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Report No: PAD00063

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT
ON A
PROPOSED LOAN

IN THE AMOUNT OF US$ 653 MILLION

TO THE

REPUBLIC OF INDONESIA

FOR A

INTEGRATED LAND ADMINISTRATION AND SPATIAL PLANNING PROJECT
(P180860)
{RVP/CD CLEARANCE DATE}

Urban, Resilience and Land
East Asia And Pacific

CURRENCY EQUIVALENTS

(Exchange Rate Effective {June 30, 2024})

Currency Unit =		
	=	US$1
US$ =		SDR 1

FISCAL YEAR
January 1 - December 31

Regional Vice President:	Manuela V. Ferro
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ABBREVIATIONS AND ACRONYMS

AM	Accountability Mechanism
AMDAL	Environmental Impact Assessment
ANN	Artificial Neural Network
APA	Alternate Procurement Arrangements
API	Application Programming Interface
ASEAN	Association of Southeast Asian Nations
ATR/BPN	Ministry of Agrarian Affairs and Spatial Planning/National Land Agency
AVM	Automated Valuation Model
AWP	Annual Work Plan
BAPPEDA	Regional Development Planning Agency
BIG	Geospatial Information Agency
BKPM	Ministry of Investment/ Indonesia Investment Coordinating Board
BPK	Financial Audit Board of Indonesia
BPS	Statistics Indonesia
CCDR	Country Climate and Development Report
CMEA	Coordinating Ministry of Economic Affairs
CPF	Country Partnership Framework
CSO	Civil Society Organization
DA	Designated Account
DIPA	Budget Document
DSM	Digital Surface Model
DTM	Digital Terrain Model
E&S	Environment & Social
EA	Executing Agency
EFA	Economic and Financial Analysis
EIRR	Economic Internal Rate of Return
ESCOP	Environmental and Social Codes of Practice
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESS	Environmental and Social Standard
FAO	Food and Agriculture Organization of the United Nations
FCPF	Forest Carbon Partnership Facility
FDI	Foreign Direct Investment
FDS	fundamental data set
FFP	fit-for-purpose
FGD	Focus Group Discussion
FGRM	Feedback Grievance Redress Mechanism
FILAC	Fund for the Development of Indigenous Peoples of Latin America and Caribbean
FM	Financial Management
FOLU	Forestry and Other Land Use
FY	Fiscal Year
GBV	Gender-Based Violence

GDP	Gross Domestic Product
GHG	Greenhouse Gases
GoI	Government of Indonesia
GRS	Grievance Redress Service
HPL	Land Management Right
IA	Implementing Agency
ICT	Information and Communication Technology
IFR	Interim Financial Report
ILASP	Integrated Land Administration and Spatial Planning Project
IP	Indigenous Peoples
IPF	Investment Project Financing
IPLC	Indigenous Peoples and Local Communities
IPPF	Indigenous Peoples Planning Framework
IT	Information and Technology
LAMP	Land Administration and Management Program
LAP	Land Administration Project
LG	Local Government (city/district level)
LiDAR	Light Distance and Ranging
LKPP	National Public Procurement Agency
LTS-LCCR	Long-Term Low Carbon and Climate Resilience Strategy
LIS	Land Information System
LMP	Labor Management Procedures
M&E	Monitoring and Evaluation
MEPS	Minimum Energy Performance Standard
MFD	Maximizing Finance for Development
MoEF	Ministry of Environment and Forestry
MoF	Ministry of Finance
MoHA	Ministry of Home Affairs
MoMAF	Ministry of Marine Affairs and Fisheries
MPA	Multiphase Programmatic Approach
NBT	Land Parcel Value Map
NDC	Nationally Determined Contribution
NPV	Net Present Value
NUDP	National Urban Development Project
OSS	Online Single Submission
PBC	Performance-Based Condition
PDO	Project Development Objective
PIU	Project Implementation Unit
PMDN	Domestic Investment
PMU	Project Management Unit
Pokja	Working Group
POM	Project Operations Manual
PP	Procurement Plan
PPSD	Project Procurement Strategy for Development
PSC	Project Steering Committee
PTSL	Systematic and Complete Land Registration

PV	Present Value
QCBS	Quality and Cost Based Selection
RDTR	Detailed Spatial Plan
RPJMD	Local Medium-term Development Plan
RPJMN	National Mid-Term Development Plan
RTRW	Regional Spatial Plan
RTR KSN	Spatial Plan for National Strategic Area
RTRWN	National Spatial Plan
RTRW-P	Provincial Spatial Plan
SEA	Strategic Environmental Assessments
SEA/SH	Sexual Exploitation and Abuse, and Sexual Harassment
SEF	Stakeholder Engagement Framework
SHAT	Land Ownership Certificate
SLR	Sea Level Rise
SOP	Standard Operating Procedure
SP2D	Remittance Order
SPAN	Government Treasury Information System
SPM	Payment Order
SPSE	e-Procurement System
STEP	Systematic Tracking of Exchanges in Procurement
ToR	Term of Reference
TORA	Land for Agrarian Reform
UAV	Unmanned Aerial Vehicle
UKL-UPL	Environmental Management Effort – Environmental Monitoring Effort
UKPBJ	Procurement Work Unit
UNDB	United Nations Development Business
VBS	Village Boundary Setting
WEF	World Economic Forum
ZNT	*Zona Nilai Tanah* (Land Value Zone)

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DATASHEET

BASIC INFORMATION

Project Beneficiary(ies)	Operation Name		
Indonesia	Integrated Land Administration and Spatial Planning Project		
Operation ID	Financing Instrument	Environmental and Social Risk Classification	
P180860	Investment Project Financing (IPF)	Substantial	

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach (MPA)	[ ] Contingent Emergency Response Component (CERC)
[ ] Series of Projects (SOP)	[ ] Fragile State(s)
[ ] Performance-Based Conditions (PBCs)	[ ] Small State(s)
[ ] Financial Intermediaries (FI)	[ ] Fragile within a non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made Disaster
[ ] Alternative Procurement Arrangements (APA)	[ ] Hands-on Expanded Implementation Support (HEIS)

Expected Approval Date	Expected Closing Date
23-Sept-2024	30-Nov-2029
Bank/IFC Collaboration	
No	

Proposed Development Objective(s)

to strengthen climate-informed spatial planning, land tenure security and land administration in Indonesia

Components

Component Name	Cost (US$)
Climate-Informed Spatial Planning	105.00
Strengthening Land Tenure and Landscape Management	177.00
Land Information System and Valuation	45.00
Large-Scale Base Maps for Climate Action	292.00
Project Management and Capacity Building	34.00

Organizations

Borrower:	Republic of Indonesia
Implementing Agency:	Geospatial Information Agency, Ministry of Agrarian Affairs and Spatial Planning / National Land Agency (ATR/BPN), Ministry of Home Affairs

PROJECT FINANCING DATA (US$, Millions)

Maximizing Finance for Development

Is this an MFD-Enabling Project (MFD-EP)?	Yes
Is this project Private Capital Enabling (PCE)?	No

SUMMARY

Total Operation Cost	**654.63**
Total Financing	**654.63**
of which IBRD/IDA	**653.00**
Financing Gap	**0.00**

DETAILS

World Bank Group Financing	
International Bank for Reconstruction and Development (IBRD)	653.00
Non-World Bank Group Financing	
Counterpart Funding	1.63
National Government	1.63

Expected Disbursements (US$, Millions)

WB Fiscal Year	2025	2026	2027	2028	2029	2030
Annual	14.72	134.83	207.97	171.17	96.69	27.61
Cumulative	14.72	149.55	357.53	528.70	625.39	653.00

PRACTICE AREA(S)

Practice Area (Lead)

Urban, Resilience and Land

Contributing Practice Areas

Environment, Natural Resources & the Blue Economy

CLIMATE

Climate Change and Disaster Screening

Yes, it has been screened and the results are discussed in the Operation Document

SYSTEMATIC OPERATIONS RISK- RATING TOOL (SORT)

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

POLICY 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

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

E & S Standards	Relevance
ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	Relevant
ESS 10: Stakeholder Engagement and Information Disclosure	Relevant
ESS 2: Labor and Working Conditions	Relevant
ESS 3: Resource Efficiency and Pollution Prevention and Management	Relevant
ESS 4: Community Health and Safety	Relevant
ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
ESS 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Relevant
ESS 8: Cultural Heritage	Relevant
ESS 9: 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

Legal Covenants

Sections and Description
Project Steering Committee: LA, Section I.A.2 and I.A.3 of the Schedule 2: The Borrower shall be responsible for providing the overall strategic guidance for the Project through the Steering Committee. To this end, the Borrower shall, not later than two (2) months after the Effective Date, establish and thereafter maintain, throughout Project implementation, the Steering Committee, with a composition, institutional framework, functions, and resources satisfactory to the Borrower and the Bank for such purpose.
Project Management Unit: LA, Section I.A.4 of the Schedule 2: The Borrower shall, not later than two (2) months after the Effective Date, establish and thereafter maintain, throughout Project implementation, the Project Management Unit in ATR/BPN, to be responsible for (a) the implementation of Parts 1, 2.1, 2.2, 3, 5.1 and 5.4 of the Project, (b) the overall management, and fiduciary, reporting and monitoring activities of the Project.
Project Implementation Unit: LA, Section I.A.5 of the Schedule 2: The Borrower shall, not later than two (2) months after the Effective Date, establish and thereafter maintain, throughout Project implementation: (a) a Project Implementation Unit in MOHA, to be responsible for the implementation of Parts 2.3 and 5.3 of the Project; and (b) a Project Implementation Unit in BIG, to be responsible for the implementation of Parts 4 and 5.2 of the Project.
Project Operations Manual: LA, Section 1.B.1 of the Schedule 2: The Borrower shall: (a) prepare and furnish to the Bank for its review and no-objection, the Project Operations Manual, in form and substance acceptable to the Bank, which shall include the description of: (i) implementation arrangements including delineation of roles and responsibilities of various entities, institutions and agencies involved in Project implementation and their coordination; (ii) the procurement procedures and standard procurement documentation (including the technical specifications for procurement of large-scale mapping and detailed spatial planning); (iii) disbursement arrangements, reporting requirements, financial management procedures and audit procedures; (iv) procedures for preparing and reviewing a consolidated annual work plan and budget for each Fiscal Year; (v) the Project performance indicators and monitoring and evaluation arrangements; (vi) arrangement and procedures for the management of environment and social aspects; (vii) administrative boundaries of the Target Areas; and (viii) such other administrative, financial, technical and organizational arrangements and procedures as shall be required for the Project; (b) afford the Bank a reasonable opportunity to review the proposed Project Operations Manual; and (c) promptly adopt the Project Operations Manual as accepted by the Bank.

Conditions

Type	Citation	Description	Financing Source
Effectiveness	Effectiveness: LA, Article IV.01.(a)	The Borrower has adopted the Project Operations Manual, in form and substance satisfactory to the Bank.	IBRD/IDA
Effectiveness	Effectiveness: LA, Article IV.01.(b)	The Borrower has developed the technical specifications for procurement of large-scale mapping and PTSL to be implemented in the first year of the project.	IBRD/IDA
Disbursement	Withdrawal Conditions: LA, Section III.B.1 of Schedule 2	Notwithstanding the provisions of Part A above, no withdrawal shall be made for payments made prior to the Signature Date.	IBRD/IDA

I. STRATEGIC CONTEXT

A. Country Context

1. **Indonesia has undergone a dramatic economic and political transition in the last quarter of a century**. Indonesia is the fourth largest country by population in the world (275.5 million people as of 2022) comprising more than 6,000 inhabited islands. Additionally, Indonesia is the largest economy in Southeast Asia and the world's 10th largest in terms of purchasing power parity and the only Association of Southeast Asian Nations (ASEAN) member of the Group of 20 (G20). Since the outset of Reformation[1] in 1998, Indonesia has developed into a stable decentralized democracy, and its economy has experienced rapid growth, with an average annual growth rate of 5.5 percent from 2010 to 2019. Although the COVID-19 pandemic caused a slowdown to 3.7 percent in 2020, the economy quickly recovered and achieved a growth rate of 5.31 percent by 2022.[2] The country has made remarkable progress in reducing its poverty rate, which dropped from 24 percent in 1998 to less than 10 percent in 2022.[3] Indonesia is characterized by an enormous diversity of natural and urban landscapes, spanning from the world's second most populated urban area[4] to the third largest share of rainforests.[5] It is also the home to 20 percent of mangrove forests, 36 percent of tropical peatlands, and the second-largest coastline globally. However, Indonesia's critical landscapes are under threat as the demand for land for cash crop cultivation, food production, renewable energy expansion, and urbanization grows.

2. **Indonesia is one of the ten largest emitters of greenhouse gases (GHG)[6], which is primarily driven by land use change.** Its economy is largely dependent on unsustainable extraction of renewable natural resources (agriculture, forestry, and fish) that accounted for more than 12 percent of Gross Domestic Product (GDP) in 2022.[7] The country's abundant supply of carbon-intensive natural resources, land and energy matched by high demand drive growth –agriculture, urban expansion, industrialization, transportation and trade. Indonesia's economic development has led to rapid urbanization and conversion of land for commercial purposes. By 2020, over 55 percent of the population had become urban,[8] and much of the country's primary forests and peatlands[9] had been converted for timber extraction and agricultural development.[10] Urban expansion meanwhile converted agricultural areas into peri-urban settlements. Population growth has rapidly expanded the footprint of Indonesian cities, with spatial patterns of growth hampering connectivity of residents to services and jobs. The limited spatial planning capacity, rapid development, and lack of capacity to monitor land use have resulted in environmental losses and urban sprawl, and inefficient land use throughout the territory.

[1] The Reformation era began with the resignation of President Suharto in May 1998. The country then embarked on a transition period characterized by decentralization and a more open political-social environment.
[2] Source: Statistics Indonesia (BPS)
[3] The poverty rate as of September 2022 was recorded at 9.57 percent, which means 26.36 million people live below the poverty line (Source: MoF, 2023).
[4] According to CitiMonitor, the greater Jakarta area has a population of nearly 34 million people, only exceeded by Tokyo-Yokohama (link).
[5] Indonesia's over 92 million hectares of forest form a significant part of the world's remaining tropical forests. FAO, 2019 (link).
[6] According to the World Bank's Indonesia Country Climate and Development Report (Indonesia CCDR), Indonesia accounts for about 3.5 percent of global GHG emissions, with emissions of 1,495 million tons of carbon dioxide (CO_2).
[7] World Bank National Accounts data. Agriculture, forestry, and fishing, value added (percent of GDP) (link).
[8] World Bank Group. 2023. Indonesia CCDR (link).
[9] Carbon stored in Indonesia's peatlands is estimated at 13.6 to 40.5 GtC, one of the largest biological carbon stores on Earth.
[10] The primary forest cover loss from 2000 to 2020 reached 8.49 million hectares. World Bank Group. 2023. Indonesia CCDR (link).

3. **Climate change poses major development risks to Indonesia and the country is highly susceptible to climate-related disaster, such as flooding, landslides, and droughts.** These events are expected to occur more frequently in the coming decades. Large-scale wildfires pose a recurring challenge in Indonesia, especially during El Niño years, releasing substantial amounts of carbon. Large areas of land will be rendered unsuitable for cultivation or habitation as a result of inundation from flooding. Similarly, Indonesia's coastal areas face critical challenges due to sea level rise (SLR), which is salinizing arable land, shrinking cities and also threatening the fragile carbon stock in mangrove forests. Removal of green spaces to give way to urban areas also adds to the environmental damage and risks of flooding.[11] Cities are increasingly at risk of flooding as concrete replaces natural ecosystems and limits land's absorptive capacity. Overextraction of coastal groundwater and consequent water subsidence further lowers land heights, increasing its vulnerability to flooding. Cities' climate resilience and smart land use will be keys for Indonesia's development. Climate change will impact all Indonesians, but the livelihoods of the poor land users will be particularly affected. Communities living in informal settlements are often in areas more prone to climate shocks, while indigenous peoples are vulnerable because of their dependence on natural resources, compounded by commonly pending legal recognition of their rights on land.

4. The Government of Indonesia (GoI) in 2022 committed to reducing GHG emissions by 31 percent by 2030, with a further reduction of up to 43 percent contingent on international support.[12] Through its "Long-Term Strategy for Low Carbon and Climate Resilience 2050",[13] the GoI increased its ambition on GHG reduction to achieve net zero emissions by 2060 or sooner. Adaptation ambitions in the Enhanced Nationally Determined Contribution (Enhanced NDC) 2022 were raised through programs, strategies, and actions aiming to improve economic, social, livelihoods, and ecosystems and landscape resilience to climate change. More than 60 percent of the emission reduction target is expected from the Forestry and Other Land Use (FOLU) sector. This will involve restoring 2.7 million hectares of peatlands, rehabilitating 5.7 million hectares of degraded forestlands, and minimizing deforestation[14] and land degradation.[15] Slowing down emissions will also require optimizing urban land use, including efficiency gains in transport systems and urbanization patterns to reduce energy demand. Improved spatial growth patterns of Indonesia's cities, along with additional investment, are needed to accelerate the development of low-carbon mobility options. Promoting a compact urban form will be crucial in Indonesia's secondary and smaller cities (with populations under one million), where most of the infrastructure needs to be built and carbon-intensive spatial patterns are yet to be locked in.[16]

B. Sectoral and Institutional Context

5. **The World Bank's 2023 Indonesia Climate Change and Development Report (CCDR) stresses the importance of sustainable land management in mitigating climate change, noting that reductions in GHG emissions will largely need to be driven by land policies.** The GoI ambitiously aims to make the FOLU sector a net carbon sink by 2030 (that is, zero

[11] From 1990-2018 in just Jakarta metropolis, vegetated area was halved from 60 to 29 percent. Source: CCDR. World Bank (link).
[12] Enhanced NDC Indonesia 2022.
[13] Long-Term Strategy for Low Carbon and Climate Resilience 2050, Government of Indonesia. (link).
[14] Positively, after the peak of 2.69 million hectares of forest loss in 2015, deforestation rates steadily decreased. Deforestation slowed from an average of 1.13 million ha per year between 2000 – 2006 to 0.12 million ha and 0.11 million ha in 2019 – 2020 and 2020 – 2021 respectively. Source: CCDR. World Bank (link).
[15] The GoI revoked 3.1 million ha of forest concession licenses in 2022 and required concessionaires to protect high conservation value Forest Area.
[16] World Bank Group. 2023. Indonesia CCDR (link).

or negative net emissions) under its FOLU Net Sink 2030 plan.[17] To achieve this, the CCDR calls for improving land tenure security, spatial planning, and addressing urban sprawl through more balanced cities.[18] Secure land rights are essential to reduce poverty and enable sustainable development. Complete land records are also critical as repository to respond to climate disasters ensuring fair compensation in cases of disaster related resettlement. The current lack of high-resolution maps, geospatial data on climate change impacts, and integrated information on land rights, boundaries and use hamper the ability of the government to manage land effectively. Climate-informed spatial plans are needed to improve flood-resilience, which should delineate flood-prone zones while controlling development accordingly via zoning. Base mapping and up-to-date land and property records and systems are critical prerequisites to climate-resilient spatial planning. They are also needed for improving valuation of land and property for leveraging public assets, capturing value and enabling fair and efficient property taxation. This is necessary for financing infrastructure investments and enhancing municipal services, including clean energy and green buildings, and sustainable public transport.

6. The GoI has shown strong commitment to increase land tenure security for social inclusion, economic growth and the reduction of land-based emissions. Since 2015, Indonesia has implemented an Agrarian Reform Program[19], through which more than 9 million hectares (ha) of land have been registered for community and smallholder ownership. The Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (ATR/BPN) has the mandate to register all land rights in Indonesia. It also has the mandate for spatial planning, land information systems and land valuation. In the last five years, ATR/BPN's flagship activity has been the nationwide Systematic and Complete Land Registration Program (PTSL).[20] Through PTSL, first time land registration has progressed at an unprecedented speed doubling the number of land registration to more than 100 million parcels[21] in only a few years.[22] The ongoing World Bank financed Program to Accelerate Agrarian Reform (One Map Project, P160661) implemented by the ATR/BPN contributed to this transformative program with a targeted seven million land parcels surveyed and mapped in rural areas. However, not all registered parcels have been titled yet, and some 25 million land parcels remain unregistered, a sizable and immediate task for ATR/BPN that is set to be completed by 2025. In addition, there has been lack of progress with administrative boundary setting, particularly Village Boundary Setting. The GoI has mandated the establishment of all 75,000+ village boundaries, yet less than 4,500 (5.8 percent) of Indonesia's villages have established boundaries. This has resulted in frequent boundary and land resource conflicts between neighboring villages and impacts the fiscal transfers of Village Funds.

7. Despite ATR/BPN's rapid progress with securing land rights, land tenure remains insecure for most indigenous 'adat' communities.[23] Customary land tenure systems are known to contribute to the sustainable management of land, including forests, and are therefore important to mitigate climate change.[24] Without secure land tenure, communities'

[17] MoEF Ministerial Decree No. 168/Menlhk/PKTL/PLA.1/2/2022 on the Operational Plan for Indonesia's FOLU Net Sink 2030. This plan is more ambitious than the projected fall from 714 $MtCO_2eq$ to 214 $MtCO_2eq$ in 2030 under the NDC's unconditional target.
[18] World Bank Group. 2023. Indonesia CCDR (link).
[19] Indonesia's cornerstone land law, the Basic Agrarian Law (Law no.5/1960), provides the legal basis for agrarian reform. However, agrarian reform did not fully take off until after President Joko Widodo issued Presidential Regulation no. 86/2018 on Agrarian Reform.
[20] PTSL is the Systematic and Complete Land Registration program as referred to in ATR/BPN Ministerial Regulation No. 6/2018 concerning Systematic and Complete Land Registration.
[21] The total number is estimated at 126 million land parcels outside Forest Areas.
[22] In 2021, the ATR/BPN surveyed and mapped more than 10 million land parcels.
[23] Adat communities in Indonesia refer to indigenous or traditional communities. The term "*adat*" itself translates to "customary" in Indonesian. Adat communities abide by distinct cultural practices and customary laws that are intrinsically linked to a collective territory.
[24] FAO & FILAC. 2021. Forest governance by indigenous and tribal peoples: An opportunity for climate action in Latin America and the Caribbean.

landholdings are at risk and prone to overlap with extraction licenses and other land use permits, negatively impacting their livelihoods and sustainable community-based landscape management practices. A complicating factor is that 63 percent of Indonesia's land cover is designated as Forest Area, which overlap with more than 25,000 villages, home to some 37 million Indigenous Peoples and Local Communities (IPLC).[25] Forest Areas are state designated areas reserved for forest land managed by the Ministry of Environment and Forestry (MoEF). The unilateral process[26] to enact Forest Areas has lacked community participation, resulting in binding but often irrational boundaries that do not correspond with ground realities. Meanwhile, ATR/BPN's authority to register land rights is limited to areas classified as non-forest.[27] In Forest Areas, no individual land titles may be issued but adat communities can obtain Customary Forest decrees from MoEF, which recognize these communities as the collective owner and managers of the forest. Other communities can apply for temporary collective land use permits under the Social Forestry Program. Recent advancements include MoEF's recognition of more than 130 customary forests[28] and ATR/BPN's successful pilot to register customary agricultural lands outside Forest Areas under the One Map Project. However, these were still implemented in silos and particularly adjusting erroneous Forest Area boundaries remains a challenge. Indonesia's One Map Policy[29] has identified boundary discrepancies and overlaps between land rights, concessions, and Forest Areas, but a systematic attempt to resolve these through field verification and subsequent boundary settlement is pending.[30] The continued prevalence of insecure tenure at the forest/non-forest divide highlights the need for an integrated, landscape-based approach to ensure sustainable forest management and secure tenure rights.

8. **Beyond tenure security, up-to-date land and property records, large-scale base maps and Land Information Systems (LIS) are needed not only as fundamentals for spatial planning and land management, but also to improve the government's land valuation services and tax base for property tax collection.** Mass valuation systems are beneficial to increase access to real property market information and improve accuracy of corporate and public asset values providing a benchmark for fair compensation and state land leasing and monetization. The latter will be critical for landscape restoration activities, including mangroves, where land tenure and land-use issues need to be resolved with local communities. With proper infrastructure in place, value-based property taxes can be designed to be economically efficient and equitable. They can play important roles in financing local governments (LGs) [31] and in national tax systems. Mass valuation systems stem from and reflect the quality of the overall valuation infrastructure in the country. The foundation is a tenure system that ensures transparency in transactions to provide reliable data as the basis for the assessment of values. A credible system requires that valuation methods are consistent with international valuation standards, laying down the qualifications and professional education for valuers, and setting ethical and professional standards to be followed in valuation and tax assessments.

9. **The ATR/BPN is the regulating ministry for land valuation and has embarked on several pilots to upgrade its land valuation zoning system.** Its system currently serves registration fee collection, but ATR/BPN's vision is to provide

[25] Ministry of Environment and Forestry, Republic of Indonesia, 2020. The State of Indonesia's Forests 2018.
[26] Forest Area are established through Forest Area enactment, which entails several steps, including designation, boundary delineation, mapping and legal enactment.
[27] The prevailing legal interpretation is that ATR/BPN's authority to register land as per the Basic Agrarian Law only stretches over land categorized as non-Forest Area. The Forestry Law (Law no. 41/1999), meanwhile, authorizes the MoEF to govern and manage lands specified on the basis of its function as "forest."
[28] Customary Forest recognition is conducted as part of MoEF's Social Forestry Program and the real time data is available online for public (link).
[29] The Indonesia One Map Policy is an initiative to create a unified and comprehensive geospatial reference for the entire country.
[30] The Agrarian Reform Program and Social Forestry Programs together provide the policy tools to adjust erroneous Forest Area boundaries but joint implementation by ATR/BPN and MoEF is hampered by budget constraints and lack of inter-ministerial coordination.
[31] In this document, local government (LG) refers to governments at the district (*kabupaten*) and city (*kota*) level.

base values for property taxation and other uses. ATR/BPN currently maintains Land Value Zone (ZNT) maps in 449 of total 485 local land offices in the country but the zoning does not cover building values. Property taxes are therefore still collected through LGs' own valuation mechanisms or the Ministry of Finance (MoF) tax records that were last updated before the decentralization of property taxation in 2009. With the first instance improvement, ATR/BPN's ZNT maps could provide land values closer to market value than presently and over time become the basis for the property taxes. This will require updating and completing the ZNT maps across the country and finding a solution for inclusion of building values, which are currently not provided by the ATR/BPN. However, the vision is that the land registry in will in the future register both land parcels and buildings and provide values for both. Addressing simultaneously building valuation and land values is necessary to contribute to the property tax potential.

10. **Despite the GoI's advancements in land administration there is still a notable gap in guiding sustainable land use through effective spatial planning.** Spatial plans often lack the necessary direction to align with the country's climate change mitigation and adaptation objectives. The ATR/BPN oversees Indonesia's spatial planning system and regulates the formulation of national, regional (including provincial) and local[32] spatial plans**.** The Ministry's spatial planning mandate is to provide technical assistance and data to LGs to establish regional and local spatial plans (RTRW), spatial plans for National Strategic Areas (RTR KSNs), and detailed spatial plans (RDTRs). However, most spatial plans do not include clear guidance for establishing a long term, strategic development direction that prioritizes socio-economic outcomes in a form easily understandable for citizens, investors and government departments.[33] The weak ability of spatial plans to contain urban sprawl allows low-density development in the urban fringe areas, allowing encroachment to areas with high environmental and biodiversity value. Spatial planning needs to be improved at various levels: (i) Integrated spatial plans are needed for optimal configuration (land use, location of capital investments, accessibility networks provided by road/ transport networks) for climate-resilient, densified urban development beyond administrative boundaries; (ii) RDTRs should guide local optimization of the same, at the local level, focusing on functional zones and local transit nodes; and (iii) spatial plans should go beyond guiding land use to prioritize investment, but also restrict development for conservation and preservation purposes in non-urban areas. ATR/BPN's centralized mandate in spatial planning provides an avenue for addressing these challenges and upgrading Indonesia's planning capabilities to the needs of climate actions era.

11. **Positively, the Job Creation Law (Law no. 6/2023, henceforth Omnibus Law) significantly enhanced Indonesia's spatial planning procedures to ensure greater coherence with business licensing and advance the country's investment climate and protection of critical landscapes.** Under the Omnibus Law and its implementing regulations, the ATR/BPN has the mandate to host and maintain a planning system that cascades from national spatial plans, RTRWs and RDTRs.[34] The Omnibus Law created a publicly accessible Online Single Submission (OSS) System to link spatial plans digitally to applications for business licenses and land use permits. OSS is an attempt to simplify licensing processes, enhance transparency and avoid creating new overlaps between land use rights, which has been a perennial problem with natural resource and extractives licensing for decades. OSS also embeds monitoring to ensure that land is used in accordance with its intended purpose. Following up, Indonesia has embarked to streamline the spatial planning procedures across sectors, regions and stakeholders, as well as to resolve inconsistencies and overlapping mandates in

[32] Local meaning district (*kabupaten*) or city (*kota*) level.
[33] Project Appraisal Document for the World Bank Indonesia National Urban Development Project (P163896).
[34] RTRWs are regional spatial plans at province and local level in 1:25,000 or 1:50,000 map scale, and RDTRs are detailed spatial plans in 1:5,000 map scale.

spatial planning and land administration/governance.[35] Provincial spatial plans (RTRW-P) and local spatial plans (RTRW-K) are largely in place and are aligned with the National Spatial Plan (RTRW-N). However, there are still two major gaps. First, RDTRs that should serve as the backbone planning instrument to verify (approve/reject) investment decisions in the OSS only cover 28 percent of cities/districts[36] and are costly and time-consuming to prepare; out of the 2,000 targeted RDTRs, there are so far approximately 330 RDTRs and only 194 have been incorporated into the OSS. At the current pace, it will take more than 20 years to fulfill the backlog of RDTRs. Second, there is a lack of a climate-informed approach, meaning the integration of climate considerations into the process of planning and managing land use and development.

12. **Indonesia needs climate-informed planning to effectively manage its land resources, provide livelihoods security for vulnerable communities and sustainably develop its growing economy.** Reducing Indonesia's GHG emissions and creating climate resilience in line with the Paris Agreement will depend on future land-based investments to stem current GHG emissions and meet NDC targets. These investments will be guided by the spatial plans which will be incorporated into the OSS and must be verified prior to licensing decisions. Climate-informed spatial planning increases protection and disaster resilience and increases the efficiency of land use while simultaneously improving the investment climate. The latter is needed to help unlock green investment potential to reduce emissions arising from urban expansion and tree cover loss, and improve livability, while creating conditions for low-carbon transport modes. Spatial planning that protects natural land–including forests at the urban periphery and high-risk flood zones–should be complemented by efficient urban design measures and transportation systems that make higher density livable.

13. The ILASP Project will support the GoI in addressing climate change by strengthening spatial planning and increasing land tenure security, both critical to reducing Indonesia's emissions *and* implementing climate change adaptation measures. First, the project will support the development of high-resolution geospatial data providing the foundation for developing climate-informed spatial plans that direct new agriculture and infrastructure away from high-carbon and sensitive ecosystems and guide urban densification to reduce further encroachment and build resilient cities. Under the ILASP Project, climate-informed spatial planning entails conducting risks assessments on areas vulnerable to climate change impacts, identifying and designating critical landscapes for preservation, involving communities in the planning processes, and using climate data and modeling tools to better understand and predict potential impacts of climate change on a specific area. Second, the project will support strengthening land tenure security for the most vulnerable communities, including indigenous peoples, which will both promote social inclusion and enhance sustainable landscape management. Third, the project will support the development of a land valuation system to enhance own source revenue collection for urban services and governance, facilitate land assembly for infrastructure investments, and increase property market efficiency and transparency. The paradigm shift to climate-resilient spatial planning, mass valuation, and comprehensive land tenure requires a digital transformation of land administration systems. To this end, land use (spatial planning) and land administration (land tenure and valuation) will be integrated through a comprehensive and integrated LIS.

C. Relevance to Higher Level Objectives

[35] Including Government Regulation no. 21/2021 on Implementation of Spatial Planning and Government Regulation no. 43/2021 on Settlement of Inconsistencies in Spatial Planning, Forest Areas, Permits and/or Land Rights.
[36] RDTRs currently cover only 146 of the 514 cities/districts and one province (DKI Jakarta).

14. The project fully aligns with the World Bank Group's Country Partnership Framework (CPF) for Indonesia for Fiscal Year 2021–2025 (FY21–FY25) (Report No. 157221-ID). The project is very closely linked to *Engagement Area IV. Sustain Management of Natural Assets, Natural Resources- Based Livelihoods and Disaster Resilience* and will particularly contribute to *Objective 4.1: Strengthen management of natural assets and environment,* as the project will strengthen land management and spatial planning, enhance and scale up the national land valuation system, and conduct area-based land registration for IPLCs. *Engagement Area II. Improve infrastructure* highlights the needs for investments to enable urban resilience to climate change and disaster risks to reduce the vulnerability of assets and livelihoods. The project will support the policy reforms and capacity building needed to strengthen compliance with spatial planning, strengthen land administration and governance (including the rights of vulnerable communities), and improve governance of natural resources. This will be achieved by improving land administration data and LIS, increasing participation of stakeholders in decision making and ensuring equitable benefit sharing and inclusion of the vulnerable and poor. The project will directly contribute to several result indicators and progress indicators in the CPF, including *non-forest area with land rights registered* (Target 2025: 100 million land parcels), *Land area under sustainable landscape management practices* (Target 2025: 9,440,000 ha), and *Coverage of digital land value maps and zoning information in non-Forest Area* (Target 2025: 77 percent).

15. **The project is consistent with Indonesia's climate strategies, including its NDC, National Adaptation Plan (NAP), and Long-Term Low Carbon and Climate Resilience Strategy (LTS-LCCR) and also informed by the country's CCDR.** The project aims to strengthen climate-informed spatial planning, land tenure security, and land administration in Indonesia. On adaptation, the project directly supports measures in building social and livelihood resilience, such as identification of highly vulnerable areas in local spatial and land use planning efforts, improvement of human settlements, and climate resilience infrastructure development. On mitigation, the project does not hinder Indonesia's efforts to reduce GHG emissions from key sectors, including the energy, agriculture, forestry and land uses, waste, and the industry. As such, the project is consistent with Indonesia's climate strategies, which call for improved spatial planning and clarity in land designations and tenure rights as two of the most urgent and impactful measures to improve climate resilience and reduce land-based emissions. It is well-aligned with Indonesia's national policy frameworks and high-level commitments, including the National Mid-Term Development Plan (RPJMN) 2020–2024. This project will particularly support the National Priority 2 - Developing Areas to Reduce Gaps and Ensure Equality via components 1 and 4, National priority 5 - Strengthening Infrastructure to Support Economic Development and Basic Services via components 1, 3 and 4, and National Priority 6 - Building the Environment, Improving Disaster Resilience and Climate Change via components 1, 2, 3 and 4. In addition, the implementation of the project's components is mandated by the Omnibus Law. The project supports the nationwide program to streamline business licensing activities from a risk-based approach using the OSS. To achieve the national priority objectives, the project links to the ATR/BPN Strategic Plan Document of 2020–2024. Spatial planning, land valuation, and land tenure security are central pillars of this strategic plan.

II. PROJECT DESCRIPTION

A. Project Development Objective

Project Development Objective (PDO) Statement

The PDO is to strengthen climate-informed spatial planning, land tenure security and land administration in Indonesia.

PDO Level Indicators

16. The outcomes of the PDO will be measured by the following indicators:

Table 1. Project Outcomes and PDO-Level Indicators

PDO Outcome	PDO-Level Indicator
Strengthened climate-informed spatial planning	• Climate-informed spatial plans developed and OSS ready (number)
Strengthened land tenure security	• Target population with land rights registered (number)
Strengthened land administration	• Area with enhanced land administration (hectares)

B. Project Components

17. The project comprises five components, as described below. Annex 2 contains the detailed project description.

18. Component 1. Climate-Informed Spatial Planning (US$105 million). Under this Component, ATR/BPN will lead the formulation of Detailed Spatial Plans (RDTR) and integrated Spatial Plans for National Strategic Areas (RTR KSNs). The RDTRs will be enacted by LGs under the technical oversight and approving authority of the ATR/BPN. The Component will finance consulting services for the formulation of spatial plans and adopt a phased yet accelerated approach to ensure greater long-term success and cost efficiency and support the GoI in achieving the RDTR targets. It will strengthen spatial planning by reducing the backlog of the current GoI target to establish 2,000 RDTRs to be connected to the OSS, supporting 500 RDTRs (25 percent of the GoI target). Further, the project will adopt a new RDTR prototype to strengthen analytical processes, data collection and Strategic Environmental Assessments (SEAs) and integration of large-scale base maps to formulate climate-resilient and low-carbon spatial plans. This will enable the RDTRs to better guide capital investments to priority development areas (and avoid investments/urban sprawl/agriculture in designated forests, coastal and conservation or hazardous areas). Innovatively, the project will support the development of RDTRs for both urban and non-urban areas. The latter will be restrictive in nature to protect critical landscapes and limit development in these areas. The targeted 500 RDTRs will serve as the backbone planning instrument to verify (approve/reject) investment decisions in the OSS. The parallel development of integrated RTR KSNs covering larger critical landscapes (including conservation areas, national parks and corridor areas spanning over multiple provinces) will be needed to ensure a landscape approach to spatial planning as a tool for addressing land degradation.

19. Component 2. Strengthening Land Tenure and Landscape Management (US$177 million). This Component, led by ATR/BPN and supported by the Ministry of Home Affairs (MoHA), will finance systematic land registration, registration of customary lands, and village-boundary setting to strengthen land tenure security. It will support the existing gaps in the implementation of the GoI's Agrarian Reform Program through participatory mapping and registration of a targeted 5.2 million land parcels, including customary lands of IPLCs. Activities will include: (i) implementing PTSL and improving the cadastre and land registry records; (ii) registration of customary land of adat communities; (iii) digitalizing land records and cadastral maps; (iv) piloting a 3-dimensional (3D) cadastre in major urban

areas; and (v) administrative boundary setting of villages through Village Boundary Setting (VBS). Licensed surveyors will be contracted for PTSL (ATR/BPN) and VBS (MoHA), which will be deployed at the village level for participatory mapping activities. Researchers and universities will be recruited to support ATR/BPN's customary land registration by inventorying customary lands and conducting awareness-raising activities for adat communities. The resulting improved security of tenure and clarified administrative boundaries will improve land governance, particularly environmental preservation incentivizing better care of resources, hence making a significant contribution to climate change mitigation. IPLCs, including adat communities, will benefit particularly given their long history without legal rights to land. The project will 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.

20. **Component 3. Land Information System and Valuation (US$45 million).** This Component will finance the purchase of ICT equipment and software, development of a modern Land Information System (LIS), and production of ZNT maps to strengthen integrated land administration. It will improve the efficiency of land administration by promoting easy land services and equitable access to information on land ownership, property value, land use, land-based climate-risk data, and land transactions. The modern LIS will provide base data, centralized repositories of integrated data, technical standards, applications, electronic services, and ICT infrastructure for all public sector land management in Indonesia. The Component will support the conceptualization of a 3D LIS in Indonesia, incorporating the modeling of buildings into the cadastre. The LIS will interlink land records, revenue data, base maps, and geospatial and planning data sets online and provide them as base systems and data to support various functions for multiple uses. Upgraded ICT and LIS will increase availability of land-related services with a particular impact to women and vulnerable groups by enhancing accessibility, providing platforms for feedback and community engagement, and empowering through information. Seamless exchanges of digital data between ATR/BPN, line ministries, and LGs to provide updated and reliable information will develop more trust in GoI, and increase participation by citizens, the private sector and other stakeholders. Enhanced provision of land administration services will also increase government revenue generation. This Component will also support Indonesia's land and property valuation system by upgrading and rolling out ZNT maps, and land parcel-based value (NBT) maps to selected cities based on demand for registration fee collection. The increased synergy between ATR/BPN values and LGs' needs will enhance property taxation and more generally facilitate land assembly for infrastructure investments, increasing property market efficiency and transparency, and improving state land management and monetization.

21. Component 4. Large-Scale Base Maps for Climate Action (US$292 million). This Component will be implemented by the Geospatial Information Agency (BIG), the national mapping authority of Indonesia. It will finance geospatial data acquisition and digital map production. These include large-scale base maps, high-resolution images, digital elevation models, and geospatial data infrastructure for standardization, processing, sharing and data exchange to benefit climate change mitigation and adaptation in Indonesia. The digital maps will serve as prerequisite data sets for components 1, 2, and 3 to implement climate-informed spatial planning and all land-based climate change actions, disaster risk modeling and responding and land use monitoring, as well as land valuation. Use of technologies to capture geospatial data will vary per climate and spatial planning needs between rural and forested areas including peat lands; settlements and urban centers; and coastlines. The national geospatial data infrastructure[37] will be upgraded with multi-use and large-scale maps, reflecting climate risks and national economic priorities. Capacity building under this Component will focus on practical use of geospatial data for climate action, open data and access, data collection and updates, and private-sector interaction to build geospatial data ecosystems and services. Open data and services will

[37] National geospatial data portal can be accessed online at https://tanahair.indonesia.go.id/portal-web.

add value to entrepreneurship contributing to jobs and economic growth. BIG will develop systematic processes and strategies for regular data collection and updates post-project to ensure that geospatial data remains current and accurate in collaboration with both the public and private sectors, as well as through geo-crowdsourcing initiatives involving public engagement. As the availability of large-scale base maps will be required to support activities under other components, advanced procurement will be conducted of services for geospatial data acquisition and map production.

22. Component 5. Project Management and Capacity Building (US$34 million). This Component will finance policy, regulatory and procedural assessments and reforms, project management under the Project Management Unit (PMU) and Project Implementation Units (PIU), monitoring, coordination, and institutional capacity building. The Component will finance policy studies, knowledge exchange, capacity building activities and technical assessments on the existing legal and institutional framework to address the main policy challenges of land administration and spatial planning in Indonesia to incrementally enhance activities under Components 1-4. First, this Component will finance a comprehensive legal and policy assessment on the recognition of customary land rights for adat communities. MoHA will support this by developing technical guidelines for the recognition of adat communities. Further, this Component will also support a policy assessment and technical studies on how ATR/BPN can expand from land valuation to property valuation to strengthen the linkages between ATR/BPN's centralized valuation and local level property tax collection. The inclusion of buildings will be tested and a concept for an advanced single-reference land and property valuation system will be developed. The Component will follow up the One Map Project's piloting of land redistribution in Forest Areas through policy assessments and capacity building for inter-agency coordination between ATR/BPN, MoEF and other governments stakeholders. Training and capacity building programs will be provided to key stakeholders, including LGs, to strengthen institutional capacity of the mass property valuation, spatial planning, and multi-purpose cadastre. Finally, this Component finances pilots, public awareness campaigns, project outreach, dissemination activities and targeted messaging for women and vulnerable groups.

23. Geographic Scope of the Project and Sequencing. The Target Areas for (including the criteria, as needed, for selecting such areas under) each sub-component (particularly sub-components 1.2, 1.3, 2, 3.2 and 4.1) will be detailed in the POM. Target areas below the province level (cities/districts for spatial plans and land valuation, and villages for land registration and VBS) will be selected prior to implementation of each phase, based on needs, risks assessments and other strategic factors. The geographic coverage of the project constitutes a significant scale-up from the One Map Project, which focused on ten target provinces in Sumatra, Kalimantan and Java. Furthermore, whereas the One Map Project implementation areas were limited to rural areas, ILASP activities, including spatial planning and land registration, will also cover urban and peri-urban areas. Large-scale base maps at 1:5,000 scale under Component 4 will be generated by BIG for all Indonesian provinces (subject to exclusion of certain areas for activities under sub-component 4.1). Data acquisition for the large-scale base maps will be completed within the first three years of the project (2025-2027), while base maps for Sulawesi will be produced in 2024 using the government budget. Given the size and wide interlinking scope of the project, activity sequencing will be critical for successful implementation. The selection of areas for RDTRs by ATR/BPN under Component 1 and VBS under Component 2 by MoHA will be aligned with the geographic sequencing of large-scale base maps and will follow three phases. Phase 1 (2025-2026) will focus on Sulawesi and the selected provinces of Kalimantan, Java, and Sumatra. Phase 2 (2027) will focus on the remaining provinces in Kalimantan, Java, and Bali, as well as NTT and NTB provinces. Phase 3 (2028-2029) will focus on Papua, Maluku, and the remaining provinces of Sumatra.

24. For Components 2 (except Village Boundary Setting) and 3, both implemented by ATR/BPN, a separate phased geographic approach will be used, starting in Western Indonesia, and incrementally shifting to Eastern Indonesia. In the first three years of project implementation, activities will be implemented in Sumatra, Java, Bali, Kalimantan and Sulawesi. In the fourth year, activities will focus on NTT, NTB and the remaining provinces in Sulawesi. In the fifth year, the focus areas will shift to the Maluku and Papua regions. The project activities will exclude areas that may be subject to social tension. Similarly, the focus of base mapping under Component 4 will be on generating images and geospatial products of natural features only, without creating any lines or polygons related to disputed borders (man-made boundaries).

Corporate Requirements

25. Gender. In Indonesia, gender biases in land administration practices contribute directly to social and economic inequities, limiting women's ability to secure their rights and participate in land-related decision-making processes. Cultural and social norms often favor men, leading to women being marginalized in land allocation and management processes. This gender bias is also reflected in the dominance of men in spatial planning resulting in a one-sided perspective.[38] Although the GoI has shown commitment to addressing gender inequality and women's empowerment at multiple levels, the policy and institutional framework have largely prioritized protecting women and improving women's contribution to family welfare through their role as wives and mothers.[39] In 2023, Indonesia ranked 87th out of 146 countries in the World Economic Forum (WEF) Gender Gap Index due to low female economic participation and weak female representation in politics. Positively, there has been significant progress with women's land ownership in Indonesia in recent years. The One Map Project contributed to closing the gender gap in land registration through gender mainstreaming activities resulting in a significant increase in the number of land certificates issued in the name of women.[40] The ILASP Project will continue this effort and ensure that land administration and spatial planning processes will actively work towards closing the gender gap. A core aim of the enhanced spatial planning approach under ILASP is to increase women's participation in spatial planning consultation processes, particularly decision-making. To this end, the project will use the Guidelines for Social Impact Assessment that the ATR/BPN is developing with the support of the Bank, which will include participatory processes in spatial and development planning processes. These will contribute to closing the gender gap in land administration and spatial planning processes and will carry out gender-based assessments and gender-responsive activities to identify women's needs and strengthen social inclusion in spatial planning, ensuring women's meaningful participation. The project's results framework will include gender-tagged indicators to measure the progress of gender actions.

26. Citizen engagement. The project will promote active citizen engagement in spatial planning and the systematic land registration process, building on the village-level participatory method developed under the One Map Project. The project is committed to promoting inclusivity and active participation by implementing various tools and mechanisms, such as raising public awareness, utilizing public displays, providing public access to land and spatial information, and conducting community consultations and meetings. For PTSL, the project will continue the local community capacity building approach as implemented in the One Map Project[41], where selected members of village communities will be

[38] World Bank, 2020. Gender-Inclusive Urban Planning and Design.
[39] World Bank, 2020. Indonesia Country Gender Assessment: Investing in Opportunities for Women.
[40] As of September 2023, approximately 55.4 percent of land is registered under women or jointly.
[41] The One Map Project selected 3-6 people from each PTSL target village to be engaged and trained to support the licensed surveyors in the field. More than 28,000 people were trained, with 19.3 percent being women.

trained to support the mapping and data collection process.[42] The project's Feedback Grievance Redress Mechanism (FGRM) will strengthen the existing FGRM mechanism available from the One Map Project and the complaint handling system available at the project implementing agencies (IAs). In addition, land and spatial information recorded in the geoportal, such as LIS and Ina-geoportal, will be made available to individuals, legal entities, and organizations. These inclusive information systems will empower citizens by providing channels for feedback, surveys, and community engagement, thereby ensuring their active involvement in decision-making processes, including spatial planning. The project will also finance customer satisfaction surveys to monitor beneficiary satisfaction on the land administration and spatial planning services.

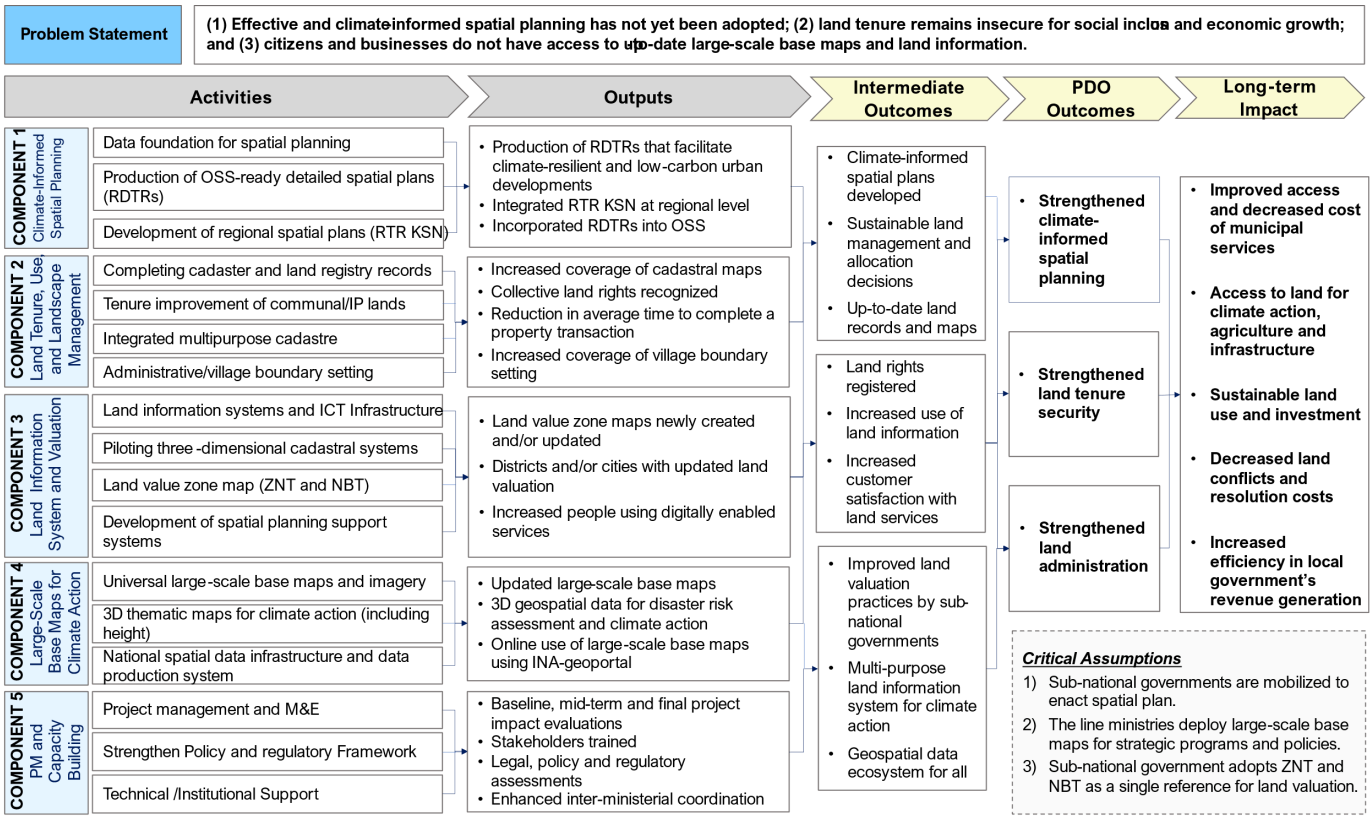
27. Maximizing Finance for Development (MFD). Following the Omnibus Law and implementing regulations as part of the GoI's primary plans for private sector solutions, the project will address the key binding constraints hindering private investments in the land development sector by incorporating an MFD approach. Integration of RDTRs to the OSS system (Component 1) will provide a streamlined, single-window business licensing and investment process. Leveraging the LIS platform to share land-related data with line ministries and LGs (Component 3), RDTRs will provide integrated, transparent, and sustainable spatial plans, instilling confidence in developers to participate in long-term investment activities. This will reduce the possibility of land use rights overlaps and associated conflicts that hampered business opportunities, especially for Micro, Small, and Medium Enterprises. The project will unlock a dynamic private sector ecosystem in land administration by allowing private entities to participate in mapping, surveying, and planning practices (Components 1 and 2), which is primarily in the realm of the public sector.

C. Project Beneficiaries

28. **The project beneficiaries will include a diverse range of groups, including urban and rural citizens, IPLC, women, the private sector, and government entities.** Urban citizens will benefit from improved access to green spaces and greater resilience to climate-related disasters. The project will strengthen IPLC livelihoods through increased tenure security, which enables them to manage natural resources better, protect important habitats and agricultural and forest land from encroaching development, increase productive investments, and minimize conflicts with other villages and private companies. Women will also benefit from the project by gaining increased tenure security and increased participation in spatial planning processes. The private sector and citizens will benefit from the enhanced and simplified business licensing process linked to OSS, better infrastructure and public services, and reduced operating costs. Finally, government entities will benefit from better information to improve decision-making, increased revenue from increased property taxes, reduced infrastructure costs, and increased community resilience.

D. Results Chain

[42] ILASP targets to register 5.2 million land parcels in 4,000-5,000 villages and estimated 16,000-20,000 more people will be engaged and trained to support field implementation of PTSL.



E. Rationale for Bank Involvement and Role of Partners

29. The World Bank has supported Land Administration programs in the East Asia-Pacific region for over 40 years. World Bank also brings in vast regional and global experience in climate-resilient land use planning and land administration programs. In Indonesia, the Bank has supported the GoI in the land sector since 1995, providing technical and financial support to improve the efficiency and effectiveness of land administration. The Bank has supported a range of initiatives, including the Land Administration Project (LAP), the Land Administration and Management Program (LAMP), and the One Map Project. In addition, World Bank not only has the convening capacity to facilitate coordination and collaboration between critical government stakeholders but also to share best practices, lessons learned, and innovative approaches to land administration. With its strong commitment and matching investments in mitigating the impacts of climate change, the Bank is also well placed to support the GoI's efforts to contribute to NDC commitments and creation of global public goods. Finally, in partnership with the Food and Agriculture Organization of the United Nations (FAO), the Bank brings experience in implementing the Voluntary Guidelines on the Responsible Governance of Land, Forests and Fisheries, a global guidance for best practices in land governance.

F. Lessons Learned and Reflected in the Project Design

30. The design of the ILASP Project is informed by lessons from the Bank's support to land administration globally and the recent One Map Project, which supported systematic land registration in Indonesia. The key lessons are:

(a) *The importance of the private sector engagement*. The One Map Project highlighted the significance of cost-efficient surveying and mapping through the private sector involvement. A key aspect was enhancing the private sector's competitiveness by gradually expanding its involvement and volume of work. This was achieved by engaging private surveying companies via a framework procurement mechanism, enabling them to efficiently handle numerous large procurement packages in sequence. The ILASP Project will continue utilizing the framework agreement mechanism to optimize private sector engagement.

(b) *Community participation and citizen engagement*. The ATR/BPN has gained vast experience with enabling local community participation and citizen engagement in the mapping and adjudication processes. This participatory approach will be continued and further refined under the ILASP Project.

(c) *The need for extensive safeguards and risk screening tools*. The One Map Project introduced a village-based risk screening tool, enabling local land offices to gather data on environmental and social risks in over 6,000 target villages. Social Vulnerability Mapping was also conducted to identify key vulnerabilities related to land tenure security, particularly among indigenous peoples and women. These tools, along with the extensive data generated, will be used and expanded to implementation of ILASP.

(d) *Capacity building and facilitation of inter-institutional coordination* will be required, particularly in relation to coordination between the IAs. The One Map Project, led by ATR/BPN and BIG, faced challenges in this regard. With the expanded scope of ILASP, the addition of MoHA as co-implementing agency, the role of LGs in spatial planning, and the increased volume of work, continuous implementation support will be more critical.

(e) Systematic approach to land parcel mapping and the subsequent issuance of land certificates. Land certification often lags behind mapping due to lengthy government approval processes that are not able to keep up with the fast pace of land surveying processes. To address this challenge, a more systematic approach to the entire land registration process is required to streamline the process.

(f) *Technology investments should be tailored to the country's needs and capacity and acquired incrementally in a fit-for-purpose (FFP) manner.* The GoI needs to continue investments in technology after each phase of a programmatic approach. Cadastre, valuation, and geospatial databases should be linked and integrated. 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 project. This reflects lessons from broader World Bank experience in the sector.

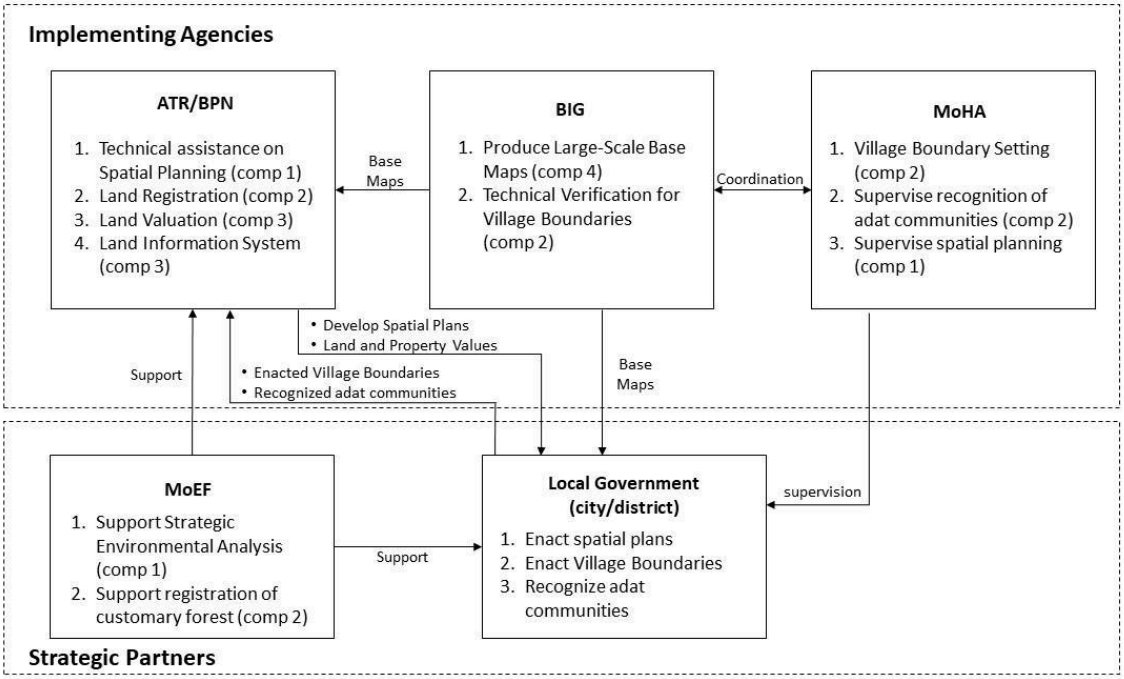
(h) *Spatial planning requires integration with capital investment planning to better serve as instruments to guide infrastructure development,* as underscored in the ongoing National Urban Development Project (NUDP, P163896). The spatial plan prototype incorporates the lessons learned through NUDP as well as the Bank's engagement on the Omnibus Law spatial planning reforms.

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

31. The ATR/BPN will serve as the executing agency (EA). Co-implementing agencies will be BIG (i.e., large-scale base maps) and MoHA (Village Boundary Setting and adat community recognition), while other strategic line ministries will join as members of a Project Steering Committee (PSC). MoEF will be a critical strategic partner and Steering Committee Member, and will support SEAs for spatial planning and customary forest registration under Components 1 and 2 respectively. Incrementally, MoEF may become a co-implementing agency supported by grant co-financing, contingent on ministerial endorsement and availability of grants. Both are pending at appraisal stage, which coincides with Indonesia's transition to a new government administration. Participating LGs will also be strategic partners in spatial planning, VBS, and adat community recognition. Other PSC Members will be the Coordinating Ministry of Economic Affairs (CMEA), as the responsible agency for the One Map Policy, and the Ministry of Maritime Affairs and Fisheries (MoMAF), which has the mandate for coastal management. The ATR/BPN will house the PMU which will be responsible for achieving project objectives and indicators, as well as overseeing and coordinating overall project implementation. To support the PMU, Project Implementation Units (PIUs) will be established at the BIG and MoHA. Close coordination between ATR/BPN and LGs will be key in project implementation, especially for the implementation of Component 1. LGs are responsible for enacting spatial plans through a Mayor/District Head Decree, while RTR KSNs are established by ATR/BPN and enacted by Presidential Regulation. For better coordination with the sub-national government, ATR/BPN will be supported by Provincial and District ATR/BPN offices. MoHA will be responsible to promote alignment between the project and LG investments and programs.

Figure 1. Roles and mandates of IAs and strategic partners



B. Results Monitoring and Evaluation Arrangements

32. ATR/BPN and BIG will prepare a POM and submit biannual progress reports to the WORLD BANK, including the Annual Work and Budget Plan, targets and results, budget, Financial Management (FM) plan, and overall Procurement Plan. The formats of these reports will be described in the POM, along with the M&E arrangements. Customer satisfaction surveys to be conducted at the beginning, mid-term and close of ILASP will provide a venue for citizen engagement and will be an important feedback loop on progress for the project. The survey results will influence further capacity building efforts at ATR/BPN and BIG, and relevant customer suggestions or complaints will inform improvements to land administration and land information services. Where there are yes/no indicators, interim checkpoints will be set to monitor progress towards the achievement of the respective indicators.

33. Building on the One Map Project, a project FGRM will be set up at ATR/BPN to monitor feedback (including appeals) received from beneficiaries, including citizens and government agencies. ATR/BPN will respond to all feedback and the information gathered will also be used to improve services provided and to mitigate any negative social impacts on individuals. The FGRM will increase transparency and accountability, and aims to reduce the risk of potentially adverse, yet unintended, effects on citizens. It will also serve as important feedback and learning mechanisms for improving project impacts.

C. Sustainability

34. The project aims for sustained reforms that support Indonesia's long-term strategic goals. Combined, these efforts move Indonesia away from making unsustainable land allocation decisions. Rather, it creates a sustainable approach to land governance by reforming Indonesia's procedures and systems around spatial planning, land valuation, and securing land tenure, that can be utilized in the long run. The expansion of the spatial planning component would be warranted in other areas of Indonesia as the project is not able to reach all areas to meet the GoI's targets for RDTRs. Although the streamlined procedures and the coordinated approaches would be embedded within the key government agencies, an expansion effort might have varying results as this project will select areas with the highest economic and climate impact potential. Similarly, Component 3, including the LIS, 3D cadastre, and mass valuation system, could be expanded into additional cities where the economic justification is present. Additional training and equipment would be necessary. The land tenure activities could also be replicated across the country to ensure a solid framework of land tenure security for all Indonesians in line with the United Nations Sustainable Development Goal 1.4.2 on secure tenure rights and the FAO Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security.

IV. PROJECT APPRAISAL SUMMARY

A. Technical

Alignment with the Goals of the Paris Agreement

35. **The project is aligned with the goals of the Paris Agreement on both mitigation and adaptation.**

36. **Assessment and reduction of mitigation risks.** Activities financed under this project that support: (i) the provision of large-scale, digital geospatial data and thematic maps to support climate-informed spatial planning; (ii) land and property valuation; (iii) the establishment of a multipurpose cadastre and land information system; (iv) capacity building; and (v) ICT equipment upgradation are universally aligned. Spatial planning activities that support resilient planning and access to land are considered low risk and aligned on mitigation given they do not result in reduction in carbon stocks or biodiversity due to land use change and emphasize climate risk management. These activities will strengthen land use policies to safeguard critical ecosystems, prevent forest encroachment, deter unplanned expansion of urban areas, and reduce carbon footprint. Efforts to mitigate these risks include targeted data analyses to focus on environmental and land suitability studies and integrated transport and land use assessments, such as transport network and accessibility, transport system efficiency, and densification opportunities. The performance of these spatial plans will be evaluated based on outcomes pertinent to climate change mitigation, such as reduction of GHG emissions, increased open green space, optimized densification, gender equity and social inclusion, as well as protection of key biodiversity areas and improved watershed management. Activities supporting the upgradation of the geospatial data infrastructure only includes installation of ICT equipment and software in the existing facilities, which is universally aligned, and will incorporate low GHG emission measures into design and operation of the facility, such as sourcing renewable energy technologies (solar photovoltaic), extending the lifecycle of the existing equipment, and provision of energy-efficient network equipment and data storage. Thus, the project is

not at material risk of having a negative impact on the country's low-GHG emissions development pathways and aligned on mitigation.

37. **Assessment and reduction of adaptation risks.** As discussed in Section I, Indonesia is vulnerable to significant climate hazards. The project will directly contribute to Indonesia achieving its climate change adaptation goals through the provision of geospatial data for both economic development and climate risk management, improving tenure security, and development of climate-informed spatial plans. As per the Climate and Disaster Risk Screening, the project has no or low inherent risk from climate hazards. Specifically, the project activities relating to land tenure, land administration and management, such as multipurpose cadastre, communal land registration, LIS, land and property valuation, and geospatial data provision focus on policy and institutional improvements and are not exposed to risks from climate hazards. Urban spatial planning activities are exposed to low risk from climate hazards as the project design aims to streamline data and analysis to include environmental zoning and land suitability studies, such as disaster risk maps, sea-level rise affected areas, agriculture, and food safety preservation areas, etc. Regional spatial plans produced under this project will target highly vulnerable areas to strengthen and mainstream policies on sustainable land use, climate risk adaptation strategies, and increase availability of land for climate initiatives. All geospatial data infrastructure will include data and power backup systems, cloud storage, and emergency contingency planning for climate hazards. Further efforts to reduce adaptation risks include incorporating climate-resilient infrastructure and systems operation design, and institutional capacity building. Thus, risks are considered acceptable, and the operation is aligned on adaptation and resilience.

38. Institutional. The land administration, spatial planning and geospatial sectors are well established in Indonesia. ATR/BPN, BIG, and MoHA have the mandates required for implementing this project. ATR/BPN has 33 provincial offices and 471 local offices across the country. LGs are responsible for enacting RDTRs through mayor/district head decrees, subject to approval by the Minister of ATR/BPN. A long lasting and continuous institutional challenge in Indonesia is land administration dualism, which divides land between Forest Area under MoEF and non-forest under ATR/BPN, negatively impacting land tenure security by excluding some 37 million people from ATR/BPN's land registration mandate.[43] A land redistribution policy under the Agrarian Reform Program aims to address this issue by releasing eligible, long-occupied and cultivated land from the Forest Area and subsequently registering them, but the policy has faced challenges, and successful implementation would require intensified coordination and collaboration between MoEF and ATR/BPN.[44] The World Bank has provided technical assistance in parallel to implementation support of the One Map Project to strengthen land administration across the forest divide. Under the One Map Project, Forest Area boundaries were jointly demarcated while a pilot on land redistribution was initiated. The ILASP Project and World Bank technical assistance will continue to provide policy and regulatory support to further advance this collaboration (under Component 5), which could lead to MoEF incrementally becoming a co-implementing agency in the project (Under Component 2). If the latter materializes, MoEF activities under ILASP would include a pilot to integrate Agrarian Reform (land redistribution) and Social Forestry in a selected target district, with potential for scale up under ILASP. At appraisal stage, MoEF technical level endorsement has been identified contingent on grant co-financing. Despite MoEF's current absence as co-implementing agency, the project

[43] Ministry of Environment and Forestry, Republic of Indonesia. 2018. The State of Indonesia's Forests 2018.
[44] As of November 2023, less than 9 percent of the 4.1 million ha of Forest Area targeted for redistribution has been achieved.

will support ATR/BPN's registration of customary forests outside Forest Areas, which is critical to secure indigenous communities' livelihoods and a key step toward unified land administration in Indonesia.[45]

39. **Spatial Planning.** As per current policy and regulatory framework, the ATR/BPN has the mandate for spatial planning at the national level and is jointly responsible with LGs for the formulation and legal enactment of the RDTRs. The ILASP Project will support the existing nationwide modality where ATR/BPN supports and accompanies the Regional Development Planning Agencies of participating LGs with technical assistance during development of spatial plans, supported by ATR/BPN regional and local offices and deploying the private sector to provide technical materials and capacity support. ILASP support will cover the entire spatial plan formulation process until the legal enactment of the plans, which will be outside of the project's scope. Innovative participatory measures to increase social inclusion, optimization of available climate risk data, and integration of SEAs will be key elements of the technical specifications under ILASP. High resolution geospatial data developed by BIG under Component 4 will provide the data foundation for climate considerations into the spatial plans. Locations of RDTRs will be selected using a set of selection criteria, which include the following: (i) listed as priority investment location by the Ministry of Investment/Indonesia Investment Coordinating Board (BKPM); (ii) no RDTR in place yet; (iii) LG commitment to develop an RDTR; (iv) availability of base maps; and (iv) areas with potential to be promoted for development, including conservation areas.

40. The RDTR will serve as a guiding framework for land use zoning, infrastructure development, and environmental management. In its current form, RDTRs do not serve the role of guiding the location of investments in areas prioritized for development, nor can they be easily understood and utilized by private sector developers and its citizens. A climate-informed approach to RDTRs is yet to be standardized, and a particular gap is the systematic integration of SEAs as a basis for land use allocation decisions. During preparation, an RDTR prototype to be financed under ILASP has been developed to ensure that spatial plans are climate-informed and furthermore focus on increasing inclusivity, aligning plans with market demands, strengthening linkages with capital investment planning, enhancing transparency and communication, and prioritizing strategic planning and investment. In addition, the World Bank is providing technical assistance to develop the technical guidelines for an RDTR prototype for non-urban areas, which will be piloted and scaled during project implementation. Both prototypes and implementing modalities will be spelled out in the POM.

41. Systematic land registration. The project will continue the PTSL method that the GoI has successfully implemented since 2017, leading to a dramatic increase in registered land parcels. ILASP will build on the participatory land registration method (PTSL PM) that was designed and widely deployed under the successful One Map project. This method involves the deployment of the private sector, use of aerial imagery as the main source of mapping, participation of local community members in the mapping and registration process at the village level, systematic risk screening and monitoring during implementation, and third-party quality control upon completion. As a seamless continuation of activities under the One Map Project, the systematic land registration activities under

[45] There are currently 11 provinces where customary forests recognized by MoEF are partially or wholly located outside of the Forest Area, hence falling under ATR/BPN's jurisdiction. The tenure of these forests is particularly insecure as they are in a legal grey zone between the MoEF and ATR/BPN mandates. Resolving the latter will require enhanced coordination between the two ministries to ensure that adat communities' customary forests are protected and remain under IPLC custodianship.

Component 2 are considered a 'low hanging fruit' that will strengthen land tenure security and ensure disbursement in the first two years of project implementation. ATR/BPN will establish a Framework Agreement and procure PTSL through call-off contracts, which has proven an efficient procurement and implementation method during the One Map Project.

42. Integrated land information system. The project design leverages the existing ICT capacity and infrastructure that offer a solid foundation to introduce the new LIS. ATR/BPN currently provides over 6 million electronic land services annually to the public through web systems and mobile applications. The new LIS will be developed in a unified platform accessible to both the government and the public, enabling the integration of climate-informed data into land-related planning schemes. ILASP will further enhance online service delivery for the transition to multipurpose cadastre that includes integrated applications for land-thematic maps, spatial planning and property valuation. The project will strengthen the existing data center with internal cloud storage and ICT equipment to accommodate the heightened demands for land information services.

43. **Large-scale mapping.** The project design builds on the BIG's expertise in capturing large-scale base maps through tailored remote sensing technologies that offer a solid foundation to scale up the nationwide geospatial data production. The national geoid model of Indonesia, INAGEOID 2020, will serve as the geospatial framework. The project will draw on BIG's technical guidelines and workflow for quality assurance in developing new geospatial products. Large-scale base mapping will be outsourced to the private sector, with BIG engaged with quality control. Furthermore, capacity in the geospatial industry will be enhanced to address the challenges related to technical requirements, project volume, and timelines. The new geospatial products will be used to develop parcel-level risk analysis for climate-related disaster risk mitigation and enable a better analysis of spatial-based insurance.

B. Economic and Financial Analysis

44. The project is expected to generate multiple and significant economic benefits from improved and more efficient spatial planning, land tenure security, and land administration. This includes enhancing the protection of natural resources by identifying areas of ecological significance, minimizing the environmental impact of economic development, and increasing community resilience by avoiding the development of disaster-prone areas, thus reducing the risk of damage and loss of life. Additionally, land registration will contribute to reducing conflicts and disputes over land ownership, improving access to credit, enhancing land management practices, and increasing agricultural productivity. Furthermore, enhancing land administration and valuation services will result in increased tax revenue from transactional and recurrent property taxes, thereby contributing to the sustainability of service delivery.

45. The economic and financial analysis (EFA) focuses on estimating the impact of three direct and indirect benefits from the project that are quantifiable and believed to provide the largest monetary revenues. First, the EFA estimates the financial cost savings for investors resulting from the reduced time required to obtain their business licenses and land use permits through the OSS. Currently, the average processing time is 2.74 months, but it is estimated that this could be reduced to near zero after the project implementation. Second, the EFA considers the

average increase in land prices for project beneficiaries in urban and rural areas. A previous land administration project in Indonesia[46] estimated an average increase of about 37 percent in urban areas and 52 percent in rural areas due to enhanced security of tenure provided by titling. Third, the EFA takes into account the cost savings resulting from improved service delivery. This improvement will eliminate the need for fees paid to private agents or facilitators, which can amount to 1 percent of the transaction fees charged to users.

46. The EFA conducted a cost-benefit analysis (CBA) and determined that ILASP has a positive net present value (NPV) and an economic internal rate of return (EIRR) that exceeds the discount rate. The CBA assumed a five-year implementation period and a five-year post-project period, with some of the benefits already realized in the fourth year of the project. Using a discount rate of 12 percent, the estimated NPV of ILASP is US$668.3 million, and the estimated EIRR is 54.39 percent. This means that the project is considered economically viable and beneficial to Indonesian society.

Table 2. Economic Analysis Results

Section	Present Value (US$)
Expected benefits:	
- Financial cost savings for investors obtaining land use permits through OSS	113.4 million
- Increase in land prices due to titling	143.0 million
- Cost savings from improved service delivery	848.1 million
Total Project Benefits (in present values)	**1104.6 million**
Total Project Costs (in present values)	**436.3 million**
Net Benefits	**668.3 million**
Internal Rate of Return (IRR)	**54.39 percent**

C. Fiduciary

(i) Financial Management

1. **A Financial Management Assessment (FMA) was carried out to assess the adequacy of the financial management system of the IAs to produce timely, relevant, and reliable financial information on project activities**. The FMA also assessed the adequacy of the accounting systems for project expenditures and underlying internal controls to meet fiduciary objectives and allow the World Bank to monitor compliance with agreed implementation procedures and progress toward its objectives.

47. The government's FM system, which includes budgeting, accounting, reporting, internal control, and auditing, will be used for this project. This system will be similar to the ongoing One Map Project. The FM assessment noted the experience and good performance of ATR/BPN as the EA in the FM of the ongoing project. This includes timely financial reporting and clean audit opinions with timely follow-up of all audit findings. Both BIG and MoHA are also experienced in becoming PIUs of the World Bank's financed operations and are generally familiar with the Bank's financial management requirements. The financial management arrangement will be centralized using central government's budget allocated under work units in ATR/BPN including its provincial/district offices and each of the PIUs in BIG and

[46] Implementation Completion Report CPL-37920; SCL-3792A; SCPD-3792S.

MoHA. The PMU in ATR/BPN will be responsible for the overall coordination of the project's financial aspects, including preparing consolidated financial reports, annual work plans, etc. Some actions are required during preparation to ensure timely and smooth implementation. These actions comprise issuance of POM and inclusion of the project's budget in ATR/BPN, BIG and MoHA's proposed FY2025 budget as the first year of project's implementation in order not to delay project implementation upon effectiveness. A more detailed financial management arrangement for the project is described in annex 1.

(ii) Procurement

48. **Procurement under the project will be carried out under World Bank's Procurement Regulations for Investment Project Financing (IPF) Borrowers of September 2023 (Bank's Procurement Regulations), and the provisions of the Loan Agreement and agreed Procurement Plan.** ATR/BPN, BIG, and MoHA have previous experience in handling World Bank-financed projects. ATR/BPN will take a coordinating role among the IAs. Although these agencies have previous experience in handling Bank financed projects, there are risks of delays in the procurement processes, especially in the first year of project implementation. The IAs have prepared a Project Procurement Strategy for Development (PPSD) and Procurement Plan (PP) during preparation. Given the large size of the project and the large volume of planned contract works on geospatial data provision, the PPSD includes a thorough market readiness assessment jointly carried out by ATR/BPN, the BIG, and MoHA. At the stage of project implementation, it is envisaged that the procurement activities will include hiring consulting services both firm or/and individual, procurement of goods, IT system, works and non-consulting services. During project implementation, ATR/BPN shall submit updates of the PPSD and PP to the World Bank for its review and approval. The Project shall use the Systematic Tracking of Exchanges in Procurement (STEP) to plan, record, and track procurement transactions and contract implementation. A procurement assessment of the IAs will be finalized by project's appraisal. More details on the procurement assessment, procurement arrangement, procurement risk, mitigation measures, and capacity-building measures are provided in Annex 1.

D. Legal Operational Policies

Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Area OP 7.60	No

E. Environmental and Social

49. **The overall environmental and social risk rating is Substantial.** The project is envisaged to generate positive environmental and social outcomes through a landscape approach of strengthening spatial planning processes, incorporating climate-resilient and low carbon considerations, improving land tenure security that include land rights for IPLC and supporting VBS which incentivize better care and use of natural resources. However, the substantial risk reflects the overall complexity and sensitivity of the institutional arrangements at the central line ministries and LG levels and the nation-wide project interventions, particularly with regards to the potential contextual and indirect downstream risks associated with failures of recognizing important biodiversity areas and/or customary tenure rights of indigenous peoples and vulnerable groups leading to encroachment of biodiversity hotspots and loss of land rights.

50. **Nine of the ten Environmental and Social Standards (ESSs) will be applied,** except ESS9 on Financial Intermediaries. The project locations do not affect international waterways and therefore does not fall within the scope of application of OP 7.5 'Projects on International Waterways' and is not implemented in any disputed areas; thus, OP 7.60 'Projects in Disputed Areas' is also not triggered.

51. **The environmental risk rating is substantial.** Direct environmental risks associated with the project are minor and mainly stem from the strengthening of ICT infrastructure (Data Center, Local Offices, and LGs) under Components 3 and 4. These activities may potentially generate electronic waste through the replacement of outdated ICT hardware. The project activities will have positive environmental impacts and the overall environmental performance and quality of spatial plans will be improved since the project focuses on enhancing spatial plans and avoiding investments that encroach on designated forests, coastal areas, and conservation areas. However, there is a contextual and indirect downstream risks that could affect implementation of environmental mitigation measures and the achievement of project outcomes, elevating the project risk to substantial. The geopraphical scope covering all major islands over three phases and the number of plans to be supported contribute to the substantial risk classification. This contextual and indirect risk is associated with failures to prioritize designated conservation areas, forests, and coasts, which could lead to urban sprawl and infrastructure development that encroach on these natural habitats. Additionally, the failure to consider ecological connectivity can result in the fragmentation of habitats. Neglecting resource efficiency and sustainable use may lead to suboptimal allocation of resources.

52. **The social risk rating is substantial.** There is a significant risk that weak community engagement and participation in the spatial planning processes lead to losses of customary tenure rights or access to land and land-based resources as the spatial planning and land management processes may fail to properly recognize or exclude them due to overlapping tenure rights, unclear and erroneous boundaries and political economy issues. The risk is particularly significant for indigenous peoples and other socially excluded and vulnerable groups. Weak participatory processes in spatial planning and land management processes can also exacerbate existing conflicts or land disputes. Therefore, Guidelines for Social Impact Assessment, currently developed by ATR/BPN with World Bank support, will be used to ensure participation of local communities in the planning process including vulnerable groups such as female headed households without secure tenure rights, which will serve as a basis of ESF instruments to developed for the project. There are also risks related to downstream changes in land use that may cause significant social impacts including access restriction, involuntary displacement, forced eviction, and livelihood loss due to zoning changes in the improved spatial plans. Community members who rely on informal sector jobs within the changed zones may be particularly vulnerable. There is also a risk of unequal distribution of benefits of the climate-resilient and low carbon developments where wealthier or more politically connected communities may have greater access to resources and opportunities compared to the poor and marginalized communities. Although the project is not envisaged to support

major infrastructures, the SEA/SH risk is rated moderate on the account of the dispersed and remoteness of the project locations with possibility of limited access to Gender-Based Violence (GBV) service providers.

53. **Environmental and social instruments** for the project are prepared, publicly disclosed, and consulted with relevant stakeholders by project appraisal. The ATR/BPN is preparing the Environmental and Social Management Framework (ESMF), Stakeholder Engagement Framework (SEF) and Environmental and Social Commitment Plan (ESCP). The ESMF for ILASP builds on the ATR/BPN's experience of implementing the ESMF for the One Map Project and includes processes for environmental and social risk screening, requirements for environmental and social assessments and management plans, electronic waste disposal procedures, environmental and social codes of practices (ESCOPs), labor management procedures (LMP) and associated framework plans such as the Land Acquisition and Resettlement Planning Framework (LARPF), Process Framework and Indigenous Peoples Planning Framework (IPPF) commensurate to the project risks identified during project preparation.

V. GRIEVANCE REDRESS SERVICES

54. **Grievance *Redress.*** Communities and individuals who believe that they are adversely affected by a project supported by the World Bank may submit complaints to existing project-level grievance mechanisms or the Bank'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 Bank's independent Accountability Mechanism (AM). The AM houses the Inspection Panel, which determines whether harm occurred, or could occur, as a result of Bank non-compliance with its policies and procedures, and the Dispute Resolution Service, which provides communities and borrowers with the opportunity to address complaints through dispute resolution. Complaints may be submitted to the AM at any time after concerns have been brought directly to the attention of Bank Management and after Management has been given an opportunity to respond. For information on how to submit complaints to the Bank's Grievance Redress Service (GRS), visit http://www.worldbank.org/GRS. For information on how to submit complaints to the Bank's Accountability Mechanism, visit https://accountability.worldbank.org.

VI. KEY RISKS

Table 3. Summary of project risk ratings

	Risk Category	Rating (H, S, M or L)
1.	Political and governance	M
2.	Macroeconomic	M
3.	Sector strategies and policies	S
4.	Technical design of project or program	S
5.	Institutional Capacity for Implementation and Sustainability	S

6.	Fiduciary	S
7.	Environment and Social	S
8.	Stakeholders	S
	Overall	**S**

55. **The overall risk rating is considered Substantial (S**). The overall risk is driven by the following risks that are rated Substantial (S) or above:

56. The risk associated with sector strategies and policies is rated Substantial due to a challenging policy environment and political economy. The current government is committed to the land sector reforms and omnibus approach providing a strong environment for this operation. A dramatic policy change during project implementation however could take the incentives away from required institutional cooperation between ATR/BPN, BIG, and MoHA. Elections were held in February 2024 and the implementation of the project will be carried out by a new Government. Considering that this project is expected to be delivered during the last year of the current Government, no major policy reform is expected during the design of the project. The project will proactively work towards creating a positive enabling environment and policy regime and repurposing public support towards resilient and low-carbon outcomes.

57. Stakeholder risks are substantial. Stakeholder risks in land registration activities include: (i) lack of participation due to lack of access to information, exclusion of certain groups, including women in the village structures and consultation; (ii) disincentives to participation due to suspected negative tax implications or erroneous registration of rights; and (iii) potential for tension and conflicts stemming from fears over land acquisition due to misinformation or unsuccessful awareness raising and socialization of project activities. There may also be reputational risks and heightened political tension due to local communities' expectations that the project will recognize land rights inside the Forest Area, which are activities beyond the project's (current) scope. These risks will be mitigated through sufficient provision of public awareness and outreach activities in advance of land registration activities. In addition, the risk screening and vulnerability mapping activities developed and widely implemented under the One Map Project have proven an efficient method to screen and mitigate stakeholder risks. These will be deployed and optimized under the ILASP Project. In relation to IPLC, including adat communities, there are risks that land use allocations through spatial planning processes will not adequately capture areas claimed by these communities. To address this risk, spatial planning processes will need to rely on improved data, including large-scale base maps, cadastral records, and community claims to indigenous and customary lands. The GoI will furthermore engage with Civil Society Organizations (CSOs) and indigenous peoples' advocacy groups to ensure territorial claims are properly addressed and recorded.

58. The risk associated with the Technical Design of the Project is Substantial. There are several substantial technical design risks pertaining to spatial planning. The RDTRs are to be enacted by LGs through district/head mayor decree while RTR KSNs are prepared by the ATR/BPN but enacted through Presidential Regulation. Although ATR/BPN has the overall mandate to regulate spatial planning and provide support for LGs, the production and issuance of RDTRs is strictly an LG mandate. The mitigation measures are three-folds: (i) establishing working groups (Pokjas) at the LG level to own the process of RDTR production under the project, ensuring that the city/district development vision and investment/conservation priorities spelled out in the Local Medium-term Development Plan (RPJMD) and other statutory plans are reflected to the RDTRs; (ii) focusing on LGs that have demonstrated commitment to ATR/BPN to develop new RDTRs, thereby increasing the likelihood of the LG-level adoption of the RDTRs that the project will produce; and (iii) the involvement of MoHA as co-implementing agency to ensure sound coordination with LGs. Given the complexity involving multiple layers and stakeholders, as well as the detailed technical requirements, particularly

regarding climate considerations, a quality control reference group will be established by the PMU, possibly comprising an independent panel of experts reviewing outputs of Component 1. A second risk is that SEAs, currently under the overall responsibility of MoEF, will be weakly incorporated or considered during the spatial planning process, despite a legal obligation to do so, as per Omnibus Law. This risk will be mitigated through the development of technical guidelines on integration of SEA in RDTRs, which are being prepared by the Global Environment Facility Indonesia Sustainable Cities Impact Project (P173446). Third, there is also a risk that the spatial plans, after being enacted, will not or only partially be implemented. This will be mitigated through capacity-building activities for monitoring and enforcement of spatial plans under Component 5 of the project, as well as through bank-executed Technical Assistance geared towards strengthening spatial planning enforcement and monitoring. Technical Design risks related to land registration include discrepancies between the mapping procedures, and the legal processes to issue certificates. This is to be mitigated by capacity building and technical assistance to enhance synergies between surveying, adjudication and certification activities. Technical Design risks related to large-scale base mapping include the risk that large-scale base maps are not sufficiently deployed by relevant line ministries. This will be mitigated by facilitating coordinating through the project's PSC as well as through the Bank's implementation supervision.

59. The risk associated with Institutional Capacity for Implementation and Sustainability is Substantial. There is a risk of a lack of institutional support and interagency collaboration to ensure parallel implementation, human resources' limitations in terms of competence and quantity, and political conditions and changes. Inter-ministerial coordination and collaboration have proven difficult in the land and natural resource management sectors. The risk can be mitigated through preparation of a regulatory framework, establishment of clear implementing entity agreements, regular interagency working group meetings of the PSC, improvement of HR competencies and cooperation with relevant stakeholders, public communication, improvement of public participation, and adaptation to the government's changing policy priorities.

60. The fiduciary risks are considered substantial. The financial management risk relates to the geographically dispersed project locations with multiple line ministries involved as well as several Directorate Generals under ATR/BPN. This may create challenges for the PMU to: (i) monitor and supervise budget preparation and execution; (ii) prepare consolidated program financial reports without delays; and (iii) assess the overall efficiency and effectiveness of the expenditure. Considering the dispersed project locations and various budget holders, activities will be done in phases, and financial management consultants will be recruited to support PMU as well as PIUs in BIG and MoHA in budget preparation and execution. The POM will be developed to guide all financial management aspects, including the timing of annual work plan (AWP) preparation in line with the government budgeting process and strengthening the payment verification mechanism. ATR/BPN, BIG and MoHA have processed the inclusion of the project budget in the FY 2025 budget document (DIPA) proposal to avoid delays in project implementation upon effectiveness.

61. Environmental and Social risk is Substantial. Environmental and Social Standards (ESS) that are currently relevant for the project include ESS1 (Assessment and Management of Environmental and Social Risks and Impacts); ESS2 (Labor and Working Conditions), ESS3 (Resource Efficiency and Pollution Prevention and Management), ESS4 (Community Health and Safety), ESS5 (Land Acquisition, Restrictions of Land Use and Involuntary Resettlement), ESS6 (Biodiversity Conservation and Sustainable Management of Living Natural Resources), ESS7 (Indigenous Peoples), ESS8 (Cultural Heritage), and ESS10 (Stakeholder Engagement and Information Disclosure). The project locations do not affect international waterways and therefore does not fall within the scope of application of OP 7.5 'Projects on International Waterways' and is not implemented in any disputed areas; thus, OP 7.60 'Projects in Disputed Areas' is also not triggered.

VII. RESULTS FRAMEWORK AND MONITORING

PDO Indicators by PDO Outcomes

Baseline	Period 1	Period 2	Period 3	Period 4	Closing Period
Strengthened Climate-informed Spatial Planning					
Climate-informed spatial plans developed and OSS ready (Number)					
Jul/2024	Oct/2025	Oct/2026	Oct/2027	Oct/2027	Oct/2029
0	5	105	250	400	500
Strengthened Land Tenure Security					
Target population with land rights registered (Number (Thousand))					
Jun/2024	Sept/2025	Sept/2026	Sept/2027	Sept/2028	Sept/2029
0	2006	6615	8461	10227	11394
Number of land rights registered (Number)					
0	555000	1862000	2496000	2756000	3224000
of which, share of land rights registered in the name of a woman or jointly (Percentage)					
0	55.6	55.9	56.3	56.7	57.0
Strengthened Land Administration					
Area with Enhanced Land Administration (Hectare(Ha))					
Jun/2024	Sept/2025	Sept/2026	Sept/2027	Sept/2028	Sept/2029
0	1362500	5004100	8614300	12017200	15633500

Intermediate Indicators by Components

Baseline	Period 1	Period 2	Period 3	Period 4	Closing Period
Climate-Informed Spatial Planning					
Public consultations for spatial planning (Number)					
Jul/2024	Oct/2025	Oct/2026	Oct/2027	Oct/2028	Oct/2029
0	0	100	310	647	1141
Spatial plans developed with at least one woman decision-maker on the spatial planning committee (Percentage)					
Jul/2024	Oct/2025	Oct/2026	Oct/2027	Oct/2028	Oct/2029
0	0	35	45	60	60
Regional spatial plans developed with environmental protection and strategic climate actions (Number)					
Jul/2024	Oct/2025	Oct/2026	Oct/2027	Oct/2028	Oct/2029
0	3	7	10	10	10
Increase of land use permits issued through the OSS (Number)					
Jul/2024	Oct/2025	Oct/2026	Oct/2027	Oct/2028	Oct/2029
0	0	0	300	1030	3030
Strengthening Land Tenure and Landscape Management					
Coverage of updated cadastral maps (Hectare(Ha))					
Jul/2024	Oct/2025	Oct/2026	Oct/2027	Oct/2028	Oct/2029
0	1305100	3387100	4375000	4596000	4800000
Reduction in average time to complete a property transfer (Days)					
Jul/2024	Oct/2027				Oct/2029
31	25				21
Communities with collective land rights recognized (Number)					
Jul/2024	Oct/2025	Oct/2026	Oct/2027	Oct/2028	Oct/2029
0	3	10	27	44	55
of which, area collective land rights recognized (Hectare(Ha))					
Jul/2024	Oct/2025	Oct/2026	Oct/2027	Oct/2028	Oct/2029
0	600	2000	5400	8800	11000

Village boundary setting ready for District Head Regulation on Established Village Boundaries (Number)					
Jul/2024	Oct/2025	Oct/2026	Oct/2027	Oct/2028	Oct/2029
0	200	1700	3200	4200	5000
Land Information System and Valuation					
Land value zone maps updated (Hectare(Ha))					
Jul/2024	Oct/2025	Oct/2026	Oct/2027	Oct/2028	Oct/2029
0	264000	2376000	5544000	9240000	13200000
Districts and/or cities with improved land valuation (Number)					
Jul/2024	Oct/2025	Oct/2026	Oct/2027	Oct/2028	Oct/2029
0	0	10	35	65	100
Customer satisfaction with land administration services (Percentage)					
Oct/2024	Oct/2027				Oct/2029
0	68				80
Of which, female customer's satisfaction with land services (Percentage)					
0	72				83
Increased use of land information by individuals, businesses, and governments (Number (Thousand))					
Jul/2024	Oct/2025	Oct/2026	Oct/2027	Oct/2028	Oct/2029
6117	6636	7097	7523	8120	8688
People using digitally enabled services (Number (Thousand))					
Jul/2024	Oct/2025	Oct/2026	Oct/2027	Oct/2028	Oct/2029
12136	12516	12957	13469	14063	14752
Large-Scale Base Maps for Climate Action					
Percentage of the country covered by updated large-scale aerial images (Percentage)					
Jul/2024	Oct/2025	Oct/2026	Oct/2027	Oct/2028	Oct/2029
0	22	56	90	100	100
Coverage of 3D geospatial data for disaster risk assessment and climate action (Square kilometer(km2))					
Jul/2024	Oct/2025	Oct/2026	Oct/2027	Oct/2028	Oct/2029
0	0	247380	798130	144180	1887520
Online use of large-scale base maps via BIG geoportal (Number)					
Jul/2024	Oct/2025	Oct/2026	Oct/2027	Oct/2028	Oct/2029
372690	395100	501800	732600	1157500	1600000

Village datasets produced for village boundary setting at a technical agreement level (Number)					
Jul/2024	Oct/2025	Oct/2026	Oct/2027	Oct/2028	Oct/2029
0	10594	22428	62081	79261	83680
Project Management and Capacity Building					
Stakeholders trained by the project (Number)					
Jul/2024	Oct/2025	Oct/2026	Oct/2027	Oct/2028	Oct/2029
0	500	3500	10500	17500	21500
of which, share of female stakeholders trained (Percentage)					
0	8	12	18	20	20
Legal, policy, or regulatory assessments by the project (Number)					
Jul/2024	Oct/2025	Oct/2026	Oct/2027	Oct/2028	Oct/2029
0	2	4	7	8	8

Monitoring & Evaluation Plan: PDO Indicators by PDO Outcomes

Strengthened Climate-informed Spatial Planning	
Climate-informed spatial plans developed and OSS ready (Number)	
Description	This indicator will measure the number of spatial plans developed based on updated spatial data (thematic layer on climate, large-scale base maps, and land use rights inventory) and are ready for mayor/district head approval and incorporation into the Online Single Submission (OSS) System.
Frequency	Semi-annually, Year 2 onwards
Data source	Administrative data from the ILASP
Methodology for Data Collection	ILASP PMU monitoring
Responsibility for Data Collection	ILASP PMU
Strengthened Land Tenure Security	
Target population with land rights registered (Number)	
Description	The indicator will measure the number of project beneficiaries via registered land rights. The end target of registered land rights is 62 percent of the total 5.2 million mapped parcels, accounting for cases under litigation, ineligibility of certification, lack of proof, and landowners' unwillingness to collect certifications. The information will be disaggregated by gender.
Frequency	Semi-annually, Year 1 onwards
Data source	Land records database
Methodology for Data Collection	ATR/BPN Land Information System (LIS) extract
Responsibility for Data Collection	ILASP PMU
Of which, share of land rights registered in the name of a woman or jointly	
Description	The indicator will measure the share of land rights registered and certified to women individually or jointly.
Frequency	Semi-annually, Year 1 onwards
Data source	Land records database
Methodology for Data Collection	ATR/BPN LIS extract
Responsibility for Data Collection	ILASP PMU
Strengthened Land Administration	
Area with enhanced land administration (Hectare)	
Description	This indicator will measure the area of land that has been: (i) registered; (ii) covered by land value zone maps; (iii) registered as customary land; or (iii) improved in data quality for strengthening land administration services.
Frequency	Semi-annually, Year 1 onwards
Data source	Land records database
Methodology for Data Collection	ATR/BPN LIS extract
Responsibility for Data Collection	ILASP PMU

Monitoring & Evaluation Plan: Intermediate Results Indicators by Components

Component 1. Climate-Informed Spatial Planning	
Public consultations for spatial planning (Number)	
Description	This indicator will measure the number of public consultations for inclusive stakeholder engagement to develop spatial plans.
Frequency	Semi-annually, Year 2 onwards
Data source	Administrative data from the ILASP
Methodology for Data Collection	Operational data collected and maintained by the PMU
Responsibility for Data Collection	ILASP PMU
Spatial plans developed with at least one woman decision-maker on the spatial planning committee (Percentage)	
Description	This indicator will measure the percentage of spatial planning committees with at least one woman decision-maker responsible for determining zoning during the creation or revision of spatial plans. A decision-maker refers to an individual actively involved in shaping decisions rather than solely participating in the consultation process.
Frequency	Semi-annually, Year 2 onwards
Data source	Administrative data from the ILASP
Methodology for Data Collection	Operational data collected and maintained by the PMU
Responsibility for Data Collection	ILASP PMU
Regional spatial plans developed with environmental protection and strategic climate actions (Number)	
Description	This indicator will measure the number of regional spatial plans developed, inclusive of consideration of environmental protection and strategic climate actions.
Frequency	Semi-annually, Year 1 onwards
Data source	Administrative data from the ILASP
Methodology for Data Collection	Operational data collected and maintained by the PMU
Responsibility for Data Collection	ILASP PMU
Increase of land use permits issued through the OSS (Percentage)	
Description	This indicator will measure the increase of land use permits through the Online Single Submission (OSS) to track the increased efficiency of land use allocations due to the spatial plans.
Frequency	Annually, Year 3 onwards
Data source	M&E reports
Methodology for Data Collection	ILASP PMU progress monitoring
Responsibility for Data Collection	ILASP PMU
Component 2. Strengthening Land Tenure and Landscape Management	
Coverage of updated cadastral maps (Hectare)	
Description	This indicator will measure the geographical areas covered by cadastral surveys and mapping with the project support.
Frequency	Semi-annually, Year 1 onwards
Data source	Land records database
Methodology for Data Collection	ATR/BPN LIS extract
Responsibility for Data Collection	ILASP PMU

Reduction in average time to complete a property transfer (Days)	
Description	This indicator will measure the administrative time to conduct and finalize a land property transfer at ATR/BPN.
Frequency	Beginning (baseline), mid-term and end-of-project
Data source	M&E report and survey results
Methodology for Data Collection	Measured through data collection and survey
Responsibility for Data Collection	ILASP PMU
Communities with collective land rights recognized (Number)	
Description	The indicator will measure the number of indigenous communities receiving legal recognition of their collective land rights, including cadastral maps.
Frequency	Semi-annually, Year 1 onwards
Data source	Land records database
Methodology for Data Collection	ATR/BPN LIS extract
Responsibility for Data Collection	ILASP PMU
Of which, area collective land rights recognized (Hectare)	
Description	The indicator will measure the area of land where collective land rights are recognized under the project support.
Frequency	Semi-annually, Year 1 onwards
Data source	Land records database
Methodology for Data Collection	ATR/BPN LIS extract
Responsibility for Data Collection	ILASP PMU
Village boundary setting ready for District Head Regulation on Established Village Boundaries (Percentage)	
Description	This indicator will measure the number of village boundary settings that have completed field verification and are ready for the District Head Regulation on Established Village Boundaries.
Frequency	Semi-annually, Year 1 onwards
Data source	MoHA village boundary database
Methodology for Data Collection	MoHA PIU progress monitoring
Responsibility for Data Collection	MoHA PIU
Component 3. Land Information System and Valuation	
Land value zone maps updated (Hectare)	
Description	The indicator will measure the area where land valuation maps have been created.
Frequency	Semi-annually, Year 1 onwards
Data source	Land records database
Methodology for Data Collection	ATR/BPN LIS extract
Responsibility for Data Collection	ILASP PMU
Districts and/or cities with improved land valuation (Number)	
Description	This indicator will measure the number of technical agreement signed between ATR/BPN with the Local Government for the use of land value maps.
Frequency	Annually, Year 2 onwards
Data source	M&E reports

Methodology for Data Collection	ILASP PMU progress monitoring
Responsibility for Data Collection	ILASP PMU
Customer satisfaction with land services (Percentage)	
Description	This indicator will measure the user satisfaction with land administration services at project year 1 (baseline), year 3 (midline) and year 5 (final). It will monitor the percentage of respondents who are satisfied or very satisfied with land administration services. The survey results will be disaggregated by gender.
Frequency	Beginning (baseline), mid-term and end-of-project
Data source	Customer satisfaction surveys
Methodology for Data Collection	Baseline and Endline evaluation
Responsibility for Data Collection	ILASP PMU
Of which, female customer's satisfaction with land services (Percentage)	
Description	Disaggregation of data using only responses by female respondents.
Frequency	Beginning (baseline), mid-term and end-of-project
Data source	Customer satisfaction surveys
Methodology for Data Collection	Baseline and endline evaluation
Responsibility for Data Collection	ILASP PMU
Increased use of land information by individuals, businesses, and governments (Number, Thousand)	
Description	This indicator will measure the total annual number of electronic requests or services provided by LIS.
Frequency	Annually, Year 1 onwards
Data source	Information service tracking database
Methodology for Data Collection	ATR/BPN LIS analytics tools
Responsibility for Data Collection	ILASP PMU
People using digitally enabled services (Number, Thousand)	
Description	This indicator will measure the number of people or businesses who use new or enhanced digitally enabled services through ILASP. This includes new digitally delivered services as well as enhancements to existing digitally delivered services, provided by the Land Information System and Geospatail Portals. The number of business beneficiaries will be converted into an estimated number of people for the purpose of aggregation.
Frequency	Annually, Year 1 onwards
Data source	Information service tracking database
Methodology for Data Collection	ATR/BPN LIS and/or BIG analytics tools
Responsibility for Data Collection	ILASP PMU and BIG PIU
Component 4. Large-Scale Base Maps for Climate Action	
Percentage of the country covered by updated large-scale aerial images (Percentage)	
Description	This indicator will measure the percentage of the country for which the new large-scale aerial images are produced and updated.
Frequency	Semi-annually, Year 1 onwards
Data source	BIG M&E reports
Methodology for Data	BIG PIU progress monitoring

Collection	
Responsibility for Data Collection	BIG PIU
Coverage of 3D geospatial data for disaster risk assessment and climate action (Square kilometer)	
Description	This indicator will measure the area covered by Digital Elevation Models, Digital Terrain Models, and geospatial datasets ready for disaster risk screening an climate-related actions.
Frequency	Semi-annually, Year 2 onwards
Data source	BIG M&E reports
Methodology for Data Collection	BIG PIU progress monitoring
Responsibility for Data Collection	BIG PIU
Online use of large-scale base maps via BIG geoportal (Number)	
Description	This indicator will measure the total annual number of requests or services related to the use of large-scale base maps provided by BIG geoportal.
Frequency	Annually, Year 1 onwards
Data source	Service tracking database of the BIG information system
Methodology for Data Collection	BIG information system extract
Responsibility for Data Collection	BIG PIU
Village datasets produced for village boundary setting at a technical agreement level (Number)	
Description	This indicator will measure the number of geospatial datasets at the village level ready for the preparation and utilization of village boundary setting for MoHA.
Frequency	Semi-annually, Year 2 onwards
Data source	BIG M&E reports
Methodology for Data Collection	BIG PIU progress monitoring
Responsibility for Data Collection	BIG PIU
Component 5. Project Management and Capacity Building	
Stakeholders trained by the project (Number)	
Description	This indicator will measure the revolving number of government and non-government participants attended training provided by the project. The information will be disaggregated by gender.
Frequency	Semi-annually, Year 1 onwards
Data source	M&E reports
Methodology for Data Collection	ILASP PMU progress monitoring
Responsibility for Data Collection	ILASP PMU
Of which, share of female stakeholders trained (Percentage)	
Description	This indicator will measure the share of female stakeholders trained.
Frequency	Semi-annually, Year 1 onwards
Data source	M&E reports
Methodology for Data Collection	ILASP PMU progress monitoring
Responsibility for Data Collection	ILASP PMU

Legal, policy and regulatory assessments prepared by the project (Number)	
Description	This indicator will measure the number of legislative, policy and regulatory assessments.
Frequency	Annually, Year 1 onwards
Data source	M&E reports
Methodology for Data Collection	ILASP PMU progress monitoring
Responsibility for Data Collection	ILASP PMU

ANNEX 1: Implementation Arrangements and Support Plan

COUNTRY: Republic of Indonesia
Integrated Land Administration and Spatial Planning Project

Project Institutional and Implementation Arrangements

1. Institutional and implementation arrangements for the project will follow the prevailing government regulations and will build on the effective arrangements of the One Map Project. The ATR/BPN will be responsible for the overall management and coordination oversight of the project as the main implementing agency. The PMU will be established within the ATR/BPN to implement the project. The BIG and MoHA will be co-implementing agencies and house a PIU to execute Component 4. Large-Scale Base Maps for Climate Action and sub-component 2.3 Village Boundary Setting.

2. The PMU will prepare and adopt a POM before the Loan becomes effective. The PMU will be responsible for ensuring that project objectives and indicators are achieved and for ensuring social and environmental compliance, oversight of activities, procurement, monitoring, and reporting. The following Directorate-Generals at the ATR/BPN will be involved in the project implementation: Directorate General of Land Registration and Land Right Determination, Directorate General of Spatial Planning, Directorate General of Land Acquisition and Land Development, Directorate General of Survey and Land and Spatial Mapping, and Directorate General of Land and Spatial Control and Order. To enhance coordination with LGs the Provincial and District ATR/BPN offices will support the PMU. The MoEF will be a strategic partner for technical collaboration and coordination, to support SEAs for spatial planning and customary forest registration under Components 1 and 2 respectively. LGs will be responsible for establishing spatial plans under component 1, through regional regulations.

Figure 1. ILASP Institutional Arrangements

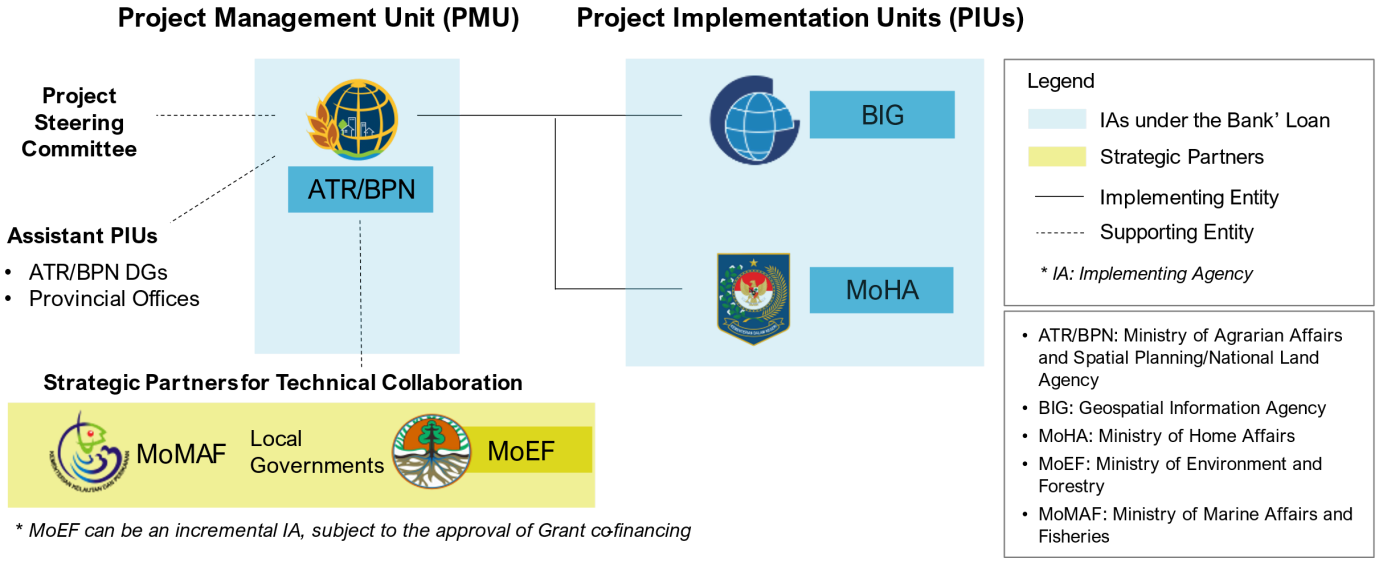
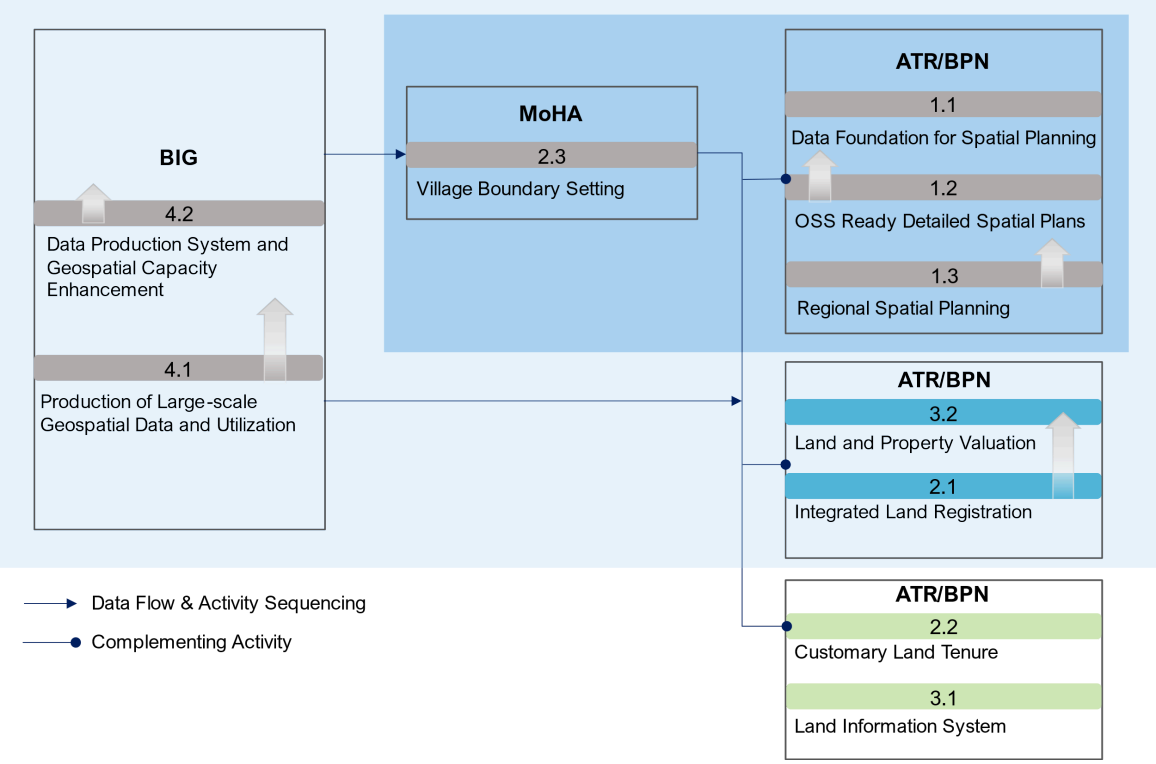


Figure 2. ILASP Implementation Arrangements



3. A PSC will be set up at the national level to ensure inter-agency coordination, collaboration, and smooth implementation of project activities. The PSC will be led by the Secretary General of the ATR/BPN, and comprised of representatives from key entities including, but not limited to the MoHA, the MoEF, the CMEA as the responsible agency for the One Map Policy, and the MoMAF, which has the mandate for coastal management.

Financial Management Arrangements

4. **Budgeting.** The budgeting system follows existing government procedures. World Bank financing will be included in the annual government budget and line ministry budget document (DIPA). The DIPA will be centralized using the central government's budget allocated under work units in the PMU at ATR/BPN including ATR/BPN provincial and district offices as well as in PIUs in BIG and MoHA. Budget preparation and revision process is well defined. Parallel budgeting will be made for contracts and activities financed by loan and counterpart funds. Risk is noted regarding delays of budget availability and revision that may delay project implementation. The POM will provide a detailed timetable of annual work plan preparation to be made early to be in line with the government budget processing time. The FM consultants assigned for the project within the PMU will also assist all PIUs on timely budget preparation and revision. The risk of budget delay is also mitigated during preparation by ensuring inclusion of the project budget in the 2025 DIPA of ATR/BPN, BIG, and MoHA so the expenditures can be incurred soon after the project becomes effective. While the budget for ATR/BPN is also allocated to ATR/BPN provincial and district offices, the budget for BIG and MoHA are all centralized under one work unit in BIG and one Directorate General under MoHA. As the budget is all treated as

the central government budget, all expenditures and all assets purchased under the project will be recorded as the central government's expenditures and assets.

5. **Accounting and reporting.** The implementing agency maintains separate accounting records for all payment orders (*Surat Perintah Membayar*/SPM) and remittance orders (*Surat Perintah Pencairan Dana*/SP2D) on a cash basis. All financial transactions are recorded in the Government accounting system and included in Government accountability reports. The original records are maintained in the file for auditing purposes. The PMU will prepare a set of consolidated interim financial reports (IFRs) for project monitoring purposes and for requesting any advance from the World Bank. The PMU can obtain the financial information needed to prepare the IFR from the Government treasury information system (*Sistem Perbendaharaan dan Anggaran Negara*/SPAN). The PMU is responsible for submitting the report to the World Bank no later than 45 days after the end of each quarter.

6. **Internal control.** The payment verification process will rely on government systems. Direct and independent documentary evidence will need to be provided to the IAs for them to verify completion before payments are released to third parties. All payment validation procedures will require attachment of direct original supporting evidence of completion of the activities and receipt of goods. Strengthening of payment verification processes will also be done through (i) appointment of verification staff to support the commitment officers in PMU and each PIUs, and (ii) inclusion of verification checklists and procedures in the POM. Internal audit of ATR/BPN, BIG, and MoHA will also be involved particularly on the budget revision process and review of unaudited annual financial reports.

7. **Flow of funds.** A Designated Account (DA) denominated in US dollars will be opened by the Director General Treasury (MoF) in the Bank Indonesia (the central bank) or other financial institution or commercial bank acceptable to the World Bank, specifically for the project. The project expenditures will include civil works, goods, consulting /non-consulting services, works, training/workshop, travel expenditures, operational expenses. Access to funds in the DA for payment to third parties will follow the Government's treasury system. The Work Unit in the PMU and PIUs will review payment requests from third parties before issuing payment request documents (SPM) to the treasury office for payment. The treasury office will input the payment request to the treasury information system (SPAN) and the Director General Treasury of the MoF will issue a payment order to the operational bank of the treasury office to process the payment. The PIUs will submit to the PMU information of all payment remittances (SP2Ds) charged to the projects to use as the basis to develop consolidated withdrawal applications. The PMU submits to the World Bank through the MoF, the consolidated withdrawal application to record the expenditures and request additional funds.

8. **Audit arrangements.** The project will be subject to external audit by the Financial Audit Board of Indonesia (BPK). Each audit will cover a period of one fiscal year of the recipient. The audits will be conducted based on terms of reference agreed with the World Bank. Audit reports and audited financial statements will be furnished to the World Bank not later than six months after the end of the fiscal year concerned and will be made available to the public. The audit will go beyond merely providing an opinion on the financial statements and will also include opinions on internal control frameworks and compliance with the loan covenants and related regulations.

9. **Disbursements.** The applicable disbursement methods are advance, direct payment and reimbursement. The DA will be a segregated account solely used to finance eligible project expenditures. Payments from the DA will follow the Government mechanism and will be authorized by the MoF's treasury office. The ceiling of the advance to the DA will be variable based on six months' projected expenditures. Report of the use of the DA fund and request for additional advance will be based on the quarterly IFR which should be submitted to the World Bank no later than 45

days after the end of each quarter and will consist of (a) a list of payments for contracts under the World Bank's prior review and records evidencing such expenditures, (b) statement of expenditures for all other expenses, (c) DA reconciliation statement, (d) IFR, and (e) projected expenditures for the next six months. The PMU will be responsible for reconciling the DA and preparing applications for withdrawal of advances and preparing reports on the use of the DA, duly approved by the Director General Treasury before submission to the World Bank. All documentation for the expenditures as reported for disbursements will be retained at the PMU and PIUs and will be made available to the auditors for the annual audit and to the World Bank and its representatives if requested. The proceeds of the loan will be disbursed against eligible expenditures as in the disbursement category table as illustrated in the table below.

Table 4. Disbursement Category

Category	Amount of the Loan Allocated (expressed in USD)	Percentage of Expenditures to be financed (inclusive of Taxes)
(1) Goods, works, non-consulting services, consulting services, Incremental Operating Costs and Training for the Project	653,000,000	100%
TOTAL AMOUNT	**653,000,000**	

10. **Supervision plan.** Risk-based financial management implementation support will be conducted. This will involve a review of the project's FM system, including timelines and adequacy of budget availability, project expenditures, accounting, reporting and internal control framework. In addition, the review will also include the review of audit reports, and the follow-up of these audit findings. FM supervision will be conducted by FM specialist and FM consultants, if required

Procurement

11. **Procurement under the Project will be governed by the World Bank's Procurement Regulations, September 2023, and the provisions stipulated in the Loan Agreement and approved PP**.

12. **Use of National Procurement Procedures.** When approaching the national market approach as agreed in the PP, the GoI's Procurement Regulations set out to follow Presidential Regulation (Perpres) No. 16/2018, as amended in No. 12/2021, may be used, subject to meeting conditions as stipulated in the World Bank Procurement Regulations, section V - paragraph 5.4, National Procurement Procedures. It is expected that several packages of low value and low risk will follow national open competitive subject to the use of national bidding documents acceptable by the World Bank.

13. **The use of the Government's e-procurement system (*Sistem Pengadaan Secara Elektronik*, SPSE) may only be the procurement of goods and non-consulting services through the Open National Competitive Procurement**. The modified SPSE, named SPSE_ICB, may be used only for the selection of consultant firms under the Quality- and Cost-Based Selection (QCBS) method using the World Bank's Standard Request for Proposal document adjusted

satisfactorily for electronic use. Procurement under all other methods, including Open International Competitive Procurement, shall be carried out through non-electronic processes with manual issuance of invitation for bids and receipt of bids and proposals, until such time that the modification of the National Public Procurement Agency (LKPP) SPSE_ICB e-procurement system has been completed by LKPP and deemed acceptable to the World Bank.

14. **The PPSD and PP for the Project have been finalized by the implementation agency with the support of the World Bank, which forms the basis for the PP of the contract packages to be procured under the Project**. The PPSD identifies the risks and sets out relevant mitigation measures. The PP will be subsequently published through the STEP tool. The PPSD and PP will be updated annually, or as needed, during implementation to reflect the project needs, improvements in institutional capacity, and adjustments in procurement risk. It will also be published on the website of the United Nations Development Business (UNDB) and on the World Bank's external website. As part of the PPSD, the major procurement categories have been assessed. The procurement packages are designed to ensure that there will be sufficient competition based on supply positioning and suppliers' preference. Based on market analysis, the following are key features of the procurement approach for the Project:

(1) Use of the World Bank's Standard Procurement Document for procurement of goods, single stage two envelope (1S 2E), under open international competition. As appropriate, economic, environmental, and social considerations could be integrated into the procurement packages using rated criteria.
(2) A weighting system is used to evaluate the technical and financial proposal, which will be based on assessment on level of priority between technical and financial part.
(3) The World Bank is advising the IAs on options for these technical inputs and on rated criteria that may also include relevant sustainability criteria consistent with the ESMF and market best practice.

15. **For the first 18 months, it is estimated there will be 200 packages to be procured under the category of consulting services, goods, works, and non-consulting services**:

(1) **Consulting services.** There will be 181 packages of consulting services contracts, consist of: (i) 179 packages of consultancy services both individual and firms for land zone value (ZNT) maps, survey and mapping (VBS, customary land registration), spatial planning, project monitoring and evaluation, supervision and quality control, utilization of geospatial data for climate action, geospatial ecosystem enhancement, AI based integration and e-commerce function for land services, synchronization and integration with OSS, integration of land and tax information, thematic and spatial information for land conflicts identification, and land cover analysis for sustainable development (these packages will follow QCBS method or CQS with national open or international open market approach depend on the value of each package); and (ii) at least 2 packages for consultancy services firms to provide Integrated PTSL Services for more than 1.8 million ha during 2025 and 2026 (these packages will be procured through Framework Agreement with call off basis contracts).
(2) **Procurement of goods and non-consulting services.** There will be 19 packages of several goods and services that will be procured under this category, which are: (i) 7 packages procurement of aerial-LiDAR and base map 1:5000 in urban area (Class 1), airborne SAR and Base Map 1:500 in rural area (Class 2), airborne SAR and Base Map 1:500 in Forest Area (Class 3), and ArcGIS Pro Advance license updated multi-scale base maps (these packages will be procured through Request for Bid method with Open-International market approach); (ii) 10 packages of goods contracts for Laptop and Printers, tablet/mobile phone, data storage and server (these packages will be procured through Request for Bids and Request for Quotation method with National Open market approach or Request for Bid through Open International considering each package values); and (iii) 2 packages of other

goods, and non-consulting services contract packages for management support for village boundary setting (these packages will be procured through Request for Quotation method with market approach Open National).

16. **ATR/BPN, BIG and MoHA understand that the mandatory requirement of local content is not aligned with the World Bank's core procurement principles and, therefore, cannot be included in the bidding documents**. As appropriate, the bidding documents could grant a margin of preference in evaluating bids in open international competitive procurement to bids offering certain goods manufactured in Indonesia when compared to bids offering such goods manufactured elsewhere (domestic preference). In addition, some economic aspects in this industry could be considered as part of sustainable procurement. The use of domestic preference, economic consideration of sustainable procurement, and the market approach will be further assessed when the IAs finalize the list of equipment to be procured.

17. **The procurement method and market approach** will be determined based on (a) market analysis (that is, market structure, supplier specialism, and cost competitiveness); (b) market engagement strategy (including pre-market engagement); and (c) procurement risk analysis (including complexity and criticality of the procurement). All open international competitive procurement methods will use rated criteria as the default evaluation approach.

18. **World Bank's STEP tool.** The Project shall use the STEP tool to plan, record, and track procurement transactions, as well as monitor contract implementation. The applicable method of procurement for each specific contract and the World Bank's review requirements (prior or post review) will depend on the nature, value, and risk of each contract and are specified in the PP approved by the World Bank. STEP will help the World Bank monitor procurement progress and take appropriate supportive actions in due course. All relevant procurement and contract documents will be recorded in STEP.

19. **Disclosure of procurement information.** The following documents shall be disclosed on the websites of IAs and SPSE: (a) the PP and updates; (b) an invitation for bids for goods and non-consulting services for all contracts through open competitive procurement; (c) request for expression of interest for selection/hiring of consulting services; (d) contract awards of goods and non-consulting services procured following international and national procedures; (e) a list of contracts/purchase orders placed following RFQ procedures on a quarterly basis; and (f) a list of contracts following direct selection on a quarterly basis. For open international competitive procurement method, in addition, international publication will be done in accordance with the requirements in the World Bank's Procurement Regulations.

20. **Procurement capacity and risk assessment.** The IAs will be responsible for carrying out procurement and contract management under the Project. The procurement activities will be done at the central level by Pokja UKPBJ under the ATR/BPN/BIG/MoHA's Procurement Bureau. The World Bank team conducted the procurement capacity and risk assessment of the implementing agency and rated the residual procurement risk as substantial. The IAs have experience in handling World Bank's financed project including on-going projects. However, the dedicated person of Pokja UKPBJ who will be responsible for carrying out procurement activities under the project have not been assigned yet. Th World Bank's Procurement Regulations and STEP training will be provided to Pokja UKPBJ, PPK and PMU/PIUs to provide familiarity and knowledge on World Bank's procurement procedures.

21. **Key procurement risks and mitigation measures.** The risks related to procurement aspects have been assessed based on the procurement assessment and proposed mitigation measures as shown in table 10.1.

Table 5. Procurement Risks and Mitigation Measures

Risk Description	Mitigation Measures
1. Conflicts between the World Bank's Procurement Regulations and the provisions of the Government procurement rules and documentation	● The POM will consist of a procurement chapter to clarify that procurement will follow the World Bank Procurement Regulations, as specified in the Loan Agreement. ● For open national competitive procurement, the Indonesian National Procurement Procedures can be applied subject to the conditions specified in PPSD and in the Project textual part of the PP.
2. Delays in procurement process due to capacity constraints (weak procurement capacity, lack of experience in the World Bank's Procurement Regulations, and constraints of staffing resources for procurement and contract management)	● Recruit project management consultants including a procurement expert or hire a qualified Individual procurement specialist with experience in World Bank-funded projects, especially those large and complex, to support procurement implementation. ● Early in the Project, set up exclusive Pokja for the World Bank Project and accelerate the Government's internal approval of procurement documents. ● World Bank will provide training on its Procurement Regulations and the use of STEP. ● World Bank's prior and post review, regular implementation support missions, hands-on operational/fiduciary advice and guidance.
3. Lack of procurement readiness to conduct advance procurement under the Project	● Enhance procurement readiness by mobilizing resources to prepare ToRs of critical consultancy services, specifications/draft bidding documents of key goods packages, training on procurement procedures and STEP before Project effectiveness. ● World Bank will provide support on preparation of bidding documents and technical specifications and any other related to readiness for conducting advance procurement.
4. Improper packaging plan, inappropriate technical requirements/design, and low levels of interest from market attracted, which may result in bidding failure or low quality of procured goods, and low Value for Money (VfM) of concerned procurement activities as well as	● Prepare a PPSD to work out appropriate procurement packaging arrangements, detailed and realistic procurement schedules, and contract management plan. ● Prepare technical specifications/ToRs based on market survey and engagement activities. ● Conduct market engagement/vendor conference to obtain feedback from potential suppliers/vendors. ● The World Bank support the ATR/BPN/BIG/MoHA in carrying out market analysis, developing technical specification, making procurement arrangements, and drafting bidding document.

readiness at the district level to receive the equipment	
5. Uncertainty over capacities of procurement committee members (Pokja) and the PIU	● Competent and experienced staff will be assigned as Pokja and PIUs. Procurement consultants may be hired by the PIU to support procurement activities under the Project. The World Bank will provide procurement training and hands-on support during Project implementation.
6. Potential complaints from bidders related to technical specification, bid evaluation result including recommendation to contract award	● Prepare and ensure technical specifications are neutral. ● Prepare clear evaluation criteria including weight/score in the bidding documents. ● Evaluation shall be carried out by the IAs according to the evaluation criteria, as stipulated in the issued bidding documents.

22. **Frequency of procurement supervision.** The World Bank's procurement oversight will be done through increased implementation support. In addition, a procurement post review of a sample of contracts awarded based on risk will be conducted. All contracts not covered under prior review by World Bank will be subject to post review during implementation support missions and/or special post review missions, including missions by consultants hired by the Bank.

Implementation Support Plan

23. The World Bank's implementation support plan consists of scheduled full implementation support missions every 6 months (covering technical issues, fiduciary, E&S, and governance aspects), and short review missions focusing on problem solving and timely follow-up monitoring. Between missions, close follow-up will be maintained on the implementation of the ILASP Project. Monthly implementation support meetings will be held with the IAs on the status of activities and needed areas of technical support. Given the complexity and novelty of activities under Component 1, a team specialized in spatial planning (led by a Spatial Planning focal point of the World Bank), will hold bi-monthly technical meetings with the DG of Spatial Planning in the first year of project implementation, which may be extended based on needs. With support from the City Resilience Program and PROGREEN Trust Fund, the World Bank will furthermore provide technical assistance to the ATR/BPN with a needs analysis and preparation of the Terms of Reference for contracting firms to support the development of RDTRs. This technical assistance will focus on ensuring that climate considerations (including hazards, disaster risk management, and climate change mitigation measures) are standardized in the spatial planning process. A Mid-Term Review will be conducted after 30 months of implementation to review the overall status of project implementation vis-à-vis the appraised project and, if needed, agree on changes. Such changes will thereafter be formalized with the agreement of the GoI and the World Bank.

ANNEX 2: Detailed Project Description

COUNTRY: Republic of Indonesia
Integrated Land Administration and Spatial Planning Project

1. The ILASP Project will support the Government of Indonesia in achieving its GHG emission reduction targets by improving spatial planning, increasing tenure security, including for Indigenous Peoples and Local Communities (IPLC), establishing a modern Land Information System, and mobilizing local revenue generation through mass land and property valuation. More than 60 percent of the emission reduction target in Indonesia's Enhanced Nationally Determined Contributions (NDC) is set to be achieved through actions in the Forestry and Other Land Use (FOLU) sector. To this end, the project will support climate-informed spatial planning; (ii) advance Agrarian Reform through the registration of lands to enhance sustainable land use management and promote social inclusion; (iii) support the development of modern LIS; (iv) enhance the property and land valuation system to enhance own source revenue collection for urban services and; (v) produce large scale base maps for the entire Indonesian territory to enhance climate actions.

The project costs are estimated at US$653 million and will include five components:

(a) Component 1: Climate-Informed Spatial Planning (US$105 million)
(b) Component 2: Strengthening Land Tenure and Landscape Management (US$177 million)
(c) Component 3: Land Information System and Valuation (US$45 million)
(d) Component 4: Large-scale Base Maps for Climate Action (US$292 million)
(e) Component 5: Project Management and Capacity Building (US$34 million)

Component 1 – Climate-Informed Spatial Planning (US$105 million)

2. The objective of this Component is to produce spatial plans and strengthen the quality of spatial plans to be climate-sensitive in guiding development investments toward a low carbon and resilient trajectory. To achieve this, the following spatial planning activities will be financed: (i) establishing data foundations for spatial planning, (ii) formulating 500 OSS-ready Detailed Spatial Plans (RDTR), including digitalization for OSS integration, (iii) formulating climate-informed regional spatial plans, including Spatial Plans for National Strategic Areas (RTR KSN).

1.1 Data Foundations for Spatial Planning (US$10 million)

3. This sub-component will finance city/district-specific data development and maintenance for spatial planning, capacity building for spatial data analysis, and integrated data platforms that contain fundamental data sets (FDS) to improve the quality of input data for spatial plans. It will generate city-specific baseline data needed to produce each RDTR and incorporate development priorities that govern the spatial orientation from the statutory RPJMDs. These activities will serve as the backbone of evidence-driven spatial planning and will also support developing foundational geospatial capacity of LGs through training, knowledge exchange, and skills development. Climate-relevant data pertaining to adaptation and mitigation measures will inform the integrated data platforms, including datasets on land suitability and carrying capacity analyses on climate change risks, forested areas, and urban footprint. This sub-component is an integral part of the process to produce OSS Ready RDTRs supported under sub-component 1.2.

The data foundations established through this sub-component will also be useful for LGs to formulate future spatial plans, beyond the RDTRs directly supported by the project.

1.2 Acceleration of OSS Ready Detailed Spatial Plans (US$80 million)

4. This sub-component will finance the formulation of RDTRs in urban and non-urban areas to promote urban densification, green city development, and avoid encroachment and expansion into designated forests, coastal, and conservation areas by guiding capital investments to priority development areas. ATR/BPN will deploy private sector contracts to support the technical assistance and technical data provision for the RDTRs. Regional firm consortia will be responsible for developing RDTRs in adjacent geographic areas. Most target areas for RDTRs will be small (population between 50,000–100,000) and mid-sized (population between 100,000-500,000) cities in predominantly rural provinces. A targeted 500 RDTRs (25 percent of the overall government target) will be developed and used to verify (approve/reject) investment decisions in the OSS enabling the integrated spatial planning and business licensing system developed under the Omnibus Law. As such, the RDTRs are to accelerate infrastructure investments in cities and direct them to the right locations with minimum social risks, while enhancing environmental protection. RDTRs are statutory spatial plans that need to be developed by the participating LGs involving Regional Development Planning Agencies (BAPPEDA) and issued by the LGs through Mayor/District Head Regulation. Having the central mandate for spatial planning, ATR/BPN will provide oversight, supervision and technical assistance to LGs in the development of spatial plans. ATR/BPN is to approve the technical design of RDTRs through a Ministerial Decree before legal enactment. This sub-component will finance ATR/BPN's technical assistance through consulting services and provision of data and materials throughout the technical design stage of the planning process with as main outputs the finalized RDTR that meets the technical requirements to be integrated into the OSS prior to legal enactment.

5. To improve the quality of RDTRs, a prototype for the enhanced RDTR has been developed during preparation, building on learnings from spatial planning support in ongoing Bank operations (e.g., NUDP), to ensure that the RDTRs to be formulated meet quality requirements. The enhanced RDTR proposes improvements on the following aspects: preparation, input data quality, method of data analysis for baseline assessment, concept development, outcome-based performance evaluation, corridor management, area coverage, development incentives/disincentives governed by RDTRs, public consultations, and planning cycle. Critically, the RDTR prototype prescribes the incorporation of climate change mitigation and adaptation considerations into the planning process, which will be supported by high-resolution geospatial data produced under Component 4. Strategic Environmental Assessments (SEA) will be prepared as an integral part of the RDTR planning processes. The sub-component will also support ATR/BPN reforms to expand the functionality of the RDTRs, which will include not only urban and industrial areas, but also peri-urban and rural areas and landscape restoration sites. In the first year of implementation, the RDTR prototype will be tested for a limited number of pilots. The RDTR target for the first year is 50, to be scaled up and accelerated in the subsequent years of the project, including to other regions as per the project's phased geographic approach.

1.3 Regional Spatial Plans (US$15 million)

6. This sub-component will finance the formulation of Spatial Plans for National Strategic Areas (RTR KSN), covering zones of strategic importance that transcend administrative boundaries, with the primary focus on critical conservation and protection landscapes, potential climate impacts, social impacts, and climate-related disaster risks. The National Spatial Plan (RTRW-N) indicates areas that hold significant economic or environmental value and mandates that these areas are planned in greater detail. RTR KSNs are distinct spatial plans as their geographical scope allows for

integrated planning, unlike RDTRs that are bound to administrative boundaries. Their integrated nature supports coherent and targeted planning and management of the KSNs, that would otherwise be planned in isolated spatial plans in a single administrative unit. RTR KSNs are enacted by Presidential Decree and serve as a reference for the RDTRs produced under sub-component 1.2. Under this sub-component, the targeted 10 RTR KSNs with a scale of 1:50,000 will focus on environmental protection and economic development. KSNs for environmental protection include areas considered as biodiversity and endangered species sanctuaries, offering protection for macroclimate balance and addressing climate-induced disaster vulnerability. The main environmental objective of developing RTR KSNs is to support the implementation of FOLU Net Sink 2030 plan, focusing on coherent planning of districts surrounding National Parks, restoration and rehabilitation of critical ecosystems, preventing degradation due to human activities, which require multi-jurisdictional development management. Concurrently, the selection of RTR KSNs for economic development is based on various criteria, including the potential for rapid economic growth, existence of vital sectors driving national economic development, and the capability to accelerate growth in underdeveloped areas. They are to direct resource allocation, enhance connectivity, and foster investment and productivity between the districts and cities covered.

7. ATR/BPN will lead the RTR KSN formulation processes from preparation of determining the strategic issues of the KSN, initial delineation of planning zone, data collection and processing, climate risk analysis, FGDs and public consultations, conceptual drafting, support to drafting of the Presidential Regulation and submitting the agreed upon draft Regulation. Other Ministries that will be involved include the MoEF, MoMAF, and BKPM. This sub-component will finance consultancy packages for RTR KSN technical assistance. Additional technical inputs will be provided at the regulation drafting phase. SEAs will also be streamlined under this sub-component and produced in parallel to the RTRs. Their content shall inform and provide guidance to the RTRs on sustainable land use, including designations for climate action.

Component 2. Strengthening Land Tenure and Landscape Management (US$177 million)

This Component will develop a climate-adaptive cadastre and strengthen land tenure security in target areas and critical landscapes. It will finance activities in support of the GoI's Agrarian Reform Program by adopting systematic and participatory promoting sustainable landscape management. Activities will include: (i) systematic land registration and improving the cadastre and land registry records; (ii) upgrading digital land records and cadastral maps for climate responsive and multipurpose land administration systems; (iii) supporting the registration of customary land; and (iv) village boundary setting. The improved security of tenure and clarity of administrative boundaries will promote better land governance, particularly environmental preservation incentivizing better care of resources, hence making a significant contribution to climate change mitigation efforts. Land holders and particularly IPLC, including female heads of households and adat communities, will benefit from increased tenure security. Land registration activities under this Component will be conducted in the non-Forest Area. Contingent on MoEF's confirmation as co-implementing agency and available grant co-financing at a later stage, this component may, through additional financing and/or project restructuring, incrementally support activities on participatory field surveying of Forest Areas and forest fringes to jointly implement Agrarian Reform and Social Forestry.[47]

2.1 Integrated Multipurpose Cadastre (US$163 million)

[47] During project preparation, MoEF expressed technical level interest to participate in the project through grant-financing, but a formal decision remains pending.

8. This sub-component will finance Systematic and Complete Land Registration (PTSL) of unregistered lands across Indonesia[48], data quality improvement of the existing cadastral records with accuracy issues, and upgrades of land records and cadastral maps for climate-responsive and multipurpose cadastre. ATR/BPN will contract licensed land surveyors to register a targeted 5.2 million land parcels to the cadastre, which is approximately 20 percent of the remaining unregistered land parcels in the non-Forest Area and adding to the 100 million+ registered parcels out of a total estimated 126 million land parcels in the country. The multi-purpose nature of the resultant cadastre will provide flow-on benefits for national climate change response efforts. Land registration activities will build upon the One Map Project (P160661) that supports the ATR/BPN in registering over 7 million land parcels. An upgraded PTSL methodology will be deployed that involves fewer field visits and measurements by streamlining procedures, such as using drone imagery as the main source of mapping and online juridical data validation. The participatory PTSL developed under the One Map Project will be continued, and selected members of communities will support ATR/BPN officials and licensed land surveyors with data collection and cadastral surveying. Following cadastral registration, the ATR/BPN will issue Land Ownership Certificates (SHAT) of registered land parcels to eligible land holders, funded by government resources.[49] This sub-component will also support resolving systemic data quality issues of the existing records, in terms of both spatial and textual accuracy. A scalable methodology for identifying, auditing, and fixing the records, as well as adding disaster risk-related data at a parcel level will be developed. Data quality improvements will include georeferencing the estimated 15 million land parcels that were registered previously but improperly mapped or have no relative position within the current geospatial framework.

9. This sub-component will also finance the field surveys and data construction for a 3-dimensional (3D) cadastre in major urban areas that require 3D-based property administration for better disaster management, climate-adaptive planning, and enhanced efficiency in revenue generation. The major metropolitan cities, such as Jakarta, Surabaya, Bandung, Bekasi, and Medan, will be piloted with the comprehensive 3D cadastral solution. This solution will enable 3D property information (including strata title) survey, storage, visualization, query and analytics, and transactions, as well as capturing building footprints (i.e., high-rises to multi-story buildings) and disaster-related factors, such as hazards, exposure, slope, and vulnerability. This expanded and improved dataset will make Indonesia's land tenure multipurpose by supporting land use planning and climate change responsiveness, while unlocking untapped revenue potential in urban centers and facilitating property market management.

2.2 Registration of Customary Land (US$5 million)

10. This sub-component will strengthen tenure security of indigenous adat communities by facilitating the registration of their customary land. Adat communities play a critical role in the sustainable management of Indonesia's land, forests, and natural resources. This stewardship, and their contribution to climate adaptation and mitigation, is intimately linked to land rights. Without security of tenure, multiple forest hotspots will remain at risk and an essential element of Indonesia's change mitigation effort will be lost. For adat communities themselves, secure land tenure is equally important, as it enables them to sustain their livelihoods and maintain their collective social identity.

[48] The GoI aims to complete the land registration in non-forest area by 2025 through PTSL supported by ILASP and parallel government funds.
[49] PDO indicator 'Target population with land rights registered' will measure the number of beneficiaries (members of households) from increased tenure security by land rights certification (SHAT issuance). Building on experiences with the One Map Project, it is expected that approximately 62 percent of the mapped land parcels (registered to the cadastre) under ILASP will be certified by ATR/BPN using government funds within the project timeframe. The SHAT issuance will continue post-project for those who meet the eligibility criteria for certification after the project.

11. This sub-component will register communal land of adat communities (customary land and customary forest outside the Forest Area) for a targeted 55 communities covering 11,000 ha. Activities will build upon the groundwork laid by the One Map Project, which conducted comprehensive Identification and Inventories of Customary Lands - now completed in 16 out of 34 provinces – and piloted customary land registration. This sub-component will (i) complete the customary land Identification and Inventories to cover all Indonesian provinces; (ii) scale up customary land registration to 15 provinces, and (iii) register customary forests outside of Forest Areas that have been designated by MoEF through Customary Forest Decree. All activities will be conducted in accordance with the existing legal and regulatory framework of the Omnibus Law and implementing regulations, particularly ATR/BPN Ministerial Regulation no. 18/2021 on Determination of HPL and Land Rights and ATR/BPN Ministerial Regulation no. 14/2024 on the Implementation of Land Administration and Registration of Land Rights of Customary Law Communities. These provide ATR/BPN the authority to map and register customary and communal lands in the non-Forest Area.

12. Communities that have obtained legal recognition as adat community from LGs will be eligible to obtain Management Right (HPL) certificates subject to community wide support to obtain this right. HPL rights enable communities to cooperate with third parties while maintaining ownership over the land. Activities under this sub-component will be limited to the registration of customary land to the land registry, while the issuance of HPL certificates will be covered by government resources. However, this sub-component will support legal awareness raising activities for adat communities focused on the legal implications of HPL rights. Broad community support will be required to conduct customary land registration and procedures to obtain such support are further detailed in the ESMF and IPPF. The sub-component will pioneer the registration of the MoEF-recognized customary forests in the Non-Forest Area, which will be piloted in the first and second year of the project, with potential scale up in the following years of the project.[50]

13. Target areas for customary land registration will be selected based on information from the ATR/BPN's Identification and Inventories. Customary areas subject to social tension will not be covered. The ATR/BPN will also assess the more than 120 existing District Head Decrees on the recognition of adat communities across 22 provinces to identify communities whose lands may be eligible for customary land registration and issuance of HPL rights. Local universities will be recruited for the roll out of the Identification and Inventories for provinces yet to be covered. Customary land experts will be assigned to support the ATR/BPN district offices with the land registration process, which includes extensive socialization and community-wide consultations prior to the participatory mapping and registration of customary areas. MoHA will play a coordinating role in this process (supported by sub-component 5.3) and will, where needed, support adat communities in obtaining legal recognition by their LG, a mandatory legal step for communities to obtain HPL rights.

2.3 Village Boundary Setting (US$9 million)

14. This sub-component will finance Village Boundary Setting (VBS) to support MoHA's mandate under Presidential Regulation no. 23/2021 to legally enact village boundaries. Due to a lack of resources and base maps and a complex regulatory process, less than six percent (4,438 out of 75,265) of villages in Indonesia have defined boundaries. Clear administrative boundaries are needed to facilitate spatial planning and land administration, while limiting land disputes

[50] As of March 2023, there are 48 different adat communities whose recognized customary forests are partially or wholly located outside of the Forest Area, covering 9,757 hectares in 11 provinces in Sumatra, Kalimantan, Maluku and Papua. The outputs of this sub-component will strengthen the tenure security of customary forests by including them in the national land registry.

and enabling village access to government village funds. MoHA will deploy licensed surveyors to support the establishment of boundaries for 5,000 villages, through an inclusive and participatory field verification process led by MoHA and supported by BIG. By engaging local communities and governments in the boundary setting process, the VBS activity is expected to promote transparency, public participation, and good governance.

15. This sub-component will be supported by the large-scale base maps generated by BIG under Component 4 and leverage the Batasku application – a tool designed by BIG to track villages boundaries cartometically. The Batasku application facilitates drawing boundary lines, identifying cartometric points, and locating village offices. The resulting data is captured and will be used as preliminary data during the process of validating and formalizing village boundaries, followed by a field verification process, led by MoHA and coordination from VBS teams established by the LG, which include sub-district heads, village heads, and local communities. The VBS teams will supervise the process jointly with MoHA and will mediate in cases where no agreements on village boundaries are established. MoHA will deploy licensed surveyors to assist the field verification process and map the boundaries once agreed. Critical in the field verification process is the participation of local communities, who provide input and feedback on the proposed boundary lines. They play a crucial role in ensuring that the boundaries are accurate while the LG is responsible to validate the proposed boundaries.

16. Following field verification and boundary mapping, BIG will provide technical support to ensure the accuracy of the boundary line. The verified and agreed village boundaries will be publicly posted for comments and will also be available through the Batasku application. Citizens then will be given the opportunity to report discrepancies or concerns regarding boundary definitions, thereby contributing to the accuracy and integrity of the boundary setting effort. Where disagreements on boundaries are not resolved, neighboring villages will be granted six months to settle the boundaries, after which the District Head has the authority to decide on the definitive boundaries. Following MoHA Ministerial Regulation no. 45/2016 on Guidelines for Determining and Confirming Village Boundaries, once the field verification is complete, village boundaries will be enacted by District Head Regulation. The main outputs of this sub-component will be the verified and agreed village boundary maps and related technical materials to support the drafting of District Head Regulation on Established Village Boundaries.

Component 3. Land Information System and Valuation (US$45 million)

17. This Component will finance activities to develop and implement a modern Land Information System (LIS) for integrated land administration. It will improve the efficiency of land administration by promoting easy land services and equitable access to information on land ownership, property value, land use, land-based climate-risk data, and land transactions. Activities will include: (i) development of land-thematic geoportal and datasets; (ii) establishment of an online platform system for modern electronic land services; (iii) development of spatial planning supporting system; (iv) data collection for mass valuation and production of Land Value Zone (ZNT) maps; (v) modernization of mass land valuation and roll-out; and (vi) strengthening ICT infrastructure. It will also deliver integrated spatial information to enable fair land valuation and responsible property taxation. The system is essential to ensure that ATR/BPN becomes a financially sustainable and cost recovering entity. The modern LIS will be developed as a 'platform as a service' providing for the integration of base data and centralized repositories of land-thematic maps. These activities will support spatial planning, and integrated land administration and management functions by harmonizing and interlinking land records, geospatial data, and modular applications to a joint LIS accessible online by line ministries, LGs, and the public. The new IT solutions will comply with the information security and data privacy protection requirements to prevent data exfiltration, mitigate the effect of exfiltrated data, and ensure the privacy and integrity of sensitive information.

3.1 Land Information System (US$25 million)

18. This sub-component will finance the development of a modern LIS on an integrated platform to deliver efficient, transparent, and reliable land information services to the GoI and the public. It will support: (i) development of spatial planning and support system; (ii) production of land-thematic maps and an integrated land-thematic geoportal; (iii) development of a 3D-based multipurpose LIS, including building features in priority areas; and (vi) strengthening ICT Infrastructure and service provision. The modern LIS platform, as a service by integrating all IT applications, will be developed using a flexible modular system architecture. This platform will accommodate the desired functionalities of each IT application into independent, interchangeable modules and facilitate the needs for evolving solutions and upgrades, as well as accommodating an increase in system users by providing hyperscale ICT infrastructure. The ICT infrastructure will prioritize energy-efficient ICT equipment, on-site solar photovoltaic technologies, energy usage monitoring system, security measures, and enterprise IT architectures, ensuring efficient data management. Considering the diverse institutional arrangements, dynamic data exchanges and supporting systems will be established in a two-way direction, from the centralized data source to the portal and system users. The modern LIS and infrastructure will enable the efficient process of recording, evaluating, determining, exchanging, and maintaining information on land tenure, land-based climate actions, land and property values, land use, spatial planning, and renewable energies. All data processed by the infrastructure will be stored in internal cloud-stored storage and disaster recovery data center to mitigate exposure to climate hazards.

3.2 Land and Property Valuation (US$20 million)

19. This sub-component will finance the roll out of land value zone maps to create a comprehensive valuation system with country wide single references of land. Fair and equitable property valuation enables local revenue generation, supports efficient land management and contributes to the equitable distribution of resources. By accurately assessing land values, LGs can distribute the property tax burden more effectively, aligning with principles of fairness and transparency. Land valuation also informs spatial planning decisions regarding zoning, infrastructure investment, and land use policies. This sub-component first aims to complete ATR/BPN's mass land valuation process to produce the ZNT maps in Indonesia, currently covering 51.2 percent (of which some 35 percent are outdated) of the country. ATR/BPN will contract private valuers to conduct field surveys and valuation to renew and complete the ZNT Maps towards full coverage. Parcel-based Value (NBT) Maps will be produced based on demand and technical readiness following technical assessments.

20. Its second aim is to increase mass valuation efficiency as current processes involve labor-intensive and costly manual work to collect and analyze data, building on the World Bank technical assistance on mass valuation system development. To establish up-to-date market-based values, the sub-component will support the development of Automated Valuation Models (AVMs) - a Geographically Weighted statistical mass valuation model for land and buildings - to reduce manual processes and unify the property valuation process in the ATR/BPN valuation system. This includes automation of data collection through institutional interaction, modern data analysis techniques (e.g., multiple regression analysis, tree model and other AI-based models), use of GIS for the development of the valuation models, and publication of results (ZNT and NBT maps). The inclusion of buildings in the mass valuation system depends on regulatory framework change supported under Component 5.

Component 4. Large-Scale Base Maps for Climate Action. (US$292 million)

21. This Component will finance the creation of large-scale base maps, high-resolution images, digital elevation models, and geospatial data infrastructure for standardization, processing, sharing, and data exchange. The Geospatial Information Agency (BIG), as the national mapping authority of Indonesia, will provide these map products. The resulting digital maps will serve as prerequisite data sets for components 1, 2, and 3 to produce climate-informed spatial plans, land-based climate change actions, disaster risk modeling and responding and land use monitoring, as well as land valuation. Use of technologies to capture geospatial data will vary per climate and spatial planning needs between rural and forested areas including peatlands; settlements and urban centers; and coastlines. The national geospatial data infrastructure will be upgraded to multi-use and large-scale maps, reflecting climate risks and national economic priorities. Capacity building under this Component will focus on practical use of geospatial data for climate action, open data and access, data collection and updates, and private-sector interaction to build a geospatial data ecosystem. BIG will develop systematic processes and strategies for regular data collection and updates post-project to ensure that geospatial data remains current and accurate in collaboration with both the public and private sectors, as well as through geo-crowdsourcing initiatives involving public engagement.

4.1 Production of Large-scale Geospatial Data and Utilization (US$262 million)

22. This sub-component will finance activities to generate large-scale base maps of all Indonesian provinces (subject to exclusion of certain areas for activities under this sub-component) by using tailored technologies for remotely sensed geospatial data production. These large-scale maps are necessary for development of climate-informed spatial plans and data foundations under Component 1 across different parts of the country. The 3D geospatial information obtained, such as building footprint and topographic layers, will serve as critical prerequisite inputs for all other activities under Components 2 and 3, such as development of 3D cadastre and mass land and property valuation. High-resolution geospatial data will be used for applications in climate action adaptation and mitigation, such as estimating carbon biomass, monitoring and assessing climate change-induced natural disasters, modeling land subsidence, renewable energy planning, natural disaster simulations and modeling, and climate finance and policy. Results-based financing and large outsourced contracts will be used for mass production to ensure timely access to the data critical for implementing other components.

23. This sub-component will include: (i) production of 3D geospatial data and maps in urban (approx. 89,000 km^2), rural (approx. 868,000 km^2) and forested areas (approx. 945,000 km^2); (ii) utilization of geospatial data for climate action; (iii) improvement of geospatial framework for precise and reliable models for climate change impact assessment; (iv) geospatial dataset for village boundaries at a technical agreement level; and (v) technical training. It will upgrade Indonesia's One Map Service from the current medium-scale maps (1:50,000) to multi-use and large-scale base maps at 1:5,000 scale, while also updating the existing small and medium-scale base maps for climate change and risk analysis at a regional level. This will serve as the core national geospatial dataset for all development needs. The BIG will adopt three technical categories; Class 1, Class 2, and Class 3; for orthorectified imagery, Digital Surface Model (DSM) and Digital Terrain Model (DTM) with varying spatial resolution, horizontal, and vertical accuracies. The selection of technical categories is also based on economic justification, based on population, economic activities, and environmental function. Class 3, with the lowest requirements, will be used in forested areas to optimize cost and time. Advanced technologies such as aerial photogrammetry, unmanned aerial vehicles (UAVs), airborne LiDAR and radar, and satellite imagery will be employed to collect fit-for-purpose geospatial data.

4.2 Data Production System and Capacity Building (US$30 million)

24. This sub-component will finance the establishment of an integrated map production (financed under sub-component 4.1), distribution, and quality control systems in the existing BIG data center to sustainably maintain geospatial data. It will provide funding for the data production system with a standardized workflow design for maintaining various geospatial datasets. Key stakeholders, including BIG professionals, government agencies, private sector, and academia, will be trained to enhance their capacity in data utilization and upgrades, and spatial analytics related to climate change. This sub-component will also finance hardware and software for processing and generating seamless, interoperable and multi-purpose geodatabase data, harnessing artificial intelligence, deep learning and big data. Given the extensive size of the geospatial data to be created, cloud-based processing and storage will be created to minimize hardware usage, reduce e-waste, and lower impact to the environment and carbon footprint. Cloud storage will also assist in mitigating exposure to climate hazards. The data production system will be fully equipped with energy-efficient ICT devices that exceed domestic mandatory energy efficient standards by either meeting the highest energy efficiency label or through a certification.

25. In addition, this sub-component will support the use of geospatial information and capacity building for a sustainable geospatial ecosystem. This includes open data sharing to make geospatial information discoverable and accessible. The INA Geoportal will be upgraded to enable 3D rendering of layers, semantics web technology, improved spatial analytical tools, and enhanced connectivity with other geoportals through application programming interfaces (APIs). The new geoportal will feature dedicated functionality for climate action adaptation, leveraging the wealth of 3D data. The Indonesia disaster database, managed by the National Agency for Disaster Management will be upgraded using the new geospatial information produced by BIG. Capacity building will enhance geospatial information utilization at the central and LG levels, in collaboration with the private sector and academia. Mobile applications will be developed to facilitate better data input and management of large-scale map layers. These applications will support activities such as capturing climate-related datasets, collecting geographic names, delineating and managing village boundaries, and participatory mapping. A location-based platform will be developed for universal map reference of various sectors, providing climate-resilient decision-making tools based on geospatial information. Advanced geospatial database system, analytical functionalities, and presentation tools will be developed to serve these activities.

Component 5. Project Management and Capacity Building (US$34 million)

26. This Component will finance policy, regulatory and procedural assessments and pilots, project management under the Project Management Unit (PMU) and Project Implementation Units (PIUs), monitoring, coordination, and institutional capacity building. The component will support the development and upgrading of technical guidelines for activities supported under ILASP, including for spatial planning (RDTR and RTR KSN) and LG recognition of adat communities. Through capacity building and piloting, this component will also enable the data sharing environment among government agencies as mandated by the One Map Policy. Assessments and studies conducted under this Component will be used to support the development of policies, regulations and strategies to reduce systemic vulnerabilities in land and natural resources administration and management related to poverty and marginalization, gender and others. Technical support activities will focus on promoting climate change actions, sustainable growth, fiscal balance and social inclusion, as well as ATR/BPN's transformation to a three-dimensional land registry and cadastre of the country. Training and capacity building programs will be provided for key stakeholders to strengthen institutional capacity of the mass property valuation, spatial planning, and multipurpose cadastre. Finally, this component includes public awareness campaigns, project outreach, dissemination activities and targeted messaging for women and vulnerable groups.

5.1 ATR/BPN Project Management, Monitoring and Evaluation (US$16 million)

27. This sub-component will support the PMU at ATR/BPN to manage, implement, and supervise project activities, and training and skill development in the areas of monitoring and evaluation, communication, audits, social and environment management, policies and regulations, operations and maintenance, and project management. Project consultants will be required for overall project management, safeguards, financial management and procurement, and additional consultants that might be responsible for monitoring and evaluation (M&E), training and communications shall be included. A Project Manager will report to ATR/BPN on the use of funds and project accomplishments on a monthly basis. The aim of this sub-component is to support overall project implementation by strengthening capacities in project management and M&E through the funding of: (i) operating costs associated with project implementation, PMU; (ii) consultancy services for financial management, procurement, coordination, ESF, public awareness raising, training, ICT, mid-term and final evaluation, and audits as well as short-term consultants based on needs; (iii) training programs and study tours; and (iv) office equipment and furniture.

5.2 BIG Project Management, Monitoring and Evaluation (US$6 million)

28. This sub-component will support the PIU at BIG to manage, implement, and supervise project activities. It will cover overall project management related to Component 4, which includes monitoring and evaluation, training, communication, audits, policies and regulations, operations and maintenance. BIG, as the implementing agency for component 4, and the provider of large-scale base maps as the foundation for activities throughout the project, will establish a PIU and assign its own project consultants for project management and implementation, financial management and procurement, and additional consultants that might be responsible for monitoring and evaluation (M&E).

5.3 MoHA Project Management, Monitoring and Evaluation (US$1 million)

29. This sub-component will support the PIU at MoHA to manage, implement, and supervise project activities. It will cover project management related to VBS under sub-component 2.3, including the capacity building and technical assistance to enable streamlining of VBS procedures. The PIU will also provide coordination with LGs for spatial planning under Component 1 and support for customary land registration activities under sub-component 2.2. The latter will be supported through technical support and capacity building to LGs to expedite adat community recognition, which is a legal prerequisite for the issuance of customary and communal land rights. To this end, MoHA will develop technical guidelines for LGs on the recognition of adat communities, to strengthen the implementation of MoHA Ministerial Regulation no. 52/2014 on Guidelines for Recognition and Protection of Customary Law Communities.

5.4 Regulatory Framework and Institutional Strengthening (US$11 million)

30. This sub-component will finance piloting, studies, and technical assessments to analyze current issues and challenges, develop recommendations and promote regulatory and process strengthening related to the areas of intervention of this project, including spatial planning, land registration, customary rights recognition, and property valuation. Capacity building activities will be provided to LGs focused on spatial planning, including support to implementation and enforcement, which are critical for the longer-term outcomes and sustainability of this project. This sub-component will support the upgrading of technical guidelines for RDTRs and the development of technical

guidelines on RTR KSN, both to support the implementation of Component 1. On property valuation, a policy and regulatory framework review will be carried out to assess the feasibility of unifying the valuation of land and buildings as per global best practices. Technical support will be provided to establish a self-automating mass valuation system, building on technical assistance provided by the World Bank. Customary land rights registration will be supported by a legal and policy study on adat communities, legal recognition, and registration of customary land and forest, to support the implementation of sub-component 2.2. Building on piloting under the One Map Project and the Strengthening Social Forestry Project (P165742), the sub-component will also provide policy and regulatory support to develop modalities for the parallel implementation of Agrarian Reform (land distribution) and Social Forestry (including customary forest recognition), which is needed to resolve boundary discrepancies between community land and Forest Areas.