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Report No: PAD00063

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT
ON A
PROPOSED LOAN

IN THE AMOUNT OF JPY 94,877.7 MILLION (US$653 MILLION EQUIVALENT)

TO THE

REPUBLIC OF INDONESIA

FOR A

INTEGRATED LAND ADMINISTRATION AND SPATIAL PLANNING PROJECT (P180860)

SEPTEMBER 12, 2024

Urban, Resilience and Land
East Asia And Pacific

CURRENCY EQUIVALENTS

(Exchange Rate Effective August 31, 2024)

Currency Unit =	INDONESIAN RUPIAH (IDR)
US$1 =	IDR 15455.95054
US$1 =	JPY 145.29499

FISCAL YEAR
January 1 - December 31

Regional Vice President:	Manuela V. Ferro
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ABBREVIATIONS AND ACRONYMS

AM	Accountability Mechanism
ATR/BPN	Ministry of Agrarian Affairs and Spatial Planning/National Land Agency
BKPM	Ministry of Investment/ Indonesia Investment Coordinating Board
CCDR	Country Climate and Development Report
CPF	Country Partnership Framework
DA	Designated Account
DIPA	Budget Document
E&S	Environment & Social
EFA	Economic and Financial Analysis
EIRR	Economic Internal Rate of Return
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
FGD	Focus Group Discussion
FGRM	Feedback Grievance Redress Mechanism
FM	Financial Management
FMA	Financial Management Assessment
FOLU	Forestry and Other Land Use
FY	Fiscal Year
GDP	Gross Domestic Product
GHG	Greenhouse Gases
GoI	Government of Indonesia
GRS	Grievance Redress Service
ha	hectare
HPL	Land Management Right
IA	Implementing Agency
IBRD	International Bank for Reconstruction and Development
ICT	Information and Communication Technology
IDA	International Development Association
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
KBA	Key Biodiversity Area
LA	Loan Agreement
LG	Local Government (city/district level)
LKPP	National Public Procurement Agency
LIS	Land Information System
M&E	Monitoring and Evaluation
MFD	Maximizing Finance for Development

MOEF	Ministry of Environment and Forestry
MOF	Ministry of Finance
MOHA	Ministry of Home Affairs
NBT	Land Parcel Value Map
NDC	Nationally Determined Contribution
NPV	Net Present Value
NUDP	National Urban Development Project
OP	Operational Policy
OSS	Online Single Submission
PDO	Project Development Objective
PIU	Project Implementation Unit
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
QCBS	Quality and Cost Based Selection
RDTR	Detailed Spatial Plan
RPJMD	Local Medium-term Development Plan
RTR KSN	Spatial Plan for National Strategic Area
RTRW	Regional Spatial Plan
SA	Social Assessment
SEA	Strategic Environmental Assessment
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
VBS	Village Boundary Setting
WEF	World Economic Forum
ZNT	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
30-Sep-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
The Borrower declares its commitment to the objectives of the Project. To this end, the Borrower shall carry out (a) Parts 1, 2.1, 2.2, 3, 5.1 and 5.4 of the Project through ATR/BPN, (b) Parts 2.3 and 5.3 of the Project through MOHA, and

(c) Parts 4 and 5.2 of the Project through BIG, in accordance with the provisions of Article V of the General Conditions and Schedule 2 to this Agreement. (Section 3.01 of the Loan Agreement)
The Borrower shall, not later than two (2) months after the Effective Date, establish and maintain, throughout Project implementation, the Steering Committee responsible for the provision of overall strategic guidance to the Project, with a composition, institutional framework, functions, and resources satisfactory to the Borrower and the Bank for such purpose. (Section I.A.2 & 3 of Schedule 2 to the Loan Agreement)
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, with a composition, institutional framework, functions, and resources satisfactory to the Bank 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. (Section I.A.4 of Schedule 2 to the Loan Agreement)
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. (Section I.A.5 of Schedule 2 to the Loan Agreement)
The Borrower shall, through ATR/BPN, ensure that all relevant provincial and district offices of ATR/BPN and all directorate generals of ATR/BPN, including Directorate General of Land Registration and Land Rights Granting, Directorate General of Spatial Planning, Directorate General of Land Acquisition and Land Development, Directorate General of Land and Spatial Surveys and Mapping, and Directorate General of Land and Spatial Control and Order, shall fully cooperate with, and provide support, to the PMU in implementing the Project. (Section I.A.6 of Schedule 2 to the Loan Agreement)
The Borrower shall, through MOHA, coordinate with all relevant LGs with a view to ensuring that they shall fully cooperate with and provide support to the PMU and MOHA PIU in implementing Part 2.3 of the Project. (Section I.A.7 of Schedule 2 to the Loan Agreement)

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. (Section 4.01(a) of the Loan Agreement)	IBRD/IDA
Effectiveness	Effectiveness: LA, Article IV.01.(b)	The Borrower has developed the technical specifications for procurement of large-scale mapping and the PTSL, in form and substance satisfactory to the Bank, to be implemented in the first year of the Project. (Section	IBRD/IDA

		4.01(b) of the Loan Agreement)	

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 world's fourth largest country by population (275.5 million people as of 2022) comprising more than 6,000 inhabited islands. It is the largest economy in Southeast Asia and the world's tenth largest in terms of purchasing power parity and is 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 in the growth rate to 3.7 percent in 2020, the economy quickly recovered and achieved a growth rate of 5.31 percent by 2022. 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. Indonesia is characterized by an enormous diversity of natural and urban landscapes, from the world's second most populated urban area[2] to the third largest share of rainforests.[3] It is also the home to 20 percent of the world's mangrove forests and 36 percent of tropical peatlands, and has the second-largest coastline in the world. 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)[4], which is primarily driven by land use change. Indonesia's 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.[5] The country's abundant supply of carbon-intensive natural resources, land and energy are matched by high demand driven growth in agriculture, urban expansion, industrialization, transportation, and trade. Indonesia's economic development has led to rapid urbanization and the conversion of land for commercial purposes. By 2020, over 55 percent of the population had become urban, and much of the country's primary forests and peatlands had been converted for timber extraction and agricultural development.[6] 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 the 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 country.

3. Climate change poses major development risks to Indonesia and the country is highly susceptible to climate-related disasters, 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 the El Niño years, releasing substantial amounts of carbon. Large areas of land will be rendered unsuitable for cultivation or habitation because 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 is also threatening the fragile carbon stock in mangrove forests.

[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] According to CitiMonitor, the greater Jakarta area has a population of nearly 34 million people, only exceeded by Tokyo-Yokohama (link).
[3] Indonesia's over 95 million hectares of forest form a significant part of the world's remaining tropical forests. MOEF. The State of Indonesia's Forest 2022.
[4] 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).
[5] World Bank National Accounts data. Agriculture, forestry, and fishing, value added (percent of GDP) (link).
[6] The primary forest cover loss from 2000 to 2020 reached 8.49 million hectares. World Bank Group. 2023. Indonesia CCDR (link).

Removal of green spaces to give way to urban areas also adds to the environmental damage and risks of flooding. Cities are increasingly at risk of flooding as concrete replaces natural ecosystems and limits the absorptive capacity of land. Overextraction of coastal groundwater and consequent water subsidence further lowers land heights, increasing its vulnerability to flooding. Climate resilience of cities and smart land use will be keys for Indonesia's development. Climate change will impact all Indonesians, but the livelihoods of the poor 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 frequently by pending legal recognition of their land rights.

4. In 2022, the Government of Indonesia (GoI) committed to reducing GHG emissions by 31 percent by 2030, with a further reduction of up to 43 percent contingent on international support.[7] Through its "Long-Term Strategy for Low Carbon and Climate Resilience 2050",[8] 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[9] and land degradation. 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 investments, 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.

B. Sectoral and Institutional Context

5. The World Bank's 2023 Indonesia 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 aims to make the FOLU sector a net carbon sink by 2030 (that is, zero or negative net emissions) under its FOLU Net Sink 2030 plan.[10] To achieve this, the CCDR calls for improving land tenure security, spatial planning, and addressing urban sprawl through more balanced cities.[11] 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 for 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 pre-requisites 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.

[7] Enhanced NDC Indonesia 2022.
[8] Long-Term Strategy for Low Carbon and Climate Resilience 2050, Government of Indonesia. (link).
[9] 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. Indonesia CCDR. World Bank (link).
[10] 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.
[11] World Bank Group. 2023. Indonesia CCDR (link).

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[12], 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).[13] Through PTSL, first time land registration has progressed at an unprecedented speed, doubling the number of registered land parcels to more than 100 million[14] in only a few years. 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. In addition, there has been lack of progress with administrative boundary setting, particularly village boundaries. 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 disputes 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 'adat' communities.[15] Customary land tenure systems are known to contribute to the sustainable management of land, including forests, and are therefore important to mitigate climate change.[16] Without secure land tenure, communities' 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 overlaps with more than 25,000 villages, home to some 37 million Indigenous Peoples and Local Communities (IPLC).[17] Forest Areas are state designated areas reserved for forest land managed by the Ministry of Environment and Forestry (MOEF). The unilateral process 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.[18] 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 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 adjusting erroneous Forest Area boundaries remains a challenge.

[12] 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.

[13] 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.

[14] The total number is estimated at 126 million land parcels outside Forest Areas.

[15] Adat community refers to the Indonesian term *Masyakarat Hukum Adat*. The term is defined in MOHA Ministerial Regulation no. 52/2014 as Indonesian citizens who have distinctive characteristics, live in groups harmoniously according to their customary laws, have ties to ancestral origins and/or a common place of residence, have a strong relationship with the land and the environment, and have a value system that determines their economic, political, social, cultural, and legal institutions and utilize a certain territory from generation to generation.

[16] FAO & FILAC. 2021. Forest governance by indigenous and tribal peoples: An opportunity for climate action in Latin America and the Caribbean.

[17] Ministry of Environment and Forestry, Republic of Indonesia, 2020. The State of Indonesia's Forests 2018.

[18] 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 based on its function as "forest."

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 the accuracy of corporate and public asset values to provide a benchmark for fair compensation as well as 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)[19] 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, which is the regulating ministry for land valuation, 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 base values for property taxation and other uses. ATR/BPN currently maintains Land Value Zone (ZNT) maps in 449 of the total of 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. ATR/BPN's ZNT maps could provide land values closer to market value than presently and over time become the basis for property taxes. This will require updating and completing the ZNT maps across the country and finding a solution for the inclusion of building values, which are currently not provided by the ATR/BPN. However, the vision is that the land registry will in the future register both land parcels and buildings and provide values for both. Addressing building valuation and land values simultaneously 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 spatial plans (district or city level)**.** 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 that citizens, investors and government departments can understand easily. The weak ability of spatial plans to contain urban sprawl allows low-density development in urban fringe areas, allowing encroachment in areas that have high environmental or 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, and accessibility networks provided by road/ transport networks) for climate-resilient, densified urban development beyond administrative boundaries; (ii) RDTRs should guide optimization 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, to also restrict development in non-urban areas for conservation and preservation purposes. ATR/BPN's centralized mandate in spatial planning provides an avenue for addressing these challenges and for upgrading Indonesia's planning capabilities to the needs of the climate actions era.

[19] In this document, local government (LG) refers to governments at the district (*kabupaten*) and city (*kota*) level.

11. The Job Creation Law (Law no. 6/2023, henceforth Omnibus Law) has significantly enhanced Indonesia's spatial planning procedures to ensure greater coherence with business licensing and advance the 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. 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 licensing of natural resources and extractives for decades. OSS also embeds monitoring to ensure that land is used in accordance with its intended purpose. As a follow up, Indonesia has embarked on streamlining spatial planning procedures across sectors, regions, and stakeholders, as well as to resolve inconsistencies and overlapping mandates in spatial planning and land administration/governance.[20] The availability of high quality spatial plans – particularly RDTRs - is a prerequisite to the functioning of the OSS as requests for land use allocations of business permits and capital investments need to align with the RDTR's spatial designation. 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[21] and are costly and time-consuming to prepare; of the 2,000 targeted RDTRs, there are so far approximately 330 RDTRs and only 194 have been incorporated into the OSS. Second, there is a lack of a climate-informed approach, i.e., climate considerations are not integrated into the process of planning and managing land use and development.

12. Indonesia needs climate-informed planning to effectively manage its land resources, provide security of livelihoods 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 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 of which are critical to reducing Indonesia's emissions and implementing climate change adaptation measures. First, the project will support the development of high-resolution geospatial data to provide 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. The project will support strengthening land tenure security for the most vulnerable communities, including adat communities, which will both promote social inclusion and enhance sustainable landscape management. It will also 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

[20] 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.
[21] RDTRs currently cover only 146 of the 514 cities/districts and one province (DKI Jakarta).

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

14. The project aligns with the World Bank Group's Country Partnership Framework (CPF) for Indonesia for Fiscal Years 2021–2025 (FY21–25) (Report No. 157221-ID). The project is 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 it 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 need 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 the participation of stakeholders in decision making, and ensuring equitable benefit sharing and inclusion of the vulnerable and the 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 is informed by the country's CCDR. 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 energy, agriculture, forestry and land use, waste, and 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, 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 national priority objectives, the project is linked 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), including areas: (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.

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). This Component will finance data development and consulting services for the formulation of Detailed Spatial Plans (RDTRs) and integrated Spatial Plans for National Strategic Areas (RTR KSNs). It will strengthen spatial planning by: (i) reducing the current RDTR backlog by formulating 500 RDTRs (25 percent of the GoI target); (ii) adopting a new RDTR standard prototype integrating large-scale base maps to formulate climate-resilient and low-carbon spatial plans; and (iii) formulate integrated spatial plans (RTR KSNs) to enhance land use planning beyond administrative boundaries. For the formulation of RDTRs and RTR KSNs, ATR/BPN will contract consulting services for technical assistance and the provision of data and materials throughout the technical design stage of the planning process. RDTRs are valid for 20-year period and are enacted by LGs under the technical oversight and approving authority of the ATR/BPN and serve as the backbone planning instrument to verify (approve/reject) investment decisions in the OSS. The project will support the development of RDTRs that meet the technical requirements for OSS integration prior to legal enactment for both urban and non-urban areas – a final step (covered by government budget) which is to follow directly after the completion of the spatial planning formulation procedure under this component. Once enacted, the spatial plans will be operationalized through their integration in the OSS to provide the main parameters for land use allocations and capital investment permits. RDTRs for non-urban areas will be restrictive in nature to protect critical landscapes and limit development in these areas, which will enable the RDTRs to better guide capital investments to priority development areas and avoid urban sprawl in designated forests, coastal and conservation or hazardous areas. 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. The targeted 10 RTR KSNs, which are distinct spatial plans as their geographical scope allows for integrated planning, are formulated by ATR/BPN and enacted by Presidential Decree.

19. Component 2. Strengthening Land Tenure and Landscape Management (US$177 million). This Component will finance systematic land registration, registration of customary lands, and setting of village boundaries to strengthen land tenure security. It will support 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 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 development of a modern Land Information System (LIS), and production of ZNT maps to strengthen integrated land administration. The LIS will be established through: (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 Information and Communication Technology (ICT) Infrastructure and service provision. 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.

21. 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.

22. 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 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 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.

23. 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.

24. 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 Project Operations Manual (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.

25. For Components 2 (except VBS) and 3, 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.

Provinces for PTSL will be selected through a needs-based approach, prioritizing areas where large numbers of land parcels are yet to be registered. Locations for customary land registration under Component 2 will be selected on the basis of Identification and Inventories of Customary Land that have been conducted under the One Map Project (for 16 provinces) and will continue under ILASP. 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

26. 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.[22] 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.[23] There has, however, been significant progress in 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.[24] The ILASP will build on this effort and ensure that land administration will work towards closing the gender gap by raising awareness, engaging communities, and providing gender-responsive services to remove barriers and discriminatory practices that hinder women's access to land ownership. 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. Standard operating procedures for integrating gender will be developed and training will be provided for consultants to ensure that women-only focus group discussions are conducted during the development of spatial plans. 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 to ensure women's meaningful participation. The project's results framework includes gender-tagged indicators to measure the progress of gender actions.

27. 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. It 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 under Component 2, ATR/BPN will continue the local community participatory and capacity building approach as implemented under the One Map Project[25], where selected members of village communities are trained to support the mapping and data collection process. Similarly, VBS led by MOHA under Component 2 will involve the direct participation of local communities in determining village boundaries. The project's Feedback Grievance Redress Mechanism (FGRM) will strengthen the existing FGRM mechanism established under the One Map Project and the existing complaint handling systems of the project's implementing agencies (IAs). FGRM officers

[22] World Bank, 2020. Gender-Inclusive Urban Planning and Design.
[23] World Bank, 2020. Indonesia Country Gender Assessment: Investing in Opportunities for Women.
[24] As of September 2023, approximately 55.4 percent of land is registered under women or jointly.
[25] 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.

will be assigned at the PMU and the PIU levels and will be responsible to collect feedback and grievances from FGRM channels and monitor resolution processes. 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. ILASP will utilize the LIS' online platform of the IAs that allows the public to submit complaints and feedback on services provided. 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 land administration services. The survey will be conducted three times (Year 1, Year 3, and Year 5) during the five-year project implementation period and will target the beneficiaries of the project, including women and vulnerable groups, such as IPLC.

28. Maximizing Finance for Development (MFD). Following the Omnibus Law and implementing regulations as part of the GoI's priorities 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, which significantly eases the process for private investors to obtain business licenses and land use permits. Whereas such permits were previously granted manually through ad-hoc decisions - often subject to long delays, prone to overlaps, and lacking transparency - the overarching goal of the OSS system is to foster a more conducive environment for investment. The integration of enhanced spatial planning within the framework of the OSS system holds the potential to significantly decrease processing times for investment-related applications.

29. Better spatial planning provides a more detailed and accessible map of designated zones for various types of investments, including industrial, agricultural, and residential developments. By having a clear, comprehensive understanding of land use allocations and restrictions upfront, investors can make more informed decisions that align with existing spatial plans, thereby reducing the likelihood of delays caused by regulatory non-compliance or the need for extensive revisions to project proposals. Furthermore, as investments are proposed in areas pre-designated for such purposes, the evaluation of environmental impact assessments, location permits, and other spatial planning-related permits can become more straightforward. This efficiency stems from the pre-established compatibility of the proposed investment with the spatial plan, reducing the time and resources required for detailed reviews and adjustments, which significantly benefits the private sector.

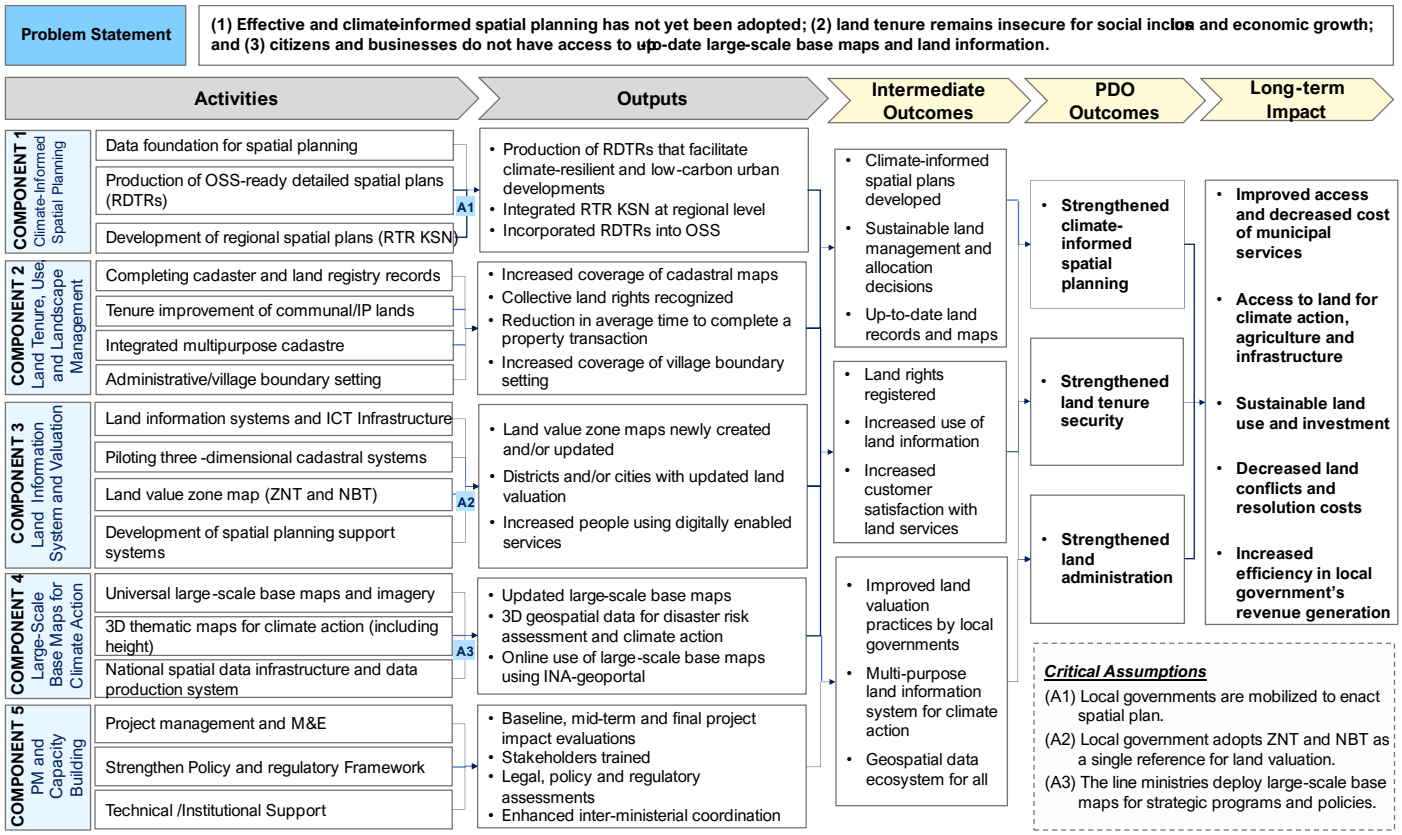
30. Leveraging the LIS platform to share land-related data with line ministries and LGs (Component 3), RDTRs will provide integrated, transparent, and sustainable spatial plans, instilling confidence in developers to participate in long-term investment activities due to improved data accessibility, clear framework for land use, and reliable land value information. This will reduce the possibility of overlaps in land use rights and associated disputes that have long hampered business opportunities, especially for Micro, Small, and Medium Enterprises, making land-based investments less risky and more attractive. 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

31. The project beneficiaries will include a diverse range of groups, including urban and rural citizens, IPLCs, 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 will enable them to manage natural resources better, protect important habitats and agricultural and forest land from encroaching development, increase productive investments, and minimize disputes with other villages

and private companies. Women will 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. 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



E. Rationale for Bank Involvement and Role of Partners

32. The World Bank has supported Land Administration programs in the East Asia-Pacific region for over 40 years. The World Bank 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 has the convening capacity to facilitate coordination and collaboration between critical government stakeholders, as well as 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 the 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

33. The design of the ILASP is informed by lessons from the Bank's support to land administration globally and the recent One Map Project, including:

(a) *The importance of the private sector engagement*. The One Map Project highlighted the significance of cost-efficient surveying and mapping through private sector involvement. The project engaged private surveying companies via a framework procurement mechanism, enabling them to efficiently handle numerous large procurement packages in sequence. The ILASP will continue to utilize the framework agreement mechanism to optimize private sector engagement.

(b) *Community participation and citizen engagement*. The ATR/BPN has gained experience in 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, which will also expand it to the VBS led by MOHA.

(c) *The need for extensive environmental and social 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 critical.

(e) Systematic approach to land parcel mapping and the subsequent issuance of land certificates. Land certification often lags behind mapping due to the 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 is required to streamline the entire land registration 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 the broader World Bank experience in the sector.

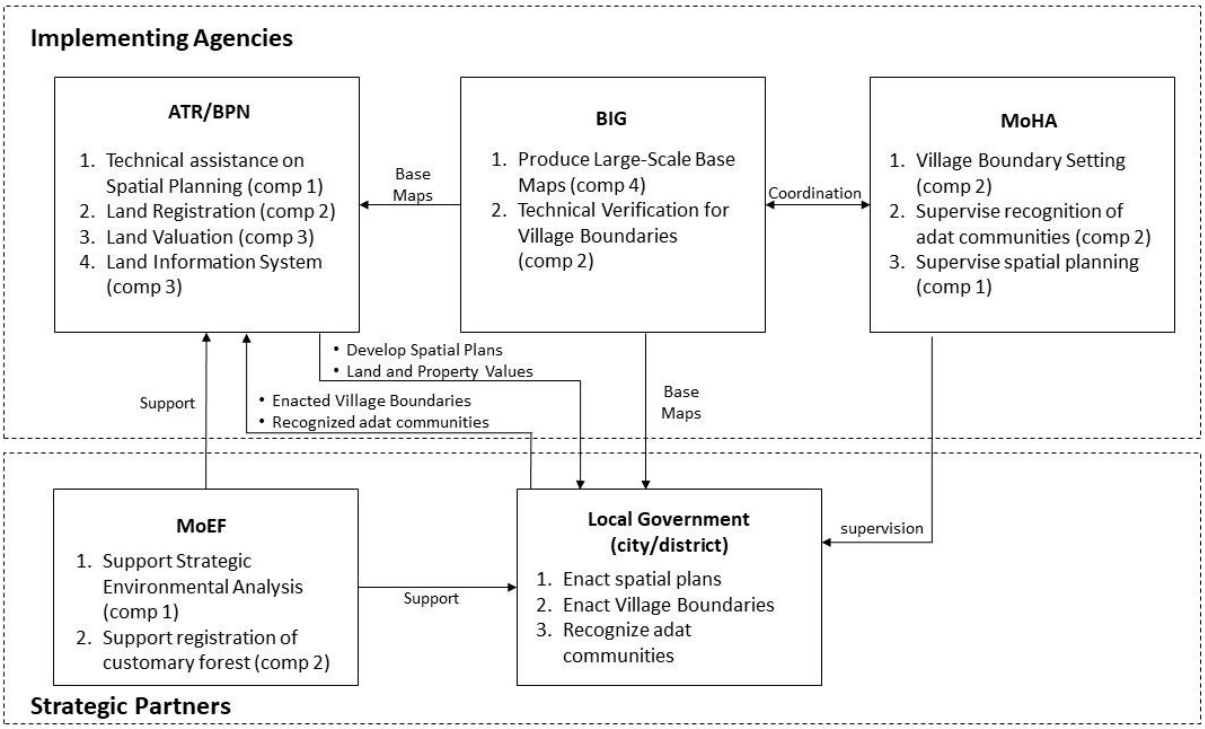
(h) *Spatial planning requires integration with capital investment planning to better serve as instruments to guide infrastructure development,* as underscored in the ongoing National Urban Development Project (NUDP, P163896). The spatial plan prototype incorporates the lessons learned through NUDP as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

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

34. The ATR/BPN will serve as the executing agency (EA), with BIG (i.e., large-scale base maps) and MOHA (VBS) as co-implementing agencies, while other strategic line ministries will join as members of a Project Steering Committee (PSC). MOEF will be a critical strategic partner and will support Strategic Environmental Assessments (EAs) 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. Participating LGs will also be strategic partners in spatial planning, VBS, and adat community recognition. Other PSC Members will be the Ministry of National Development Planning/National Development Planning Agency (Bappenas), MOF, and other ministries invited as necessary. 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. For better coordination with LGs, 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. Annex 1 provides more information on Project Institutional and Implementation Arrangements.

Figure 1. Roles and mandates of IAs and strategic partners



B. Results Monitoring and Evaluation Arrangements

35. 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 Monitoring and Evaluation (M&E) arrangements. Customer satisfaction surveys to be conducted at the beginning, mid-term and closing of ILASP will provide a venue for citizen engagement and will be an important feedback loop on project progress. A project FGRM will be set up at ATR/BPN to monitor feedback (including appeals) from beneficiaries, including citizens and government agencies.

C. Sustainability

36. The project aims for sustained reforms that support Indonesia's long-term strategic goals. It creates a sustainable approach to land governance by reforming Indonesia's procedures and systems around spatial planning, land valuation, and securing land tenure. The expansion of Component 1 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. The capacity building activities under ILASP will ensure enhanced LG capacity in the long run, including the capacity to monitor and enforce spatial plans formulated under this project. Component 3, including the LIS, 3D cadastre, and the mass valuation system, could be expanded to additional cities where there is economic justification. Land registration activities can 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

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

38. Assessment and reduction of mitigation risks. Activities financed under this project, including the provision of large-scale, digital geospatial data and thematic maps, climate-informed spatial planning, land and property valuation, the establishment of a multipurpose cadastre and LIS, and 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 as they do not result in a 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 the 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 include the installation of ICT equipment and software in existing facilities, which is universally aligned, and will incorporate low GHG emission measures in the design and operation of the facility, such as sourcing renewable energy technologies (e.g., solar photovoltaic), extending the lifecycle of existing equipment, and the provision of energy-efficient network equipment and data storage. The project is therefore not at material risk of having a negative impact on the country's low-GHG emissions' development pathways and is aligned on mitigation.

39. 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, 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. 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. Risks are therefore considered acceptable, and the operation is aligned on adaptation and resilience.

40. 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 land redistribution policy under the Agrarian Reform Program aims to address the existing dualism that divides land between Forest Areas under MOEF and non-forests under ATR/BPN by releasing eligible, long-occupied and cultivated land from the Forest Area and subsequently registering them. 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. The ILASP 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). MOEF technical level endorsement has been identified contingent on grant co-financing. Despite MOEF's current absence as a co-implementing agency, the project will support ATR/BPN's registration of customary forests outside Forest Areas, which is a key step toward unified land administration in Indonesia.

41. Spatial Planning. The ILASP Project will support the existing nationwide modality where ATR/BPN supports LGs with technical assistance during the formulation of spatial plans, supported by ATR/BPN regional and local offices and deploying the private sector to provide technical materials and capacity support. ILASP will support the entire spatial plan formulation process until the legal enactment of the spatial 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 in the spatial plans. Locations of RDTRs will be selected using a set of selection criteria, which include the following: (i) listed as a 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 1:5,000 scale base maps; and (iv) areas with potential to be promoted for development, including conservation areas. An RDTR prototype to be deployed under ILASP has been developed to ensure that spatial plans are climate-informed and 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.

42. Systematic land registration. The project will continue the PTSL method that the GoI has successfully implemented since 2017. ILASP will build on the participatory land registration method (PTSL PM) that was designed and widely deployed under the One Map project. As a seamless continuation of activities under the One Map Project, the systematic land registration activities under 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 under the One Map Project.

43. Integrated land information system. The project design leverages the existing ICT capacity and infrastructure that offer a solid foundation to introduce the new LIS. 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 in 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.

44. Large-scale mapping. The project design builds on 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 in quality control. 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

45. 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. Land registration will also contribute to reducing disputes over land ownership, improving access to credit, enhancing land management practices, and increasing agricultural productivity. 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.

46. The economic and financial analysis (EFA) focuses on estimating the impact of three direct and indirect benefits from the project that are quantifiable and 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. The current average processing time of 2.74 months could be reduced to near zero after 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[26] estimated an average increase of about 37 percent in urban areas and 52 percent in rural areas due to the enhanced security of tenure provided by titling. Third, the EFA considers the cost savings resulting from improved service delivery, which will eliminate the need for transaction fees of up to one percent paid to private agents or facilitators.

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

47. The EFA determined that ILASP has a positive net present value (NPV) and an economic internal rate of return (EIRR) that exceeds the discount rate. 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.

C. Fiduciary

(i) Financial Management

48. A Financial Management Assessment (FMA) was carried out in March, 2024, 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.

49. The government's FM system, which includes budgeting, accounting, reporting, internal control, and auditing, will be used for this project. FM will be centralized using the central government's budget allocated under work units in ATR/BPN, including its provincial/district offices and each of the PIUs in BIG and MOHA. The PMU in ATR/BPN will be responsible for the overall coordination of the project's financial aspects, including preparing consolidated financial reports and annual work plans. The FM assessment noted the experience and good performance of ATR/BPN as the EA in the FM of the ongoing project. Both BIG and MOHA have experience as PIUs of World Bank financed operations and are generally familiar with the Bank's financial management requirements. Actions to ensure timely and smooth implementation comprise issuance of the POM and inclusion of the project's budget in ATR/BPN, BIG and MOHA's proposed FY25 budget in order not to delay project implementation upon loan effectiveness. More details of the FM arrangements are provided in Annex 1.

(ii) Procurement

50. 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 the 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. The Bank's procurement capacity assessment noted 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 the Procurement Plan (PP) for the first 18 months of implementation. The PPSD includes a thorough market readiness assessment jointly carried out by ATR/BPN, BIG, and MOHA. 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. More details on the procurement assessment, procurement arrangements, procurement risks and 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

51. The overall environmental and social risk is rated 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. The substantial risk rating reflects the overall complexity and sensitivity of the institutional arrangements at the central line ministries and LG levels and the nation-wide project interventions. In particular, the potential contextual and indirect downstream risks associated with failures in recognizing important biodiversity areas and/or customary tenure rights of indigenous peoples and vulnerable groups could lead to encroachment of biodiversity hotspots and loss of land rights. While the One Map Project was classified High Risk under the previous Safeguards framework (Risk rating, including environmental risk rated substantial as of September 2023), ATR/BPN has proven strong capacity to mitigate both social and environmental risks and no significant risks have materialized during project implementation (closing October 2024). Adopted measures include systematic risk screening for social and environmental risks in 6000+ target villages in 10 provinces (using a digital interface by local land offices) and a publicly accessible online dashboard where risk screening results are displayed and categorized. The ATR/BPN also successfully excluded Key Biodiversity Areas (KBAs), which covered less than 10% of target areas, and areas with pre-existing disputes between village boundaries including with Forest Areas based on the proper application of exclusion criteria and stakeholder engagement. The One Map Project has also conducted in-depth qualitative Vulnerability Mapping assessments led by local universities in each of the project target provinces. Also, where significant unforeseen risks (e.g. community resistance, disputes around Forest Area boundaries) were encountered during implementation, the project managed to exclude the areas, shifting activities to new locations after risk screening found no overlap with KBA or significant social risks.

52. For ILASP, ATR/BPN, BIG and MOHA need to further strengthen their E&S management capacity in line with World Bank's Environmental and Social Framework (ESF), particularly for areas that are outside the thematic and geographical scope of One Map Project including spatial planning, Free Prior and Informed Consent (FPIC), intangible cultural resource and labor management. A capacity building plan will be part of the Environmental & Social Management Framework (ESMF) and funded by the ILASP, including through the continuation of the Bank's on-going support to the ATR/BPN in developing the Technical Guidelines for Social Impact Assessment, which is expected to be issued through an ATR/BPN ministerial regulation, and capacity development for the implementation. The project seeks to manage identified risks through the combination of (i) a regional Social Assessments before the project rolls out to a new region to exclude areas within the region with high social risks; (ii) enhanced participatory risk assessment at the village level; (iii) phased project implementation to start with regions with lower risks to allow the project to learn from experiences; (iv) promotion and further expansion of some sucecssful experiences under the One Map project; and (v) continued capacity development of regional implementation staff by PMU social experts.

53. Nine of the ten Bank Environmental and Social Standards (ESSs) are applicable to the project, the exception being ESS9 on Financial Intermediaries. The project locations do not affect international waterways and therefore the project does not fall within the scope of application of OP 7.5 'Projects on International Waterways'. It is also not implemented in any disputed areas; thus, OP 7.60 'Projects in Disputed Areas' is also not triggered.

54. The environmental risk rating is substantial. The project contributes to improving sustainable landscape management by securing land tenure and creating climate-informed spatial plans that consider biodiversity and environmental benefits. The substantial risk is attributed to the contextual and indirect downstream risks, including potential oversight to recognize some biodiversity important areas outside of designated state Forest Areas during spatial planning, leading to potential downstream infrastructure developments encroaching on natural and/or critical habitats. LGs, supported by ATR/BPN, are responsible for drafting spatial plans but cannot modify Forest Areas, which are managed by MOEF. Under ILASP, ATR/BPN will monitor the actual KBA overlaps in the spatial plans with the World Bank's support. Most spatial plans will be for urban areas, with a smaller portion for non-urban areas, where there is a higher chance of overlapping with KBAs. This could lead to urban sprawl and habitat encroachment or fragmentation if KBAs are not recognized. The project's complexity, stakeholder involvement, and new technical requirements for ESSs and climate considerations present challenges for the IAs. The project does not support any civil works but includes installation of ICT equipment, which may generate electronic waste and pose occupational health and safety risks during installation. High-risk activities such as spatial plans and land registration activities in Forest Areas or on international waterways are excluded. Qualified consultants will be hired to support spatial plan development, who will closely coordinate with government agencies and adhere to Terms of References (ToRs) and technical guidelines agreed upon with the Bank. An independent quality control group will monitor environmental considerations in the spatial plans, supported by capacity building that includes climate-informed and ESS considerations. The Integrated Biodiversity Assessment Tool (IBAT) will be used for KBAs screening for the project. E-waste procedures will be applied to ICT installations. Capacity building for all implementing agencies will support mitigation of environmental and social risks throughout the project, as specified in ESMF.

55. The social risk rating is substantial. There is a significant risk that weak community engagement and participation in the spatial planning processes lead to loss 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 land disputes. The Guidelines for Social Impact Assessment 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; it will also serve as a basis for the project ESF instruments. 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. Communities that 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 politically better 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 Sexual Exploitation and Abuse, and Sexual Harassment (SEA/SH) risk is rated moderate on the account of the project's dispersed and remote locations, with the possibility of limited access to Gender-Based Violence (GBV) service providers.

56. A regional Social Assessment (SA) will be conducted in each new region before the project starts implementation, to exclude areas within the region with High social risks due to significant pre-existing disputes, overlapping land claims and other relevant issues in the Exclusion List included in the ESMF. The regional SA will also assess customary land rights issues for adat communities. A Social Impact Management Plan (SIMP) will be developed and attached to the regional SA report. The Bank will review the regional SA report before the project starts its activities in repective regions. Further, a preliminary risk screening will be conducted to identify presence of Indigenous Peoples (IPs), existing claims (recognized or not) for customary and indigenous tenure rights, existing or planned land use, and exclude locations with significant

pre-existing disputes and overlapping land claims, and an extensive stakeholder engagement and participatory processes will be conducted. This has provien a highly effective risk mitigation measure under the One Map Project, where no project related disutes involving IPs have materialized. The project hired Community Facilitators will organize community-wide meetings where community representatives are selected to assist in the collection of land tenure/use data and mediation of disagreements. Minutes will be prepared that document the participatory processes applied; presence of IP communities; existing tenure rights and land use patterns confirmed by the community; any unavoidable land loss or access restrictions; and potential mitigation measures agreeable to affected communities. Minutes will be confirmed by the affected communities. The independent quality control group of experts will be hired to monitor project activities. Free, Prior and Informed Consent (FPIC) will be obtained if the project activities result in the acquisition of IP's customary territories, their physical relcoation or significant impacts on their cultural heritage, based on the provisions under the Indigenous Peoples Planning Framework (IPPF).

57. Environmental and social instruments for the project were prepared, publicly disclosed, and consulted with relevant stakeholders by project appraisal. The ATR/BPN has prepared the Environmental and Social Management Framework (ESMF), the Stakeholder Engagement Framework (SEF), and the Environmental and Social Commitment Plan (ESCP). The ESMF 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 integrating environmental and social consderations into the business processes, development of ToRs for spatial plans, and SEA technical guidelines consistent with ESSs; electronic waste disposal procedures; 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) which are commensurate to the project risks identified during project preparation.

V. GRIEVANCE REDRESS SERVICES

58. 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, 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

59. The overall risk to achieving the PDO is rated Substantial. The overall risk is driven by the following risks that are rated Substantial (S) or above:

60. The risk associated with sector strategies and policies is rated Substantial due to a challenging policy environment and political economy. The government is committed to the land sector reforms and the omnibus approach

providing a strong environment for this operation. A dramatic policy change during project implementation could, however, take the incentives away from the required institutional cooperation between ATR/BPN, BIG, and MOHA. The project will proactively work towards creating a positive enabling environment and policy regime and repurposing public support towards resilient and low-carbon outcomes.

61. 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 disputes 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 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 that have proven an efficient method to screen and mitigate stakeholder risks will be deployed and optimized under the ILASP. In relation to IPLCs, 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 engage with Civil Society Organizations (CSOs) and indigenous peoples' advocacy groups to ensure territorial claims are properly addressed and recorded.

62. 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 to LGs, the issuance of RDTRs is an LG mandate. The mitigation measures are three-fold: (i) establishing working groups (Pokja) at the LG level to create ownership of the RDTR formulation process 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 in 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. A quality control reference group will be established by the PMU, possibly comprising an independent panel of experts, for reviewing the 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 the 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 coordination through the PSC, as well as through the Bank's implementation support.

63. 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 the preparation of a regulatory framework, the 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, improvements in public participation, and adaptation to the government's changing policy priorities.

64. 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 timely; and (iii) assess the overall efficiency and effectiveness of expenditures. Considering the dispersed project locations and various budget holders, activities will be carried out in phases, and financial management consultants will be recruited to support the PMU and the PIUs in budget preparation and execution. The POM will 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.

65. Environmental and Social risk is Substantial. E&S risks and mitigation measures are discussed in the Appraisal Summary section under Environmental and Social.

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	Sep/2025	Sep/2026	Sep/2027	Sep/2028	Sep/2029
0	2,006	6,615	8,461	10,227	11,394
➢Number of land rights registered (Number)					
0	555,000	1,862,000	2,496,000	2,756,000	3,224,000
➢of which, share of land rights registered in the name of a woman or jointly (Percentage)					
0	55.60	55.90	56.30	56.70	57.00
Strengthened Land Administration					
Area with Enhanced Land Administration (Hectare(Ha))					
Jun/2024	Sep/2025	Sep/2026	Sep/2027	Sep/2028	Sep/2029
0	1,362,500	5,004,100	8,614,300	12,017,200	15,633,500

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	1,141
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	1,030	3,030
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	1,305,100	3,387,100	4,375,000	4,596,000	4,800,000
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	2,000	5,400	8,800	11,000
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	1,700	3,200	4,200	5,000
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	264,000	2,376,000	5,544,000	9,240,000	13,200,000
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
6,117	6,636	7,097	7,523	8,120	8,688
People using digitally enabled services (Number (Thousand))					
Jul/2024	Oct/2025	Oct/2026	Oct/2027	Oct/2028	Oct/2029
12,136	12,516	12,957	13,469	14,063	14,752
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	247,380	798,130	144,180	1,887,520
Online use of large-scale base maps via BIG geoportal (Number)					
Jul/2024	Oct/2025	Oct/2026	Oct/2027	Oct/2028	Oct/2029
372,690	395,100	501,800	732,600	1,157,500	1,600,000
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	10,594	22,428	62,081	79,261	83,680
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	3,500	10,500	17,500	21,500
➢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, number of land rights registered	
Description	The indicator will measure the number of land rights registered in the ATR/BPN's land information system.
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, 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	ILASP PMU

Collection	

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	ILASP PMU

Collection	
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 adat 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	ILASP PMU progress monitoring

Collection	
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 Collection	BIG PIU progress monitoring
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	ILASP PMU progress monitoring

Collection	
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 Granting; 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 2. ILASP Institutional Arrangements

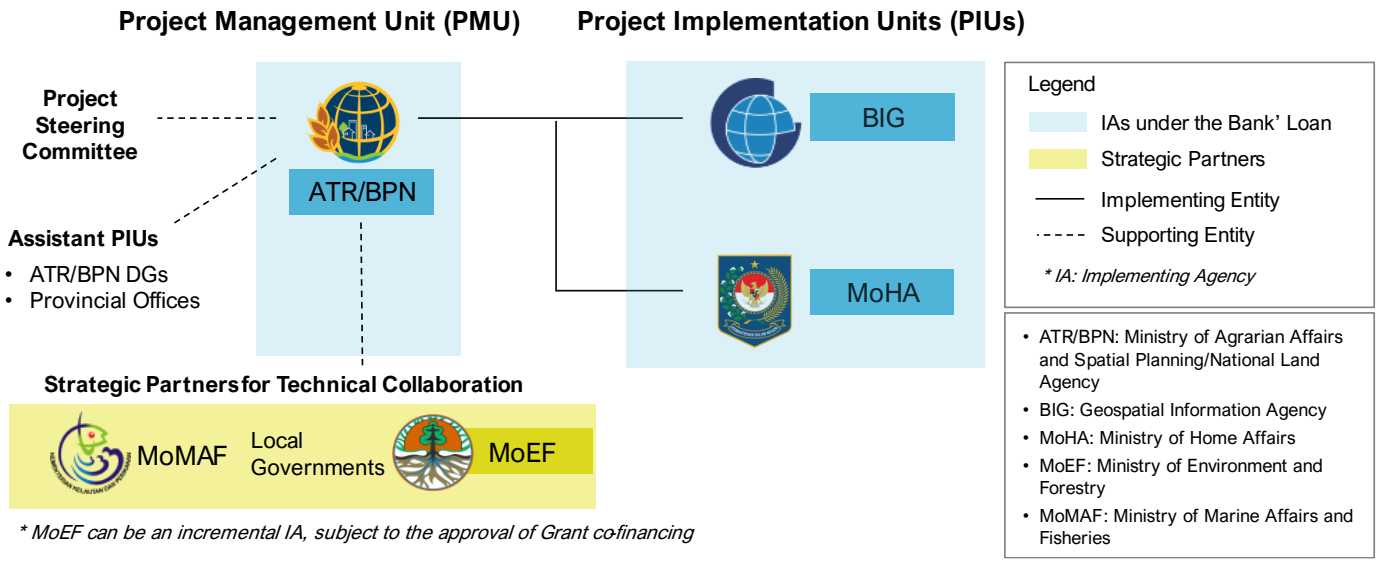
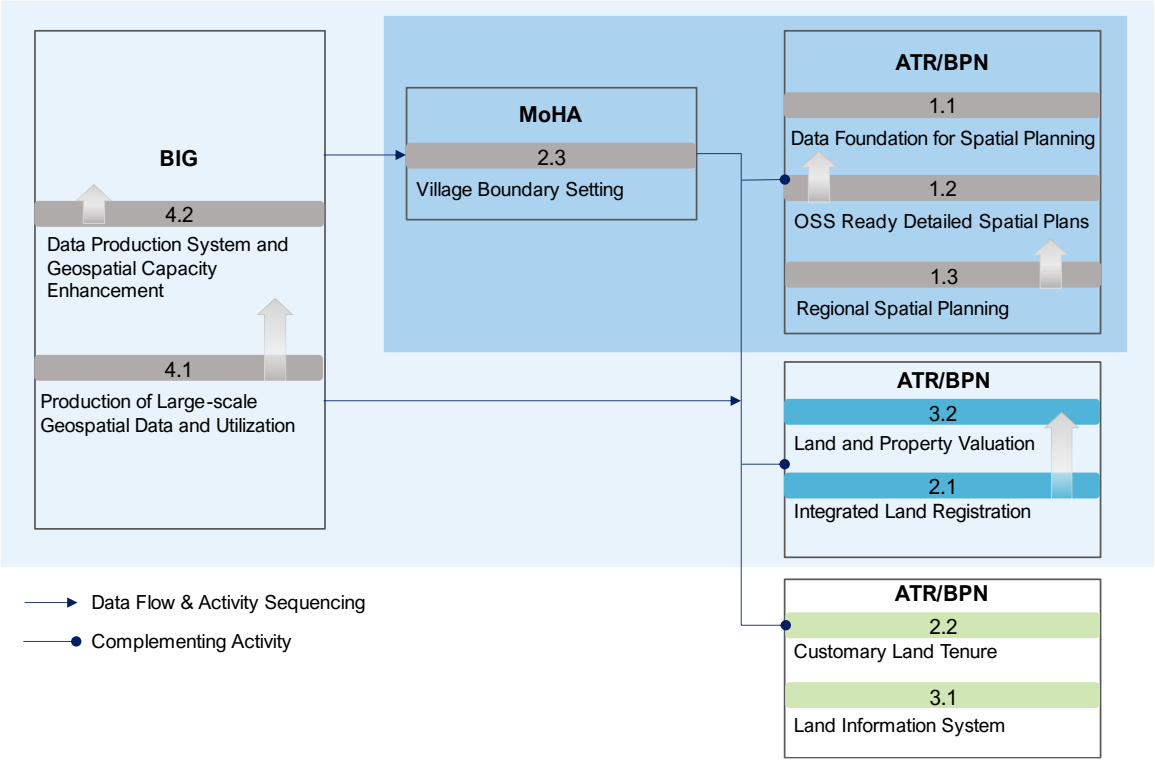


Figure 3. ILASP Implementation Arrangements



Financial Management Arrangements

3. **Budgeting.** The budgeting system will follow existing government procedures. World Bank financing will be included in the annual government budget and the 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 the BIG and MOHA PIUs. Parallel budgets will be prepared for contracts and activities financed by loan. The POM will provide a detailed timetable of annual work plan preparation in line with the government budget processing timeline. The FM consultants assigned for the project within the PMU will also assist the PIUs on timely budget preparation and revision. The risk of budget delay has also been mitigated by ensuring the inclusion of the project budget in the 2025 DIPA of ATR/BPN, BIG, and MOHA, which means that the expenditures can be incurred soon after the project becomes effective. All expenditures and assets purchased under the project will be recorded as central government's expenditures and assets.

4. **Accounting and reporting.** The executing 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 for auditing purposes. The PMU will prepare a set of consolidated interim financial reports (IFRs) for project monitoring and for requesting advances 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.

5. **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. Payment verification processes will also be strengthened through (i) appointment of verification staff to support the commitment officers in the PMU and the PIUs; and (ii) inclusion of verification checklists and procedures in the POM. Internal audit of ATR/BPN, BIG, and MOHA will also be involved in the budget revision process and review of unaudited annual financial reports.

6. **Flow of funds.** A Designated Account (DA) for the project, denominated in US dollars, will be opened by the Director General of Treasury (MOF) in the Bank Indonesia (the central bank) or other financial institution or commercial bank acceptable to the World Bank. 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 the 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 information of all payment remittances (SP2Ds) charged to the projects to the PMU to use as the basis to develop consolidated withdrawal applications. The PMU will submit the consolidated withdrawal application to record the expenditures and request additional funds to the World Bank through the MOF.

7. **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. 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 also include opinions on internal control frameworks and compliance with loan covenants and related regulations.

8. **Counterpart Funding**. The US$1.63 million specified in the PAD Datasheet under the category of "Counterpart Funding" represents solely the front-end fee. There is no borrower's contribution to finance Project activities (as referred to as *Rupiah Murni Pendamping* in the Borrower's system) required for the project.

9. **Disbursements.** The applicable disbursement methods are advance, direct payment and reimbursement. The DA will be a segregated account in JPY 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 requests 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. The IFR will consist of: (i) a list of payments for contracts under the World Bank's prior review and records evidencing such expenditures; (ii) statement of expenditures for all other expenses; (iii) DA reconciliation statement; (iv) IFR; and (v) 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 expenditures reported for disbursements will be retained at the PMU and the 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 2. Disbursement Category

Category	Amount of the Loan Allocated (expressed in JPY)	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	94,877.7 million	100%
TOTAL AMOUNT	**94,877.7 million**	

Procurement

10. **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**.

11. **Use of National Procurement Procedures.** When approaching the national market 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 the 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 procurement, subject to the use of national bid documents acceptable by the World Bank.

12. **The Government's e-procurement system (*Sistem Pengadaan Secara Elektronik*, SPSE) may only be used for the procurement of goods and non-consulting services through 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.

13. **The PPSD and PP for the Project have been finalized by the IAs with the support of the World Bank, and form the basis for 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 the PP will be updated annually, or as needed, during implementation to reflect the project needs, improvements in institutional capacity, and adjustments in procurement risk. They 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 the 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 proposals, which will be based on an assessment of the level of priority between the technical and the 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.

14. **For the first 18 months, it is estimated that there will be 130 packages to be procured as follows**:
(1) **Consulting services.** There will be 31 packages of consulting services contracts, consisting of: (i) 25 packages of consultancy services for spatial planning firms for RDTRs and RTR KSNs that will be developed for the implementation of Sub-components 1.2 and 1.3 (either under the QCBS method or CQS with national open market approach); (ii) one package for individual consultant service for the development of technical guidelines on the legal recognition of adat communities by MOHA to support the implementation of Sub-component 2.2; and (iii) packages of consultancy services for supervision and quality control and for project management for the implementation of Component 4 by BIG (these packages will follow the QCBS method).
(2) Procurement of goods and non-consulting services. In all, 99 packages of goods and services will be procured under this category.

15. **The procurement method and market approach** will be determined based on: (i) market analysis; (ii) market engagement strategy; and (iii) procurement risk analysis. All open international competitive procurement methods will use rated criteria as the default evaluation approach.

16. **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. All relevant procurement and contract documents will be recorded in STEP.

17. **Disclosure of procurement information.** The following documents shall be disclosed on the websites of IAs and SPSE: (i) the PP and updates; (ii) an invitation for bids for goods and non-consulting services for all contracts through open competitive procurement; (iii) request for expression of interest for selection/hiring of consulting services; (iv) contract awards of goods and non-consulting services procured following international and national procedures; (v) a list of contracts/purchase orders placed following Request for Quotation (RFQ) procedures on a quarterly basis; and (vi) 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.

18. **Key procurement risks and mitigation measures.** The risks related to procurement and mitigation measures are shown in Table 3.

Table 3. Procurement Risks and Mitigation Measures

Risk Description	Mitigation Measures
1. Discrepancies between the World Bank's Procurement Regulations and the provisions of the Government procurement rules and documentation	• The procurement chapter of the POM will 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 the PPSD and in the 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 to support procurement implementation. • Early in the Project, set up an exclusive Working Group for the 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 bid documents of key goods packages, training on procurement procedures and STEP before loan effectiveness. • World Bank will provide support on the preparation of bid documents and technical specifications and any other aspects related to the readiness for 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 readiness at the district level to receive the equipment	• 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 will support the IAs in carrying out market analyses, developing technical specification, making procurement arrangements, and drafting bid documents.
5. Uncertainty over capacities of procurement committee members (Pokja) and the PIU	• Competent and experienced staff will be assigned to the Working Group for Procurement and the 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 the weight/score in the bid documents. • Evaluation shall be carried out by the IAs according to the evaluation criteria, as stipulated in the issued bid documents.

Implementation Support Plan

19. The World Bank's implementation support plan consists of scheduled implementation support missions every six 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 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 Directorate General of Spatial Planning in the first year of project implementation, which may be extended based on needs. With support from the City Resilience Program, PROGREEN Trust Fund and Sustainable Landscape Management Multi-Donor Trust Fund (SLM-MDTF), the World Bank will provide technical assistance to the ATR/BPN with a needs analysis and preparation of the ToR 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 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 formulate 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 trainings, 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 contract consulting services for technical assistance and the 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. Regional firm consortia will be responsible to support the formulation of 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 established 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.

5. RDTRs are statutory spatial plans developed by the participating LGs involving Regional Development Planning Agencies (BAPPEDA) and formalized by the LGs through LG Head (Mayor or District Head) Regulation. Having the central mandate for spatial planning, ATR/BPN will provide oversight, supervision, and technical assistance to LGs in the formulation of spatial plans. ATR/BPN is to approve the technical design of RDTRs through a Ministerial Decree before legal enactment. The RDTR formulation process will be led by spatial planning committees, which will be established at both the LG level and the ATR/BPN during the preparation stage of the RDTR formulation process. At the LG level, the spatial planning committee will consist of i) an RDTR and SEA drafting committee established through a decree by the LG head, and ii) a team of professional experts mobilized by ATR/BPN and financed under this project. The RDTR and SEA drafting committee will include personnels from relevant sectoral agencies and the local ATR/BPN office, who will collaborate with the team of experts to produce the RDTR and SEA technical documents. At the ATR/BPN level, a decree from the Directorate General of Spatial Planning will appoint ATR/BPN officials responsible for overseeing and supervising RDTR technical assistance in each city/district, as well as granting substantive approval following the validation of the SEA and the finalization of the RDTR by the LG. The spatial planning committee at the LG level, under the supervision of the committee from ATR/BPN, will collect data and information, gather inputs from citizens and stakeholders, and prepare analyses, and conceptualize spatial plans and zoning regulations. Multiple Focus Group Discussions (FGDs) and community check-ins will be held during the data collection and analysis stage, including at least one women-only FGD. A minimum of two public consultations will be conducted upon the drafting of the land use plan concept and the finalization of the draft RDTR. Subsequently, the LG-level committee will finalize the draft RDTR, including finalizing legal documents and validating SEA result, prior to submitting it for approval to ATR/BPN.

6. To improve the quality of RDTRs, a prototype for the enhanced RDTR has been developed during preparation supported by Bank-executed technical assistance, 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. During project implementation, the bank will monitor the approval and implementation aspects, particularly for the first few RDTRs developed to ensure that lessons learned from these early examples are factored in the implementation of subsequent project activities. 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 (particularly 1:5,000 scale base maps) produced under Component 4. SEAs 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)

7. 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 a 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 beyond administrative boundaries. RTR KSNs are enacted by Presidential Decree and serve as a reference for the RDTRs produced under sub-component 1.2. The targeted 10 RTR KSNs with a scale of 1:50,000 will focus on environmental protection and economic development. The main environmental objective of developing RTR KSNs is to support the implementation of FOLU Net Sink 2030 plan, focusing on integrated planning of districts surrounding National Parks (which include important biodiversity and endangered species sanctuaries), restoration and rehabilitation of critical ecosystems, and preventing land degradation, which all require a multi-jurisdictional management approach. 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.

8. ATR/BPN will contract consulting services to support the RTR KSN formulation processes from preparation of determining the strategic issues of the National Strategic Area, initial delineation and zoning, 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, Ministry of Marine Affairs and Fisheries (MMAF), and BKPM. 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 RTR KSNs. Their content shall inform and provide guidance to the RTR KSNs 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 conducting systematic and participatory land registration, promoting sustainable landscape management. Activities will include: (i) systematic land registration and improving 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 increased 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 IPLCs, 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.[27]

2.1 Integrated Multipurpose Cadastre (US$163 million)

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

9. This sub-component will finance Systematic and Complete Land Registration (PTSL) of unregistered lands across Indonesia[28], data quality improvement of the existing cadastral records with accuracy issues, and upgrades of land records and cadastral maps for a climate-responsive and multipurpose cadastre. ATR/BPN will contract licensed land surveyors to register a targeted 5.2 million land parcels, 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. 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.[29] 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.

10. 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)

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. 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. 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 in three provinces. 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. 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.

[28] The GoI aims to complete the land registration in non-forest area by 2025 through PTSL supported by ILASP and parallel government funds.
[29] 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.

14/2024 on the Implementation of Land Administration and Registration of Land Rights of Customary Law Communities. These stipulate the procedures and authority to ATR/BPN 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 and will be eligible to obtain Management Right (HPL) certificates for their registered communal land, subject to community wide support to obtain this right. HPL rights enable communities to cooperate with third parties while maintaining community 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 also pioneer the registration of the MOEF-recognized customary forests in the Non-Forest Area, which will be piloted in the first or second year of the project, with potential scale up in the following years of the project.[30]

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. Researchers 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.

2.3 Village Boundary Setting (US$9 million)

14. This sub-component will finance Village Boundary Setting (VBS)[31] 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 minimizing land disputes and enabling village access to government village funds. MOHA will deploy licensed surveyors to support the establishment of boundaries for a targeted 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

[30] 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.
[31] Following MOHA Ministerial Regulation no. 45/2016 on Guidelines for Determining and Confirming Village Boundaries, Village Boundary Setting is the process of determining village boundaries that can be done by a cartometrical and/or terrestrial method on an agreed base map.

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. 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 finance: (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. The investment allocation on the climate-smart ICT infrastructure is US$6 million. 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 and utilize 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 the generation and utilization of: (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) 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 system 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 (a total of US$26.5 million allocated to the ICT equipment provision) 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 PMU and 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, training, and skill development in the areas of monitoring and evaluation, communication, audits, social and environmental risk 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 M&E, training and communications shall be included. A Project Manager will report to ATR/BPN on the use of funds and project accomplishments monthly. 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 by the 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 M&E, training, communication, audits, policies and regulations, operations and maintenance. BIG, as IA 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 responsible for 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 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 HPL rights for customary land. 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.