Home. It will also be responsible for advising the Institutional Home, building their capacity and providing tangible support for successful implementation of the PSS.

The Technical Home will provide guidance to PDWP and Departments in areas where they lack capacity till these are able to independently carry out the required functions. This capacity will be rapidly supplemented by the creation of the SSU under the P&D Board.

The PDWP comprises sector specialists, which may require further expertise in spatial planning. Input from the Technical Home and SSU can be beneficial in this regard. Thus, it is imperative that capacity building is undertaken by specialists and that support of experts in spatial planning is made available to guarantee a spatial perspective, in line with policy statements, during the decision-making processes. This arrangement will ideally be provided for two years and may be extended depending upon the need.

The key responsibilities of the Technical Home will include, but not limited, to the following:

- Assisting the SSU in ensuring that strategic objectives and the policy approach of the PSS is integrated well into the plans and projects of various public bodies and in facilitating the Line Departments in achieving the targets set by the PSS.

- Strengthening the SSU under the P&D Board and supporting key departments by providing human resources either from the Technical Home in Spatial Strategy Nodes or/otherwise building the capacity of the existing technical wings/committees/units to plan and assess ADP schemes and ensure schemes and related PC-Is are spatially aligned.

- Assisting the SSU at the Institutional Home to ensure that ADP is in line with the requirements of PSS.

- Assisting the SSU at the Institutional Home to ensure that Project proposals are in line with the requirements of PSS and environmental laws/regulations.

- Providing guidance in areas where the SSU, PDWP, and Departments lack capacity till they are able to independently carry out these functions.

- Supporting updates of the Spatial Decision Support System (SDSS) or tools to facilitate dissemination of relevant data and ensure an evidence-based decision-making process among necessary stakeholders.

- Monitoring progress of projects and programs through the SDSS to provide a visual and clear representation of the strategic objective and the extent of its alignment with PSS policies and targets.

- Supporting responsive and effective monitoring of the PSS at the SSU by DG Monitoring and Evaluation (M&E) team by tracking progress through an independent survey of schemes to check if the objectives set therein are being achieved.

- Conducting periodic broad-based consultations (through the SSU) with all Administrative Departments, Agencies, Authorities, Local Government bodies and other stakeholders to get feedback on the PSS strategic objectives and policy statements/action plans. On the same pattern, Spatial Strategy Nodes will also be created in the key departments.

At the Institutional Home, the foremost requirement for kickstarting the implementation process of the PSS is establishing the SSU. The competent human resource will be employed at the SSU for effective and sustainable implementation of the PSS. Role of the technical wings, especially environment, of the P&D Board in the planning and approval process of development projects and programs will be significant.

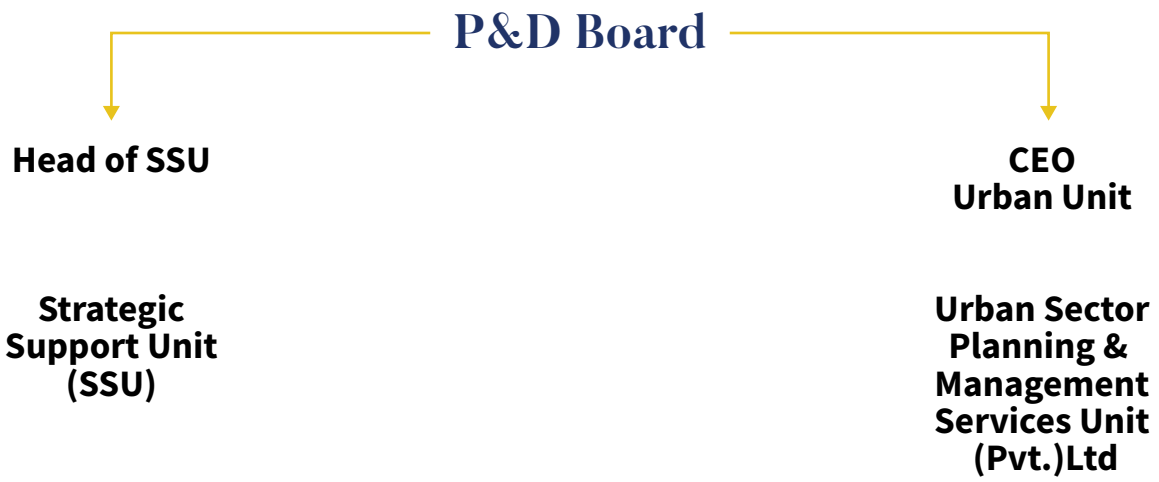


Figure 3.3.2: Proposed Institutional Arrangement for Spatial Planning and Development under PSS

3.3.2

Implementation Phases

The alignment of development schemes with the PSS will require the following to be undertaken.

- Integration of the policy approach of the PSS into the plans and programs of various departments, with clear targets and responsibilities.

- Ensuring that identification of schemes above PKR 400 million during the ADP formulation process is aligned to the PSS.

- Undertake capacity building of Departments, Development Authorities and Local Governments, where required

- Communication and dissemination of information regarding the PSS so that all stakeholders are aware of its use and benefit and are able to plan future development as per the guidelines provided by the implementation team.

- Completing the process of mobilizing local interests and integrating the PSS approach into various plans and programs.

- Underpinning the implementation process by reliable systems of monitoring, communication and support.

- Preparing regional strategies and planning guidelines, crucial for ensuring implementation of the PSS.

The alignment of development schemes with PSS will be carried out till PDWP level for FY 20 and 21 to meet DLI-4 of Punjab Jobs and Competitiveness Program by World Bank.

Phase I – First two years of the implementation process

This phase will include the development and approval of schemes, projects and programs under PC-I at the PDWP level i.e. all projects up to PKR 400 Million and above including all foreign assisted projects.

Phase II – Implementation process after project closure

This phase will include development and approval of schemes, projects and programs under PC-I at PDWP levels i.e. projects up to PKR 400 Million and above, including all foreign assisted projects. Projects, schemes, and programs by Development Authorities and Local Governments of PKR 400 Million and above will also be aligned to the PSS.

PSS will be integrated in development planning processes as given in figure 3.3.3

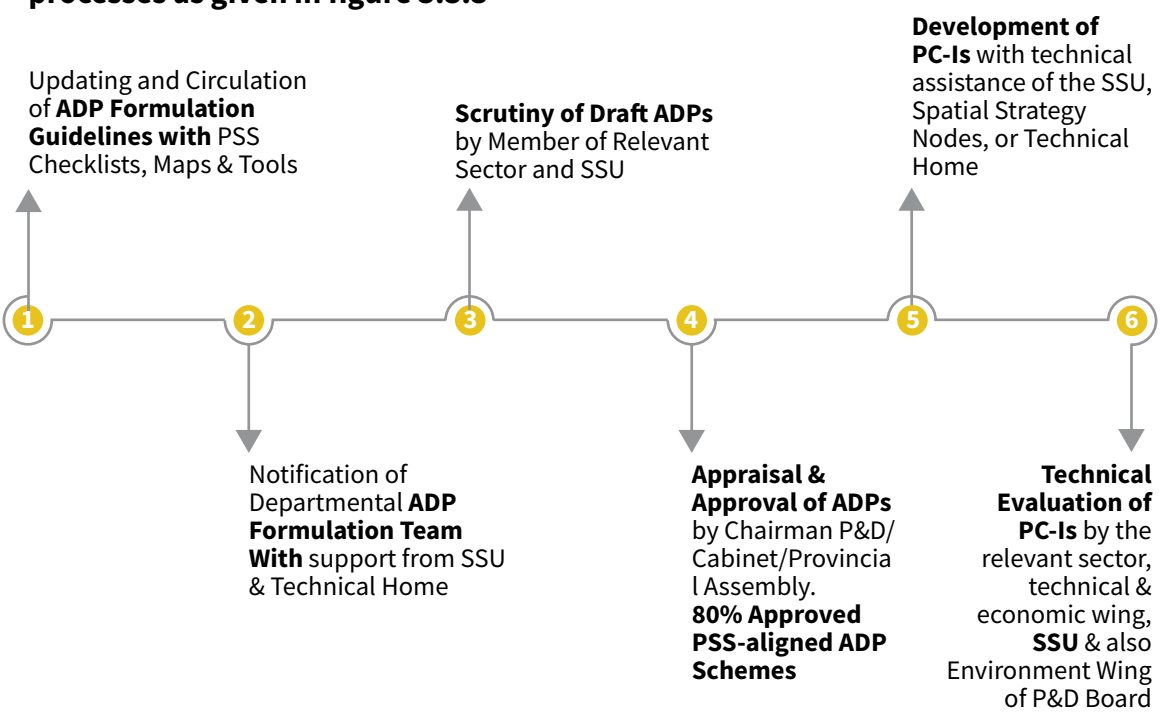


Figure 3.3.3: Broader Steps for Integration of PSS into Existing Processes

Arrangement	Role
ECNEC Executive Committee of National Economic Council	All projects referred by Provincial Government exceeding PKR 10,000 Million or having Federal Government or external financing (irrespective of cost)
CDWP Central Development Working Party	Approving provincial projects up to PKR 3,000 Million, where federal or foreign component is involved. Clearing house for ECNEC
PDWP Provincial Development Working Party	Projects ranging from PKR 400 Million to PKR 10,000 million (with provincial funding and external financing for up to 25% of the project). Consultancies and concept clearances irrespective of the cost
DDSC Departmental Development Sub-Committee	Projects ranging from PKR 200 Million up to PKR 400 Million
DDWP Divisional Development Working Party	Projects up to PKR 200 Million
DDC District Development Committee	Projects up to PKR 50 Million

Resource Planning Process

During the first six to eight months of the financial year, two main exercises are conducted by the P&D Board in collaboration with the Finance Department:

- Estimation of the expected resource availability for development expenditure during the next financial year based on trends of the past few years, economic requirement and expected external capital assistance.

- Determination of inter-sectoral priorities as per government policies regarding concerned sectors and the MTDF - completion of ongoing schemes and initiation of new programs. This will determine resource allocation across sectors.

Following this, a tentative size of the ADP indicating sector-wise allocation for the next financial year is communicated to concerned departments.

ADP Formulation Process

To effectively integrate the PSS into the development process, interventions are required at the stage of formulating the ADP, which is a key policy instrument to implement the development vision of the Government. The following steps will be taken to formalize ADP schemes:

- During the first year, the P&D Board will update and circulate ADP Formulation Guideline along with PSS maps, assessment checklists and tools to help Line Departments select projects that are spatially aligned and fulfil compliance to environmental laws and regulations. In subsequent years, the PSS Checklist will become an integral part of ADP guidelines.

- The Departments and Agencies will notify an 'Internal Team' to lead the process of ADP formulation. The ADP Formulation Team will get support from the SSU and the Technical Home of the PSS. This team will be responsible for analysing projects through the PSS lens and for carrying out evidence-based project/ program planning. The team will also assist the department in developing a logical framework, taking a three-year medium term approach and confirming its alignment to the PSS and the Punjab Growth Strategy, Sustainable Development Goals and other related programs.

- Some of the Departments and Agencies have technical wings or committees that could be strengthened by adding technical team member(s) from the SSU and the Technical Home, for planning and assessing ADP schemes to confirm such schemes are spatially aligned.

- The Administrative Head of the relevant department and agency will further investigate the schemes - before sending them to the P&D - through the Smart Monitoring of Development Projects (SMDP) portal. The Administrative Head may also consider, in exceptional cases, priority schemes not aligned to the PSS requirements. However, the maximum limit for such schemes has been set at 20% of the total development portfolio of each department. The final responsibility for ensuring that the project is conceived spatially will be with the Administrative Secretary.

- Initially the Line Departments, Authorities/ Companies/ Local Governments will only be provided with basic guidelines to help them during the ADP planning process. The rest of the responsibility for ensuring that schemes are consistent with the PSS will lie with the departments. These Authorities/ Companies/ Local Governments will send their annual development plans to their Administrative Departments for ensuring their alignment with PSS. This applies to projects by Development Authorities and Local Government in phase II. This will guide policymakers to rectify and address any discrepancy with the PSS.

- In accordance with the PSS Checklist of the ADP Formulation Guidelines and technical assistance from the Technical Home, the Line Departments, Authorities, Companies, and Local Governments will review the ADP schemes and forward them to the Administrative Secretary for further action. To effectively implement the PSS, this step may require a capacity building program for officials of relevant Line Departments.

- Based on this exercise, the department will initially develop and upload a strategy paper followed by a draft concept paper of all spatially aligned ADP schemes. In addition, departments will also consider the PSS while developing their respective sectoral plans and identify and undertake development of skills to improve institutional, governance, and capacity building endeavors.

• Members of the relevant sectors including environment and Head of SSU will conduct a preliminary review of the draft ADP and call departmental meetings to discuss, identify and prioritize an appropriate and new ADP. The Head of SSU will confirm the proposed project or program's alignment with the PSS and relevant wing in P&D Board will ensure compliance with environmental laws and regulations. The Head will also provide comments, where required, for revision of the draft ADP. This process can be repeated at this stage.

• In case the Head of SSU differs with any scheme in the ADP i.e. it does not correspond to the guidelines of the PSS, the scheme will not be included in the ADP. This decision will be subject to the final approval of the Chairman P&D Board. The scheme may be counted in the 20% quota of schemes that can be outside the purview of the PSS. At this stage, the P&D Board may initiate briefing sessions/consultations on the proposed ADP with the relevant forum.

• For finalizing the draft ADP & removal of any discrepancies, the Chairman P&D will hold inter-departmental meetings with all the Line Departments (headed by the concerned Secretaries). These meetings will be attended by the concerned member, Head of SSU and other relevant stakeholders. Following this meeting, the ADP will be finalized and presented to the Cabinet.

• After the endorsement of the Cabinet with or without amendments, the final ADP will be placed at the Provincial Assembly for approval.

PC-I Approval Process

Once the Provincial Assembly approves the ADP, the P&D Board will ask all concerned entities to develop PC-Is of new projects, with technical assistance from their Spatial Strategy Nodes, SSU or the Technical Home.

In case of projects above or equal to PKR 400 million, the aligned PC-Is will be received in Coordination Wing of P&D Board, for appraisal and approval. Since it will be ensured at the time of ADP formulation that the schemes/projects are aligned to the PSS, it will be expected that PC-I for these schemes/projects will automatically be aligned to the PSS. However, in the approval process of the projects, Head of SSU as part of the P&D Board will be fully involved and will identify any deviation from the PSS.

The Coordination Wing, after receiving the projects from the Departments, will circulate the PC-Is to the relevant sectors and Head of SSU. The SSU will carry out the technical review and provide comments on its alignment with the PSS.

After receiving all the comments, the relevant sector will develop the working paper and member of that sector will hold a pre-PDWP meeting with the departmental team for a detailed discussion on the development project. Here engagement of Head of SSU will be essential. The process may be repeated if significant changes and thinking is required. A satisfactory response will lead to the development of a working paper for PDWP. Otherwise the pre-PDWP will be held again after addressing all observations.

After discussion in the pre-PDWP session and incorporation of the suggested amendments, PC-I will be submitted to the P&D Board for placement before the PDWP. During the PDWP meetings, chaired by Chairman P&D Board, Head of SSU will present an overview of the alignment of PC-I with the PSS. The ultimate decision will be taken by PDWP to either approve the project with no significant changes or with changes to the scope or cost of the project, or postpone/permanently defer the scheme. In the latter case, the departments will re-submit the revised PC-I.

Approvals of Projects above PKR 400 Million have to be acquired from PDWP/CDWP/ECNEC. The Administrative Departments will send the projects to the P&D Board for placement before the PDWP, empowered to sanction projects ranging from PKR 400 Million to PKR 10,000 Million in case of provincial funding. The PDWP will also act as a clearinghouse for development projects that are to be forwarded to CDWP or ECNEC.

For approving projects exceeding PKR 10,000 Million or having Federal Government/external financing (irrespective of the cost), the PDWP will clear projects aligned to the PSS and send them onwards to CDWP or ECNEC for further approvals.

In phase II, the projects of Development Authorities, Companies and Local Governments will be synchronized with the PSS by ensuring representation from the Institutional Home especially the SSU. During Phase-1, only necessary guidelines and advice will be issued to the Development Authorities, Companies and Local Governments for ensuring alignment.

3.4 Monitoring and Evaluation Framework

The PSS sets out key policies and action plans for spatial development and planning in Punjab that require periodical reviews and targeted monitoring on a regular basis.

Thus, it is important to have a sound monitoring system, to ensure tracking of progress through reporting and monitoring actions. This will enable assessment of ongoing progress, and evaluation of outcomes from the interventions made under the PSS.

Directorate General (DG) Monitoring and Evaluation (M&E) is an attached entity of the P&D Board that assesses the performance of a program or project, analyzes organizational performance and examines features and processes in the environment of an organization or scheme. It covers aspects of finance, the quantity and quality of inputs, and implementation timelines and carries out regular assessment of output/ outcomes and changes brought about by these schemes.

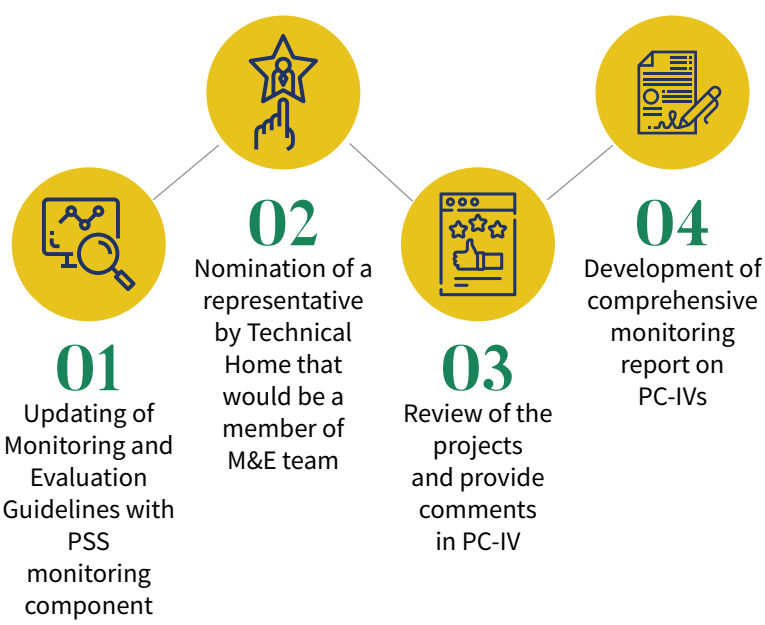


Figure 3.4.1: Monitoring Mechanism

To avoid duplication of effort and to effectively use overall resources of the Institutional Home, monitoring of the implementation of the PSS will be dovetailed to the existing M&E system of the P&D Board. Thus, in future the core responsibility for monitoring the PSS would lie with DG M&E, during entire life of the project from implementation to completion. Representative(s) nominated by the SSU or the Technical Home, will initially be a part of the DG M&E to support a responsive and effective monitoring of the PSS and also ensure capacity building. Representative(s) will play a significant role in both stages, i.e. monitoring during implementation and evaluation after the completion of the schemes.

M&E guidelines will be updated to include a monitoring component for the PSS. As per the amended guidelines, the representative will assess whether the project after completion was in variance with the PSS targets set therein or otherwise. The representative(s) will further assess whether the project remains aligned with the PSS policies, spatial locations and sustainability principles. Based on the review, the representatives will record necessary comments in PC-IV. The SSU and the Institutional Home's representative for M&E will also prepare a comprehensive report after each cycle (development year) based on the comments in all PC-IVs. The review will cover aspects of project's alignment to the PSS and identify gaps and any spatial imbalances. The report will also describe common mistakes and shortcomings found in most projects. This report will help the departments take timely corrective action to avoid such drawbacks in the future. This report will be circulated by the Institutional Home to all departments.

To further strengthen the monitoring process, the SSU with support of the Technical Home, will conduct an independent survey by deploying monitoring teams in Punjab. The overarching principal will be to assess if the PSS targets are being met. The teams will carry out the sample survey and submit independent reports to the Institutional, Operational and Implementation Homes, at least once every quarter. This will confirm if the projects need any mid-term corrections. It will be a secondary check by the SSU and the Technical Home and will give an independent view on the level of alignment to the PSS. The Administrative Department will be encouraged to set up its own monitoring mechanism in line with the provincial set up.

For effective performance of the PSS, its monitoring and key development indicators will be examined and continuing validity of all assumptions, forecasts and objectives checked. Moreover, in order to visualize the extent of conformity between planning and physical structure – identifying which projects contributed to which strategic objective and the extent of its alignment with PSS objectives – an IT-based monitoring dashboard will be developed and updated periodically. This will contribute towards performance measurements of projects and aid in visual representation.

3.5 Review Mechanism

The Institutional Home will be responsible for reviewing the action plans on yearly basis and policies at least once every 5 years. These reviews are important for ensuring dynamism, flexibility and mid-term course correction in the Strategy, besides removing difficulties if any, in implementation.

The Technical Home may initially facilitate the Institutional Home during its tenure to review plans and polices. Afterwards, the Institutional Home will manage the review process with support from SSU. The strategic framework will be developed by the Institutional Home and aspirations for respective sectors will be provided by the Implementation and Operational Homes.

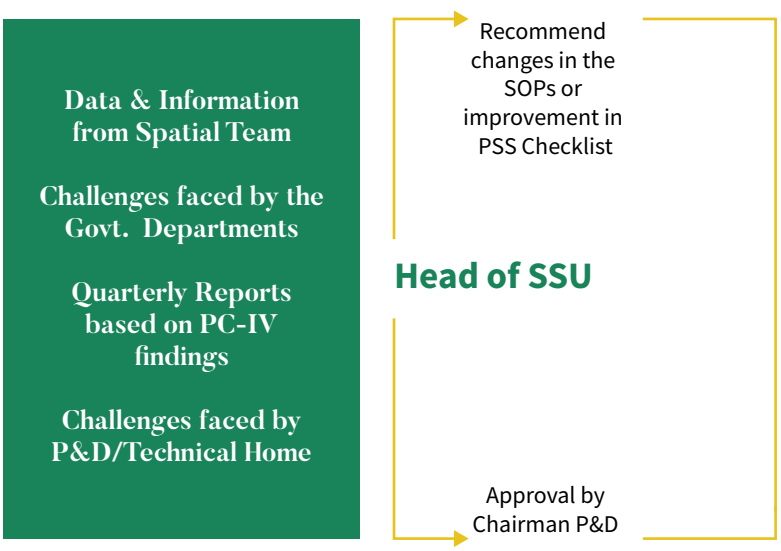


Figure 3.5.1: Review Mechanism – Operational Level Annual

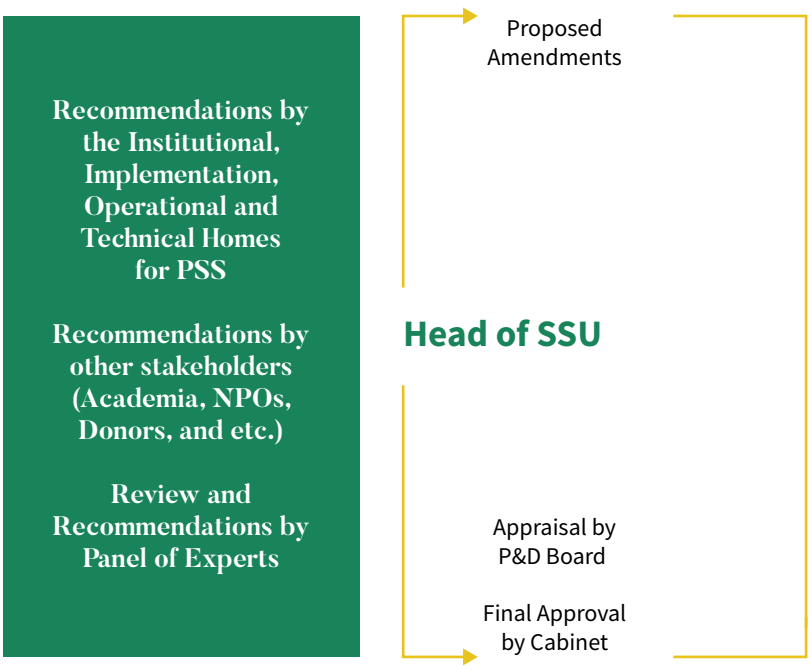


Figure 3.5.2: Review Mechanism – Policy Level once in Five Years

The review mechanism will be based on reports of PC-IVs from DG M&E and monitoring data. The departments will upload all data and information in the SDSS on a regular basis and confirm alignment with the PSS.

The Technical Home, along with the SSU and Institutional Home will also conduct broad-based consultations with all Administrative Departments, Agencies, Authorities, Local Governments and other stakeholders on a yearly basis. This will help the Technical and Institutional Home to get feedback from departments and to recommend actions to address any revisions, gaps, challenges or modifications in relation to Standard Operating Protocols and processes.

However, review of policies should be done at least once every five years in order to streamline strategic objectives, policy statements, targets and key actions within the development and planning process. Head of SSU will play a crucial role in the review process and will present proposed recommendations to the Chairman P&D Board.

The Cabinet will finally approve the revised PSS. This whole exercise will help to revise policies and actions under the PSS in an efficient manner.

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