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INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF EUR 132.6 MILLION
(US\$150 MILLION EQUIVALENT)

TO THE

ISLAMIC REPUBLIC OF PAKISTAN

FOR A

PUNJAB URBAN LAND SYSTEMS ENHANCEMENT PROJECT

February 16, 2022

Urban, Resilience And Land Global Practice
South Asia Region

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CURRENCY EQUIVALENTS

(Exchange Rate Effective December 31, 2021)

Currency Unit = Pakistani Rupee (PKR)

US\$1 = PKR 178.2

US\$1 = EUR 0.88347

EUR 1 = US\$ 1.13190

FISCAL YEAR

July 1 – June 30

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ABBREVIATIONS AND ACRONYMS

APPM	Accounting Policies and Procedures Manual
ARC	Arazi Record Center
BoR	Board of Revenue
CERC	Contingent Emergency Response Component
CoA	Chart of Accounts
CPS	Country Partnership Strategy
DA	Designated Account
DGKA	Directorate General of Katchi Abadi
DHA	Defense Housing Authority
DLR	Directorate of Land Records
DMM	<i>Dehi Markaz Maal</i> (village level office)
DRM	Disaster Risk Management
E&S	Environmental and Social
E&TD	Excise and Taxation Department
EA	Economic Analysis
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESRS	Environmental and Social Review Summary
ESS	Environmental and Social Standard
FFP	Fit-for-Purpose
FICCP	Framework for Implementation of Climate Change Policy
FM	Financial Management
FMS	Financial Management Specialist
FY	Fiscal Year
GDP	Gross Domestic Product
GIS	Geographic Information System
GoP	Government of Pakistan
GoPunjab	Government of Punjab
GRM	Grievance Redress Mechanism
HUDD	Housing & Urban Development Department
IA	Internal Audit
ICT	Information & Communications Technology
IFC	International Finance Corporation
IMF	International Monetary Fund
IPF	Investment Project Financing
IRR	Internal Rate of Return
IT	Information Technology
IUFR	Interim Unaudited Financial Reports
KA	Katchi Abadi
LDA	Lahore Development Authority
LG&CD	Local Government & Community Development Department

LIS	Land Information System
LRMIS	Land Records Management and Information Systems
M&E	Monitoring and Evaluation
MHVRA	Multi-Hazard Vulnerability and Risk Assessment
MoU	Memorandum of Understanding
NAM	New Accounting Model
NBP	National Bank of Pakistan
NCOC	National Command Operation Center
NPHP	Naya Pakistan Housing Program
OHS	Occupational Health and Safety
PAHP	Punjab Affordable Housing Project
PC1	Planning Commission Form-1
PDMA	Provincial Disaster Management Authority
PDO	Project Development Objective
PGS	Punjab Growth Strategy
PHATA	Punjab Housing and Town Planning Agency
PIU-PDMA	Project Implementation Unit-Provincial Disaster Management Authority
PIU-PLRA	Project Implementation Unit-Punjab Land Records Authority
PITB	Punjab Information Technology Board
PLRA	Punjab Land Records Authority
PMU	Project Management Unit
POM	Project Operational Manual
PPP	Public–Private Partnership
PRIDE	Punjab Resource Improvement and Digital Effectiveness Program
PSC	Project Steering Committee
PSDI	Provincial Spatial Data Infrastructure
PPSD	Project Procurement Strategy for Development
PULSE	Punjab Urban Land Systems Enhancement Project
RAP	Revenue Academy Punjab
RPF	Resettlement Policy Framework
SH	Sexual Harassment
SEA	Sexual Exploitation and Abuse
SMBR	Senior Member of Board of Revenue
STEP	Systematic Tracking of Exchanges in Procurement
UIPT	Urban Immovable Property Tax
WB	World Bank
WBG	World Bank Group

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DATASHEET

BASIC INFORMATION

Country(ies)	Project Name	
Pakistan	Punjab Urban Land Systems Enhancement Project	
Project ID	Financing Instrument	Environmental and Social Risk Classification
P172945	Investment Project Financing	High

Financing & Implementation Modalities

<input type="checkbox"/> Multiphase Programmatic Approach (MPA)	<input checked="" type="checkbox"/> Contingent Emergency Response Component (CERC)
<input type="checkbox"/> Series of Projects (SOP)	<input type="checkbox"/> Fragile State(s)
<input type="checkbox"/> Performance-Based Conditions (PBCs)	<input type="checkbox"/> Small State(s)
<input type="checkbox"/> Financial Intermediaries (FI)	<input type="checkbox"/> Fragile within a non-fragile Country
<input type="checkbox"/> Project-Based Guarantee	<input type="checkbox"/> Conflict
<input type="checkbox"/> Deferred Drawdown	<input type="checkbox"/> Responding to Natural or Man-made Disaster
<input type="checkbox"/> Alternate Procurement Arrangements (APA)	<input type="checkbox"/> Hands-on Enhanced Implementation Support (HEIS)

Expected Approval Date	Expected Closing Date
10-Mar-2022	30-Jun-2027

Bank/IFC Collaboration

No

Proposed Development Objective(s)

The objectives of the Project are to support the Government of Punjab with: (i) improved land records; and (ii) identification of land for development, including land for housing programs.

**Components**

Component Name	Cost (US\$, millions)
Digital Land Records and Cadastral Maps for LRMIS	103.00
Land for Housing	3.00
Integrated Land and Geospatial Information Systems and Services	35.50
Project Management and Institutional Strengthening	8.50
Contingent Emergency Response	0.00

Organizations

Borrower:	Islamic Republic of Pakistan
Implementing Agency:	Province of Punjab, Board of Revenue

PROJECT FINANCING DATA (US\$, Millions)**SUMMARY**

Total Project Cost	150.00
Total Financing	150.00
of which IBRD/IDA	150.00
Financing Gap	0.00

DETAILS**World Bank Group Financing**

International Development Association (IDA)	150.00
IDA Credit	150.00

IDA Resources (in US\$, Millions)

	Credit Amount	Grant Amount	Guarantee Amount	Total Amount
Pakistan	150.00	0.00	0.00	150.00

National PBA	150.00	0.00	0.00	150.00
Total	150.00	0.00	0.00	150.00

Expected Disbursements (in US\$, Millions)

WB Fiscal Year	2022	2023	2024	2025	2026	2027	2028
Annual	0.00	15.20	18.70	34.80	36.60	39.90	4.80
Cumulative	0.00	15.20	33.90	68.70	105.30	145.20	150.00

INSTITUTIONAL DATA

Practice Area (Lead)

Urban, Resilience and Land

Contributing Practice Areas

Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	● Substantial
2. Macroeconomic	● Substantial
3. Sector Strategies and Policies	● Moderate
4. Technical Design of Project or Program	● Moderate
5. Institutional Capacity for Implementation and Sustainability	● Substantial
6. Fiduciary	● Substantial
7. Environment and Social	● High
8. Stakeholders	● Moderate
9. Other	● Substantial
10. Overall	● Substantial



COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

☐ Yes ☒ No

Does the project require any waivers of Bank policies?

☐ Yes ☒ No

Environmental and Social Standards Relevance Given its Context at the Time of Appraisal

E & S Standards	Relevance
Assessment and Management of Environmental and Social Risks and Impacts	Relevant
Stakeholder Engagement and Information Disclosure	Relevant
Labor and Working Conditions	Relevant
Resource Efficiency and Pollution Prevention and Management	Relevant
Community Health and Safety	Relevant
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
Biodiversity Conservation and Sustainable Management of Living Natural Resources	Not Currently Relevant
Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not Currently Relevant
Cultural Heritage	Not Currently Relevant
Financial Intermediaries	Not Currently Relevant

NOTE: For further information regarding the World Bank's due diligence assessment of the Project's potential environmental and social risks and impacts, please refer to the Project's Appraisal Environmental and Social Review Summary (ESRS).

Legal Covenants



Sections and Description

Project Management Unit and Project Implementation Unit: PA, Section I.A.1 of the Schedule: The Project Implementing Entity shall establish within one (1) month of Effective Date, and maintain throughout the period of implementation of the Project: the Project Management Unit, comprised of specialists in various subjects, in adequate numbers and under terms of reference satisfactory to the Association; and the Project Implementation Units to be housed in the Punjab Land Records Authority and Provincial Disaster Management Authority, comprised of officials in adequate numbers and under terms of reference satisfactory to the Association.

Sections and Description

Project Steering Committee: PA, Section I.A.1 of the Schedule: The Project Implementing Entity shall establish within one (1) month of Effective Date, and maintain throughout the period of implementation of the Project, the Project Steering Committee, comprised of officials of various government entities, in adequate numbers and under terms of reference satisfactory to the Association.

Sections and Description

Project Operational Manual: PA, Section I.C.1 of the Schedule: The Project Implementing Entity shall prepare and promptly furnish to the Association for its review, and adopt, by no later than one (1) month after the Effective Date, a Project Operational Manual in a manner and substance satisfactory to the Association.

Conditions

Type	Financing source	Description
Disbursement	IBRD/IDA	<p>Withdrawal Conditions: FA, Section III.B of Schedule 2: No withdrawal shall be made:</p> <p>(a) for payments made prior to the Signature Date, except that withdrawals up to an aggregate amount not to exceed EUR three (3) million may be made for payments made prior to this date but on or after December 1, 2021, for Eligible Expenditures under Category (1); or</p> <p>(b) for Emergency Expenditures under Category (2), unless and until all of the following conditions have been met in respect of said expenditures:</p> <p>(i)(A) the Recipient has determined that an Eligible Crisis or Emergency has occurred, and has furnished to the Association a request to withdraw Financing amounts under Category (2); and (B) the Association has agreed with such determination, accepted said request and notified the Recipient thereof; and</p> <p>(ii) the Recipient has adopted the CERC Manual and Emergency Action Plan, in form and substance acceptable to the Association.</p>



I. STRATEGIC CONTEXT

A. Country Context

1. **Pakistan has made significant progress over the last two decades towards reducing poverty.** Over 47 million Pakistanis escaped poverty between 2001 and 2018, making Pakistan one of the most successful South Asian countries in reducing poverty. Nonetheless, challenges remain. Human capital outcomes are poor and stagnant, with high levels of stunting at 38 percent and learning poverty at 75 percent. Per capita gross domestic product (GDP) growth has also been low, averaging only around 1.8 percent annually. Economic growth in Pakistan has historically been fueled by private and government consumption, with productivity enhancing investment and exports contributing relatively little. Furthermore, consumption-led growth has been associated with frequent macroeconomic imbalances. Achieving sustained higher economic growth is important for Pakistan to reduce inequality and increase shared prosperity.

2. **After contracting in Fiscal Year (FY) 2020 due to the adverse impact of the COVID-19 pandemic, economic activity recovered in FY21.** Due to low-base effects and recovering domestic demand, real GDP growth (at factor cost) is estimated to have rebounded to 3.5 percent in FY21¹ from a contraction of 0.5 percent in FY20. However, because of emerging external imbalances and higher domestic inflation, fiscal and monetary tightening are expected to resume in FY22. Output growth is therefore projected to ease to 3.4 percent in FY22 but strengthen thereafter to 4.0 percent in FY23 on reform dividends, such as those from sustaining macroeconomic stability and increasing competitiveness. Inflation is projected to edge up in FY22 with domestic electricity tariff hikes and higher oil and commodity prices before moderating in FY23. The current account deficit is projected to widen to 2.5 percent of GDP in FY23 as imports expand with higher economic growth and oil prices. Despite fiscal consolidation efforts, the deficit (excluding grants) is projected to remain high at 7.1 percent of GDP in FY22 and widen to 7.2 percent in FY23. Implementation of critical revenue-enhancing reforms, particularly the harmonization of the General Sales Tax, will support a narrowing of the fiscal deficit over time. Public debt will remain elevated in the medium-term, as will Pakistan's exposure to debt-related shocks. This outlook assumes that the International Monetary Fund (IMF) Extended Fund Facility program will remain on track.

3. **Punjab is Pakistan's largest province, accounting for 55 percent of the country's population and around 60 percent of its economy.** It is also one of the two provinces most affected by the COVID-19 pandemic. The economic downturn is projected to increase unemployment in Punjab by 5 to 8 million, pushing many households below the poverty line. Income generating activities for the urban poor and small landholders have been hampered due to the pandemic. Farmers and small business owners rely on land and properties for their income. However, the overall dispersed and duplicative nature of Punjab's land records will likely continue to negatively impact economic recovery after the COVID-19 pandemic and threaten the poor and the vulnerable, including women whose rights remain unprotected.

4. **Inefficiencies in Pakistan's land administration system create additional costs for investments.** The land recording institutions in Pakistan (e.g., in the provinces of Punjab, Sindh, Balochistan, and Khyber Pakhtunkhwa) have been unable to keep pace with population growth and urbanization. Over time, land registration has been hindered by fragmented, overlapping, and incomplete land records in all provinces,

¹ World Bank estimate (October 2021). The Government's revised growth estimate for FY21 is 5.4 percent (constant basis prices of 2005-2006, January 2022).



with a negative impact on the functionality of the real property market. As a result of the uncertainties over land titles, access to financing and land acquisition for development are hampered, depressing the overall investment climate. As registered records do not provide a comprehensive coverage of land, land rights related litigation is widespread. The lack of tenure security and unresolved land disputes increase the financial risk for infrastructure and housing investments by causing bottlenecks in access to and supply of land.

5. **Pakistan is highly vulnerable to natural disasters and climatic variability, such as extreme floods due to monsoon rains, droughts, earthquakes, and landslides, as well as vulnerable housing in hazard exposed areas.** According to the Notre Dame (ND)-Gain Country Index, Pakistan is the 39th most vulnerable country and the 27th least ready country for climate change.² Climate change has already induced change to the monsoon patterns, as experienced in the record-breaking August 2020 rains. In addition, Pakistan's deforestation rate is the second highest in Asia. Periods of severe drought, followed by devastating floods, are common and have contributed to low crop yields, loss of livestock, food insecurity, and displacement. Given that the poor in rural areas are more likely to be employed in the agricultural sector,³ they tend to be more exposed to climatic shocks and natural disasters than the median population. The urban and peri-urban poor live in hazardous locations more often than others. The vulnerabilities to climate change rise due to rapid and unplanned urban sprawl and the absence of climate-resilient land-use planning. Extreme climate events also pose a threat to information and communications technology (ICT) infrastructure, including data centers, as power breakdowns or damage from floodwater or falling structures can cause massive losses of data or hinder access to property records and mapping data needed for post-disaster response and compensation. A lack of data and mapping of disaster-prone urban areas can also compound the vulnerabilities already faced by inhabitants. In response, the Government of Pakistan (GoP) has identified climate vulnerabilities in water, agriculture, forestry, coastal areas, biodiversity, health, and other sectors, and has spelled out adaptation actions,⁴ including security of tenure and management and governance of resources.

B. Sectoral and Institutional Context

6. **The Constitution of Pakistan provides a fundamental right to every citizen to own property and guarantees the equality of citizens.** Pakistan has a land administration system inherited from the British, involving rules and regulations regarding the sale, purchase, and use of land resources linked to the collection of land revenue. The present land legislation, which is fiscal in nature, comprises the Land Revenue Act 1967 for recording rights, change of ownership/mutation,⁵ possession, etc., and the Registration Act 1908 and the Stamp Act 1899 for registering documents. These Acts are the primary applicable laws to modernize the land records system and service delivery for both urban and rural citizens, and contribute to long-term tenure security.

7. **Pakistan's main land records (or the Record of Rights) are maintained at the village level by the provincial Boards of Revenue (BoRs).** In addition, the BoRs maintain a Register of Deeds that registers

² Pakistan's updated nationally determined contributions 2021; Pakistan Country Climate and Development Report (CCDR, the World Bank).

³ The percentage employed in agriculture falls with each increase in the wealth quintile, from 54 percent of women and 50 percent of men in the lowest wealth quintile to a low of 3 percent of women and 5 percent of men in the highest wealth quintile. See Pakistan Demographic and Health Survey, 2017–18.

⁴ As captured in the National Climate Change Policy (2012) and the Framework for Implementation of Climate Change Policy 2014–2030 (FICCP).

⁵ Mutation refers to a document recording a change or transaction in ownership or tenancy in the land registry.



property transfers and mortgages. The Record of Rights and the Register of Deeds are person-based records, but the Cadastral Maps have provided a survey number as a common identifier. The BoRs' Revenue Records were originally rural records and excluded the historical city centers. As urban areas have expanded, unplanned large urban areas around the city centers have been covered by the Revenue Records. Cantonments, housing development agencies, and cooperatives maintain their own records on land plots, properties, and rights in the areas of their respective jurisdictions, and provide land registry services to owners, banks, and others (including for the registration of mortgages).

8. **The semi-public land records are not reflected in nor interlinked with the Revenue Records or the Excise and Taxation Department's Urban Immovable Property Tax (UIPT) records.** There are multiple agencies dealing with land records for tax purposes in Punjab, and the BoR coordinates record-keeping functions. Within this institutional structure, the BoR is the primary custodian of land records and deed registration.

9. **A transparent system of centralized cadaster-based land records has a strong potential to support the ecosystem for revenue enhancement in the province.** Punjab's tax receipts currently account for only 0.8 percent of the province's estimated economic output, indicating that the province may only be collecting a quarter of its tax potential. The World Bank (WB) estimates Punjab's tax potential at PKR 400 billion, with the largest revenue potential in Services Sales Tax, UIPT, and stamp duty. Of the three largest sources, two are related with real estate: UIPT collection by the Excise and Taxation Department (E&TD) and stamp duty by the BoR. An improved land record system will provide the underlying data to conduct systematic analysis that will inform policy measures, enhance coordination between the two land related tax authorities (E&TD and BoR), and improve implementation of UIPT and stamp duty.

10. **Land is one of the most critical barriers to affordable housing in Punjab.** The urban housing gap in Punjab was estimated at 2.3 million units in 2017, with housing needs most acute in the Lahore (302,000 units), Multan (215,000 units), and Faisalabad (208,000 units) districts. This gap is expected to reach 11.3 million units by 2047, driven by: (i) population growth and annual household formation; (ii) economic, conflict, and climate induced migration from rural areas; and (iii) deterioration of the existing housing stock.

11. **The GoP has initiated several pro-poor programs, including the Naya Pakistan Housing Program (NPHP).** Launched in April 2019, NPHP seeks to build 5 million low-cost housing units in urban areas in a five-year period. The program will be implemented in partnership with private developers and banks, with the aim of strengthening the construction sector, creating jobs, and boosting economic growth. NPHP will target a mix of income groups, however it will place a special emphasis on the bottom 40 percent of Pakistan's population. Between 2 and 2.5 million units are expected to be constructed in Punjab Province under the purview of the Punjab Housing and Town Planning Agency (PHATA). A major challenge is in mobilizing appropriate lands for housing developments that are near jobs and basic infrastructure and are not prohibitively expensive. Success in the identification of suitable lands for housing will open avenues to emerge from of informality, poverty, and marginalization, thus reducing the climate vulnerability of current informal settlers.

12. **Well-functioning land delivery systems lie at the heart of affordable climate smart housing programs.** Access to land with secure tenure is a basic requirement for sustainable and affordable housing. The Nationally Determined Contributions 2021 also highlights the importance of building resilient land management. Land markets and land delivery systems should ensure low risk, vacant,



developable land (public or privately owned) that can be unlocked for utilization, and that land can change hands with minimal transaction risks. Land markets require well-functioning, timely, and transparent systems for transactions, planning, permitting, construction monitoring, beneficiary awarding, and property maintenance, with mechanisms to manage the associated social and climate risks. The adequate supply of suitable land for housing development, with clear titles, is a priority for the success of NPHP.

13. **The government must have a clear picture of publicly owned lands available for affordable housing programs.** Information on available land in Punjab (for housing and other development needs) is *ad hoc* and paper based, highlighting the critical need for a comprehensive database of public land and building assets, and their values. Pakistan's provinces are not able to leverage public land and building assets for housing development or infrastructure financing, chiefly because of inadequate land records. In Punjab, the government is unable to single out significant public lands with clean titles and land use, as well as credible valuations, for the benefit of housing agencies. The same challenge applies to identifying public lands or acquiring private lands for transmission lines, solar parks, hydroelectric generation, mass transit, roads, railway corridors, and other infrastructure investments. Such investments are commonly delayed due to the lack of access to land across Pakistan and more generally in South Asia.

14. **The Land Records Management and Information Systems (LRMIS) Project (P090501) set the stage for improving land tenure security and gender equality in the rural areas of Punjab Province.** The project supported the creation of LRMIS for Punjab's BoR, and as a result 92 percent of rural land records are fully digital and are operated in 212 service centers (called Arazi Record Centers, ARCs, local land registry offices) and 5,100 *Dehi Markaz Maals* (DMMs, village level offices) for land transactions across the province, as well as in 20 mobile offices. These records cover 55 million land holdings and an estimated 46 million land parcels in rural areas. Women have benefited greatly, as LRMIS enables them equal access to land records and has helped them to secure their inheritance rights, which were often restricted under the old manual system. Land can no longer be transferred in the ARCs without the physical presence of female land holders when their name is on the land record.

15. **The initial success and lessons learned from LRMIS in rural areas laid the foundation for improving tenure security in urban areas.** Although information on urban property transactions is typically recorded through the registration of deeds, a standardized methodology for transaction processing does not exist in the urban areas of Punjab, and spatial information (e.g., address, land zoning, etc.) is rarely included in the transaction record. Given the existing gaps and the absence of a standardized system of recording property rights in urban areas, the following challenges persist: (i) property tax evasion (i.e., transfer tax) and inequitable taxation; (ii) non-availability of formal ownership records; (iii) lengthy dispute resolution and litigation processes; (iv) overlapping record registries in multiple agencies that are not harmonized; (v) lack of easy access to property rights information for development authorities and agencies to fulfill their core functions (e.g., housing, utilities); (vi) unplanned, unhealthy, and overcrowded informal settlements; (vii) heightened vulnerability to climate disasters and losses due to lack of records on homes and assets or resilient structures; (viii) tenure insecurity perpetuated poverty and marginalization, and inability to move to jobs or for rescue; and (ix) absence of up-to-date cadastral data for government agencies to incorporate climate change considerations, while planning for services and infrastructure. Women in urban areas also face marginalization and the loss of inheritance rights to



land due to the lack of clarity on property ownership, limited access to land-related services, and cultural restrictions.⁶

16. **Under the proposed Punjab Urban Land Systems Enhancement (PULSE) Project, the Government of Punjab (GoPunjab) will advance efforts to strengthen land administration, support priority housing programs, and increase Own-Source Revenues (OSR).** Both the GoP and the GoPunjab recognize that it will not be possible to achieve NPHP's goal of constructing up to 2.5 million low-cost housing units in Punjab, if the province's challenges on urban land records are not resolved. The NPHP calls for the modernization of urban land records to access a comprehensive data catalog of the location and status of state lands. As such, PULSE will support the creation of a province-wide digital cadastral map, standardization and interlinking of land records, data improvement in urban and rural areas, and the scale-up of LRMIS, as well as project management and policy development. Promoting a more transparent, efficient, and selective supply of land will address one of the critical bottlenecks to the supply of affordable housing. A strengthened system for land administration through updated land records will reduce the potential of property tax evasion, and contribute to more effective collection of OSR in Punjab. A more robust system of revenue collection is essential for the GoPunjab to finance resilient and green infrastructure in urban areas, and to move forward with its ambition to develop sustainable, competitive, and productive towns and cities.

17. **Urban land administration systems and geospatial information play critical roles in the planning, monitoring, and implementation of response plans before, during, and after disasters.** To improve its resilience and ensure a greener development trajectory, the GoPunjab needs up-to-date land records and base mapping to strengthen its capacity for evidence-based planning and implementation of climate adaptation actions. The GoPunjab will also need to know the land and building assets that it owns better, as well as the assets' current use and values. This will require, among others, accurate land records and up-to-date geospatial information, and eventually improved property valuation systems. Given the high degree of disaster vulnerability, including climate change, it is critical for the province to develop foundational land records and mapping for risk-informed urban-spatial planning and public assets management to meet the urgency of the COVID-19 pandemic and future pandemics, as well as the climate crisis, while maximizing opportunities to enhance urban resilience and overall livability.

C. Relevance to Higher Level Objectives

18. **PULSE is aligned with the World Bank Group's (WBG's) Pakistan Country Partnership Strategy (CPS) FY15–19 discussed by the Board of Executive Directors on May 1, 2014 and subsequently extended to FY20 under the corresponding May 2017 Performance and Learning Review (PLR),⁷ and with the twin goals of ending extreme poverty and boosting shared prosperity.** Inclusive growth requires a strong business environment, and the recognition of property rights along with a well-functioning land administration system. The project will improve the business environment for the private sector (CPS Outcome 2.1) through the digitalization, interlinking, and integration of land records, and the easing of procedures for the approval of land-related permits. The project will help to reduce vulnerability for groups at risk (Outcome 3.2) and increase resilience to disasters (Outcome 3.3) by helping to improve tenure security through the clarification of land and property ownership in accordance with both existing

⁶ According to the Pakistan Demographic and Health Survey (2017–18), women in urban areas (39 percent) are less likely to have their name on a title or deed for a house than women in rural areas (47 percent).

⁷ The new CPF is currently under preparation and this operation is expected to be aligned with its objectives.



legislation and in support of new policy development. The outcomes of the project will help to improve property tax collection (Outcome 4.1), as well as further improve performance and transparency of Punjab's BoR (Outcome 4.4). Finally, improved land administration in Punjab will also contribute to advancing the cross-cutting themes of the CPS: (i) leveraging regional opportunities and markets by stimulating private-sector investment; (ii) helping to further clarify the roles of the GoP and GoPunjab, particularly for NPHP coordination; and (iii) climate change adaptation and mitigation in the public and private sectors by clarifying land and property rights and ownership, and help both the GoP and GoPunjab to identify their respective land assets that can be utilized for disaster preparedness and climate-related emergencies.

19. **PULSE is one of the three complementary projects that are being proposed as a package of integrated interventions in the land and housing sectors to support the GoP in addressing constraints across the housing sector value chain.** It will finance the digitization of land records in urban and rural areas of Punjab and create a province-wide parcel-based cadaster. PULSE will strengthen systems that will help increase the security of records on land rights and facilitate the identification of developable land in urban areas. The second operation, the Punjab Affordable Housing Program (PAHP, P173663), will help strengthen housing institutions and systems and enhance housing supply, including affordable housing for lower-income households in Punjab. The third operation, an Additional Financing to the Pakistan Housing Finance Project (PHFP, P172581), will support the scale-up of the credit risk sharing facility that was developed in 2018 under the parent project to promote access to mortgage loans for low- and informal-income households.

20. **The project complements interventions supported by the WBG in revenue enhancement in line with CPS objectives.** PULSE complements the actions undertaken by two key operations: (i) Resilient Institutions for Sustainable Economy Program (RISE; P171850) under which the Federal Board of Revenue (FBR) has increased the immovable property valuation to 85 percent of market value for withholding income tax and capital gains tax; and (ii) Punjab Resource Improvement and Digital Effectiveness Program (PRIDE; P171417), which includes a component on revenue mobilization and supports provincial capacity building in property valuation by establishing a unit and by updating the valuation tables in six cities in the province. The digital land record would provide the underlying data for updating the valuation tables using modern data-driven methodologies, and PULSE would coordinate its rollout with PRIDE to prioritize cities targeted by PRIDE. This will also complement indicators under the RISE Development Policy Credit.

21. **The project supports Pakistan's Vision 2025 and the Punjab Growth Strategy (PGS) 2023.** Pillar II of Pakistan's Vision 2025 focuses on a sustained development foundation and inclusive growth. The project will contribute to the prioritized areas set out under Pillar II through modernizing land management, updating formal land records, reducing the fragmentation of urban land records, enhancing land market functionalities, and improving the management of public assets. These are essential building blocks of a sound land administration system, and of vibrant economies. One of the overarching pillars of PGS 2023 is to increase the average annual number of new housing units to 640,000. PULSE will contribute to the implementation of PGS 2023 by promoting a more transparent and efficient supply of urban land for affordable housing.

22. **PULSE will contribute to national and provincial climate change priorities.** The GoP launched the National Climate Change Policy (2012) and the Framework for Implementation of Climate Change Policy



2014–2030 (FICCP)⁸ to provide comprehensive climate action plans for climate adaptation and mitigation. The project's contribution to the FICCP includes relevant base mapping, land registration, and geospatial framework investments that improve: (i) disaster risk resilience and response capacity; (ii) evidence-based land management; (iii) access to land for renewable energy development; (iv) protection and management of forests; and (v) enhancement of government agency capacities related to climate change adaptation and mitigation.

II. PROJECT DESCRIPTION

A. Project Development Objective

Project Development Objective (PDO) Statement

23. The objectives of the Project are to support the Government of Punjab with: (i) improved land records; and (ii) identification of land for development, including land for housing programs.

PDO Level Indicators

24. PDO indicators are:

(i) Improved land records:

- a. Land rights registered in and/or linked with LRMIS (number, gender-disaggregated);
- b. Increased coverage of updated digital cadastral maps (percentage of provincial area); and
- c. Person-based records converted to parcel-based records in LRMIS (number).

(ii) Identification of land for development:

- d. Area of public lands screened for housing (ha); and
- e. Sites of public lands identified for development programs (number).

B. Project Components

25. The project comprises five components, as summarized below. Annex 2 contains the detailed project description.

Component 1: Digital Land Records and Cadastral Maps for LRMIS (US\$103 million; WB financing: US\$103 million)

26. Component 1 will finance the development of a seamless and multipurpose cadastral map linked to digital land records, facilitating land rights registration in the LRMIS, and supporting the regularization of unregistered lands in notified informal settlements through such activities as: (a) spatial framework for LRMIS; (b) systematic registration of peri-urban properties; (c) upgrading tax records to urban land records; (d) incorporation existing urban lands into a unified land registry; and (e) systematic registration of urban properties.

Component 2: Land for Housing (US\$3 million; WB financing: US\$3 million)

27. This component will support the GoPunjab in: (a) preparing an inventory of state lands by digitalizing, geo-referencing and storing state lands in a database; (b) building on the information in the

⁸ Climate Change Division, Government of Punjab.

<http://www.gcisc.org.pk/Framework%20for%20Implementation%20of%20CC%20Policy.pdf>.



inventory by supporting the Project Implementing Entity to develop strategies and procedures for managing those public land assets; and (c) identifying suitable public lands for the housing programs.

Component 3: Integrated Land and Geospatial Information Systems and Services (US\$35.5 million; WB financing: US\$35.5 million)

28. This component will support: (a) the strengthening ICT equipment and software; (b) developing the next generation LRMIS and land information portal; (c) digitizing Deeds Registry's land records across the Project Implementing Entity; (d) establishing a provincial spatial data infrastructure; and (e) providing base maps, including multi-hazard risk assessment.

Component 4: Project Management and Institutional Strengthening (US\$8.5 million; WB financing: US\$8.5 million)

29. This component will: (a) support the overall capacity of the Project Management Unit (PMU) and the Project Implementation Units (PIUs)⁹ to coordinate, manage, implement, and supervise the implementation of the project, including, *inter alia* (i) carrying out of financial management, procurement management as well as environmental and social safeguards management, (ii) baseline study, monitoring, evaluation, and reporting of the project, and (iii) support of inter-agency coordination; (b) conduct studies and analysis to strengthen the policy, legal, regulatory and institutional frameworks; (c) carry out pilots to develop parcel-based cadastral mapping and streamlined registration processes for unified land registration; (d) facilitate awareness raising, social monitoring, women's land rights, legal assistance, dispute resolution facilitation and safeguards implementation for cadastral mapping and registration; and (e) carry out renovation of Arazi Record Centers to expand the new LRMIS service coverage in the Project Implementing Entity's geographical jurisdiction.

Component 5: Contingent Emergency Response (CERC, US\$0.0 million)

30. This component will provide immediate response to an eligible emergency, to be defined in the CERC Operational Manual.

Cross-Cutting Aspects

31. **Gender.** Securing women's land rights improves the wellbeing of women and their families, while boosting investments in child health, nutrition, and education. Despite their legal inheritance rights, 27 percent of women in Pakistan do not inherit land and 72 percent of women do not inherit a house. Women are 25 percent less likely than men to own land and 69 percent less likely to own a house.¹⁰ Gender inequality in access to land in Pakistan is due to customs and cultural norms.¹¹ The realization of women's inheritance rights continues to be hindered despite the recent legal reforms of the Punjab Partition of Immovable Property (Amendment) Act 2015 and the Punjab Land Revenue (Amendment) Act 2019. Women lack support in claiming inheritance due to cultural restrictions such as the custom of dowries, and the inability to engage with the outside world. Inheritance commonly does not lead to subdivision of holdings, but rather co-ownership between heirs. Most women are expected to give up their land shares to the primary male land holders because of their role as a daughter, sister, wife, or mother.

⁹ The PIUs established in the Punjab Land Records Authority (PIU-PLRA) and Provincial Disaster Management Authority (PIU-PDMA).

¹⁰ Pakistan Demographic and Health Survey, 2017–18.

¹¹ These include: social perceptions around dowries and other marital expenses; lack of formal economic and psycho-social support due to which women remain susceptible to social pressure to forgo inheritance; fraud and collusion between revenue officials and natal family members; limited access to consolidated information on deceased family members' property; and mobility and cultural restrictions.



32. In rural areas where the DMMs are already in operation and gender measures have been taken, 30 percent of land ownership is registered in the women's name (August 2021). Female only DMMs have been established and the target is to have one such center functional in each *Tehsil* (township), managed by a female patwari.¹² However, in urban areas the data is not systematized, and it is estimated that only 25 percent of properties are in women's names. The project will first help to systematize this data and collate it in the LRMIS, which will be a significant first step. The project will further contribute to closing the gender gap on women's land rights by increasing the percentage of women having their name on legally recognized land records. The project will carry out the following activities: (i) targeting information from the socialization stage and in awareness campaigns on land tenure rights that address cultural norms and land registration procedures for women; (ii) ensuring women's participation in all steps of the land registration process; (iii) creating dedicated, hindrance-free areas in the newly established ARCs for women¹³ and setting up mobile ARCs; (iv) training revenue officers on gender issues and concerns to encourage them to record women's names on land registries as joint ownership; (v) hiring more women for the project and in revenue offices; (vi) developing strategies to mitigate the social costs involved in women's inheritance claims; and (vii) using multiple channels to promote women's awareness of their land rights.¹⁴

33. The Results Framework includes relevant gender-differentiated indicators to measure: (i) the percentage of land rights registered in and/or linked with LRMIS to women; (ii) the number of newly registered and/or updated land records jointly or individually filed by women; (iii) women customers' satisfaction with land administration services at ARCs; and (iv) the number of BoR staff receiving gender sensitization trainings focused on facilitating women's participation in land registration. In addition, the gender strategy to be financed under the project will include monitoring public awareness campaigns and social communications on how they address gender norms, the participation of women in the public display of cadastral information, and the benefits to women from land rights registration.

34. Further development of LRMIS under Component 3 is an opportunity to ensure that data can be gender-disaggregated for more effective analysis and decision-making. Comprehensive gender statistics on land tenure under the project will be accessible to the public to better monitor and improve gender equality.

35. **Citizen Engagement.** The project will promote active stakeholder and citizen participation in cadastral mapping and in the systematic land registration process. It will apply participatory and inclusive citizen engagement tools, such as raising public awareness, public displays, community consultations and meetings. The project's Grievance Redress Mechanism (GRM) will strengthen the existing grievance redress system available at Punjab Land Records Authority (PLRA) (online and through ARCs) and resolve procedural and other issues arising from project implementation. In addition, land information recorded in LRMIS will be made available to individuals, legal entities, and organizations. The project will also finance customer satisfaction surveys to monitor beneficiary satisfaction on land administration services. The Results Framework includes an indicator to measure LRMIS user satisfaction over the project.

¹² Patwaris are assistant collectors based in BoR's village offices (Patwar Circle, the lowest level of BoR's land records maintenance system). The Patwaris were historically responsible for social and administrative functions including maintaining land records and drawing field maps.

¹³ The previous LRMIS project established 146 ARCs with women's counters and separated seating arrangements for women; 121 ARCs have female officers directly serving at the women's counter. About 92 percent of the ARC clients expressed their satisfaction with the new system.

¹⁴ These include: channels that reach women in their homes (Lady Health Workers, TV, and/or radio); messaging through schools (targeting either children and/or mothers); existing social protection networks (i.e., BISP/Ehsaas); and community networks of local NGOs (i.e., Shirkat Gah, NRSP, PRSP etc.).



36. **Climate Co-Benefits.** The project will contribute tangibly to the implementation of the GoP's FICCP 2014–2030 by digital base mapping, land registration, and geospatial framework investments that allow the GoPunjab to improve disaster preparedness and relief actions. PULSE will improve: (i) the disaster risk resilience and response capacity of Provincial Disaster Management Authority (PDMA) and GoPunjab; (ii) evidence-based land management by local governments in Punjab; (iii) the energy sector's ability to access land for renewable energy development; (iv) the forest authority's and GoPunjab's ability to protect and manage forests; (v) GoPunjab agencies' capacities related to climate change adaptation and mitigation; and (vi) urban dwellers' understanding of climate resilience requirements in their homes and neighborhoods.

37. **The FICCP identifies the following mitigation and adaptation actions that are directly related to PULSE:** (i) develop and provide incentives to encourage disaster-resistant construction; (ii) identify the vulnerable population groups in each urban and rural locality; (iii) develop evacuation plans with the consent and participation of local communities; (iv) set up systems where the elderly, children, and the disabled get particular attention during evacuation; (v) develop efficient rescue mechanisms, relief, and rehabilitation options and their implementation strategies during disasters; (vi) discourage the conversion of fertile agriculture land for purposes other than agriculture; (vii) control the expansion of existing towns and construction in ecologically fragile areas; (viii) increase the density of town centers and suburbs near popular business and shopping areas; (ix) build planned high-density townships near parks, gardens, and nature reserves; (x) build planned high-density colonies for workers near industrial areas to curtail shanty towns and large slum areas; (xi) design segregated areas for industries adjacent to towns and cities, keeping in view wind and storm directions; (xii) build vegetative barriers and nature reserve areas as buffers between cities and industrial areas; (xiii) identify appropriate sites as well as financial resources for establishing windmills and hydro turbines in Punjab; (xiv) pursue massive afforestation and reforestation; (xv) intensively encourage farm forestry and agroforestry practices; (xvi) set up a provincial data center for easy sharing of all climate, water, and disaster related data; (xvii) develop an integrated information system to manage temporal and spatial information on climate change and disaster risk reduction; (xviii) develop a mechanism to formalize and promote strong sectoral coordination among sectors responsible for Disaster Risk Management (DRM); (xix) enhance the institutional capacities of all agencies involved in disaster management related activities, including PDMA; and (xx) arrange renewable energy exhibitions in the country to get low carbon emission ideas and techniques.

C. Project Beneficiaries

38. **Direct project beneficiaries of cadastral mapping and systematic land registration include households, particularly women.** An estimated 38.5 million people will benefit from the project.¹⁵ Residents of *katchi abadis* (KAs) on state land in the selected sites will benefit from the first land registration process by registering their rights of residence. Special attention will be paid to ensure that women benefit from recording their name in the land registry as joint owners. The implementation of PULSE will benefit public land sector professionals, technical staff, and institutions through updated and accessible cadastral information, technical assistance, strengthened skills, and improve coordination between land administration agencies. Investors and developers will benefit from secure access to real

¹⁵ The project will support 2.51 million households (16.1 million people) and 3.48 million households (22.4 million people) in urban and rural areas respectively.

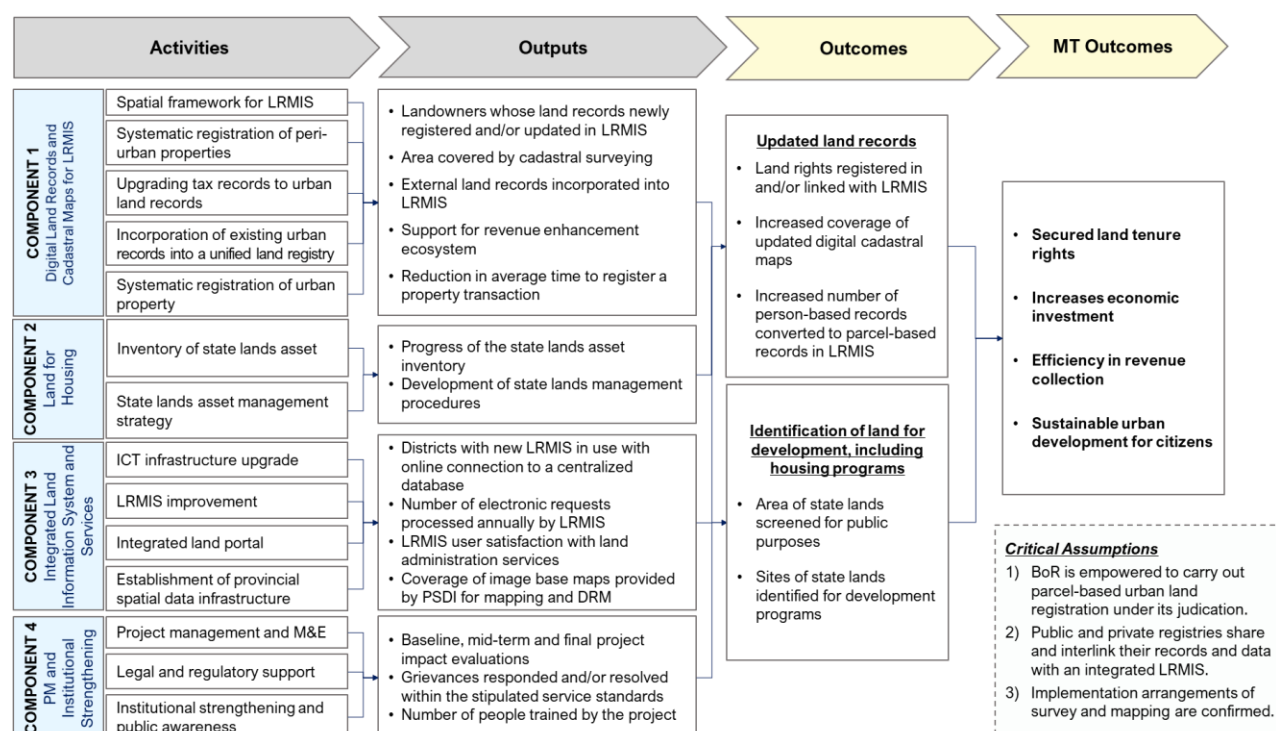


estate, improved access to credit, and quicker registration. The creation of a unified land registry will strengthen the real estate market in the long term by promoting transparency and accountability in all transactions.

D. Results Chain

39. Figure 1 indicates the Theory of Change that links key activities, outputs, and outcomes in contributing to achieving the PDO.

Figure 1: Theory of Change



E. Rationale for Bank Involvement and Role of Partners

40. **The WB brings over 40 years of extensive global experience in land administration projects, which offer a broad set of lessons to support GoPunjab.** The Bank has the technical expertise and resources in key aspects of the land sector, including systematic land registration, management of land assets, land information systems and service delivery, geospatial infrastructure, and institutional strengthening. Ongoing WB financed land administration projects in Asia include projects in Pakistan, Afghanistan, India, Indonesia, Laos, Vietnam, and the Philippines, which provide opportunities for knowledge sharing. The Bank will also build on the success of the previous LRMIS project and its Additional Financing (P090501 and P131266) to expand the improved land record service delivery and support for urban development in Punjab.

41. **The project will be implemented in close coordination with the Bank's housing sector operations in Pakistan.** The project will complement the ongoing and planned interventions in the



housing sector, including the Punjab Affordable Housing Program (P173663), the Pakistan Housing Finance (Additional Financing) Project (P172581), and the International Finance Corporation's (IFC) Support to Housing Supply through public-private partnerships (PPPs). This coordinated support will contribute to addressing the high demand for affordable housing, limited access to public lands for development, the lack of sustainable housing finance instruments, and the low capacity of developers.

42. **The WB, in close collaboration with the federal and provincial governments, supports more sustainable urban development in Punjab Province.** The federal government funded the Survey of Pakistan to pilot urban cadastral mapping in Islamabad, Lahore, and Karachi during 2020–2021, as well as to identify state lands. PULSE will build on the lessons, experience, and outputs from the pilot. The Punjab E&TD has shared more than 4.2 million UIPT digital records with PULSE to be utilized as the initial urban parcel map information. Major land-record owning agencies, such as the Lahore Development Authority and the Cooperatives Department,¹⁶ have agreed to provide their land registry data to create seamless cadastral maps at the provincial level.

F. Lessons Learned and Reflected in the Project Design

43. **The project design draws on experience from the Bank's support to land administration globally and in Pakistan, as well as relevant WBG Independent Evaluation Group reviews.** The WB funded Punjab LRMIS project (P090501) provides a strong basis for the design of the project. The relevant lessons are:

- a. **Land administration reform requires a relatively long planning period** that includes pilots and strong local capacities, as well as a comparatively longer implementation period with significant funding. The design of LRMIS based on pilots to develop new procedures in limited geographic areas reduced the effort and cost of country-wide replication of the necessary reforms. The initial estimate of the number of land records that needed to be digitized under LRMIS was too conservative, but the programmatic approach and design ensured that the procedures developed under LRMIS were scalable.
- b. **A successful participation and communications strategy** was a critical factor under LRMIS in addressing multiple and diverse types of opposition to the computerization of land records.
- c. **Improved accessibility of land record services for women and other vulnerable groups** contributed to protecting their legal rights. Dedicated counters in ARCs and socialization for women ensured that they had adequate opportunities to engage in land registration activities.
- d. **Technical innovation and critical analysis** during implementation were very important. Analysis during LRMIS project implementation underpinned the move from a decentralized LRMIS software system to a significantly improved centralized technical solution.
- e. **Continued political support for reforms** was maintained under LRMIS by establishing systems and procedures to provide policymakers with evidence-based advice at key stages in project implementation.
- f. **Technology investments should be tailored to the country's needs and capacity** and acquired incrementally in a fit-for-purpose (FFP) manner. The GoPunjab needs to continue investments in

¹⁶ The Cooperatives Department represents more than 190 housing cooperatives (https://cooperatives.punjab.gov.pk/housing_societies).



technology after each phase of a programmatic approach. Cadaster and registry databases should be linked and integrated, either in a single system or a single entity. The approach best suited should be identified and adopted progressively.

- g. **The design of the project places a lot of importance on human resources capacity**, as this will be vital for both effective implementation and sustainability of the reform. This reflects lessons from broader WB experience in the sector.

44. **Incorporating lessons in the design of the project.** The Punjab BoR will be in a strong position to establish and maintain important links to policymakers as the project is implemented. The project faces some of the same difficulties that were faced by LRMIS. Pilots thus form a key feature in the project design. The project is also designed in an incremental manner with the expectation that there will be a comprehensive mid-term review to assess the design assumptions and parameters, and will reallocate project resources accordingly.

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

45. **The Punjab BoR will be the implementing agency for PULSE, based on the institutional mandates and the administrative authority of land-related laws relevant to PULSE's objectives.** A PMU will be established in BoR headquarters under the leadership of the Senior Member of the BoR (SMBR) no later than one month after the credit becomes effective. The PMU, which will be led by the Project Director, will be responsible for project administration and government-wide implementation, and for ensuring social and environmental compliance, oversight of activities, procurement, disbursements, monitoring, and reporting. The PMU will also implement day-to-day project activities which fall under the mandates of its own departments (such as the Directorate of Land Records, DLR). Two Project Implementation Units will be established in PLRA and PDMA no later than one month after the credit becomes effective, to operate as quasi-autonomous bodies under BoR, with distinct budgets and financial management arrangements. The Project Operational Manual (POM) describes the duties and responsibilities of the PMU and the PIUs, along with the project's technical, administrative, financial, procurement, safeguards, gender, and monitoring and evaluation (M&E) procedures.

46. **A Project Steering Committee (PSC) will be set up at the provincial level to ensure inter-agency coordination, collaboration, and smooth implementation of project activities.** The PSC will be co-led by the Chairman, Planning and Development Board, and the SMBR, and will comprise representatives from key entities. The PSC will meet at least quarterly. BoR and its field formations would implement the PSC's decisions and recommendations.

47. **Several departments and development authorities will support PULSE as key collaboration partners.** These include, *inter alia*, E&TD and all development and housing authorities in the province, who will share their land-related data and become users of the integrated LRMIS to maintain their respective land records. BoR and the key partners will sign administrative agreements before project launch. The POM describes the relationships, responsibilities, and coordination channels among partners and the BoR.



B. Results Monitoring and Evaluation Arrangements

48. The Monitoring and Evaluation (M&E) arrangements are designed to demonstrate the impact of project investments. The PMU will be responsible for M&E, prepare biannual progress reports, and provide data for the Results Framework. It will recruit a dedicated M&E officer to capture data on project outputs and outcomes from BoR's implementing departments in order to report project results. A baseline survey will be carried out during Year 1 of the project to understand the project's impacts on project beneficiaries and stakeholders. The project will carry out independent operational assessments and impact evaluations at mid-term and at the end of the project. Project indicators will be monitored and reported as indicated in the M&E Section of the POM and reflected in the Results Framework. Pilot activities on systematic registration in urban and peri-urban areas will be monitored and evaluated to outline lessons learned and changes to be incorporated during project implementation.

C. Sustainability

49. **Institutional framework to ensure the sustainability of investments.** The project will establish a seamless province-wide cadastral map that links to the computerized land records in LRMIS and integrates new urban land records. The sustainability of the innovations under the project will be strengthened by the formation of a Geographic Information System (GIS) lab and related human resources in BoR. Project design includes support for the establishment of this new setup.

50. **Agreements with organizations operating urban land records systems.** The public development authorities and private development agencies have established urban land records systems in Punjab. Sub-component 1.4 will incorporate the records in these systems in a unified cadastral map based on agreements between BoR and the individual organizations. In many cases these agreements are likely to result in the transfer of records in the next generation LRMIS, and the provision of services back to the organizations and their clients under mutually agreed arrangements. In other cases, these organizations may continue to maintain their systems and the next generation LRMIS will establish protocols to access the records. PULSE will support the establishment of these formal agreements incrementally, with the prime objective of ensuring that the new records system is a single access point for land records for government authorities, the land market, and the public. On completion of the project, the remaining land records will need to be incorporated gradually by the government to complete the set-up of a province-wide land registry. By establishing inter-agency agreements, PULSE will ensure that the proposed development of an integrated system is operational and that plans are in place to guarantee its sustainability.

51. **Building public trust and confidence in the unified land records system.** The existing and future business for the new LRMIS will be developed to streamline processes and requirements for the users of services. An extensive network of service centers will be established based on the existing PLRA ARCs and the Sub-Registrar Offices¹⁷ to enable clients to access the unified land records system. A service charter will be adopted, and customer feedback will be actively sought as a basis for a program of continued

¹⁷ Sub-Registrar offices are in charge of registering transactions for immovable properties in the urban areas of Punjab. Directorate Land Records under BoR is the Inspector General of Registration who superintends every Sub-Registrar and all registration offices.



improvement in service delivery. PULSE will support the preparation of a communications strategy and will fund a comprehensive communications and public awareness campaign.

IV. PROJECT APPRAISAL SUMMARY

A. Technical, Economic, and Financial Analysis

(i) Technical Analysis

52. **The project is ready for implementation.** The digital urban cadaster pilot, including public land identification, was implemented in Lahore to formulate workflows and the cadastral data model. Lessons learned from the pilot have been integrated in the project design. The BoR will further increase efficiency through the project's systematic and mass scale approach. The good performance of LRMIS and regular system upgrades by operating more than 44.5 million land records since 2016 ensures the development of the next-generation LRMIS to build a unified land registry. Land records from the major stakeholders have already been shared with BoR to coordinate and initiate smooth project implementation.

53. **The project will adopt a FFP approach.** The technical design reflects good practices of land registration and mapping in the Punjab context, particularly the need for adopting FFP cadastral mapping¹⁸ solutions. The FFP mapping will be applied differently, depending on the technical requirements and the types of areas. It is scalable and will make a significant difference within a relatively short time at affordable costs. The project design will use participatory and inclusive approaches to ensure citizen engagement.

54. **Integrated land information system.** The project design builds on the current ICT-related capacity and infrastructure that offers a solid foundation to introduce the new land information system. PLRA provides electronic land services to the public and the commercial banks in rural areas and a digital archive links the deeds to the existing land records in Lahore. The LRMIS host servers reside in the Punjab Information and Technology Board's (PITB) data center, ensuring reliable ICT services. The project will scale up the ICT infrastructure and service delivery for efficient system expansion and roll-out through the development of a new LRMIS to provide a single access to the unified land records.

55. **Technical standards and guidelines.** Project design reflects international standards for geospatial information to meet the interoperability requirements of the Open Geospatial Consortium and the International Organization for Standardization Technical Committee 211 (ISO/TC211). The project will benefit from the national identification system managed by the National Database & Registration Authority (NADRA), including identity verification. Data protection will be further strengthened by complying with the Digital Identity and Data Protection/Privacy Guidelines that will be launched by GoPunjab.

56. **Institutional.** BoR is well positioned to execute the project, and institutional coordination arrangements are in place. BoR is the custodian of the rights in land of all the right-holders in the Punjab under: (i) the Punjab Board of Revenue Act, 1957; (ii) the Punjab Land Revenue Act, 1967; and (iii) the Punjab Land Records Authority Act 2017. PMU and PIUs will recruit staff experienced in WB operations and will be strengthened by additional technical and project management staff as necessary. BoR has set

¹⁸ The FFP mapping means a flexible and affordable approach that is designed for the purpose of managing current land issues to meet the needs of people and their relationship to land, rather than simply following advanced technical standards.



up data-sharing agreements with E&TD and LDA by signing a Memorandum of Understanding (MoU) during project preparation, and these two entities have already shared the requisite data with BoR.

(ii) Economic and Financial Analysis

57. **PULSE is expected to generate direct and indirect benefits**, such as unlocking public lands for affordable housing, improving property tax collection, reducing or eliminating land litigation processes, and enhancing cadastral and registration information to incorporate climate change considerations in infrastructure planning. However, the economic analysis (EA) only estimates the potential benefits from the project's strengthening of land tenure security.

58. **The EA follows the standard approach utilized during LRMIS and other similar land projects** by estimating economic benefits based on expected increases in the price of land.¹⁹ The price of land will incorporate the effects of people investing more in their properties as they feel more confident that they can reap the full returns; or alternatively, from improved land use efficiency as land information increases transparency and reduces land transaction costs, thus ensuring that parcels are allocated for their best use.

59. **The EA makes the following assumptions:** (i) a five-year implementation and three-year post-project period; (ii) a discount rate of 12 percent; (iii) the number of properties that will increase their value is 6.18 million (PDO Indicator 1), of which 4.37 million are properties whose land records will be incorporated in the LRMIS and 1.81 million are properties that will be registered for the first time; (iv) the average value of the typical property is US\$7,000²⁰; (v) an exchange rate of PKR 175 per US dollar; (vi) the benefits from land registration will start accruing after three years;²¹ and (vii) land values will increase by 1 percent for properties that will be registered for the first time and by 0.5 percent for registered properties that will be added to the LRMIS. These numbers are very conservative and were obtained from the LRMIS (P090501) Implementation Completion and Results Report. Moreover, the sensitivity analysis estimated that the project will only be unfeasible (net present value negative) if the rates in land value increase are 30 percent less than assumed.

60. **The economic net present value of PULSE is estimated at US\$33.2 million, and the economic internal rate of return (IRR) is estimated at 23 percent, as shown in Table 1.** The project is therefore considered economically viable.

Table 1. Results of the Economic Analysis

Section	Present Value
Expected benefits from PULSE	US\$134.6 million
Total Project Costs	US\$101.4 million
PULSE's Net Benefits	US\$33.2 million
IRR	23 percent

¹⁹ Pagiola, Stefano. "Economic analysis of rural land administration projects." Washington, DC: World Bank (1999); Feder, Gershon, and Akihiko Nishio. "The benefits of land registration and titling: economic and social perspectives." Land use policy 15, no. 1 (1998): 25-43; Baird, Ian G., and Philip Dearden. "Biodiversity conservation and resource tenure regimes: a case study from northeast Cambodia." Environmental management 32, no. 5 (2003): 541.

²⁰ This figure was calculated using data from the Pakistan Housing Supply Scan produced by Punjab Affordable Housing Program (P173663) that estimated that the average size of a property in Punjab's peri-urban areas is 3.5 marlas (about 88 square meters) and the value per marla is about PKR 350,000.

²¹ To account for the time it takes land administration projects' effects to manifest.



B. Fiduciary

(i) Financial Management (FM)

61. **Financial management of PULSE will be the responsibility of the individual FM Units to be established under the PMU, the PIU-PDMA, and the PIU-PLRA.** The PMU under BoR will be the main implementation unit of the project and the FM specialists of the PMU will supervise the inputs of FM specialists of the two PIUs. These arrangements will provide reasonable assurance that the proceeds of the credit are being used for the purposes for which they are provided.

62. **The Bank's FM risk assessment is based on risk mitigation measures included in the project design** (i.e., hiring dedicated FM staff at the PMU and the PIUs, preparation of detailed activity level budgets, conducting internal audits by an internal audit firm, and conducting external audits by the DG Audit, Punjab). Annex 1 provides further details on FM.

(ii) Procurement

63. **All procurements financed by the Credit shall be governed by the World Bank's Procurement Regulations for Investment Project Financing (IPF) Borrowers.** Project procurements shall be managed by the PMU and the PIUs in PLRA and PDMA for their respective components. They shall be processed by qualified procurement specialist(s) employed within the PMU and the PIUs. The PMU and the PIUs will use the Systematic Tracking of Exchanges in Procurement (STEP), which will identify the procurements that are subject to prior and post reviews, based on the complexity and the value of each procurement transaction. The procurement risk assessment identified the following risks: delays in contract awards; need to strengthen contract management; lack of competition from bidders; availability of qualified consultants; and inadequate management of procurement records. Appropriate risk management measures are included in the project design and have informed the residual procurement risk assessment.

64. **A Project Procurement Strategy for Development (PPSD), which includes a Procurement Plan, has been prepared by the implementing agencies.** The PPSP and the Procurement Plan shall be updated during Project implementation, subject to agreement with the WB. Annex 1 provides further details on procurement.

C. Legal Operational Policies

	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

D. Environmental and Social

65. **As per the appraisal stage Environmental and Social Review Summary (ESRS), the Environmental and Social Framework (ESF) standards Environmental and Social Standard 1 (ESS1), ESS2,**



ESS3, ESS4, ESS5, and ESS10 are relevant to the project. The Appraisal ESRS was disclosed by the Bank on January 5, 2022.²²

66. **The overall Environmental and Social (E&S) risk is rated High due to social risks, while the environmental risk is rated Moderate.** The project-supported land record digitization processes/activities are expected to have a net positive environmental impact as more resource-efficient ARCs will lead to a lower carbon footprint. Project activities, however, will have some environmental risks from the expansion of ARCs under Components 3 and 4, while the accompanying office renovation works can have Occupational Health and Safety (OHS) risks to labor and the surrounding communities, including air and noise emissions. Most of these risks and impacts are expected to be localized, temporary, and reversible. The procurement of ICT equipment may pose health and safety risks, if electronic waste (e-waste) is not properly managed.

67. As the final locations, types, and designs of project activities were not known precisely at appraisal, BoR conducted a detailed E&S assessment using a framework approach and has prepared an Environmental and Social Management Framework (ESMF), including an e-waste management plan (EWMP) in accordance with ESS1, ESS2, ESS3, ESS4, ESS5, and ESS10. Two multi-stakeholder consultations held during project preparation with civil society organizations provided feedback on issues around social inclusion, fear of evictions, possibility of triggering of disputes when land registration starts, and safety of surveyors. These issues have been taken into consideration in project design through the adoption of E&S screening tools and the hiring of a firm to run a major communications campaign to enhance understanding of project activities, especially among vulnerable groups. The ESMF adequately sets out the principles, rules, and procedures to assess the environmental risks and impacts of project activities, describes the applicable policy and regulatory framework under which project would be implemented, and will guide the screening of the sub-projects/sites. The ESMF defines the roles and responsibilities of the PMU and the PIUs, E&S specialists, and contractors for effective implementation of the ESMF. The E&S instruments were disclosed in country and by the Bank on January 5, 2022.²³ Translations of the executive summary of the ESMF in the local language (Urdu) were also disclosed on these websites.

68. **The social risk rating is High, because land tenure is a contentious issue in Punjab, particularly in the context of widening social and economic inequities.** The cadaster mapping tasks are complex, and cover a large area. While the project is likely to have beneficial impacts by facilitating efficiency, transparency, predictability, and accountability of land administration in Punjab, there is a risk that land may be cleared of informal occupants in anticipation of project activities. Disputes over land ownership are likely to emerge as cadastral maps are updated and properties are registered. Some level of social disharmony can also be anticipated, given widespread disputes over land (such as multiple claimants, disputed inheritance rights, and the customary exclusion of women and minors from their rightful land shares).

69. **The project will facilitate land dispute resolution and provide avenues for appeal.** These measures minimize the risks of exacerbating existing disputes and/or tension, or the restricting people's access to their assets and properties, by formally recognizing claims challenged by other parties. All first-time land rights registration financed by PULSE will follow the classic area by area, parcel by parcel,

²² <https://projects.worldbank.org/en/projects-operations/document-detail/P172945?type=projects>.

²³ The E&S instruments were placed at the BoR office, PDMA office and PLRA offices. The instruments are also available at <https://bor.punjab.gov.pk/Pulse> and <https://www.punjab-zameen.gov.pk/LawsAndRules/PulseProject>.



participatory and community based systematic registration²⁴ approach, which returns the prepared records and mapping to the community for public display/social verification and alternative dispute resolution. Disputes that remain will be marked as “disputed” in the records, and parties can appeal to the BoR’s Alternative Dispute Resolution system or the courts for resolution. The applied systematic registration, public display, alternative dispute resolution, and appeal lines will be tested and finalized during the pilot stage of the project. Land disputes already in court or disputes over the current land registry records will be left for resolution in court processes and will be recorded as such. The project will support institutional capacity building through relevant policy formulation and the establishment of alternative dispute resolution mechanisms, as well as the training of key personnel (e.g., social/community mobilisers, surveyors, and patwaris).

70. **Resettlement Policy Framework (RPF).** A RPF has been prepared by the BoR in accordance with ESS5 to address risks related to land acquisition, restrictions on land use, and involuntary resettlement. The main gaps between the Land Acquisition Act 1894 and ESS5 are in the areas of screening/scoping of risks, consultation and participation of affected persons in the preparation of compensation measures, establishment of a grievance redress system, due process for the removal of informal settlers, additional support to vulnerable households, and measures for livelihood restoration. Potential land acquisition and resettlement will be done in accordance with the RPF. Informal settlers will only be removed in a manner consistent with the principles of due process as per ESS5.

71. The sites of ARCs to be renovated are on government-owned lands; it is possible that new ARCs may be built on public land. Some informal settlers on public or state-owned lands that may come into use due to the land registration activities of the project may be removed, either during the lifetime of the project or downstream. These risks will need to be monitored up to 15 months after project closure. Mitigation measures under the RPF include a detailed social, legal, and institutional assessment to be conducted during the Year 1 pilot to further investigate the identified involuntary resettlement risks and recommend appropriate management measures. All project activities involving civil works or land registration will be screened to identify any potential impacts related to land acquisition and resettlement, using an “Involuntary Resettlement Screening Checklist for Civil Works & informal Occupants.” Depending on the outcome, a Resettlement Plan may be prepared to identify all eligible affected persons, including informal occupants, and propose compensation in accordance with ESS5. ESS5 does not apply to disputes in land titling between private parties.

72. **Gender-based Violence (GBV).** There is a substantial risk of GBV and Sexual Exploitation and Abuse (SEA)/Sexual Harassment (SH) within families and communities, when women claim their inheritance rights. In order to assess and manage the risks of SEA/SH consistent with ESS4A, the client will conduct a SEA/SH Risk Assessment and propose a mitigation approach in the form of an Action Plan. This will be done after project approval but before the start of the Pilot Phase and will include an Accountability and Response Framework, as well as an assessment of the capabilities of the service providers to provide quality survivor centered services including case management and referral services.

73. **Stakeholder Engagement Plan (SEP).** PULSE stakeholders include landowners and property owners, real estate renters and buyers, housing societies and property developers, residents of regularized and non-regularized informal settlements (KAs), surveyors, revenue officials, elected

²⁴ Systematic registration is the approach to surveying, adjudicating, and registering parcels on an area-by-area basis dealing with the large numbers of parcels. It has the advantage of providing comprehensive land information within a given timeframe and giving more people improved rights more quickly.



representatives, and the public. A summary of the interests and needs of project-affected parties and other interested parties is documented in the SEP, based on effective consultation methods. Vulnerable groups—women inheriting property, residents of KAs, and other vulnerable groups—have been identified and the stakeholder engagement exercise will be designed to ensure that they are regularly consulted. The project will hire a firm to handle communications and key responsibilities for project advocacy.

74. **GRM.** The BoR has a well-developed complaint registration system, wherein a third party manages a complaint logging system for the BoR. The PDMA hosts a Disaster Helpline, which can be used by citizens to file complaints. Social media platforms (Facebook, YouTube, Instagram, LinkedIn, and Twitter) are being engaged for different awareness campaigns, public information dissemination, and community support programs. A project Grievance Redress Committee will be constituted at the PMU and will be managed by a GRM Specialist. A GRM Committee, chaired by BoR, and comprising all relevant departments, will be notified and will draw on the existing resources at the PLRA, PDMA, and BoR. An online complaint registration system will be set up for the project, which will also link with the PLRA's existing system. Grievance/Complaint redressal counters at ARCs will be improved through additional capacity building and system improvements. Records of all grievances/complaints will be maintained in a central database, and an appeals system will be part of the GRM.

75. **Labor Management Plan (LMP).** A LMP prepared by the Recipient provides estimates of the total number and type of staffing needed for the project. As the project does not involve major civil works, there is little likelihood of large scale in-migration of labor at project sites. Possible labor risks relate to the hiring of forced labor or child labor by contractors or community workers employed to carry out surveys or other field activities. PULSE will ensure that all contracts include provisions preventing the hiring of forced or child labor. The risk of gender-based violence among project workers is considered low, given that project activities will primarily be carried out by government officials, who are bound by codes of conduct regarding their interactions with women and general staff. Contractors will be overseen by government officials through the PMU framework and will be similarly required to ensure that work conditions are safe for women. The project will enforce provisions of provincial laws related to anti-harassment and the prevention of violence against women, and conduct awareness raising sessions.

76. The project will involve surveying and mapping land, some of which may take place in physically challenging conditions. Survey work will be carried out under the OHS requirements of the government, and according to the requirements of ESS2. In addition, the health and safety procedures will be reviewed by the relevant PMU and PIU staff before the commencement of work. The OHS measures applicable to the project will be set out in the legal agreement and the Environmental and Social Commitment Plan (ESCP). Project labor would likely be vaccinated against COVID-19 by the time the project commences. Project management will ensure adherence to all current COVID-19 standard operating procedures recommended by the National Command Operation Center (NCOC) in the PMU, the PIUs and on-site.

77. BoR does not currently have a dedicated unit/staff for E&S; however, it has been involved in various donor-funded projects and is aware of environmental and social requirements. The PLRA and PDMA have past experience working with the WB and are familiar with implementing E&S operational policies of the WB. Staff of the implementing agencies will undergo ESF training/orientation in areas such as E&S standards, supervision, compliance monitoring, and reporting as noted in the Environmental and Social Management Plan. The Recipient will appoint a social development specialist, an environment specialist and a gender specialist in the PMU, and focal points in the PIUs who will work on consultations with vulnerable groups. A GRM specialist will be hired to manage the project GRM. The PMU will submit



environmental and social monitoring reports to the Bank, and a third-party Monitoring Agency will be hired to monitor all actions undertaken by the project, including those noted in the ESCP. The ESCP will be agreed with the Bank and will form a part of the legal agreement.

V. GRIEVANCE REDRESS SERVICES

78. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit <http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service>. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

VI. KEY RISKS

79. **Overall Risk Rating (Substantial).** Key risks and mitigation measures for all risks rated Substantial or High are described below.

80. **Political and Governance (Substantial).** The project would require long term political ownership and will be implemented in a complex political context with multiple actors at various tiers of government. Groups benefitting from the inefficiency of the existing systems have a strong vested interest to resist the changes and may lobby against project activities. The LRMIS project successfully addressed such resistance through strong engagement with senior bureaucrats and policymakers. These risks will be managed by using a similar approach and by continuing extensive, regular, and collaborative engagement with key stakeholders in the province, particularly the SMBR. The PSC will be critical in institutionalizing this engagement.

81. **Macroeconomic (Substantial).** Macroeconomic risk is likely to remain Substantial, as fiscal and monetary tightening is expected to resume in FY22. After contracting in FY20 due to the adverse impact of COVID-19, economic activity recovered in FY21. Due to low-base effects and recovering domestic demand, real GDP growth (at factor cost) is estimated to have rebounded to 3.5 percent in FY21 from a contraction of 0.5 percent in FY20. However, in light of emerging external imbalances and higher domestic inflation, fiscal and monetary tightening are expected to resume in FY22. Public debt will remain elevated in the medium term, as will Pakistan's exposure to debt-related shocks. This outlook assumes that the IMF Extended Fund Facility program will remain on track. While the macroeconomic risks are external and not within the control of the project, PULSE will help reduce the fiscal burden of the province by providing



underlying data and strengthening systems for improving the collection of property tax and property transfer stamp duties (two of the three largest revenue potential sources in the province).

82. **Institutional Capacity and Sustainability (Substantial).** BoR is a key department of the GoPunjab and has recent and ongoing experience with multilateral agencies. PLRA has significant experience on WB procedures under the LRMIS project, strong capacity in the computerization of land records, and in the provision of efficient, affordable, and community supported land registration services. PDMA has GIS and spatial analysis skills and current experience as an implementing agency on a WB-funded project. However, the DLR under BoR does not have dedicated and experienced staff, as it has been mostly functioning as a regulator. There could be capacity issues because the DLR would need to undertake most of the field activities. The project budget includes significant funding for a comprehensive capacity building program for BoR, DLR, district collectors, PMU and PIU staff, public agencies, private sector companies, local leaders, and contractors.

83. **Fiduciary (Substantial).** Capacity issues exist in government departments, which could result in inefficiencies and delays in the project deliverables. Additional issues are related to staffing, noncompliance with rules and procedures, and weak internal controls. The fiduciary risk will be mitigated through the hiring dedicated FM and procurement staff in the PMU and the PIUs, provision of training, better internal audit controls, use of improved accounting software, and close Bank support.

84. **Environmental and Social (High).** While Environmental risks are rated Moderate, Social risks are rated High given the contentious nature of land tenure in Punjab, particularly in the context of widening social and economic inequalities. Risks will be mitigated by registering land rights, strengthening and facilitating land dispute resolution mechanisms, and formal channels for appeal. The E&S section of the Appraisal Summary discusses the environmental and social risks and corresponding risk mitigation measures in detail.

85. **Other: COVID-19 (Substantial).** The impact of the COVID-19 pandemic poses risks to at least the start of implementation, including restrictions on mobility. These could cause a longer implementation period for cadastral surveys and other activities requiring fieldwork. The design of the project aims to mitigate these risks by requiring adherence to all NCOC's COVID-19 standard operating procedures. The virus-related risks are expected to be reduced as the scaling up of vaccinations advances in Punjab.



VII. RESULTS FRAMEWORK AND MONITORING

Results Framework

COUNTRY: Pakistan

Punjab Urban Land Systems Enhancement Project

Project Development Objectives(s)

The objectives of the Project are to support the Government of Punjab with: (i) improved land records; and (ii) identification of land for development, including land for housing programs.

Project Development Objective Indicators

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
(i) Improved land records							
Land rights registered in and/or linked with LRMIS (Number (Thousand))		44,500.00	44,500.00	45,265.00	49,707.00	50,680.00	50,680.00
of which, land rights registered in and/or linked with LRMIS to women (Percentage)		30.00	30.00	30.30	30.80	31.40	32.00
Increased coverage of updated digital cadastral maps (Percentage)		0.00	0.10	7.60	28.60	52.10	61.80
Person-based records converted to parcel-based records in LRMIS (Number (Thousand))		0.00	50.00	7,090.00	14,100.00	22,480.00	28,000.00



Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
of which, converted parcel-based records in LRMIS for women. (Number (Thousand))		0.00	13.50	1,960.00	4,100.00	6,850.00	8,960.00
(ii) Identification of land for development, including land for housing programs							
Area of public lands screened for housing (Hectare(Ha))		300.00	328.00	425.00	616.00	904.00	1,000.00
Sites of public lands identified for development programs (Number)		54.00	60.00	80.00	120.00	180.00	200.00

Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Component 1: Digital Land Records and Cadastral Maps for LRMIS							
Landowners whose land records newly registered and/or updated in LRMIS (Number)		0.00	0.00	574,000.00	2,147,000.00	3,910,000.00	4,640,000.00
of which, newly registered and/or updated land records jointly filed or individually filed by women (Number)		0.00	0.00	174,000.00	661,000.00	1,228,000.00	1,485,000.00
Area covered by cadastral surveying (Hectare(Ha))		0.00	1,800.00	199,000.00	424,000.00	690,000.00	853,000.00



Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
External land records incorporated into LRMIS (Number (Thousand))		0.00	0.00	377.00	2,042.00	3,707.00	4,374.00
Support for revenue enhancement ecosystem (Number)		0.00	0.00	2.00	4.00	6.00	6.00
Reduction in average time to register a property transaction (Days)		22.50	21.00	20.00	19.10	19.10	15.00
Component 2: Land for Housing							
Progress of the state lands asset inventory (Percentage)		0.00	0.00	16.00	35.00	60.00	70.00
Implementation of state lands management procedures (Yes/No)		No	No	No	Yes	Yes	Yes
Component 3: Integrated Land and Geospatial Information Systems and Services							
Districts with new LRMIS in use with online connection to a centralized database (Number)		0.00	0.00	1.00	8.00	26.00	36.00
External land registries connected to LRMIS (Number)		0.00	0.00	1.00	4.00	15.00	20.00
Electronic requests processed annually by LRMIS (Number (Thousand))		1,250.00	1,267.00	1,292.00	1,331.00	1,337.00	1,440.00
LRMIS user satisfaction with land administration services (Percentage)		35.00	35.00	35.00	55.00	55.00	80.00
of which, female user satisfaction with land administration services		40.00	40.00	40.00	60.00	60.00	85.00



Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
(Percentage)							
Coverage of image base maps provided by PSDI for mapping and DRM (Percentage)		0.00	0.00	28.00	63.00	72.00	76.00
Component 4. Project Management and Institutional Strengthening							
Baseline, mid-term and final project impact evaluations (Number)		0.00	1.00	1.00	2.00	2.00	3.00
Grievances responded and/or resolved within the stipulated service standards for response times (Yes/No)		No	No	Yes	Yes	Yes	Yes
People trained by the project (Number)		0.00	120.00	1,000.00	2,500.00	4,000.00	5,000.00
of which, female trained (Number)		0.00	10.00	85.00	230.00	380.00	500.00

Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Land rights registered in and/or linked with LRMIS	This indicator will measure the number of land rights in Punjab that have registered in and/or linked with LRMIS. The information will be	Every six months	Land records database	BoR Land Records Management Information System (LRMIS) extract	PMU



	disaggregated by gender. Land rights are considered to be incorporated into LRMIS, including external land records connected to LRMIS.				
of which, land rights registered in and/or linked with LRMIS to women	Gender disaggregated.	Every six months	Land records database	BoR LRMIS extract	PMU
Increased coverage of updated digital cadastral maps	This indicator will measure the percentage of the provincial area where the digital cadastral maps are updated (excluding protected and other lands ineligible for cadastral mapping). The target set by the BoR in the PC1 is 80%. The Project would review the target at the mid-term stage for any revision. Overall, the BoR aspires to achieve 100% coverage of digital cadastral map.	Every six months	Cadastral index maps	BoR LRMIS extract	PMU
Person-based records converted to parcel-based records in LRMIS	This indicator will measure the number of parcels updated from the land records in LRMIS and converted into digital maps.	Every six months	Land records database	BoR LRMIS extract	PMU
of which, converted parcel-based records in LRMIS for women.	Gender disaggregated	Every six months	Land records database	BoR LRMIS extract	PMU



Area of public lands screened for housing	The indicator will measure the area of public lands identified and screened for potential development, including housing program.	Annual	M&E reports	PMU progress monitoring	PMU
Sites of public lands identified for development programs	The indicator will measure the total number of suitable sites of public lands identified with the project support for development programs.	Annual	M&E reports	PMU progress monitoring	PMU

Monitoring & Evaluation Plan: Intermediate Results Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Landowners whose land records newly registered and/or updated in LRMIS	This indicator will measure the number of landowners who have newly registered and/or updated land records in the LRMIS. The information will be disaggregated by gender.	Every six months	Land records database	BoR LRMIS extract	PMU
of which, newly registered and/or updated land records jointly filed or individually filed by women	Gender disaggregated	Every six months	Land records database	BoR LRMIS extract	PMU
Area covered by cadastral surveying	This indicator will measure the geographical areas of cadastral surveying with the project support.	Every six months	Cadastral index maps	BoR LRMIS extract	PMU



External land records incorporated into LRMIS	This indicator will measure the land records owned by non-BoR entities and are updated or interlinked in LRMIS.	Annual	M&E reports	PMU progress monitoring	PMU
Support for revenue enhancement ecosystem	This indicator will measure the number of cities with enhanced capacity for revenue generation. The Project will provide digital land records for land properties' market valuation studies. (aligned with the Punjab Resource Improvement and Digital Effectiveness Program)	Annual	M&E reports	PMU progress monitoring	PMU
Reduction in average time to register a property transaction	This indicator will measure the progress (reduction in time) in registering a property by the average number of days.	Three times	Baseline survey at year1, mid-term survey year 3, and final survey year 5	Measured through independent data collection and survey	PMU
Progress of the state lands asset inventory	This indicator will monitor the progress of establishing the state lands asset inventory.	Annual	M&E reports	PMU progress monitoring	PMU
Implementation of state lands management procedures	This indicator will measure whether the state lands management procedures are developed.	Annual	M&E reports	PMU progress monitoring	PMU



Districts with new LRMIS in use with online connection to a centralized database	The indicator will track the progress (districts number) using the new LRMIS by connecting the central database online.	Annual	Land records database	BoR LRMIS monitoring	PMU
External land registries connected to LRMIS	Interconnection or integration of non-BoR land registries in LRMIS	Annual	Land records database	BoR LRMIS monitoring	PMU
Electronic requests processed annually by LRMIS	This indicator will measure the total number of electronic requests or services provided by LRMIS.	Annual	M&E reports	LRMIS extract	PMU
LRMIS user satisfaction with land administration services	This indicator will measure LRMIS user satisfaction with land administration services at project year 1 (baseline), year 3 (mid-term), and year 5 (final). The survey results will be disaggregated by gender.	Three times	Baseline survey at year1, mid-term survey year 3, and final survey year 5	Beneficiary feedback surveys	PMU
of which, female user satisfaction with land administration services	Gender disaggregated	Three times		Beneficiary feedback surveys	PMU
Coverage of image base maps provided by PSDI for mapping and DRM	This indicator will measure the percentage of the provincial areas where the new base maps (imagery) are created for cadastral surveying and DRM as part of Provincial Spatial Data Infrastructure (PSDI) operations.	Annual	Base map index	PMU progress monitoring	PMU



Baseline, mid-term and final project impact evaluations	The indicator will measure the number of surveys for baseline and project impact evaluations.	Three times	Baseline survey at year1, mid-term survey year 3, and final survey year 5	PMU progress monitoring	PMU
Grievances responded and/or resolved within the stipulated service standards for response times	The indicator will monitor the functioning project level GRM, responding within the stipulated service standards.	Annual	M&E reports	PMU progress monitoring	PMU
People trained by the project	This indicator will measure the revolving number of government and non-government participants attended training provided by the Project.	Annual	M&E reports	PMU progress monitoring	PMU
of which, female trained	Gender disaggregated.	Annual	M&E reports	PMU progress monitoring	PMU



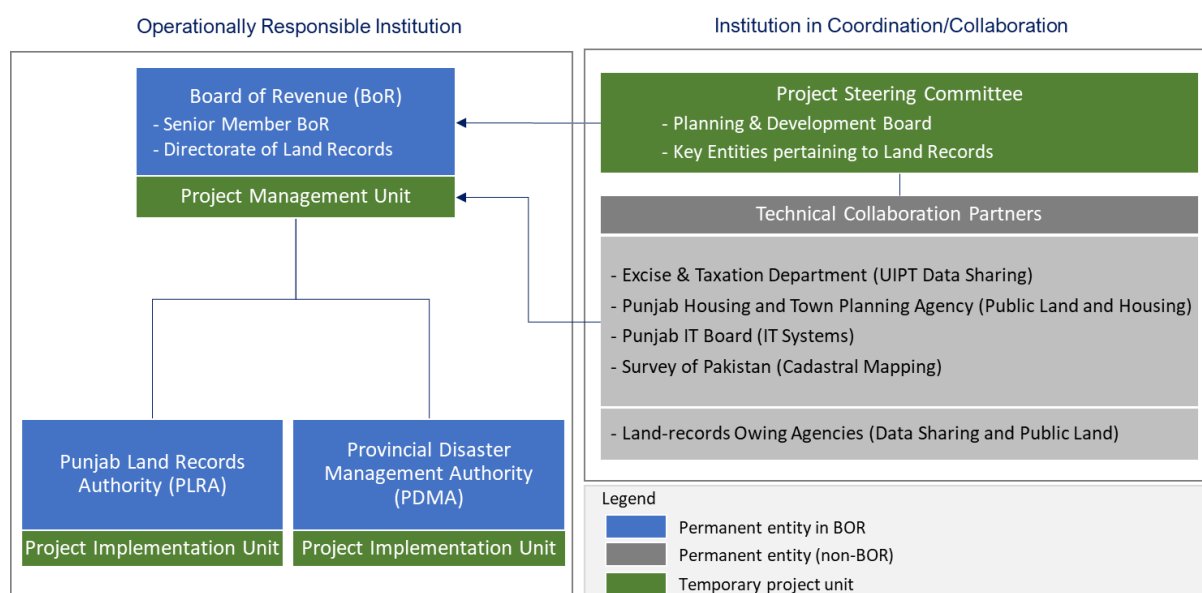
ANNEX 1: Implementation Arrangements and Support Plan

COUNTRY: ISLAMIC REPUBLIC OF PAKISTAN Punjab Urban Land Systems Enhancement Project

A. Project Institutional and Implementation Arrangements

- The project will be implemented by the Punjab BoR, based on the institutional mandates and the administrative authority of land-related laws relevant to PULSE's objectives.** The SMBR will provide general implementation and coordination oversight. BoR will implement the Project through a PMU within the BoR, and two PIUs in the PLRA and the PDMA. PLRA and PDMA are both quasi-autonomous bodies of BoR, with distinct budgets and fiduciary arrangements.
- The PMU will prepare and adopt a POM by no later than one month after the Credit becomes effective.** The PMU will be responsible for all project activities and government-wide implementation, and for ensuring social and environmental compliance, oversight of activities, procurement, monitoring, and reporting. It will be responsible for project activities that fall under the mandate of any of its departments, notably the DLR. The PIUs in PLRA and the PDMA will similarly be responsible for those technical activities that correspond to their respective mandates.

Figure A1.1. Institutional and Implementation Arrangements



- The PMU will be led by a Project Director** (a government appointed official) and its core team will include a Senior Legal Specialist, a Senior FM Specialist, a Senior Procurement Specialist, S&E Safeguard Specialists, a Gender Specialist, Surveyors, Land Administration Specialists, a Senior Monitoring, Evaluation and Reporting Specialist, a Communications Team, a GRM Specialist, a GIS Expert, and supporting staff as per the Planning Commission Form-1 (PC1, a government project document). The Project Director will supervise the PMU team, keep BoR informed, and coordinate implementation while ensuring that all aspects of implementation adhere to financial, procurement, and other fiduciary aspects.



The POM will include the PMU's organizational structure and describe the duties and responsibilities of PMU personnel along with the project's technical, administrative, financial, procurement, safeguards, gender, and M&E procedures.

4. **Each PIU will be led by a full-time Project Coordinator** and will have the key technical staff, including an FM and a Procurement Specialist, necessary to support the execution of activities for which the two departments are responsible. The PIU-PDMA will include GIS Specialists, Mapping (or Geodesy) Specialists and supporting staff as per the PC1. The PIU-PLRA will include GIS and IT Specialists, Land Administration Specialists and supporting staff as per the PC1. The Project Coordinator will serve as PIU's project director, supervise the PIU teams, keep the PMU informed, and coordinate implementation. The POM includes the PMU and PIU's organizational structures and describes their duties and responsibilities, along with the project's technical, administrative, financial, procurement, safeguards, gender, and M&E procedures.

5. **A PSC will be set up at the provincial level to ensure inter-agency coordination, collaboration, and smooth implementation of project activities.** The PSC will be co-led by the Chairman, Planning and Development Board and SMBR, and comprised of representatives from key entities including, but not limited to: the Finance Department, the LG&CD, the E&TD, the PHATA, the Housing & Urban Development Department (HUDD), the Cooperative Department, the Kachi Abadi Department, LDA, the Auqaf & Religious Affairs Department, the Irrigation Department, PITB, the Urban Unit, the Defense Housing Authorities (DHAs), the Cantonment Boards, the Development Authorities, the Private Housing Colonies, and the Societies & Industrial Zones. The PSC will meet at least quarterly. BoR, through the PMU, the 155 ARCs (local land offices) and Patwaris will work closely with local governments in all 36 districts to ensure adequate implementation support for field activities.

6. **The key departments and development authorities will support PULSE as the collaboration partners, while exercising their mandates and sharing their existing land and property records.** These partners will share their land registry data and become users of the integrated LRMIS to maintain their respective land records. BoR and the key partners will sign administrative agreements before project launch.

Table A1.1. Roles of Implementing Agencies and Key Stakeholders

	Institution	Roles
Implementing Agencies	BoR	<ul style="list-style-type: none"> BoR and the PMU will be responsible for all project activities and government-wide implementation. The PMU will also take on responsibility for project implementation. DLR under BoR is the Inspector General of Registration in charge of registering transactions for immovable properties in urban areas. DLR will be responsible for improving and registering land records in peri-urban and urban areas. The following key tasks will be implemented by BoR <ul style="list-style-type: none"> Systematic registration of peri-urban properties (Sub-component 1.2) Upgrading tax records to urban land records (Sub-component 1.3) Incorporation of existing urban records (Sub-component 1.4) Systematic registration of urban property (Sub-component 1.5)



Implementing Agencies		<ul style="list-style-type: none"> - Inventory of state land assets (Component 2) - State Land Asset Management Strategy (Component 2) - Field verifications of Components 1 (Sub-components 1.1–1.5) and 2 • Project Management and Institutional Strengthening (Component 4)
	PLRA	<ul style="list-style-type: none"> • PLRA was set up through the PLRA Act-2017 under the administrative control of BoR. The major function of the PLRA is to computerize land records of the province and to enhance tenure security. • PLRA and the PIU-PLRA will be responsible for land records management and LRMIS improvements and operation. • The following key tasks will be implemented by PLRA <ul style="list-style-type: none"> - Preparation of the cadaster of rural land records and its linkages with LRMIS - Spatial framework for LRMIS (Sub-component 1.1) - ICT Infrastructure upgrade to strengthen the PLRA Data Center, the Arazi Record Centers and their connectivity with the Data Center (Sub-component 3.1) - LRMIS Improvement (Sub-component 3.2) - Integrated Land Portal (Sub-component 3.3)
	PDMA	<ul style="list-style-type: none"> • PDMA is responsible for geospatial data management and analysis, and delivers mapping services and spatial analysis in emergency situations and day-to-day work under the administrative control of BoR. • PDMA and the PIU-PDMA will be responsible for the geodetic framework, base mapping, fundamental geospatial data, and PSDI. • The following key tasks will be implemented by PDMA <ul style="list-style-type: none"> - Strengthening of the existing geodetic network (Sub-component 3.4) - Provision of high-resolution imagery (Sub-component 3.4) - Development of base maps (Sub-component 3.4) - Establishment of PSDI (Sub-component 3.4)
Key Stakeholders	Development Authorities (Land-records Owing Authorities)	<p>Development Authorities (Lahore, Multan, Gujranwala, Faisalabad, and Sargodha) responsible for land development, estate management, town planning, and land management under their jurisdictions. They will cooperate with BoR for data sharing and the future provision of services through the unified land records system. Development Authorities will also collaborate with BoR in public land identification, which will in turn benefit the land-owning authorities.</p> <p>LDA has already provided its 250,000 land records (the largest number of records among development authorities) to BoR as the initial data input to PULSE under the data-sharing MoU with BoR.</p>
	E&TD	E&TD maintains property tax records and tax maps for around 5 million properties. E&TD shared its datasets with BoR in October 2021 for the initial gathering of data as part of PULSE preparation. E&TD will cooperate with BoR to exchange data under the data-sharing MoU with BoR.
	PITB	PITB has a mandate to provide ICT services and solutions to GoPunjab across multi-agency boundaries. PITB implements the Digital Punjab Strategy, automates, and develops systems for various government agencies. It will provide technical guidance and support to PULSE for development in the ICT domain and in the introduction of new technologies and standards.
	PHATA	PHATA is the lead agency for NPHP implementation in Punjab and the principle implementing agency of PAHP. Under NPHP and PAHP, PHATA will provide publicly owned



	land to developers for site development and housing construction. PHATA will work with BoR on public land inventory and the management and data sharing of existing land records, as well as on close coordination between PULSE and PAHP.
Survey of Pakistan	Survey of Pakistan, as a national-level mapping agency, will play an important role in the collaboration on geodetic reference points and base maps, as well as technical cooperation in the surveying and mapping exercises.
Directorate General of Katchi Abadi (DGKA)	DGKA, as part of BoR, will support the regularization of unregistered lands (such as surveys and processing of proprietary rights) in previously notified KAs to provide security of land rights for dwellers.
Revenue Academy Punjab (RAP)	RAP is the training arm of BoR and provides technical training to all officers and field staff in BoR. RAP will work with BoR on the training of field staff and on the advocacy workshops.
LG&CD	LG&CD supports local governments on land management, land use planning, building permissions, and tax collection. LG&CD will provide coordination with local governments for PULSE implementation.
Cooperative Department	The Cooperative Department regulates and supervises cooperative housing societies. There are more than 190 societies with around 200,000 land properties. The Cooperative Department will work with BoR on data sharing and will use the e-services to be developed under PULSE.
Urban Unit	The Urban Unit collected and created the 5 million tax records in support of E&TD's tax records modernization. The Urban Unit also carried out the pilot land registration in Sheesh Mahal. BoR will work with the Urban Unit on technical matters.
HUDD	HUDD deals with developing new housing and has around 55,000 digital land records. HUDD will cooperate with BoR on initial data sharing and the future provision of services through the unified land records system.
Private Housing Agencies	Private housing agencies (e.g., DHA, Bahria Town, Model Town Society) will incrementally share their land records and use the new LRMIS based on agreements between BoR and the individual agencies.

B. Financial Management Arrangements

7. **The FM arrangements for PULSE would be consistent with the current Bank Policy for IPF.** The department tasked to implement the project will be responsible for initial FM activities until the PMU and the PIUs are transitioned to handle the required FM functions. The project will be a part of the GoP's annual development budget. The New Accounting Model (NAM), which includes the Chart of Accounts (CoA) prescribed by the Auditor General of Pakistan, will be used for the project. External audit for the project will be conducted by the Directorate General Audit Punjab, a subordinate office of the Auditor General of Pakistan. The annual audit report and the management letter will be submitted to the Bank within six months of the close of the financial year. The project will open Designated Accounts (DAs) for each implementing entity, i.e., for BoR, the PDMA, and PLRA. These implementing entities will be individually responsible for their payments according to the Financing Agreement. Disbursements will be based on bi-annual cash forecasts provided in the bi-annual interim unaudited financial reports (IUFRs) prepared and submitted individually by BoR, the PDMA, and PLRA within 45 days of the end of every designated six-month period. The Financial Management Specialist (FMS) of BoR will consolidate the



IUFRs of all three entities, in addition to the preparation of individual BoR IUFRs, and will submit it to the Bank.

8. **Staffing.** The three implementing entities will employ dedicated FMS, either hired from the market or deputed from the Department of Auditor General of Pakistan. Project FMS should be hired in accordance with terms of reference acceptable to the WB. These implementing units will also have to enhance the FM capacity of their staff through training in accounting and financial reporting.

9. **Budgeting and planning.** The PMU and the PIUs will prepare their respective annual budgets based on their work plans and submit them to the WB for review and approval at least one month before the beginning of the project's fiscal year. The project budget will follow applicable government/entity budgeting guidelines, which will be set out in the POM. The project will be a part of the GoP Development Budget.

10. **Accounting.** Project FMS shall maintain project accounts using separate books of account and ledgers (i.e., cash book, ledgers, bank reconciliations, cheque register, invoice register, commitment register, fixed asset register, and inventory/stock register). Off the shelf financial accounting software is recommended to be purchased and utilized for this project for transparency, accuracy, and effective generation of reports. The project will use the CoA under the NAM. The project's annual financial statements will be prepared in accordance with the International Public Sector Accounting Standards for Cash Basis of Accounting.

11. **Internal controls.** Relevant Government Rules and Regulations include: The Financial Rules and Accounting Policies and Procedures Manual (APPM), which includes budget checks and a well-defined and segregated scheme of assignments; delegation of financial power rules, which delineates the categories of officers and expenditure-sanctioning competencies; and custody of assets. Project expenditures will be incurred by the PMU and PIUs in accordance with these internal controls specified in the relevant government regulations and in the POM. For safeguarding of assets and stocks/inventory procured under the project, a separate fixed assets register along with an inventory/stock register shall be maintained as per the agreed formats. These will be tagged for identification and subjected to regular physical verification and audit. The FM staff will conduct regular reconciliations with the government Financial Management Information System (FMIS) as per the Revolving Fund Assignment Account (RFAA) Rules 2013. Internal controls at the department level are in place, which ensures in-time validation of the funds issued by WB; however, the process needs further strengthening.

12. **Internal Audit (IA)** will be an ongoing activity to be conducted by an IA firm hired from the market through a standard procurement process. It will conduct the project IA twice a year and present its report separately for each component.

13. **Reporting.** The project shall prepare and submit semi-annual IUFRs to the WB within 45 days after the end of each semester. The project shall also prepare and submit to the external auditors, within two months after the end of the financial year, an annual financial statement. The audited financial statements for each component should be submitted to the WB no later than six months after the end of the fiscal year.

14. **Disbursements and fund flow.** Funds will be separately managed for all three DAs (i.e., BoR, PDMA, and PLRA) and expenditure and receipt transactions will be carried out separately in the respective PMU and the PIUs. Retroactive financing is eligible for the project based on the Financing Agreement. Project funds will be disbursed to each DA opened and maintained at the National Bank of Pakistan (NBP). The FMS of the respective PMU and the PIUs will prepare Withdrawal Applications (WAs) and submit them



to the Bank. Each WA is required to be supported by a six-monthly cash flow forecast and IUFs. The Bank will disburse funds to the State Bank of Pakistan, which will authorize NBP for making payments as per the request of project authorities. The funds will be released by the Finance Department to ensure their availability for the project.

Figure A1.2. Funds Flow to the Designated Account



15. **External audit.** The project will engage the Director General Audit Punjab, who is the representative of the Auditor General Pakistan (AGP), for annual audit. Acceptable audited financial statements, along with the auditor's report thereon and the auditor's management letter reporting any control weaknesses, must be submitted within six months of the close of the financial year.

16. **Financial Management Risk (Moderate).** Capacity issues exist in government departments, which may result in inefficiencies and delays in the project deliverables. Additional issues are related to staffing, non-compliance with rules and procedures, and weak internal controls. The residual FM risk of the project is rated moderate, as the project will have dedicated FM staff hired to support the proposed mitigation measures. Table A1.2 below provides more detail.

Table A1.2. FM Risks and Mitigation

Risk	Risk Rating	Rating Explanation	Proposed Mitigating Measures	Residual Risk
Inherent Risk	Substantial			Moderate
Country/ Provincial Level	Substantial	Non-compliance with rules, policies, and procedures.	Adhering to FM policies and procedures as per NAM, as well as those detailed in the POM.	Moderate
Entity Level	Substantial	Using project funds for non-project related activities.	Prepare detailed activity-wise financial work plan to be reviewed and agreed to by the Bank. External audit.	Moderate
Project Level	Substantial	Lack of Coordination between project components could impact project outputs negatively.	The PSC should be empowered to implement a strong communication mechanism in the project.	Moderate
Control Risk	Substantial			Moderate
Budgeting	Substantial	Budgeting is not done at the activity level. Subsequently the system of budget management is not	Detailed activity level budgets should be prepared in addition to the general Annual Development Plan.	Moderate



		appropriately controlled, and future releases are on lumpsum basis.	Changes in Original Budget should be controlled. Budget execution reports should be prepared monthly.	
Accounting, Bookkeeping and Internal Controls	Substantial	The Project does not hire qualified FMS, leading to significant risk in FM operations. Accounting is not done in the government-run SAP system on a transaction basis, because of which effective reconciliation cannot be ensured. This situation leads to ineffective monitoring of the project.	Appointment of qualified FMS and finance staff to handle FM issues. Use of Govt. FMIS (SAP/R3). If the SAP link is not available, use a strong transaction processing system for project related disbursement, accounting, and financial reporting functions. Ensure compliance with APPM (NAM) for all payments to staff and contractors. Monthly reconciliation of bank accounts. IA will be conducted by an IA firm twice a year and it will submit reports.	Moderate
Funds Flow and Disbursement Arrangements	Moderate	Disbursement of funds to the DAs is delayed.	Regular follow up will be maintained with Government entities involved in the process to expedite funds reaching the Project.	Low
Financial Reporting	Substantial	-	Periodic IUFs to be prepared by the individual FM units and provided to the Bank. FMS' of the PMU and the PIUs review and consolidate the IUFs and send the Consolidated IUFs to the Bank.	Moderate
External Audit Arrangements	Substantial	-	Department of Auditor General of Pakistan to conduct the audits of the Project.	Moderate
Overall Risk	Substantial			Moderate

C. Procurement

17. **The PMU, the PIU-PLRA and the PIU-PDMA will manage project procurements.** The project procurement strategy for development (PPSD) has been prepared by the Recipient to ensure that project procurement provides value for money. The PPCS stipulates the procurements to be managed by the PMU in BoR and the PIUs in PLRA and PDMA. It includes an 18-month Procurement Plan. The PPCS shall be uploaded by the Recipient in STEP.



18. **Summary of PPSP.** The residual procurement risk for the project is assessed as Substantial and will be reviewed during implementation. The procurement approach is summarized below:

- (a) Most project procurements fall in the category of the non-consulting services under Components 1, 2, and 3. Procurement packaging will consider the market analysis and the availability of prospective suppliers and service providers.
- (b) Open competitive bidding with national and international market approach shall be the principal method of procurement.
- (c) The majority of the procurements are considered as substantial risk, with a few as high risk based on their nature, rare use, and market analysis. However, sufficient prospective suppliers and service providers are available in market.
- (d) The PMU and the PIUs will have adequate administrative authority for contract award decisions in accordance with the recommendations made by the bid evaluation committees/consultant selection committees.

19. Table A1.3. lists the procurement risks and the mitigation measures that will help in managing project procurements effectively.

Table A1.3. Procurement Risks and Mitigation

Risk Description	Mitigation Measure	Risk Owner
Transparency/fraud and corruption	Ensure implementation of fraud and corruption provisions both at procurement and contract implementation stages. Hold red flag clinics.	PMU and PIUs
Delays in contract awards	Ensure evaluation committee members are appropriately skilled and trained to apply the evaluation criteria. For specialized procurement, if a subject specialist is not available in the PMU or the PIUs, a qualified person will be co-opted from other department(s). For critical procurement, market outreach session(s) shall be arranged before the publication of Invitations for Bids/ Request for Expressions of Interest. Ensure that relevant technical, procurement, and financial teams have reviewed the draft procurement documents before issuing the Request for Bids/Request for Proposals. Ensure that terms of bid/proposals are consistently reflected in the contract agreement, with minimal variations. Keep records of all negotiations and agreements. Upload the bid opening records immediately/same day on STEP.	PMU and PIUs
Cost and time overruns and contract management	Provide adequate provisions in the contract for price variations, if justified. Ensure good contract administration and performance management. Hold regular inspections/meetings and ensure timely alerts to mitigate overruns. Ensure that all staff know the responsibilities and conditions. Ensure efficient and diligent record keeping and documentation. Ensure all contract amendments, including cost and time	PMU and PIUs



	extensions, are issued in writing and on time. Confirm instructions in writing. Conduct regular monitoring and updating of contractor's/service provider's/consultant's work programs/schedules.	
Insufficient bidders lead to poor competition	Procurement Marketing (including local advertising), Market Outreach Program. Appropriately designed procurement packages. Use of international market approach where necessary.	PMU and PIUs
Availability of skilled project implementation staff, including consultants	Key project staff and management consultants are available. Performance of key staff and management consultants are assessed on an annual basis. Ensure STEP is updated without delay by a suitably qualified staff.	PMU and PIUs
Availability of procurement records	Electronic archiving of procurement records and a records management system to be developed and managed by the PMU and the PIUs.	PMU and PIUs

D. Implementation Support Plan (Strategy and Approach for Implementation Support)

20. **Overall Project Implementation.** The strategy for Bank implementation support reflects the nature of the project and its risk profile. Project implementation support will cover the following critical areas: (i) fiduciary capacity to ensure adequate internal control and overall governance; (ii) technical expertise on cadastral surveys, systematic registration, dispute resolution, ICT and land information systems development, and other land administration functions to support further adoption of good practices and cost-effectiveness; (iii) management of environmental and social factors in the project areas; (iv) communication campaigns to keep stakeholders informed and engaged; and (v) gender strategy to ensure that project benefits are gender inclusive. As needed, in addition to Bank staff, third party monitoring may be used to provide adequate implementation support and direct oversight of field activities.

21. **Fiduciary aspects.** The Bank will: (i) provide implementation support and training as necessary; (ii) follow up on the project's financial management system and adherence to the POM, including but not limited to accounting, reporting and internal controls; (iii) provide guidance to the PMU and PIUs on Procurement Regulations; (iv) review procurement documents and provide timely feedback to the PMU and the PIUs; and (v) help monitor procurement progress against the Procurement Plan. The Bank will ensure that proper support is provided to BoR on procurement, either from Bank staff or experienced consultants.

22. **Environmental and Social aspects.** The Bank will emphasize opportunities provided by the project for social development and environmental sustainability, as well as attention to gender equity. Within this framework, the Bank will help to monitor the implementation of safeguard instruments. Bank social and environmental specialists will be available to provide timely guidance to BoR and ensure compliance with the applicable safeguard policies.

23. **Information and Communication.** A communication strategy will support project implementation in the different areas of intervention. The strategy will support the implementation of consultative and accountability processes, including a GRM.



24. **Implementation Support Plan and Resource Requirements.** Task team leadership and technical aspects will be co-managed from Islamabad and Washington, DC, in close collaboration with the Country Office in Islamabad. Implementation support for financial management and procurement will be provided from the Islamabad office. Consultants will be hired to provide advisory services in specialized land administration issues. Depending on the security situation, formal supervision and field visits will be carried out semi-annually or as needed to help promote satisfactory project implementation. The focus of implementation support is summarized below.

Table A1.4. Implementation Support Plan

Time Period	Focus	Skills Needed	Resource Estimate
0–12 months	Pilot phase in Year 1; Start-up of large consultant support contracts, and review of bid documents. M&E arrangements/ defining baselines. Support with implementation of institutional capacity building, including project management, social, environment, and gender and communication/information.	Team Leader	8 weeks
		Cadastral Survey Specialist	4 weeks
		Procurement Specialist	4 weeks
		FM Specialist	4 weeks
		Social Specialist	5 weeks
		Gender Specialist	2 weeks
		Environment Specialist	5 weeks
		Operations Analyst	4 weeks
		Land Administration Specialist	4 weeks
13–48 months	Cadastral surveys. ICT development. Social and Environmental Sustainability and Safeguards; Financial Management; Disbursement; Procurement; Project Management; and Communication/Information.	Team Leader	8 weeks
		Cadastral Survey Specialist	4 weeks
		Procurement Specialist	3 weeks
		FM Specialist	4 weeks
		Social Specialist	4 weeks
		Gender Specialist	3 weeks
		Environment Specialist	4 weeks
		Operations Specialist	4 weeks
		Land Administration Specialist	6 weeks
		GIS Specialist	6 weeks
		ICT Specialist	4 weeks
		M&E and Reporting Specialist	3 weeks

Table A1.5. Skills Mix Required

Skills	Staff Weeks / year	Number of Trips / year	Comments
Task Team Leader	15 weeks	4	To be adjusted annually
Land Administration Specialist	6 weeks	3	
Survey Specialist	6 weeks	3	
ICT Specialist	4 weeks	2	
Procurement Specialist	6 weeks	3	
FM Specialist	6 weeks	3	
Social Specialist	4 weeks	2	
Gender Specialist	4 weeks	2	
Environmental Specialist	4 weeks	2	
Communications Specialist	6 weeks	3	
M&E and Reporting Specialist	3 weeks	1	



ANNEX 2: Detailed Project Description

COUNTRY: ISLAMIC REPUBLIC OF PAKISTAN Punjab Urban Land Systems Enhancement Project

- 1. The Project Area and Scope reflect the GoPunjab's plan to develop an improved and unified land registry that underpins the comprehensive land administration system, covering urban and rural areas in Punjab.** The project target area will include the entire Punjab territory which has an estimated 64 million parcels in all, comprising cultivated areas (about 118,860 km², accounting for 59 percent of Punjab), built-up areas (approx. 10,000–13,000 km², 4–6 percent), and other land use areas such as national parks, deserts and protected areas (approx. 72,000 km², 35 percent).
- In urban areas, the project will adopt a systematic approach to coordinate existing land-related functions (currently managed by multiple agencies) by standardizing relevant procedures and systems. In rural areas, existing land holdings in digital format will be connected to land parcels produced from base maps. Pilots will be conducted in the first year of the project, before a full rollout is implemented during the subsequent project years. Four pilots would be carried out based on the existing land records situation. Nine candidate pilot areas have been identified, including Dina, Talagang, Barki, Jallo, Maraka, Ichra, Mazang, Jahar Town, and Wapda Town, to collectively work with the BoR, PLRA, PDMA, LDA and E&TD. The pilots will examine FFP approaches and utilize the latest technologies to develop efficient workflows and cost-efficient methodologies for property mapping and registration. This incremental approach will allow the testing of the efficiency of the proposed parcel mapping and registration processes, and to gradually scale up what will become a province-wide, agency-wide system.
- The project aims to achieve: (i) the provision digital land records linked to cadastral maps and DRM data; (ii) improved tenure security and access to land for housing; (iii) a unified modern land information system and PSDI for GoPunjab's preparedness for climate disasters and relief efforts; and (iv) a strengthened capacity and regulatory framework. In this context, the public in Punjab, particularly women and vulnerable groups, will benefit significantly from increased security of land rights and property ownership.

Component 1: Digital Land Records and Cadastral Maps for LRMIS (US\$103 million)

- Component 1 will finance the development of a seamless and multipurpose cadastral map linked to the digital land records for Punjab Province that will become the base map for all GoPunjab spatial work, including revenue generation, planning, DRM, and security. This activity will facilitate land rights registration and build on the existing LRMIS that covers about 44.5 million rural land records in Punjab (LRMIS does not cover urban land records). Key activities include preparing the climate risk assessment informed spatial framework for LRMIS, systematic registration of peri-urban and urban properties, upgrading tax records to urban land records, incorporation of existing urban records, and systematic registration of urban properties. This component will also support the first land registration in notified informal settlements, in line with the Punjab Katchi Abadi Act 1992,²⁵ to provide secure rights for dwellers occupying plots in previously notified KAs. BoR will carry out a pilot phase in Year 1 to develop efficient and cost-effective techniques, followed by a scale-up phase in the remaining years. The resulting digital land records will provide the underlying data to enhance coordination between the land related tax

²⁵ The Punjab DGKA is part of the BoR. DGKA is powered by the Punjab Katchi Abadi Act 1992 which gives it a mandate to identify and declare KAs, as well as to initiate and oversee regularization.



authorities, broaden the province's revenue base, and improve implementation of own-source tax revenue, as well as build the capacity of GoPunjab to modernize the property valuation system.

5. Project design will adopt FFP cadastral mapping. FFP cadastral mapping means a flexible and affordable mapping approach that is designed for the purpose of managing current land issues to meet the needs of people and their relationship to land, rather than simply following advanced technical standards. The FFP approach is participatory and inclusive. It is a realistic approach that is scalable and could make a significant difference within a relatively short time and for relatively low and affordable costs. FFP mapping under the project will be applied differently depending on the technical requirements and the types of areas (e.g., rural, peri-urban, and urban areas), with the understanding that some of the project's areas may need more accurate land surveys. The FFP cadastral mapping has the following four principles: (i) general boundaries rather than fixed boundaries (maximizing coverage rather than precision); (ii) utilizing aerial imagery as reference maps in lieu of field surveys (combining fieldwork and verification); (iii) the level of accuracy being determined by the purpose, rather than technical perfection; and (iv) opportunities for updating, upgrading, and incremental improvement over time in response to social and legal needs.

Table A2.1. Number of Target Land Records under PULSE

Component	Target Records	Activity Type			Intervention Area		
		Mapping	Updating Records	Registration	Urban	Peri-Urban	Rural
1.1 Spatial framework for LRMIS	28,000,000	○				○	○
1.2 Systematic registration of peri-urban properties	528,000	○	○	○		○	
1.3 Upgrading tax records to urban land records	3,500,000	○	○		○	△	
1.4 Incorporation of existing urban records into a unified land registry	874,000	○	○		○	△	
1.5 Systematic registration of urban properties	1,281,000	○	○	○	○	○	
Total	34,183,000	-	-	-	-	-	-

Sub-Component 1.1: Spatial framework for LRMIS (US\$33 million, PLRA and BoR)

6. This sub-component will develop a unified digital cadastral map with a core geospatial framework and layers to upgrade existing land records, and support DRM in selected areas to update existing revenue maps. It will utilize a new base map and elevation models from satellite images and digitize and geo-reference the existing revenue maps of land parcels for integration with the base map. The base map and the cadastral map will become the province's core spatial framework for all planning, security, DRM, disaster response planning, and epidemic control. The revenue maps (*masawi*) will be available in digital form and will be georeferenced to the standard geodetic reference system. The digitized maps will create initial index cadastral maps by overlaying satellite images and base maps provided under Sub-component 3.4. The cadastral maps will be socially and legally verified through a public display in areas where the project produces new maps or updates existing maps. Field verification will be needed in selected areas,



especially where there have been significant changes or where legacy paper maps are not available. The project will introduce a simple mapping method and the general position of the boundary. Where necessary, the land parcels to be subdivided in accordance with landholding shares will be selected based on the owner's needs and careful criteria respecting tradition and social norms. The digital cadastral maps will be validated through public display and subsequent refinement, where required. The public will be informed, and proper measures for dispute mediation and resolution will be in place to ensure protection for women and vulnerable people. The outputs²⁶ of the spatial framework will include cadastral maps and data with locations and owners of properties, as well as climate vulnerability that will incorporate data on the existing district level Multi-Hazard Vulnerability and Risk Assessments (MHVRAs), land use and land cover, crop harvest, forests and protected areas, and waterbodies. This information will be used for parcel-based flood records and hazard assessment, and will be adopted as PDMA's base maps. The resulting datasets will become the foundational layer of PSDI to strengthen GoPunjab's ability for all planning, security, DRM, disaster response planning, and monitoring epidemics.

Sub-Component 1.2: Systematic registration of peri-urban properties (US\$14.5 million, BoR)

7. This sub-component will finance the systematic registration of peri-urban properties that are not yet registered in LRMIS and will secure the tenure of the most vulnerable dwellers. A new registration process will be developed to provide public awareness and information, demarcate property boundaries, gather evidence of rights, climate risk assessment, adjudicate rights, publicly display the results of the adjudication, and respond to public requests for correction or objections to register property rights. The base maps developed in Sub-component 3.4 will be used to produce a map of the parcel boundaries. In some densely populated areas where the boundary information is unclear or indefinite on the base maps, it may be necessary to commission some aerial or drone imagery and/or undertake some ground surveys. Ground verification would be limited to surveying the corners of large blocks of parcels and/or measuring the road frontages of the properties.

Sub-Component 1.3: Upgrading tax records to urban land records (US\$12.6 million, BoR)

8. Activities under this sub-component will include improvements to existing tax maps to build fit-for-purpose urban cadastral maps. This sub-component will use geodetic control points and base maps that will be produced under Sub-component 3.4 to provide the main spatial framework for the fit-for-purpose maps. The base maps will provide the initial urban parcel map information in the seamless cadastral map and will update the existing tax mapping.²⁷ The E&TD has property tax records for about 5 million properties and plans to build the integrated tax database, including immovable property.²⁸ The Urban Unit has produced tax maps using master plans and other information for about 4.2 million of these properties. In addition, the base maps in densely populated areas will be improved by aerial or drone imagery and/or ground surveys. New field procedures and processes will be developed to use the E&TD

²⁶ The development of cadastral maps through the spatial framework will create a database with locations and owners of properties, as well as climate vulnerability data. The information will be used for parcel-based flood records and hazard assessment and adopted as the PDMA's base maps.

²⁷ The E&TD maintains tax maps to identify taxable objects and assess their values. The tax maps represent general property boundaries together with the current occupant of the property for taxation purposes but are not updated timely when the property owners/boundaries are changed. The cadastral maps define the precise geographic extent of a parcel linked with legal property rights and interests. The tax maps can be used to reference for the initial cadastral map creation. Later, the tax maps will be kept up-to-date more easily and efficiently when interlinked with the unified land registry and cadastral maps.

²⁸ The Tax Database Integration in Punjab is under implementation through the World Bank-financed operation - Punjab Resource Improvement and Digital Effectiveness Program (PRIDE, P171417) - to help the government's revenue collecting departments and agencies to generate revenue. PRIDE will also support the integration of data of immovable property, including location, land area, covered area, year of completion, particulars of owners, etc.



information as a basic record to create urban land records. These procedures will include a process of public display of parcel and land record information and will respond to requests for correction or objection before the information is formally included in the new LRMIS.

Sub-Component 1.4: Incorporation of existing urban records into a unified land registry (US\$4.9 million, BoR)

9. This sub-component will finance the digitalization of parcel maps and semi-formal land records and incorporation of these urban land records in a unified land registry. The existing digital land registry records and parcel maps that were created by public development authorities and private development agencies and shared with BoR would be compiled, validated, and integrated (or interlinked) to a unified database in LRMIS. Land holdings registered in the Deeds Registry will also be digitized and combined with the parcel-based recording. BoR will establish formal agreements with these organizations, starting with key government agencies. Based on the success of these initial agreements, BoR will enter into agreements incrementally with the land-owning organizations, including private sector organizations. These agreements will: (i) facilitate the incorporation of information on land records in the seamless cadastral map; and (ii) set out the modality and responsibilities for efficient update of the maps and records, as transactions and changes in property rights occur over time.

Sub-Component 1.5: Systematic registration of urban properties (US\$38 million, BoR)

10. This sub-component will finance the systematic registration of urban properties and parcel-based climate risk assessment selectively across the province. It will also include first registration in KAs,²⁹ which will be supported by cadastral surveys. The systematic registration will fill the gaps that are not covered by other activities under Component 1. PULSE will build on the lessons and experience from the urban cadastral mapping pilot that was conducted by the Survey of Pakistan in Islamabad, Lahore, and Karachi, as well as the identification of state lands. The registration will be coordinated to ensure that the new system is seamless, is an accurate reflection of property rights, and is completed in the most efficient and cost-effective manner. This sub-component will provide public awareness and information, assess multi-hazard and climate risk, demarcate property boundaries, gather evidence of rights, adjudicate rights, publicly display the results of the adjudication, respond to public requests for correction or objection to the displayed adjudication record, and to register the property rights. With the new records, evidence-based planning, social programs, and investments can target these areas and provide resilience, security, economic opportunity, and demarginalization.

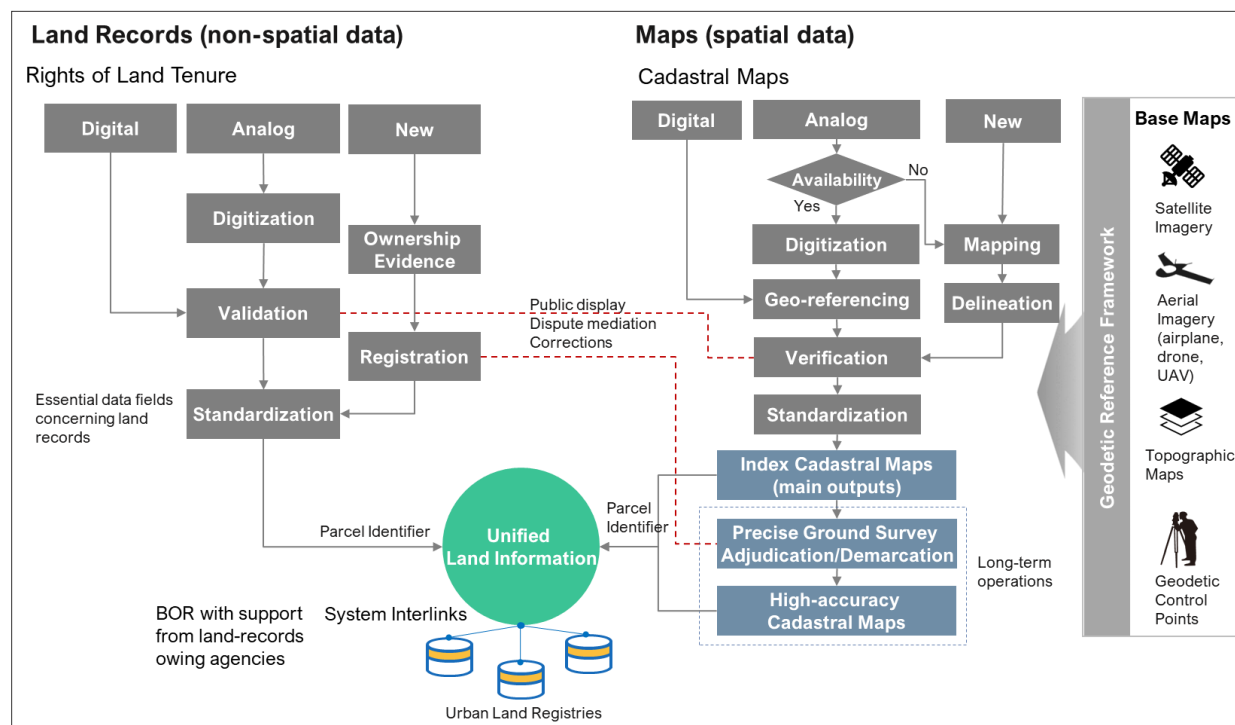
11. The systematic registration process will also be developed to ensure that the rights of residents in KAs are recognized. The KAs are occupying public lands that are highly exposed to climate change-related hazards, along with poor housing, infrastructure, and living conditions. The project will support institutional capacity building in the DGKA to carry out cadastral surveys and first land registration in the notified KAs. Pilot exercises will be implemented in the first year to understand the range of challenges that are likely to arise during project implementation. Assistance will also be extended to the department to design community awareness campaigns and to establish field camps with trained personnel who will oversee the land registration process. There is a process that is applied to transfer land ownership from the government agency administering the land to the organization undertaking the first registration, and then the distribution of property to the eligible property holders. This established process will be built into the systematic registration process developed under PULSE. The formalization of land rights with

²⁹ KAs are informal settlements. It is the temporary nature of tenure, not of housing structures, that qualifies settlements as katchi. The Directorate General Katchi Abadi has identified a total of 5,379 KAs and notified 4,354 KAs under the 1978, 1985, 2006, and 2012 Schemes. The project will support mutation of the notified KAs under the 2012 Scheme through the issuance of property rights (this does not involve physical upgrading of settlements).



climate risk assessment is an essential precondition for initiating climate-resilient investments, enabling ex-ante and ex-post DRM for these vulnerable communities.

Figure A2.1. Procedures of Creating Digital Land Records and Maps



Component 2: Land for Housing (US\$3 million, BoR)

12. This component will support the GoPunjab in the identification, evaluation, and mobilization of low disaster risk public lands for climate-proofed development programs, including resilient housing.³⁰ It will help housing-related agencies maximize the use of existing infrastructure and guide future development in a sustainable manner. PHATA will be one of the primary housing-related agencies for the identification of sites with high potential for affordable housing projects under NPHP, in collaboration with the Bank-funded PAHP. This component will support housing-related agencies to carry out a systematic, province-wide inventory of publicly owned land to screen potential sites against certain criteria, and to develop a multiyear strategy to manage public land assets to achieve targets under NPHP.

13. This component will first prepare an inventory of the state lands identified under Component 1 and the paper records kept by various government authorities. These state lands will be digitalized, georeferenced, analyzed against the DRM dataset to reveal vulnerabilities and exposure to hazards, and stored in a database in LRMIS. These data will help the GoPunjab identify vulnerabilities and exposure to hazards and will be stored in a database in LRMIS to build an inventory of state land assets. The public land inventory will be based on the cadastral index mapping prepared under the project. This activity will then screen the inventory of public lands against the criteria for housing development, such as proximity to jobs and infrastructure, local demand for housing, climate risks and resilience. The outcome of the

³⁰ The climate-resilient housing would comprise using climate-informed design, incorporating more heat-resistant materials, improved drainage and wastewater systems, etc.



inventory will be a priority list of publicly owned land parcels in prime locations that could be readily used for NPHP housing development schemes.

14. The component will support the development of a public land asset management strategy and detailed procedures. The objective of a state land asset management strategy is to inform decision-making by land-owning government agencies—as stewards of critical public resources—to ensure that those assets are used to their highest capacity to fulfil government objectives and serve the public interest. State land asset management strategies help identify surplus land and options for more economic uses through a more streamlined, systematic, and cost-effective land asset management process. Thus, Component 2 will support land-owning agencies to plan more strategically and leverage their land assets to achieve public policy objectives.

15. The public land asset management strategy will prioritize climate resilience, transparency, value for money, market-driven approaches, and will promote climate change adaptation and mitigation actions including building zero-carbon housing in low disaster risk areas in strict compliance with building regulations and sustainable land use plans.³¹ The criteria for climate adaptability, such as the inclusion of climate resilience in land use planning and the demarcation of zones vulnerable to climate change, will apply to identifying suitable public lands for affordable housing and will contribute to the security and well-being of families against climate disasters. It will also pilot simple valuation techniques to estimate the value of publicly owned land and identify prime candidates for housing PPPs and/or urban regeneration. The land valuation strategy will potentially support insurance, compensation, and advice to GoPunjab in disaster mitigation and recovery. The output of Component 2 will be the land asset inventory for housing-related agencies and a written report on actions that GoPunjab can take in the short-, medium, and long-term to maximize the utility of those assets.

Component 3: Integrated Land and Geospatial Information Systems and Services (US\$35.5 million)

16. This component will support activities to establish a modern Land Information System, unifying and integrating rural and urban land records. Component 3 activities will include: (i) strengthening of ICT equipment and software in the existing Data Center, its backup sites, and ARCs; (ii) development of the next generation LRMIS and the Land Information Portal; (iii) digitizing the Deeds Registry's land records in Punjab Province; (iv) the establishment of a PSDI for climate resilience; and (v) the provision of base maps, policies, and capacity, including multi-hazard risk assessment. PULSE will comply with the information security and data privacy protection requirements³² to prevent data exfiltration, mitigate the effect of exfiltrated data, and ensure the privacy and integrity of sensitive information. The POM will lay out the operative provisions of personal data collection and processing.

Sub-Component 3.1: ICT Infrastructure Upgrade (US\$10.5 million, PLRA)

17. This sub-component will support strengthening ICT infrastructure capacity by upgrading existing Data Centers, backup sites and ARCs, and by equipping the new ARCs that will be established during the project. It includes the installation of server hardware, desktop computers, office equipment, communication equipment for Local Area Networks and Internet connections, video surveillance systems, and software licenses to run climate resilient ICT infrastructure. The new ICT infrastructure will enhance the climate resilience of the networks by introducing redundancy systems and dynamic nodes where

³¹ The Bank will promote this collaboration on improving the housing value chain in Punjab via its support to PAHP (P173663).

³² The best practices of a successful approach to the implementation of information security management processes are presented in a series of international standards ISO/IEC 27000 "Information technology, security techniques, information security management systems", which are generally accepted standards in the field of information security. Technical recommendations on information security and data privacy protection were provided to BoR as part of PULSE preparation.



interconnectivity is allowed under disaster conditions. New devices will be procured under a modular design that considers climate-resilient components for specific environmental conditions. The ICT investment will improve response to extreme weather events by interlinking the early warning systems with PDMA for flood, storm, and heat warnings. The Data Centers of PLRA can potentially host the new LRMIS and the Land Information Portal. The main Data Center resides in the PITB building at Arfa Software Technology Park, with backup sites in the Islamabad and PLRA premises to prevent service disruption from extreme climate events. The PITB will provide technical guidelines on information technology (IT) systems and networks with cybersecurity expertise to PULSE, ensuring proper security for protecting data integrity, data loss prevention, and effective cyber defense.

Sub-Component 3.2: LRMIS Improvement (US\$4 million, PLRA)

18. This sub-component will support the integration of rural and urban land records in a single system to deliver a unified and comprehensive data source of property information. Business analysis, data model standardization, and preparation of technical specifications will be the first step in implementing the new LRMIS in close collaboration with the ICT units of key stakeholders. The new LRMIS will be strengthened with advanced GIS features for managing spatial information and will be used for decision-making purposes, valuation, and analysis. Data conversion mechanisms will be developed to enable data migration from the existing land registries into the new LRMIS. Delivered results would be thoroughly tested by the PMU and the PIUs, as well as the respective stakeholders prior to the installation of the new system and its piloting. LRMIS will benefit from integrating external sources of information (e.g., building, land use plan, and address, if available) to have a comprehensive picture of land administration. Considering the existing approach in managing land records in Punjab, the new LRMIS will be designed to provide land registration functions as a service to multiple stakeholders who will migrate their land records into LRMIS and continue to manage these records in accordance with their mandates and responsibilities.

19. *Digital archive of the Deeds Registry.* To make land records complete, LRMIS will unify the records of deeds in the system and make registration of deeds a seamless transaction. This sub-component will also support the establishment of a digital archive of the Deeds Registry, together with capturing ownership and land transaction information in LRMIS. It will finance the work of deeds digitization, verification of data and quality control. While the new LRMIS is under development, work on digitization can be carried out, and data can be loaded in the existing system. Once the new LRMIS is available, all data would be migrated to it. Digitization will help GoPunjab to protect and preserve existing paper documents, significantly improve their availability, and optimize physical office space.

Sub-Component 3.3: Integrated Land Portal (US\$1 million, PLRA)

20. This sub-component will finance the development of an integrated Land Portal to provide various e-services based on a unified land information database. The portal will source land information from the new LRMIS and/or receive it from multiple local land registries that are managed by different stakeholders. The number of provided e-services will increase over time and will have a variety of free, payable and restricted access types. The portal will provide not only a digital cadaster map of unified rural and urban land parcels, but also a complete picture of the geospatial representation of land parcels by overlaying additional digital maps, such as infrastructure layers, administrative boundaries, land use plans, and tax valuation zones. A mobile application will also be developed to provide access to the portal services on mobile devices, targeting major mobile platforms and implementing additional services, facilitated by mobile device features (e.g., parcel mapping/verification). Development of the Portal and



the mobile application would commence once the new LRMIS system is either finalized or is at the stage of final testing and acceptance.

21. *Data exchange with external land registries.* Considering the diversity of existing land record registries managed by different stakeholders, there would be a need to exchange this information between them and the Portal. Such data exchanges would be arranged primarily in a one-way direction, from the data source to the Portal. Appropriate data formats, transformation rules, and standards would be defined, and data exchange services would be developed, automating data exchange procedures with external providers. To facilitate data exchange procedures and make them as simple as possible, specific data transformation services would be developed for key stakeholders with big datasets, minimizing effort on their part to send the data.

Sub-Component 3.4: Establishment of PSDI (US\$20 million, PDMA)

22. This sub-component will finance the following three activities, which are required for DRM and cadastral mapping: (i) strengthening the geodetic network; (ii) provision of high-resolution imagery and base maps, including multi-hazard risk assessment; and (iii) establishment of the PSDI framework. All three activities will be implemented by PDMA for DRM and disaster preparedness. A geospatial portal incorporating outputs of the geodetic network and base maps will be created and managed by PDMA to provide the basis to assess, plan, and monitor disaster risks and climate change actions. The PSDI will include activities to build a geospatial foundation, such as the facilitation of sharing and maintenance of DRM geospatial datasets; defining institutional coordination and arrangements; drafting policies; technical standards; DRM capacity building; and ICT equipment for hosting the geospatial portal. PDMA will progressively integrate its MHVRA at the district level with PSDI to improve decision-making, increase community resilience, manage the effects of climate change, plan prioritized responses to climate disasters, and establish adaptation measures.

23. *Geodetic control points and base maps.* Geodetic control points will be installed with the support of Survey of Pakistan to establish a common reference system for all mapping products and information on heights for DRM. Base maps produced as orthorectified, high-resolution imagery will be generated to provide fundamental geographical details, multi-hazard risk assessment, high-risk and hazardous zoning, and indicative parcel boundaries necessary to conduct cadastral surveys and subsequent mapping. High-resolution satellite imagery would be obtained for the entire province. Aerial or drone imagery will be procured in densely populated areas or where satellite imagery is not available. Those geospatial products would be accessible to a broader community to leverage the use of geospatial data for a wide variety of decisions and for improving climate-resilience, which would contribute to National Spatial Data Infrastructure initiative of a nationally consistent spatial framework in Pakistan.

Component 4: Project Management and Institutional Strengthening (US\$8.5 million)

24. This component will support the PMU and the PIUs to manage, implement, and supervise project activities, and training and skill development in the areas of monitoring and evaluation, communication, audits, social and environmental management, policies and regulations, operations and maintenance, and project management. It includes financing for public awareness campaigns and other related activities to build confidence in and understanding of systematic first registration and digital land registration, as well as gender strategy for targeted messaging to women and vulnerable groups. Climate resilience awareness for households on their homes and yards will be embedded in the awareness raising campaigns. Under this component, a GRM will be established for the project and will be managed to ensure that all grievances, complaints, and concerns are adequately addressed.



Sub-component 4.1: Project Management, Monitoring and Evaluation (US\$5.5 million)

25. This sub-component will support effective project management, fiduciary support (financial management and procurement), monitoring and evaluation of project activities, the establishment of a solid M&E framework, baseline and customer satisfaction surveys, and compliance with social and environmental safeguard policies and processes. It will also include financing for the baseline study, and the mid-term and end-of-project impact evaluations to assess performance and document important lessons to inform the design of future operations. A GRM will be established for the project and will be managed to ensure that all grievances and complaints from concerned stakeholders and citizens are responded to.

Sub-component 4.2: Legal and Regulatory Support (US\$1 million)

26. This sub-component will update and harmonize the policy, legal, and regulatory framework for comprehensive land administration, systematic land registration, and unified land registry management. It will support legal and technical studies to analyze current challenges, develop recommendations, and pursue the acceptance of recommendations within government, which will promote security of tenure, integration of land registry, reduction of land disputes, parcel-based cadastral mapping and registration, creation of independent land tribunals for adjudication of rights and conflict resolution, land-related climate change actions, women's land rights, and modern land valuation and taxation infrastructure. It will comprise a legal and technical analysis, workshops and consultancies, including: (i) pilots of cadastral mapping, upgrading land records, incorporation of existing land records, and systematic land registration; (ii) international and regional comparative studies; (iii) consultations and workshops to discuss key policy issues; (iv) consultancy services to develop draft policies and procedures; and (v) policy studies to enhance land allocation and spatial planning for climate resilience and mitigation.

Sub-component 4.3: Institutional Strengthening and Public Awareness (US\$2 million)

27. The objective of this sub-component is to increase the capacity, create awareness of unified land records and cadastral mapping, expand ARCs' coverage, and improve the performance of all relevant actors in the land sector to be able to fulfill functions in land administration. A training needs assessment will be conducted, and a detailed long-term training plan will be prepared. Training packages (short courses, study tours, ESF training/orientation and others) will be provided at different levels, including, but not limited to, provincial departments, local governments, PMU and PIU staff, BOR officials, public development authorities and private agencies, local leaders, and contractors. Capacity building for a comprehensive land administration system and a PSDI for DRM will be supported to improve the extensive collection of village records and build knowledge on climate change actions related to land management. This sub-component will also enhance the equal treatment of all citizens, regardless of their gender or social status, by accompanying technical field work with raising public awareness and legal advisory services.

28. *Public Awareness and Gender Mainstreaming.* This sub-component will finance public awareness campaigns and other related activities, including preparation of the communication strategy, training of revenue officers in gender sensitization, message development and testing to ensure that the messaging builds confidence in and understanding of a unified land registry and parcel-based land administration. Gender related issues will be identified, reviewed, and mainstreamed through the implementation of the gender strategy. The gender strategy will include monitoring public messaging campaigns of gender norms in social communication campaigns, communications, the participation of women in public display of cadastral information, and women's benefits from the registration of land rights. The Social Assessment



and other safeguard instruments will advise on ensuring social monitoring that is sensitive to the land rights of women and socially vulnerable groups. Specific public awareness activities related to the registration of urban and peri-urban lands will be included under Component 1.

29. *Renovation of ARCs.* This sub-component will include the renovation of ARCs to expand the coverage of the new LRMIS service. Potential ARC sites will be reviewed and determined by BOR, taking into consideration future service needs and regional balance in ARC allocation. All sites for renovation of ARCs will be on government-owned land. Solar photovoltaic (PV) technologies will be installed at the selected ARCs to reduce electricity consumption in each office (which is mainly sourced through fossil fuels) by about 20-30 percent. Upgrading office equipment and IT devices for the new ARCs will be supported under Component 2.1.

Component 5: Contingent Emergency Response (CERC, US\$0.0 million)

30. This component will provide immediate response to an eligible emergency, to be defined in the CERC Operational Manual, which will be an annex to the POM. At the request of the government, this component would finance emergency activities and expenditures through the reallocation of funds from the project.