



FOR OFFICIAL USE ONLY

Report No: PAD3146

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US\$150.00 MILLION

TO THE

REPUBLIC OF INDONESIA

FOR THE

CENTRAL SULAWESI REHABILITATION AND RECONSTRUCTION PROJECT

June 6, 2019

Social, Urban, Rural And Resilience Global Practice
East Asia And Pacific Region

This document has a restricted distribution and may be used by recipients only in the performance of their official duties. Its contents may not otherwise be disclosed without World Bank authorization.

CURRENCY EQUIVALENTS

Exchange Rate Effective April 30, 2019

Currency Unit = Indonesian Rupiah (IDR)

US\$1.00 = IDR14,250

FISCAL YEAR

January 1 - December 31

Regional Vice President: Victoria Kwakwa

Country Director: Rodrigo A. Chaves

Senior Global Practice Director: Ede Jorge Ijjasz-Vasquez

Practice Manager: Abhas Kumar Jha

Task Team Leader(s): George Soraya, Marcus Lee, Jian Vun

ACRONYMS

ADB	Asian Development Bank
ATR/BPN	<i>Kementerian Agraria dan Tata Ruang/Badan Pertanahan Nasional</i> Ministry of Agrarian Affairs and Spatial Planning/National Land Agency
BAPPENAS	<i>Badan Perencanaan Pembangunan Nasional</i> (Ministry of National Development Planning/National Development Planning Agency)
BMKG	<i>Badan Meteorologi, Klimatologi, dan Geofisika</i> (Indonesian Agency for Meteorology, Climatology, and Geophysics)
BNPB	<i>Badan Nasional Penanggulangan Bencana</i> (National Disaster Management Authority)
BPIW	<i>Badan Pengembangan Infrastruktur Wilayah</i> (Regional Infrastructure Development Agency)
BPK	<i>Badan Pemeriksa Keuangan Republik Indonesia</i> (Audit Board of the Republic of Indonesia)
CBA	Cost-Benefit Analysis
CERC	Contingent Emergency Response Component (World Bank)
CPF	Country Partnership Framework (World Bank)
CSRRP	Central Sulawesi Rehabilitation and Reconstruction Program
DA	Designated Account
DAK	<i>Dana Alokasi Khusus</i> (Special Allocation Fund)
DED	Detailed Engineering Design
DG	Directorate-General
DGCK	Directorate General of Human Settlements
DIPA	<i>Daftar Isian Pelaksanaan Anggaran</i> (Annual budget and line ministry budget document)
DRM	Disaster Risk Management
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESMF	Environmental and social management framework
ESRS	Environmental and Social Review Summary
ESS	Environmental and Social Standard
FM	Financial Management
GBV	Gender-based Violence
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GoI	Government of Indonesia
GRM	Grievance Redress Mechanism
IBRD	International Bank for Reconstruction and Development
ICR	Implementation Completion and Results Report
IDRAR	Indonesia Disaster Resilience and Reconstruction Program
IDRIP	Indonesia Disaster Resilience Initiatives Project
IFR	Interim unaudited Financial Reports
IPF	Investment Project Financing
IRR	Internal Rate of Return
JICA	Japan International Cooperation Agency
KEXIM	Export-Import Bank of Korea
KOTAKU	<i>Kota Tanpa Kumuh</i> (National Slum Upgrading Project)
KPPN	<i>Kantor Pelayanan Perbendaharaan Negara</i> (State Treasury Office)

LKPP	<i>Lembaga Kebijakan Pengadaan Barang Jasa Pemerintah</i> (National Public Procurement Agency)
M&E	Monitoring and Evaluation
MIS	Management and Information System
MOEC	Ministry of Education and Culture
MOF	Ministry of Finance
MOH	Ministry of Health
MTR	Mid-term Review
NDC	Nationally Determined Contributions
NGO	Non-Government Organization
NPV	Net Present Value
NSUP	National Slum Upgrading Project
NTB	<i>Nusa Tenggara Barat</i> (West Nusa Tenggara)
OHS	Occupational Health and Safety
O&M	Operations and Maintenance
OSP	Oversight Service Providers
PAMSIMAS	<i>Penyediaan Air Minum dan Sanitasi Berbasis Masyarakat</i> (national Rural Water Supply and Sanitation Project)
PDO	Project Development Objective
PID	Project Information Document
PIU	Project Implementation Unit
PMU	Project Management Unit
POM	Project Operations Manual
PPK	<i>Pejabat Pembuat Komitmen</i> (Commitment-making Official)
PPSD	Project Procurement Strategy for Development
PUPR	<i>Kementerian Pekerjaan Umum dan Perumahan Rakyat</i> (Ministry of Public Works and Housing)
QCBS	Quality-and Cost Based Selection
RALAS	Reconstruction of Aceh Land Administration System Project
RDTR	<i>Rencana Detail Tata Ruang</i> (Detailed Spatial Plan)
RPJMD	<i>Rencana Pembangunan Jangka Menengah Daerah</i> (Subnational Medium-Term Development Plan)
RPJMN	<i>Rencana Pembangunan Jangka Menengah Nasional</i> (National Medium-Term Development Plan)
SEP	Stakeholder Engagement Plan
SP2D	<i>Surat Perintah Pencairan Dana</i> (Payment Remittance Orders)
SPP	<i>Surat Persetujuan Pembayaran</i> (Payment Agreement Letter)
SPSE	<i>Sistem Pengadaan Secara Elektronik</i> (GoI's e-procurement system)
STEP	Systematic Tracking of Exchanges in Procurement
UKPBJ	<i>Unit Kerja Pengadaan Barang/Jasa Pemerintah</i> (Government Goods / Services Procurement Unit)
UNDP	United Nations Development Program
UNFPA	United Nations Population Fund
VSL	Value of a Statistical Life



TABLE OF CONTENTS

DATASHEET	1
I. STRATEGIC CONTEXT	6
A. Country Context.....	6
B. Situations of Urgent Need of Assistance or Capacity Constraints	7
C. Sectoral and Institutional Context	9
D. Relevance to Higher Level Objectives	11
II. PROJECT DESCRIPTION.....	13
A. Project Development Objective.....	13
B. Project Components	14
C. Project Financing	15
D. Project Beneficiaries.....	15
E. Results Chain.....	16
F. Rationale for Bank Involvement and Role of Partners.....	16
G. Lessons Learned and Reflected in the Project Design.....	17
III. IMPLEMENTATION ARRANGEMENTS	18
A. Institutional and Implementation Arrangements	18
B. Results Monitoring and Evaluation Arrangements.....	19
C. Sustainability.....	20
IV. PROJECT APPRAISAL SUMMARY	20
A. Technical and Economic Analysis	20
B. Fiduciary.....	22
C. Legal Operational Policies.....	24
D. Environmental and Social	24
V. GRIEVANCE REDRESS SERVICES	31
VI. KEY RISKS	31
VII. RESULTS FRAMEWORK AND MONITORING	33
ANNEX 1: Implementation Arrangements and Support Plan	42
ANNEX 2: Detailed Project Description	50
ANNEX 3: Economic Analysis.....	55
ANNEX 4: Gender Analysis	60
ANNEX 5: Climate Change Analysis.....	64
ANNEX 6: Map	66
ANNEX 7: Transitional Activities and Implementation Support Arrangements	67



DATASHEET

BASIC INFORMATION

Country(ies)	Project Name		
Indonesia	Central Sulawesi Rehabilitation and Reconstruction Project		
Project ID	Financing Instrument	Environmental and Social Risk Classification	Process
P169403	Investment Project Financing	High	Urgent Need or Capacity Constraints (FCC)

Financing & Implementation Modalities

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

Expected Approval Date	Expected Closing Date
19-Jun-2019	30-Jun-2024
Bank/IFC Collaboration	
No	

Proposed Development Objective(s)

The PDO is to reconstruct and strengthen public facilities and safer housing in selected disaster-affected areas.

**Components**

Component Name	Cost (US\$, millions)
Component 1. Resilient construction of permanent housing units and settlement infrastructure	91.30
Component 2. Resilient reconstruction and strengthening of public facilities	31.80
Component 3. Project implementation support	26.90

Organizations

Borrower:	Republic of Indonesia
Implementing Agency:	Ministry of Public Works and Housing

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

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

DETAILS**World Bank Group Financing**

International Bank for Reconstruction and Development (IBRD)	150.00
--	--------

Expected Disbursements (in US\$, Millions)

WB Fiscal Year	2019	2020	2021	2022	2023	2024	2025
Annual	0.00	15.00	43.00	40.00	40.00	12.00	0.00
Cumulative	0.00	15.00	58.00	98.00	138.00	150.00	0.00



INSTITUTIONAL DATA

Practice Area (Lead)

Social, Urban, Rural and Resilience Global Practice

Contributing Practice Areas

Education, Health, Nutrition & Population

Climate Change and Disaster Screening

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

Gender Tag

Does the project plan to undertake any of the following?

a. Analysis to identify Project-relevant gaps between males and females, especially in light of country gaps identified through SCD and CPF	Yes
b. Specific action(s) to address the gender gaps identified in (a) and/or to improve women or men's empowerment	Yes
c. Include Indicators in results framework to monitor outcomes from actions identified in (b)	Yes

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

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



COMPLIANCE

Policy

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

☐ Yes ☒ No

Does the project require any waivers of Bank policies?

☐ Yes ☒ No

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

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

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



Legal Covenants

Sections and Description

Schedule 2, Section I.C of the Loan Agreement

The Borrower shall: (a) prepare and furnish to the Bank by September 30 in each year - beginning in the Fiscal Year 2019 - a proposed Project's consolidated annual work plan and budget for the following Fiscal Year; (b) taking into account the Bank's comments, finalize the plan and furnish it to Bank for its approval not later than November 30 in each year - beginning in the Fiscal Year 2019; and (c) adopt the plan as shall have been approved by the Bank (Annual Work Plan and Budget) and thereafter ensure that the Project is carried out in accordance with each of such Annual Work Plan and Budget, in a manner satisfactory to the Bank.

Sections and Description

Schedule 2, Section II.1 of the Loan Agreement

The Borrower shall furnish to the Bank each Project Report not later than forty-five (45) days after the end of each calendar year, covering the calendar year.

Sections and Description

Schedule 2, Section II.2 of the Loan Agreement

No later than thirty (30) months after Effective Date, the Borrower shall, in conjunction with the Bank, carry out a mid-term review of the Project (the "Mid-term Review"), covering the progress achieved in the implementation of the Project.

Conditions

Type	Description
Effectiveness	The Borrower has adopted the Project Operations Manual in form and substance satisfactory to the Bank.
Effectiveness	The Borrower has established the Project Management Unit with composition, terms of reference and resources satisfactory to the Bank.
Disbursement	No withdrawal shall be made (a) for payments made prior to the Signature Date; or (b) under Category (2) until the Borrower has adopted the Grants Manual in form and substance satisfactory to the Bank.



I. STRATEGIC CONTEXT

A. Country Context

1. **Indonesia has seen impressive growth and a large reduction in poverty over the past two decades.** Since 1950, average Gross Domestic Product (GDP) per capita has increased almost nine-fold in real terms.¹ The percentage of poor and vulnerable people in the population decreased from 54 percent in 2001 to 31 percent in 2017. The official poverty rate, based on the national poverty line, reduced to 9.8 percent in March 2018, or 26 million poor people in absolute terms.² Poverty reduction has been driven by strong and steady economic growth since the economic low of the Asian Financial Crisis from 1997 to 1998, along with solid job creation in cities as labor shifted from agriculture to services. Whilst growth is projected to be stable in coming years, with Indonesia continuing in its development path as a middle-income country, the pace of progress has been uneven across different regions with rising inequalities. In addition, while poverty has declined, many Indonesians remain highly vulnerable to external shocks, living just above the poverty line. While poverty is more prevalent in rural areas, the share of poverty in urban areas is increasing, reaching 38.1 percent in March 2018, linked to ongoing urbanization processes.³

2. **Indonesia is one of the most disaster-prone countries in the world and exposed to a range of natural hazards that can hinder development outcomes, affecting its people and the economy.** Located in the Pacific Ring of Fire with 127 active volcanoes across the archipelago nation, Indonesia experiences frequent earthquakes and tsunamis, as well as floods. Disaster events have caused significant human and economic losses in the country. Just between 2007 and 2018, recorded disaster events caused the loss of 7,375 lives and displaced 55 million people,⁴ with annual economic losses of approximately US\$2.2 to US\$3.0 billion.⁵ Earthquake risk is particularly high, with some 80 percent of the country located in earthquake-prone areas.⁶ It is expected that by 2055, approximately 64 percent of Indonesia's population will be living in earthquake hazard zones, up from 53 percent in 2016, with the largest increase in exposure across the Java island.⁷ Based on probabilistic loss models, there is a 2 percent chance each year of a significant earthquake event occurring that causes damages of approximately US\$1.3 billion.⁸ The poor and vulnerable often bear the brunt of disaster impacts as they tend to live in hazard areas, lack access to basic services, and have limited access to financial resources and assets to cope with aftermath losses.

3. **Indonesia's urbanization processes have been powerful drivers of economic growth and poverty reduction but can increase the vulnerability and exposure of its cities to natural hazards.**⁹ Greater mobility and connectivity across Indonesia has boosted the overall productive potential of the economy and created opportunities for greater prosperity. Urbanization trends indicate that urban populations will increase from almost 50 percent in 2010, to 66 percent in 2035, with some regions experiencing even faster growth rates. For example, in Central Sulawesi, the urban population is

¹ World Bank. Forthcoming. *Urbanization Flagship Report: Time to Act – Realizing Indonesia's Urban Potential*.

² World Bank. 2018. *Indonesia Economic Quarterly. Urbanization for All. September*.

³ World Bank. 2018. *Indonesia Economic Quarterly. Urbanization for All. September*.

⁴ Based on EM-DAT 2018 and BNPB data.

⁵ National Disaster Management Authority, Head of Data and Information, 2018; and World Bank/GFDRR 2012. *Advancing disaster risk financing and insurance in ASEAN member states: Framework and options for implementation*. Among the ASEAN countries, Indonesia faces particularly high expected annual economic losses from floods and earthquakes.

⁶ National Disaster Management Authority, Director of Disaster Risk Reduction on Safe School Program, 2016.

⁷ World Bank. 2018. *Review and Analysis of Indonesian Cities' Exposure to Disaster Risk*.

⁸ World Bank. 2011. *Indonesia: Advancing a National Disaster Risk Financing Strategy – Options for Consideration*.

⁹ World Bank. 2018. *Indonesia Economic Quarterly. Urbanization for All. September*.



expected to grow from 24.3 percent in 2010 to an expected 43.1 percent in 2035.¹⁰ However, the concentration of people and assets can create disaster “hotspots”. It is estimated that some 110 million people across 60 Indonesian cities, or 42 percent of the population, are exposed to natural hazards.¹¹ This number is expected to increase with continued urban population growth and associated transformation of the built and natural environment; observed increase of disaster events in the past 30 years; projected effects of climate change; and more widespread land subsidence. Where peak precipitation increases because of climate change and large-scale climate systems (such as El Niño), the risk of flooding is projected to be high or very high in several areas of the country including Sumatra, Java, Bali, Kalimantan and Sulawesi.¹² Large-scale development, poor-quality infrastructure, insufficient risk-informed planning, projected sea level rise, changing precipitation patterns, and more intense storm events are all expected to further increase disaster risk in Indonesia’s cities.

B. Situations of Urgent Need of Assistance or Capacity Constraints

4. **The natural disasters that Indonesia experienced in 2018 caused the most loss of life in over a decade, particularly as a result of three major catastrophic events.** First, in July and August 2018, West Nusa Tenggara (NTB) province suffered a series of major earthquakes, the most significant occurring on 5 August 2018 measuring magnitude (M)7.0, which affected the entire island’s population of around 3.5 million, as well as thousands of tourists. The National Disaster Management Authority (BNPB) reported that the earthquakes caused 561 fatalities and displaced over 396,000 people,¹³ damaging almost 110,000 houses, 663 schools, 52 health facilities, 6 bridges, and many roads, causing approximately US\$854 million¹⁴ in damages and losses. Second, in September 2018, a M7.5 earthquake with an epicentre located 81 kilometres north of Palu City in Central Sulawesi caused strong ground shaking and tsunamis that damaged coastal settlements along Palu Bay. This disaster led to 4,402 fatalities¹⁵, approximately 170,000 displaced people,¹⁶ and US\$1.3 billion¹⁷ in economic losses estimated at 13.7 percent of regional GDP.¹⁸ Third, in December 2018, the eruption and subsequent partial collapse of Anak Krakatau Volcano led to a tsunami that affected coastal settlements in Banten and Lampung provinces along Sunda Strait, causing 437 fatalities and displacing almost 34,000 people.¹⁹ Major floods have also recently affected Indonesia including the 2019 floods in South Sulawesi, which caused an estimated 68 fatalities and displaced thousands; as well as the 2019 Jayapura flood and landslide, which caused an estimated 113 fatalities and displaced over 11,000 people.

5. **The series of catastrophic events in Central Sulawesi were cascading in nature, starting with the M7.5 main shock and followed by three near-field tsunamis.**²⁰ The strong ground shaking led to extensive ground deformation, liquefaction, and mudflows; as well as a submarine landslide, which subsequently caused three near-field tsunami waves

¹⁰ United Nations Population Fund (UNFPA). 2014. *The 2010 – 2035 Indonesian Population Project. Understanding the Causes, Consequences and Policy Options for Population and Development*.

¹¹ Gunawan et al. 2015. *City Risk Diagnostic for Urban Resilience in Indonesia*.

¹² Government of Indonesia. 2013. *National Action Plan for Climate Change Adaptation (RAN API): Synthesis Report*.

¹³ Government of Indonesia. 2018. *NTB Rehabilitation and Reconstruction Action Plan. Executive Summary*.

¹⁴ Presentation of Coordination and Assistance Team for Post-Disaster Recovery and Redevelopment in Central Sulawesi and NTB.

¹⁵ United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA). 2018. Update. December 20.

¹⁶ Central Sulawesi Center of Disaster Data and Information. 2019.

¹⁷ Government of Indonesia. 2018. *Master Plan for Central Sulawesi Rehabilitation and Reconstruction*, draft version 5.0.

¹⁸ Processed from estimated Central Sulawesi RGDP 2017 by National Statistical Bureau. 2018.

¹⁹ UNOCHA. 2019. Update, January 3. Tourism infrastructure sustained major damages include 92 hotels and 60 culinary stalls.

²⁰ A phenomenon following strong ground shaking from earthquakes in which the strength and stability of soil is reduced and causes significant ground deformations and mudflows. The phenomenon in Central Sulawesi was related to unconsolidated riverine deposits that built up as Palu City expanded southwards and towards the hills in the west and east. The Indonesian National Institute of Aeronautics and Space estimated that 1,045 buildings were destroyed in Balaroa; 2,050 buildings were destroyed in Petobo; and 366 buildings were destroyed in Jono Onge.



up to six meters height (amplified by the shallow bathymetry and narrowing gulf morphology). The first wave reached Palu City within six minutes of the earthquake. The severe ground shaking affected one city (*kota*) – Palu, and three regencies (*kabupaten*) – Donggala, Sigi, and Parigi Moutong; caused extensive damage to infrastructure, buildings, public assets, and agricultural land uses; and destroyed three residential neighbourhoods (Balaroa and Petobo in Palu, and Jono Oge in Sigi) due to the liquefaction processes. The severity of the near-fault ground deformation and liquefaction was unprecedented on a global scale, and the loss of entire neighbourhoods and households has left profound impacts on the affected communities. The damages and losses associated with this disaster, along with the other two catastrophic events in NTB and Sunda Strait, 871 flood events, 614 landslides, and 35 earthquakes, have placed significant pressure on the Government's budgeting resources and emergency funds.

6. **Following the catastrophic events in 2018, the Government of Indonesia (GoI) requested a comprehensive package of support from the World Bank to address the urgent need for financial and technical assistance.** The package included: (i) technical assistance to support recovery activities and longer-term disaster resilience; (ii) immediate channelling of existing project financing to complement the Government's recovery program in housing, transport, water supply, and social protection sectors; and (iii) emergency recovery operations—to be prepared under accelerated procedures—to finance the rehabilitation, upgrading and reconstruction of critical public facilities and infrastructure in disaster-affected areas, as well as to strengthen disaster risk management systems across Indonesia. The two emergency operations are: (i) the Central Sulawesi Rehabilitation and Reconstruction Project (CSRRP) which will support targeted communities with reconstructed and strengthened housing and public facilities; and (ii) the Indonesia Disaster Resilience Initiatives Project (IDRIP, P170874) which will help improve the preparedness of the central government and selected local governments for future natural hazards. These two projects will complement other rehabilitation and reconstruction efforts in Central Sulawesi, such as the recovery of public facilities, water resources infrastructure, solid waste management facilities, and transport infrastructure by other development partners; permanent housing and livelihoods recovery support activities by non-government organizations (NGOs) and other partners; and support to settlement infrastructure and roads rehabilitation through ongoing World Bank-financed investment projects.²¹

7. **An inter-agency working group led by the Ministry of National Development Planning (Bappenas) developed the Central Sulawesi Earthquake and Tsunami Post-Disaster Recovery and Reconstruction Master Plan ("Master Plan") as a guiding document for the agreed policies and strategies for the recovery of disaster-affected areas.** The Master Plan highlights guidelines for spatial planning, infrastructure, housing, socioeconomic, and institutional recovery to be implemented as a gubernatorial regulation, guiding regional rehabilitation and reconstruction action plans. The CSRRP and IDRIP will support acceleration of the reconstruction phase and will align with the Master Plan's vision to 'build back better' in affected areas of Central Sulawesi for better and safer livelihoods through: (i) resilient construction of housing and settlement infrastructure (ii) the reduction of future disaster risk through structural and non-structural strengthening of critical public facilities; and (iii) increasing community preparedness against future disasters, including the establishment of early warning systems. The design of public facilities would adhere to inclusive design principles outlined in the Master Plan, particularly through the incorporation of disability-inclusive, gender-sensitive, and climate-resilient design interventions. The Government's recovery program in Central Sulawesi involves various multilateral and bilateral development partners, NGOs, community organizations, and government line agencies. The Governor of Central Sulawesi Province is responsible for the coordination of activities of all partners in the reconstruction

²¹ In December 2018, the GoI requested the World Bank to trigger the contingency for disaster risk response component under the Western Indonesia National Road Improvement Project (WINRIP), allowing the rapid reallocation of project financing to support the rehabilitation and reconstruction of selected damaged road sections in Palu and the regencies of Donggala and Sigi; as well as the contingency emergency response component under the National Slum Upgrading Project (NSUP/KOTAKU), allowing the rapid reallocation of project financing to support the construction of housing settlement infrastructure in new settlement areas and selected public facilities.



effort, including the Asian Development Bank (ADB), Japan International Cooperation Agency (JICA), Export-Import Bank of Korea (KEXIM), United Nations Development Program (UNDP), NGOs, private investors, and local communities.

C. Sectoral and Institutional Context

8. **Since the Indian Ocean earthquake and tsunami in 2004, the GoI has made considerable progress in improving laws and regulations, enhancing institutional capacity, and strengthening fiscal capacity related to its disaster risk management (DRM) systems.** Law Number 24 of 2007 concerning Disaster Management refined the roles and responsibilities of different line ministries, businesses, and international institutions related to DRM, shifting Indonesia's approach towards proactive disaster risk mitigation and preparedness. BNPB was established in 2008 through Presidential Regulation 8/2008 with a key goal to coordinate relevant line ministries and agencies responsible for activities at all stages of the DRM cycle: pre-disaster, during disaster, and post-disaster. Subnational local disaster management agencies (BPBDs) have been established in all 34 provinces and the majority of 514 cities and regencies (*kota* and *kabupaten*), in line with key principles outlined in the Sendai Framework for Disaster Risk Reduction²² to place ownership of disaster risk management at the local level. Additionally, since 2004, Indonesia has made significant investments in its hydrometeorological and geophysical observation networks and early warning systems, becoming an Indian Ocean Tsunami Warning Services regional provider and performing consistently to high standards. The Ministry of Finance (MOF) also launched the National Disaster Risk Financing and Insurance Strategy in October 2018, complementing efforts that aim to mitigate the economic and fiscal impacts of disaster and climate shocks.²³

9. **The GoI intends to develop the Indonesia Disaster Resilience and Reconstruction (IDRAR) program, a national platform with dual objectives to strengthen Indonesia's disaster preparedness and emergency management systems, and to enhance post-disaster rehabilitation and reconstruction programs.** Indonesia's exposure to a multitude of natural hazards, large expanse, and geographic diversity necessitate accelerated investments in strategic high-risk priority areas, increased awareness and understanding of disaster risk, technological and technical innovation, and strengthened local capacity for disaster preparedness and emergency management. Recognizing these opportunities, the World Bank is working with the GoI on a comprehensive approach to strengthen Indonesia's resilience against disaster shocks (Figure 1). Key elements of this dialogue include financing instruments to reduce budgetary costs of responding and recovering from disasters, comprehensive DRM policy framework, and a combination of investments to reduce disaster impacts. Learning from recent disasters, the main priorities lie in five key areas: (i) investments in disaster risk reduction, including risk-informed development and spatial planning, seismic risk mitigation and urban flood risk management; (ii) public awareness and preparedness, including community level contingency planning and disaster risk education; (iii) early warning systems capacities, including integrated monitoring networks, densification of instrumentation in high-risk areas, timely and accurate impact-based forecasting and disaster warnings, and last-mile communication; (iv) emergency management capacity, particularly for local governments to be equipped adequately for rapid and reliable responses to multiple hazards; and (v) disaster-resilient development planning. The World Bank proposes to support Indonesia's efforts in disaster risk reduction with select investments in these areas through the two separate yet complementary projects—the CSRRP and the IDRIP—under the umbrella of the proposed IDRAR program,

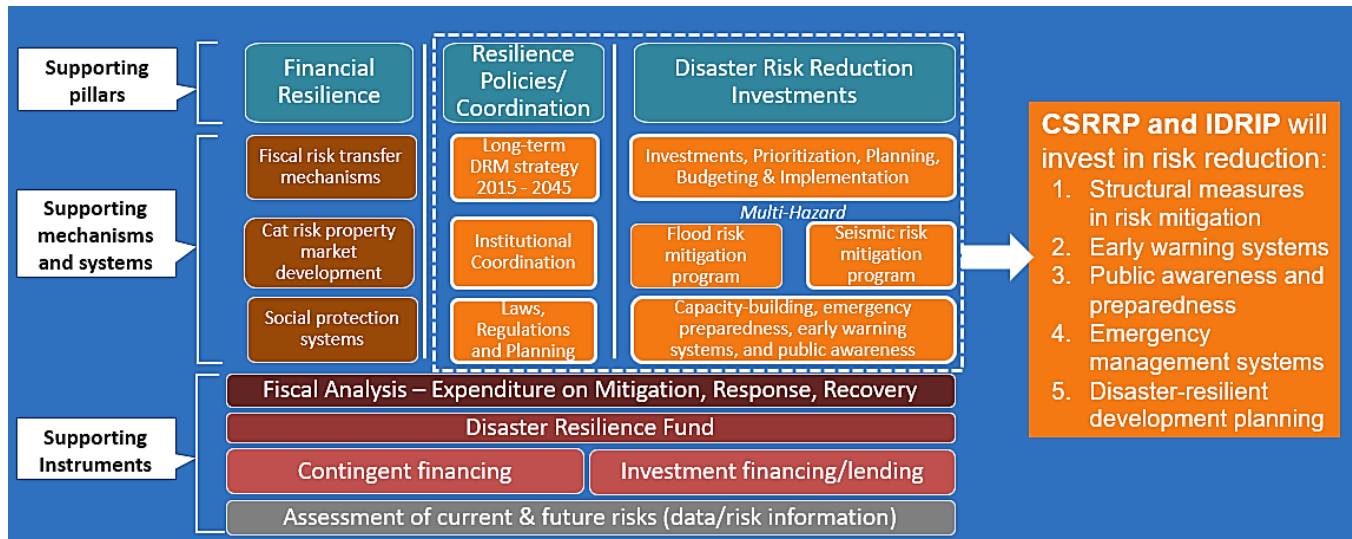
²² The Sendai Framework for Disaster Risk Reduction is a 15-year non-binding international agreement that recognizes the importance of sharing the responsibility of reducing disaster risk with local government, the private sector, and other stakeholders.

²³ The World Bank is supporting the Ministry of Finance to implement the strategy including the proposed piloting of a public asset insurance scheme, developing a dedicated budgetary mechanism (pooling fund) to manage a budgetary allocation for disasters, and strengthening central-regional fiscal coordination and transfer mechanisms. Existing mechanisms that finance post-disaster activities include the On-Call Fund (*Dana Siap Pakai*), which provides rapid funding during a declared state of emergency; the Contingent Fund (*Dana Darurat*) as stipulated in the Government Regulation 44/2012; and the Special Allocation Fund (*Dana Alokasi Khusus*), which is often used in post disaster situations for the allocation of state budget to finance recovery of assets owned by subnational governments.



which will include projects supported by other development partners. Through this national program, and with support from project financing under CSRRP and IDRIP, the GoI will invest in initiatives such as disaster-resilient development planning, standardization of disaster risk management procedures, knowledge management, and institutional capacity building.

Figure 1. CSRRP/IDRIP contribution towards building a comprehensive DRM concept in Indonesia



10. **The Ministry of Public Works and Housing (PUPR) plays a critical role in developing resilient infrastructure and protecting lives through the administration of building codes and technical guidelines, including for seismic strengthening measures.** Whilst Indonesia has developed good standards to mitigate seismic risk, significant implementation challenges remain due to limited technical capacity at the subnational levels to administer building codes and engineering standards; limited human resources capacity to monitor compliance of construction projects; and insufficient awareness of disaster risk-informed standards amongst building design professionals and the construction industry. PUPR recognizes the need to increase the capacity of local governments and to strengthen critical public facilities such as health facilities, schools and other public buildings that have the potential to cause a high amount of fatalities and injuries. Building on this, the World Bank has collaborated with PUPR to develop the conceptual framework for a potential national seismic risk mitigation program. CSRRP presents an opportunity to pilot improved design and construction practices in Central Sulawesi that are highlighted in the seismic risk mitigation program.

11. **Inadequate compliance with building codes and standards can lead to the development of vulnerable infrastructure and building assets.** While Indonesia follows the 2012 National Standardization Body's Earthquake Planning Procedures for New Building and Non-building Construction (SNI 1726:2012), older buildings followed outdated building codes (SNI 03-1726:2002 or SNI 03-1726:1989) that mandated limited structural corrections. According to a BNPB and World Bank assessment, an estimated 75 percent of all school buildings in Indonesia are situated in disaster-prone areas, and many schools were built in the 1980s, before disaster risk considerations and seismic strengthening guidelines were introduced.²⁴ Support under CSRRP will help to establish adequate design and construction standards for housing and infrastructure financed by the project. These standards could be utilized through the IDRAR program coordination mechanism for other investments in Central Sulawesi and through other post-disaster recovery projects. The poor-quality infrastructure often leads to fatalities and economic losses during a major disaster.

²⁴ World Bank. 2016. *Building Indonesia's Resilience to Disaster: Experiences from Mainstreaming Disaster Risk Reduction in Indonesia Program*.



The largest economic impacts of disasters are usually related to damages and losses from: housing/settlements; critical infrastructure such as roads and bridges; and social infrastructure, particularly education and health facilities. Furthermore, hospitals and health clinics need to be fully operational and respond rapidly to urgent and immediate health service provision needs following disasters, whilst multi-storey schools can have a dual purpose to also serve as tsunami evacuation spaces on rooftops and in upper storeys.

12. Housing is the most vulnerable of all sectors following disaster events in terms of both human and economic losses. Indonesia's prevalence to natural disasters and the Government's commitment to improve housing quality have highlighted the importance of mitigating disaster risks in the housing sector, especially for housing stock inhabited by the poor and vulnerable. The GoI has good experience managing community-led post-disaster housing recovery programs in Indonesia, including after the Yogyakarta earthquake in 2006 and the ongoing Mount Sinabung volcanic eruptions since 2013. Through this self-recovery approach, trained community facilitators work with relocated households to develop site plans and lay out house placements, access roads, and settlement infrastructure. The community was trained on the process of housing construction and other aspects including green spaces, disaster preparedness, social conflict, and risk-informed planning such as constructing houses in safer zones away from river banks and ravines. The community-based approach involves a transparent reporting process conducted by the community including administrative reporting requirements, enhancing community trust and program implementation.

D. Relevance to Higher Level Objectives

13. Whilst the CSRRP and IDRIP complement each other by reducing the vulnerability of people and assets to hydrometeorological and geophysical events through an integrated package of structural and non-structural investments, each operation supports a specific objective of the Government's IDRAR program. CSRRP will meet urgent needs to strengthen and reconstruct critical assets and infrastructure in disaster-affected areas of Central Sulawesi, whilst developing the foundations of a national platform for disaster-resilient infrastructure strengthening and future post-disaster recovery programs. Through IDRIP, accelerated investments in strategic high-risk priority areas will increase public awareness and understanding of disaster risk, better preparing local governments and communities against future disasters. These complementary investments will help to implement Indonesia's comprehensive approach to strengthening disaster resilience (see Figure 1), aligning with the strategic priorities of both the Government and the Bank. Furthermore, the IDRAR program proposes to further strengthen interagency collaboration and established coordination mechanisms on DRM through a Steering Committee structure, which will help to support coordination and capacity building activities for other relevant technical ministries/agencies not financed directly by CSRRP and IDRIP.

14. The IDRAR program will contribute directly to GoI's long-term development strategies including Indonesia's National Long-Term Development Plan (RPJPN) 2005–2025, which seeks to mitigate disaster risk. It also contributes to the Government's forthcoming long-term National Disaster Management Master Plan, which has a key aim to reduce the percentage of districts with high disaster risk by 2045. Additionally, it will contribute to Indonesia's First Nationally Determined Contributions (NDC), which outlines a medium-term strategy to reduce risks from climate change in all development sectors through local capacity strengthening, improved knowledge management, convergent policy on climate change adaptation and disaster risk reduction, and application of adaptive technology. The CSRRP and IDRIP will support these national adaptation objectives by promoting climate-resilient infrastructure development, improving early warning systems and preparedness for climate-related disasters, and financing related technology applications



and capacity building. These actions are consistent with the National Action Plan for Climate Change Adaptation (RAN-API 2013), which outlines support for Indonesia's investments in climate-related development.

15. **Ongoing engagements with Bappenas, PUPR, BNPB and the Indonesian Agency for Meteorology, Climatology, and Geophysics (BMKG) highlight the importance of supporting Indonesia's medium- to long-term resilience-building needs, in line with Indonesia's National Medium-Term Development Plan 2015-2019 (RPJMN) to reduce disaster risk in priority high-risk growth centres.** The IDRIP includes nationwide resilience-building activities that could help to reduce Indonesia's vulnerability to future disaster shocks and strengthen disaster preparedness capacity amongst the community and select subnational governments. These activities are also aligned with the President's "6 Arah" (Directions) on disaster management announced during the National Coordination Meeting for Disaster Mitigation in February 2019 that emphasize risk-informed planning and design, increased disaster awareness and education, and an integrated early warning system. The IDRAR program illustrates Indonesia's commitment to responding rapidly to recent disaster events, while keeping momentum to invest in disaster resilience to protect lives, communities, and critical infrastructure.

16. **CSRRP and IDRIP will contribute to Engagement Areas 4 and 5 of the World Bank Group's 2018 Performance and Learning Review for the Indonesia Country Partnership Framework (CPF, 2016-2020).** The World Bank Group's Indonesia CPF (Report 99172, December 1, 2015) outlines six engagement areas. The IDRAR Program contributes to *Engagement Area 4: Delivery of Local Services and Infrastructure* by supporting the reconstruction and upgrading of education, health, and other public facilities in both urban and rural areas. It is also aligned with *Engagement Area 5: Sustainable Landscape Management* by improving community recovery and resilience to the impacts of natural disasters. The World Bank Group's 2015 Indonesia Systematic Country Diagnostic Report (Report 94066, September 01, 2015) emphasizes the importance of supporting resilience to natural disasters, which impact the poor disproportionately. The IDRAR Program complements the World Bank's previous overall engagement on sustainable urbanization in Indonesia to help harness the agglomeration benefits of urbanization while minimizing negative spillovers such as disaster vulnerability, including through ongoing technical assistance on urban floods and DRM, and supporting development of a national urban flood risk investment program. The World Bank is also committed to supporting Indonesia to address challenges arising from climate change, and the CSRRP and IDRIP will finance climate-resilient measures that will protect future development outcomes and support populations to adapt to a changing climate. Lessons learned from the 2018 Performance and Learning Review (Report No. 131849-ID, November 29, 2018) indicate that national programs could help address these challenges by leveraging available resources to improve disaster risk management policies, institutions and delivery systems for more sustainable and transformational impacts. IDRIP will support higher-quality meteorological and hydrological data and forecasting, early warning systems, and user-tailored (or "impact-based") climate information services to better prepare hazard-vulnerable communities for climate risks, in line with the World Bank's Adaptation and Resilience Action Plan launched in 2019. This includes increasing resilience to climate-related shocks in coastal areas, and other areas with populations vulnerable to hydrometeorological disasters exacerbated by climate change.

17. **CSRRP and IDRIP will contribute to the Gol's vision of an equitable and prosperous Indonesia, and are aligned with the World Bank Group's twin goals of eliminating extreme poverty and increasing shared prosperity.** Natural disasters have socioeconomic consequences that go beyond their most obvious impacts. Small shocks, including natural disasters, can drive vulnerable and poor people into poverty.²⁵ Investments in infrastructure and in social recovery will

²⁵ Hallegatte et al. 2017. *Unbreakable: Building the Resilience of the Poor in the Face of Natural Disasters*.



facilitate recovery and help authorities to meet the needs of those affected by disasters, particularly the poorest and those living close to the poverty line, highly vulnerable to external shocks. A comprehensive approach needs investments in both post-disaster recovery support and ex-ante resilience. Investing in resilience pays off: first, by saving lives and avoiding destruction and losses; and second, by improving the quality of development. Proposed investments to upgrade infrastructure will increase Indonesia's disaster and climate change resilience, whilst investments in hydrometeorological and geophysical early warning systems will help prevent or lessen losses of lives and damages to assets through more reliable and timely risk information, and improved end-user communication.

II. PROJECT DESCRIPTION

A. Project Development Objective

PDO Statement

18. The PDO of the CSRRP is to reconstruct and strengthen public facilities and safer housing in selected disaster-affected areas.
19. The achievement of the PDO will be measured through the following indicators:
 - i. Targeted people²⁶ having safer housing completed and occupied (percentage)
 - ii. Served people²⁷ having strengthened public facilities (percentage)
 - iii. Targeted people (disaggregated by gender) satisfied with completed housing (percentage)
20. Intermediate-level indicators include:
 - i. Housing units reconstructed to project's resilience standards (number)
 - ii. Reconstructed houses provided with housing connection for water supply (percentage)
 - iii. Reconstructed houses provided with sanitation system (percentage)
 - iv. Reconstructed houses provided with direct access to a paved road network (percentage)
 - v. Women that are aware of land or property title rights in targeted project areas (percentage)
 - vi. Women that are aware of employment opportunities related to recovery activities in targeted project areas (percentage)
 - vii. Women participating in decision-making process meetings (percentage)
 - viii. Schools rehabilitated or reconstructed to project's resilience standards (number)
 - ix. Health clinics rehabilitated or reconstructed to project's resilience standards (number)
 - x. Gender- and disability-inclusive reconstructed public facilities (percentage)
 - xi. Management Information System (MIS) and project website established and functioning (yes/no)
 - xii. Grievance redress mechanism established and functioning (yes/no)
 - xiii. Complaints resolved (percentage)
 - xiv. Resilient and inclusive building standards are established for the project (yes/no)

²⁶ The term 'targeted people' refers to the beneficiaries of housing units financed by CSRRP and 'served people' refers to the number of people served by public facilities financed by CSRRP.

²⁷ See note above.



B. Project Components

21. CSRRP will support the Government's recovery program in Central Sulawesi and help rehabilitate, reconstruct, and reduce potential human and economic losses during future earthquakes and other disaster events (such as flooding) by improving the building quality and sustainability of critical public facilities and housing settlements. It will achieve this through three key components that will complement settlement infrastructure construction and infrastructure recovery activities supported by other World Bank-financed projects (including the National Slum Upgrading Project, NSUP/KOTAKU) as well as other development partners (including ADB, JICA and UNDP). The Contingency Emergency Response Component (CERC) activated under NSUP/KOTAKU is being utilized to mobilize trained community facilitators and prepare technical designs for public facilities to be financed under CSRRP. **Annex 2** outlines further detail on the design of the project components.

Component 1: Resilient construction of permanent housing units and settlement infrastructure (US\$91.3 million)

22. *Sub-component 1.1 – Civil works*: This sub-component will finance civil works for construction of approximately 7,000 permanent housing units²⁸ to the project's resilience standards in safe resettlement sites and related settlement infrastructure and community facilities to relocate disaster-displaced households. Affected communities will be engaged from the beginning of the relocation process with special emphasis on participation of women and vulnerable community members. The Government has good experience with participatory rehabilitation and reconstruction processes that will be applied to this project.

23. *Sub-component 1.2 – Grants for Community-Based Reconstruction (\$0)*: This sub-component will support communities in reconstruction of housing units that meet seismic risk mitigation standards in safer locations. This sub-component will be triggered as per request of the Government should the implementation be required to do so.

Component 2: Resilient reconstruction and strengthening of public facilities (US\$31.8 million)

24. This component will finance civil works for rehabilitation, reconstruction and structural strengthening of public facilities to improve seismic performance and safety, reduce disaster vulnerability, increase climate resilience, and improve functionality and service standards. Public facilities such as schools, health facilities, and markets are eligible for financing under this component. The project will support the following principal types of investments: (a) the in-situ repair and reconstruction of damaged assets; (b) construction of new assets in new locations when the damaged assets cannot be rebuilt in situ; and (c) construction and/or expansion of assets in new locations to serve people who, as a result of the earthquake, must relocate from hazard-prone areas. Seismic strengthening of existing public facilities undamaged by the recent catastrophic event may also be included.

Component 3: Project implementation support (US\$26.9 million)

25. This component will support managerial and technical assistance of the project through financing the costs of expert consultants and community facilitators throughout the project cycle to strengthen the Government's capacity—

²⁸ This core housing standard has been applied under previous post-disaster reconstruction projects in Indonesia. The design is expandable and can be adjusted by the homeowner.



at both the central and subnational level—on post-disaster recovery. Managerial supports include project management, procurement, financial management activities, technical audits, compliance monitoring of construction activities, oversight of compliance with agreed social and environmental standards, oversight of compliance with social inclusion targets, monitoring and evaluation activities, grievance redress mechanisms, and preparation and maintenance of a project database and transparent web-based MIS. Technical assistance includes preparation of detail engineering design, and the development an improved data and knowledge management system that will support both disaster recovery operations and future climate-resilient spatial planning for long-term risk reduction. This component also includes capacity building for governments and relevant stakeholders, particularly in Central Sulawesi for project sustainability and to improve resilience against future disasters.

C. Project Financing

26. The lending instrument will be Investment Project Financing prepared under Condensed Procedures, per paragraph 12 of Section III of the Investment Project Financing (IPF) Policy, with a five-year implementation period. A summary of cost estimates per component is outlined in Table 1.

Table 1. Summary of cost estimates

Project Components	Cost (US\$ million)	Percentage of total cost (%)
Component 1: Resilient construction of permanent housing units and settlement infrastructure	91.3	60.9
Construction of settlement infrastructure ²⁹ in new locations	60.5	40.3
Civil works - construction of approximately 7,000 housing units	30.8	20.6
Community grants for community self-help construction housing	0	0
Component 2: Resilient reconstruction and strengthening of public facilities	31.8	21.2
Schools	20.8	13.9
Health facilities	11.0	7.3
Component 3: Project implementation support	26.9	17.9
Project management, planning and engineering design, supervision, evaluation, capacity development, technical assistance, and contingencies	26.9	17.9
TOTAL PROJECT COST	150.0	100.0

D. Project Beneficiaries

27. The proposed project will benefit populations affected by the 2018 tsunami and earthquake in Central Sulawesi, including beneficiaries from approximately 170,000³⁰ internally displaced persons, out of a population³¹ of 384,153 people in Palu City, 236,404 people in Sigi Regency, and 300,986 people in Donggala Regency. Approximately 7,000 disaster-affected households will benefit from newly strengthened housing units. Government officials at PUPR will also benefit from capacity building activities financed by CSRRP under Component 3.

²⁹ Including waste water sewage (SPAL), water supply facilities, drainage, local access roads, and waste recycling facility.

³⁰ Central Sulawesi Center of Disaster Data and Information. 2019.

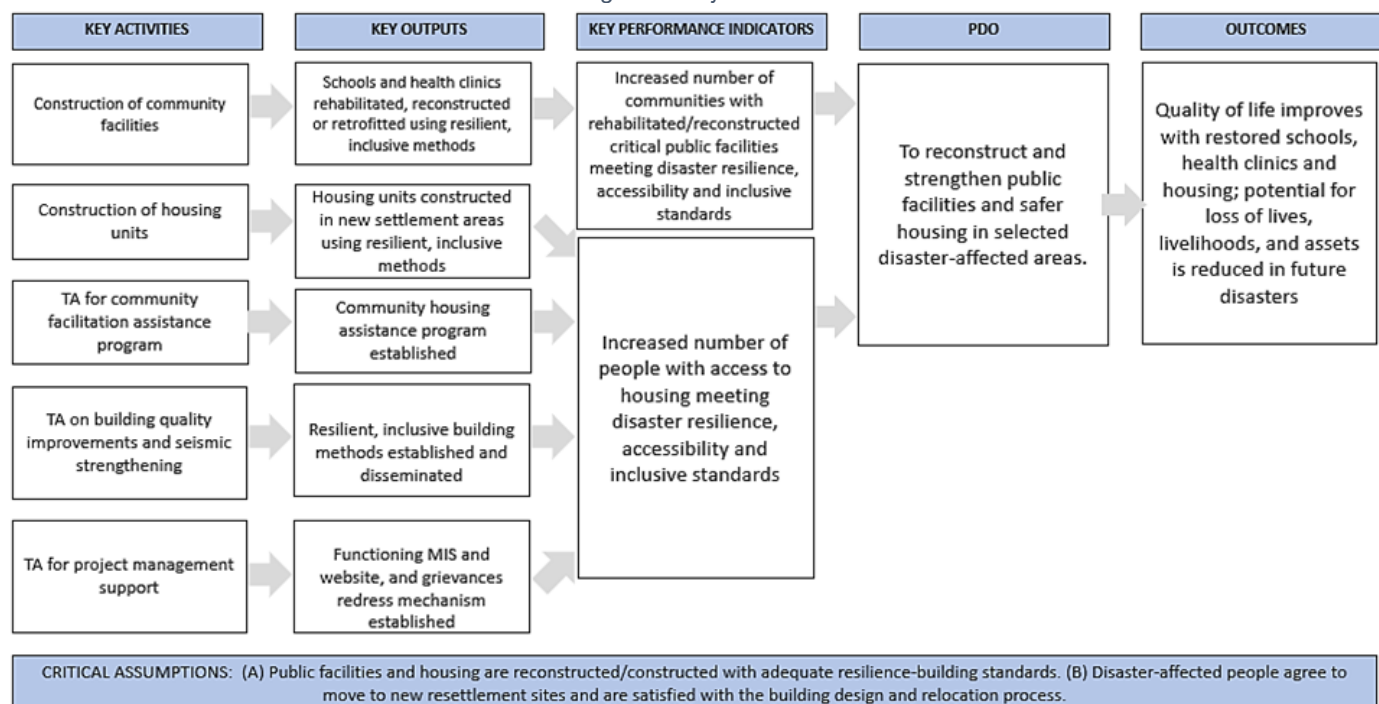
³¹ Indonesia Statistical Bureau. 2018. *Indonesia Social Economic Survey* (Susenas).



E. Results Chain

28. **Problem statement:** Disaster affected people have lost access to basic needs for shelter, as well as health and education services. There is an urgent need to support the strengthened rehabilitation and reconstruction of critical public facilities, and construction of new housing settlements in Central Sulawesi, so that disaster-affected people can regain access to these basic needs. The results chain is outlined in Figure 2.

Figure 2 Project Results Chain



F. Rationale for Bank Involvement and Role of Partners

29. **The World Bank has considerable experience supporting post-disaster projects in Indonesia.** In the last 15 years, the World Bank contributed to and managed the Multi Donor Fund in Aceh and Nias following the 2004 Indian Ocean tsunami, and supported recovery efforts following the 2006 Yogyakarta earthquake, the 2009 Padang earthquake, the 2010 Mentawai earthquake and tsunami, the 2010 Mt. Merapi volcanic eruptions, 2011 Mt. Sinabung volcanic eruptions, and the 2016 Pidie Jaya earthquake. This project will also build on the World Bank's experience in Indonesia with community-based post-disaster recovery operations. The World Bank has global experience in disaster mitigation and risk reduction, including in the context of post-disaster rehabilitation and reconstruction, through cutting-edge earthquake risk mitigation and seismic strengthening practices, as well as specific expertise in technical areas such as seismic engineering and regulation. Flagship projects include the Istanbul Seismic Risk Mitigation and Emergency Preparedness Project in Turkey and the Wenchuan Earthquake Recovery Project, and many other post-disaster and risk reduction operations.



30. **The GoI established an inter-agency Coordination and Assistance Team³² for Recovery and Development of Post-Disaster Areas in Central Sulawesi in early October 2018, and conducted a series of coordination meetings with key development partners in preparation for post-disaster infrastructure recovery activities.** These meetings were chaired by the Bappenas and attended by representatives from the ADB, JICA, KEXIM and the World Bank. Partners are working with the GoI to support the recovery of selected water resources management infrastructure, transport sector infrastructure, and public facilities; and assisting with livelihoods recovery support activities. Following the Presidential Instruction 10/2018 on November 28, 2018, the GoI has committed to accelerating the recovery program in Central Sulawesi with a focus on the reconstruction of critical public infrastructure (roads, bridges, and sanitation), health and education facilities, markets, government buildings, and housing settlements. The World Bank is cooperating closely with key development partners to avoid potential overlap and encourage investment synergies. The Governor of Central Sulawesi Province is responsible for coordinating the activities of all partners in the reconstruction effort, including multilateral financing and development partners, bilateral donors, NGOs, private investors, and local communities.

G. Lessons Learned and Reflected in the Project Design

31. **The project draws on the Government's Central Sulawesi Earthquake and Tsunami Post-Disaster Recovery and Reconstruction Master Plan, and incorporates lessons learned from Indonesia's experiences in post-disaster recovery projects and the World Bank's engagement in the country as well as globally.** Project activities are guided by principles outlined in the Central Sulawesi Post-Disaster Recovery and Reconstruction Master Plan. Resilient reconstruction and rehabilitation of critical public facilities, and resilient construction of housing, will help to reduce future disaster risk through structural and non-structural improvements to public facilities. Activities also incorporate lessons learned from the World Bank's global experience in earthquake recovery and risk reduction projects in countries such as Iran, Turkey, India (Odisha Disaster Recovery Project), Pakistan (Pakistan's Earthquake Emergency Recovery Credit), Nepal (Earthquake Housing Reconstruction Project), as well as China (Wenchuan Earthquake Recovery Project and Lushan Earthquake Recovery Project). The main lessons incorporated into the project design are outlined below.

32. **Citizen engagement.** The World Bank's support to the Aceh Infrastructure Reconstruction Financing Facility in Indonesia highlighted the need for community participation throughout all project phases. Community engagement can address the concerns and specific needs of potentially vulnerable groups such as people with disabilities, women, and the elderly. Moreover, community-based identification and oversight of implementation can increase the ownership, efficiency, credibility, and functionality of reconstruction and recovery activities. Experience from the Emergency Earthquake Recovery Project in Iran highlighted that there was limited community participation in sub-project identification, resulting in public dissatisfaction, conflicts, and delays. Community participation is particularly critical given Indonesia's diverse geography and culture; since disaster risk management knowledge may not always be readily applicable, collaboration between all parties is needed to find the most suitable system. Experience in Indonesia also demonstrates that disaster resilience was strengthened by involving communities in improving emergency response systems, evacuation spaces, and emergency facilities.

33. **Inclusive reconstruction.** Key lessons learned during the Community-Based Resettlement Rehabilitation and Reconstruction Project (REKOMPAK) in Indonesia highlight the effectiveness and importance of inclusive planning and execution of reconstruction. Additionally, the participation and involvement of women and other diverse groups (such

³² Members include the Bappenas, Ministry of Energy and Mineral Resources, BNPB, Geospatial Information Agency, Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (ATR/BPN), BMKG, and PUPR.



as people with disabilities and the elderly) in stakeholder engagement processes helped to promote equitable results and inclusive decision making. Component 3 will incorporate trained and skilled facilitators to promote involvement of women and diverse groups in participatory planning and reconstruction activities, particularly in the planning and design stage, as well as participation in recovery activities (e.g., construction of particular elements of housing or public facilities).

34. **Improved designs to build back better:** Projects around the world have highlighted the importance of utilizing current technical standards that enhance risk mitigation during the design phase to build back better by factoring in various natural hazard risks. Technical codes and standards utilized should improve the resilience of reconstructed infrastructure and buildings to natural hazards. A key lesson learned from post-disaster recovery programs completed in other countries is that building back better can help reduce the vulnerability of infrastructure and communities to natural hazards, while also fostering local economic development and poverty reduction.

35. **Key operational lessons learned include:** (i) use of a framework approach with a flexible project design, allowing smaller and less complicated sub-projects to be implemented rapidly and early in the project whilst more time is provided for larger and complex sub-projects; (ii) structural and risk planning assessments to guide rehabilitation and recovery of infrastructure and settlements; (iii) community awareness and training of building contractors, craftspeople and artisans; (iv) development of adequate grievance redress mechanisms, promoting special attention to social and environmental management; and (v) a robust monitoring and evaluation system to track progress and results.

III. IMPLEMENTATION ARRANGEMENTS

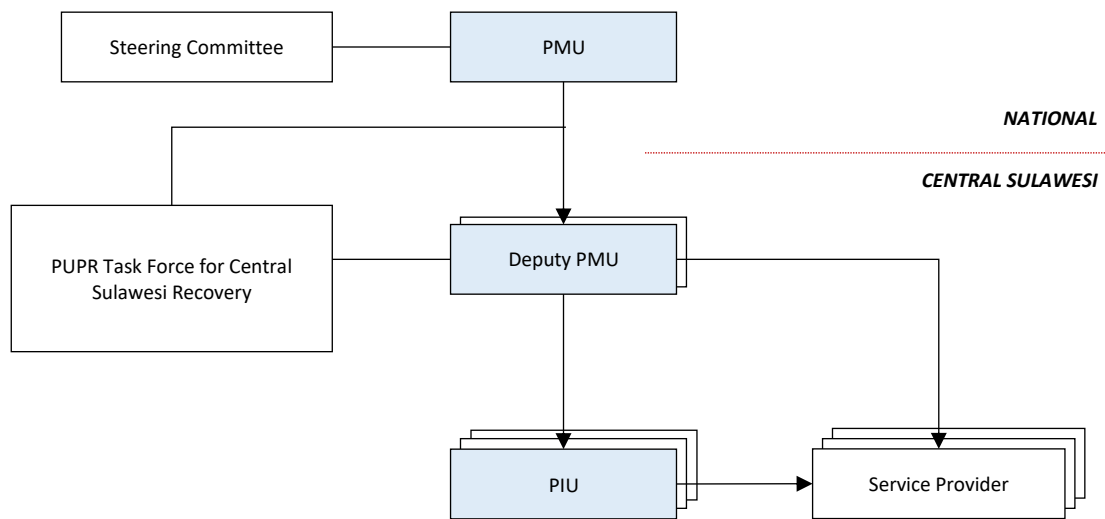
A. Institutional and Implementation Arrangements

36. **Project coordination.** GoI intends to establish an inter-agency Steering Committee for the IDRAR Program with two designated windows: Disaster Preparedness and Emergency Management; and Rehabilitation and Reconstruction. Steering Committee members will include Project Implementation Units (PIUs) under both projects, as well as other relevant government agencies and subnational governments. The Steering Committee would be responsible for coordination between the line agencies for effective project implementation, monitoring, and evaluation; as well as for providing strategic guidance and oversight of the IDRAR program. Its membership and scope of responsibilities would evolve when the IDRAR program develops to include other projects and activities. Establishment and operating costs of the Steering Committee will be supported by Component 3 (Project Implementation Support) under IDRIP.

37. **Project implementation.** Directorate General of Human Settlements (DGHS) and Directorate General of Housing Provision (DGHP) under PUPR will implement the project. The Project Management Unit (PMU) under the Directorate General of Human Settlements (DGCK) will be based in Jakarta and will act as the focal point with the Bank and Steering Committee members, while Deputy PMUs (or PMU Representative) will be based in Central Sulawesi to manage day-to-day coordination between Project Implementation Units (PIUs) and relevant local stakeholders. Figure 3 illustrates the institutional arrangements to implement the project and Annex 1 provides further detail.



Figure 3. Institutional Arrangements



38. DGHS will implement Component 1 – reconstruction of housing and settlement infrastructures and Component 2 – rehabilitation and reconstruction of select public facilities, and would plan, design, and supervise the reconstruction/construction works in close collaboration with local government agencies. Once the construction is completed and tested, it will be handed over to the relevant subnational government to operate through standard processes, to be detailed in the Project Operations Manual (POM). DGHP will implement Component 1 – construction of housing units in new locations; facilitating community planning process and supervising construction works.

39. **Citizen engagement** will inform the project through: (i) consultations and citizen participation during project implementation, e.g., communities and building occupants will participate in the planning and design (and possibly construction of non-structural elements) of resilient public facilities and housing; (ii) transparent feedback and grievance redress mechanisms; (iii) communication campaigns and capacity building; and (iv) the development of risk management processes and engagement required under the World Bank’s Environmental and Social Framework (ESF).

B. Results Monitoring and Evaluation Arrangements

40. **The Results framework** forms the basis to track progress of activities to meet the PDO. Within the first six months of project commencement, a monitoring and evaluation (M&E) system on the project implementation status will be established. The system will be maintained by PUPR, which will be responsible for collecting the required data, disseminating guidelines and operation manuals, setting up the monitoring system, and reporting the results through project progress reports. Technical support and training on the M&E system will be provided from budget under Component 3. Information and data collected by PUPR on implementation pace, efficiency, due processes, procurement performance, and construction quality will feed into the M&E system to help monitor the project’s outcomes and impacts. Regular semi-annual progress reports in line with the indicators and milestones will be generated. The World Bank will conduct regular implementation support missions. A mid-term review (MTR) of project implementation will take place at the mid-point of project implementation. Annex 1 outlines the detailed implementation support plan.



C. Sustainability

41. **Long-term sustainability** of project interventions will require: (i) adequate quality control in building construction and incorporation of resilience-strengthening standards into infrastructure design; and (ii) design and construction of infrastructure that is suitable to local conditions and acceptability.
42. **Infrastructure sustainability.** All assets in the project will be designed with improved engineering standards, in accordance with the Government's relevant building codes, engineering standards and construction regulations, utilizing good practices to improve the long-term sustainability of public infrastructure and housing. Expert engineering technical assistance, technical audits, and on-site construction monitoring support will help to enhance building quality and extend the durability of infrastructure.
43. **Capacity building** activities will be developed to enhance institutional capacity of technical staff to receive adequate training to incorporate 'build back better' principles in infrastructure design, as well as support operations and maintenance of critical public assets. A training assessment will be carried out to develop a strategic training plan to address any potential technical gaps in implementation units.
44. **Operations and maintenance (O&M)** costs of infrastructure investments is clearly a critical factor in the long-term sustainability of proposed project activities. The capacity of implementing institutions to integrate adequate O&M procedures will be addressed when finalizing detailed project investments. Low-maintenance designs will be encouraged in technical design packages, and costing plans and estimations for O&M will be developed to inform adequate future budgeting by local governments. Each public asset financed by CSRRP will be transferred to the relevant local government agencies, which will be required to make commitments on O&M responsibilities, to be detailed in the documentation for asset transfers.

IV. PROJECT APPRAISAL SUMMARY

A. Technical and Economic Analysis

(i) Technical Analysis

45. **Project activities related to public facilities have been designed based on international good practices and experiences related to the seismic strengthening of critical public facilities, helping to save lives and reduce economic losses during earthquake events.** Project-financed rehabilitation and reconstruction of schools and health clinics will reflect build-back-better principles, which include improved designs, sizing, siting, orientation, gender sensitivity and disability inclusion, with due recognition of affordability and technical viability constraints. Modifications to current building designs will be proposed to improve the safety of building occupants, complemented by a technical capacity building program to improve quality control and share international good practices. The total number of building assets will be evaluated to sort building populations and prioritize investments that will be most ideal for seismic strengthening. The allocation of resources can be maximized by mitigating the most critical buildings that could yield the highest fatalities in a significant future earthquake event. There is an estimated fatality rate of 1 to 2 percent of the population of damaged schools and health clinics in the three target areas for a design-level earthquake that is implied in the building code. Implementing a strategic seismic upgrade or risk reduction strategy can reduce the risk to loss of life by



80 to 90 percent in an overall population. Additionally, the strengthened design reduces repair and reconstruction costs following future disasters.

46. **The GoI administers high-quality building codes and engineering standards,³³ many of which meet relevant international benchmarks.** These standards apply to all engineered buildings and require customized design calculations. PUPR's DGHS developed Earthquake and Building Engineering Technical Guidelines in 2006 to guide the planning, construction, and retrofitting of simple building or non-engineered buildings. The Ministry of Education and Culture (MoEC) has also developed Earthquake-Resistant School Building Technical Guidelines, whilst the Ministry of Health (MOH) has included seismic strengthening in technical guidelines for the design of health clinics (*puskesmas*). Key challenges include the implementation of, and compliance with, seismic strengthening standards due to several factors including: lower capacity of community and stakeholders to apply construction practices (especially for complex public buildings); insufficient financing for quality infrastructure; traditional local design aesthetics or construction culture that does not adhere to relevant standards; and limited monitoring and compliance systems. This project will help to address some of these challenges in Central Sulawesi by strengthening the capacity of the local construction industry to apply seismic strengthening standards; and increasing the community's awareness of earthquake-resistant standards.

47. **Post-disaster reconstruction requires a flexible approach.** The sheer scale of the disaster, vast reconstruction needs, and multiple number of partners involved in the reconstruction effort, require continuous coordination to avoid overlap, and ensure careful targeting and prioritization³⁴ in line with the most pressing needs. For Component 1, uncertainty relates mainly to the pending final delineation of the red zones and the actual size of land available in each of the resettlement sites for the second phase of resettlement. Nevertheless, many project activities can be initiated in the short term. For Component 2 of the project this means that, although eligibility of types of facilities is clear and the highest priorities for reconstruction have been determined, the public facilities to be reconstructed in later years of the project still have to be selected and prioritized based on the long list of damaged and destroyed buildings, and actual reconstruction efforts by other development partners.

48. **The NSUP/KOTAKU CERC facility has been activated to start activities in the field.** CERC provides "bridging" assistance for project management support, detailed design and construction supervision for housing and settlement infrastructure, and community facilitation. This bridging assistance through the CERC will engage displaced communities in the participatory planning process starting with socialization, beneficiary selection, and the establishment of beneficiary groups based on their preferences of location and construction approach. At a later stage, once CSRRP is effective, newly recruited consultancy teams will take over support tasks from the CERC "bridging" team, allowing smooth transition and continuous support to the government institutions and the affected communities. Annex 7 illustrates the project implementation support arrangements and sequencing during and after the transition period.

49. **Readiness for implementation.** The project is expected to be ready for implementation by loan effectiveness. By then, participatory planning and actual reconstruction activities will have been initiated by the CERC "bridging" team. CSRRP is expected to help accelerate the reconstruction process.

³³ Including the following Indonesian National Standards (SNI): SNI 1726: 2012, SNI 2847: 2013, SNI 1727: 2013, and SNI 1729: 2015 1. For example, SNI 2847 has special provisions for the detailing of earthquake-resilient structures, including details of joint beam and column, calculation methods for rebar, detail of lap splice, etc.

³⁴ The prioritization criteria are listed in Annex 2.



(ii) Economic Analysis

50. **The economic analysis models the stream of benefits and costs for project Components 1 and 2 for the next 17 years (2019-2035).** The model quantifies the potential benefits from each building type within each component independently. Net benefits of Components 1 and 2 are projected from 2019 to 2035, and the present value of these net benefits are summed to yield a Net Present Value (NPV) and Internal Rate of Return (IRR) for the project. The NPV of the entire project over 17 years, at a 10 percent discount rate, is estimated at US\$160 million, while the IRR is 25 percent. The positive NPV and the large difference between the IRR and discount rate implies that this project is economically feasible and will generate substantial economic benefits. The sensitivity of the program's net benefits under the with-project scenario was analysed with regards to three variables: (i) value of a statistical life, (ii) probability of an earthquake occurring in Central Sulawesi, and (iii) changes in O&M. *Ceteris paribus*, the project could sustain a 78 percent decrease in the value of a statistical life, or a 210 percent increase in operational and maintenance cost, or a reduction in the probability of an earthquake in Central Sulawesi from 0.087 to 0.037, and still be economically feasible. Further details of the analysis are at Annex 3.

B. Fiduciary

(i) Financial Management

51. **Arrangements:** The project will support hiring a Financial Management (FM) Consultant to assist the PMU with meeting the World Bank's financial management requirements, including timely quarterly reporting to the World Bank, managing the replenishment process, and following up on audits. The FM Consultant will support the PMU to prepare Interim unaudited Financial Reports (IFRs) and ensure the completeness of payment remittances (*Surat Perintah Pencarian Dana* - SP2D) for all PIUs. The project would need to submit quarterly IFRs and prepare unaudited annual financial reports completed with the Notes to Financial Statements. The project will be audited by the Audit Board of the Republic of Indonesia (BPK) and the audit report should be made available to the World Bank no later than six (6) months after the end of each fiscal year. The unaudited annual financial report completed with the Notes to Financial Statements should be reviewed by the Inspectorate-General prior to being submitted to BPK, at a date no later than when BPK commences their annual audits of government agencies. In the case grant to support communities housing reconstruction under sub-component 1.2 is triggered by the Government, the fund flow will follow grant mechanism in line with Government regulations. A grant manual shall be developed and approved by the Bank prior to grant disbursement to the community groups.

52. **Budgeting.** The budgeting system follows the existing government procedures. The project budget will be included in the annual budget and line ministry budget document (DIPA).

53. **Risks:** There is a potential risk concerning the verification of payments. This issue has been noted in previous World Bank-financed projects at the central level and is expected to be of a higher concern at the provincial/city level. The project will form an agreement on all valid supporting documents required for different types of expenditures, and this will be included in the POM. Additionally, the Government's recovery program in Central Sulawesi involves various multilateral and bilateral development partners, NGOs, community organizations, and government line agencies. There is a risk that recovery activities could overlap between different partners and financing sources. To mitigate this risk, the Government through Bappenas and BNPB, is coordinating recovery activities to enhance development partner coordination, and the PMU under PUPR will work closely with the Government's established coordination committees



and the PUPR Task Force for Disaster Management in Central Sulawesi. A list of activities/assets to be financed under CSRRP will be coordinated with the list of activities/assets to be financed under the NSUP/KOTAKU CERC.

54. **Disbursement arrangements.** The applicable disbursement method will be (1) “Advance”, (2) “Direct Payment”, and (3) “Reimbursement”. A Designated Account (DA) denominated in US dollars will be opened by DG Treasury (MOF) in Bank Indonesia (Central Bank). The DA will be used solely to finance eligible expenditures. The ceiling of the advance to DA will be variable, and the advance(s) will be made based on the six-monthly projected expenditures. The reporting of the use of the DA funds will be based on the quarterly IFRs, which should be submitted to the World Bank no later than 45 days after the end of each quarter. Applications for an advance to the DAs will be submitted together with the reporting on use of DA funds, which will consist of: (a) IFRs and a list of payments for contracts under the World Bank’s prior-review; (b) projected expenditures for six months; and (c) the DA reconciliation statement. Claims are made based on actual SP2D issued by the State Treasury offices. All documentation for the expenditures as reported for disbursements will be retained at the implementing units and made available to the auditors for an annual audit and to the Bank and its representatives, if requested.

55. The PMU at DGHS will be responsible for reconciling the DA and preparing separate applications for the withdrawal of reimbursements and advances, duly approved by the DG Treasury, before their submission to the Bank. Copies of DA bank statements will be provided to the PMU by the Directorate-General of Treasury under the Ministry of Finance, which will authorize its relevant Treasury Offices (KPPNs) to authorize payments of eligible project expenditures by issuing SP2Ds. For this purpose, DG Treasury shall issue a circular letter to the relevant KPPN Offices providing guidelines and criteria for eligible project expenditures in accordance with the loan agreements. When expenditures are due for payment, PMU/PIUs will prepare payment requests (SPPs) to the payment officer within the Working Unit (*SatKer*). After document verification, the payment officer will issue payment orders (SPMs) together with supporting documentation for submission to the relevant KPPN. The KPPN will check the budget eligibility and issue the SP2D to the KPPN’s operational bank, which transfers the funds directly to the payee’s account and arranges for debit for the loan portion to the DA.

56. **Table 2** outlines the disbursement category setup, description of activities, and allocations to be financed by the World Bank.

Table 2. Allocation of the Loan Proceeds

Category	Amount of the Loan allocated (expressed in US\$)	Percentage of Expenditures to be Financed (inclusive of Taxes)
Goods, works, consulting services, non-consulting services, training and workshops ³⁵	150,000,000	100%
Grants for housing reconstruction support	0	100% of grant disbursed
TOTAL AMOUNT	150,000,000	

(ii) Procurement

³⁵ For the purposes of this Table: “training and workshops” means Project-related training and workshops conducted in the territory of the Borrower, including purchase and publication of materials, rental of facilities, course fees, and travel and subsistence of trainees.



57. Procurement under the project shall be governed by the World Bank's Procurement Regulations for Investment Project Financing (IPF) Borrowers, July 2016, revised November 2017 and August 2018, and by the provisions stipulated in the Loan Agreement and approved Procurement Plan.

58. Procurement under the project will predominantly include civil works packages for construction of housing units and settlement infrastructure under Component 1; reconstruction of public facilities such as primary schools, health facilities, markets and government administration buildings under Component 2; and consultancy services for design and construction supervision, project management support, community facilitators, and other technical assistance to support the Executing Agency (EA) and PIUs under Component 3. A draft Project Procurement Strategy for Development (PPSD) and Procurement Plan were prepared by the EA/PIUs and in view of the emergency nature of the project, these documents are expected to be finalized by the first quarter of project implementation when the detailed procurement requirements have been defined.

59. Construction of settlement infrastructure (under Component 1) and reconstruction of public facilities (under Component 2) will be procured by DGHS, whereas construction of new housing units (under Component 1) will be procured by DGHP. The DGHS and DGHP have previous experience in managing World Bank-financed projects, including several on-going operations, governed by the World Bank's Procurement Guidelines. However, they do not have experience in applying the World Bank's Procurement Regulations. Further details of the procurement arrangements, risks, mitigation and capacity strengthening measures, are provided in Annex 1.

C. Legal Operational Policies

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

D. Environmental and Social

60. The World Bank's due diligence assessment of the project's potential environmental and social risks and impacts is included in the ESRS. Under Component 2 on resilient reconstruction of public facilities, project activities are expected to have moderate environmental and social risks. No resettlement impacts are anticipated as works will be completed for existing buildings located on existing sites although further assessments will be required in case there is a decision otherwise. Key potential risks are related to: community health and safety (e.g., impact of construction works on teachers and students at schools, and staff and patients at health facilities, who continue to occupy building rehabilitation sites); unsafe working conditions; poor occupational health and safety practices; and exposure of workers and building occupants to hazard materials (e.g., asbestos containing materials, medical waste) before and during demolition and rehabilitation activities. Building reconstruction activities are expected to have moderate to high risks as they may include re-siting of facilities and the potential for resettlement impacts, and hence may potentially increase environmental and social risks associated with land acquisition and construction as well as other risks considered above. Such risks may escalate due to the increased scale and expected speed of the works, which will potentially stretch the existing institutional capacities for adequate management of environmental and social risks. For example, the local



environmental agency for Palu City currently has limited staffing (including 2 permanent staff and 6 contracted staff) to manage environmental permitting processes.

61. Relocation of Displaced People vs Preventative Resettlement: Four main resettlement sites are currently being considered. For the three proposed sites in Duyu, Pombewe-Olobuju and Tondo-Talise as the Government is seeking to acquire expired or soon to be expired unused concessional land (HGB and HGU) for the development of resettlement areas. The Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (ATR/BPN) is adopting a low risk approach, seeking to negotiate a settlement with concession holders and identify land within the concessions currently not being used. However, there is potential for informal users of these areas to experience loss of access to this land or assets, which need to be duly compensated. In the newly proposed relocation site in Ngatabaru, the likelihood and extent of involuntary land acquisition remains to be further assessed since the site is privately owned.

62. Proposed relocation approach: The agreed approach for relocation of displaced people and preventative resettlement for people within the red-zones is being finalized. In principle, relocation should be participatory and community-driven, allowing a community decision-making processes, consultation of preferences, as well as facilitation. The GoI is considering several relocation schemes, including relocation to the three designated sites, small-scale “satellite” relocation (between 50 and 70 households) to sites selected by the target communities, as well as individual cash assistance support for relocation, provided that the proposed relocation sites are deemed safe. These schemes are expected to enable communities to make informed decisions based on their preferences, maintaining the consultative and community-driven principle of the project. An assessment of community preferences is currently being undertaken by the district and municipal governments.

63. Project Phases: Phase 1 of the project will prioritize displaced people who are occupying temporary shelters (Huntara) and tents. Phase 2 will gradually target people who are occupying the red-zones following finalization of the revised Provincial and District/Municipal spatial plans. A consultative and community-driven approach will be adopted for both population groups.

64. Livelihood Restoration and resettlement: The provision of housing, public facilities and services, as well as livelihood restoration support is integral to the success of any resettlement program – whether it be for disaster displaced people or people affected by preventative resettlement. Livelihood restoration planning and implementation activities need to be based on the specific needs of relocated people, including potentially vulnerable groups such as people with disabilities, the elderly, women, young adults, and trauma affected populations. While transitional support is being provided for displaced people in temporary housing facilities, the extent of livelihood restoration planning for resettlement is not yet confirmed. The scope of the request for housing is limited to investments in settlement infrastructure and housing units and does not include livelihoods restoration measures and temporary livelihoods support. It is understood that the Ministry of Social Affairs, as well as other development partners (including UNDP and national NGOs) will implement livelihoods recovery programs. Furthermore, measures to address livelihoods impacts on displaced people following rezoning and access restrictions to land in red-zones will also need to be considered as part of the overall project design.

65. Instruments: The project is subject to the World Bank’s Environment and Social Framework (ESF), and an Environmental and Social Commitment Plan (ESCP) was agreed to with the Government. The ESCP sets out measures and actions required for the project to achieve compliance with relevant Environment and Social Standards (ESSs) over a specified timeframe. Relevant ESSs are: ESS 1 Assessment and Management of Environmental and Social Risks and



Impacts, ESS 2 Labor and Working Conditions, ESS 3 Resource Efficiency, ESS 4 Community Health and Safety, ESS 5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement, ESS 6 Biodiversity Conservation and Sustainable Management of Living Natural Resources, ESS 7 Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities, ESS 8 Cultural Heritage, and ESS 10 Stakeholder Engagement and Information Disclosures. A Stakeholder Engagement Plan (SEP) was prepared by the Government during project preparation which identifies and analyzes key project stakeholders, describes opportunities for public consultation and grievance redress mechanisms, and outlines commitments to releasing routine information on the project's environmental and social performance. The ESCP and SEP were cleared by the World Bank's management and disclosed by the GoI on May 14, 2019; the ESCP and the SEP were disclosed by the World Bank on May 18, 2019. The Project's Appraisal ESRS (ESRSA00174) was disclosed by the World Bank on May 18, 2019. Due to the emergency context under which the project is being prepared, the environmental and social assessments and plans required under the ESSs will be developed during the project implementation phase. These assessments and plans will be established in the ESCP with specific time bound action plans agreed by the Government.

66. **ESS 1 Assessment and Management of Environmental and Social Risks** sets the GoI's responsibilities for assessing, managing and monitoring environmental and social risks and impacts associated with each stage of project implementation. Overall Environmental and Social Risk Classification is high, particularly due to the potential risks associated with Component 1. Resettlement of displaced people and preventative resettlement (due to land-use rezoning restrictions) carry high social risks that require management including land acquisition, land use restrictions, changes in livelihoods, inequitable/ disproportionate impacts on vulnerable groups, tension between resettled and host communities as well as risks associated with the large and diverse workforce including poor working conditions occupational health and safety, child labor, labor influx and gender-based violence (GBV) issues. As established in the ESCP, a project-level environmental and social management framework (ESMF) will be prepared prior to loan effectiveness and no construction will proceed without Environmental and Social Management Plans satisfactory to the World Bank. Relevant environmental permits and/or update of existing permits will be obtained under Components 1 and 2 in conjunction with the GoI's environmental requirements, such as the preparation of project specific environmental impact assessments where relevant. Furthermore, a third-party monitoring team will be appointed to assess impacts and target communities' satisfaction under Component 1.

67. **ESS2 Labor and Working Conditions** is relevant as the project workforce is expected to be large and diverse, including third party contractors, primary suppliers, and community workers; and some of the labor force will likely need to be sourced from other parts of the country. There is a shortage of skilled labor to support recovery efforts and labor influxes are likely to be concentrated in specific locations (e.g., relocation areas) or at major construction sites, where there may still be activities being conducted by private citizens (Component 1), patients and school children (Component 2). The large and diverse taskforce may also present several challenges related to the management of working conditions (fair terms and conditions of employment, non-discrimination, and equal opportunity) and workforce protection (i.e., child labor, forced labor, and occupational health and safety (OHS) due to the low levels of awareness amongst employers and workers, coordination and capacity constraints within the Government, and difficulties in managing compliance with particular groups such as primary suppliers. There will be OHS risks due to physical hazards associated with demolition, reconstruction and construction; participation of youth labor, who are unskilled, is likely and may present heightened risks in terms of working conditions, OHS, and child labor; and use of third-party contractors and primary suppliers may present OHS risks. The capacity for contractors to mitigate GBV risk to the community effectively is unknown but likely to be limited; GBV service providers in the area are limited and their resources are constrained. A GBV risk assessment will be conducted to update project-level risk; a labor management framework and procedures will



be developed; worker feedback and grievance redress mechanism established; OHS management incorporated into the ESMF and labor management plans will be prepared prior to any construction activities by selected contractors.

68. **ESS3 Resource Efficiency and Pollution Prevention and Management** is relevant as there are potential sources of pollution from the disposal of non-hazardous and hazardous wastes including scrap metal, waste timber, construction rubble and various waste materials, household waste, medical waste, construction rubble, asbestos-containing materials, lead paint, solvents, spilled fuels, and other construction chemicals. Safe waste handling and disposal will be one of the major environmental challenges under the project. The location of new housing units is not expected to be within water-scarce areas, and water consumption in the project area will be provided through adequate primary water supply facilities (that are not financed by this project but supported by other development partners). Project investments might consume raw materials such as timber that would be sourced through measures specified in the “Good International Industry Practices” and reuse or recycle timber, concrete, crushed aggregate and bricks for use in concrete, building blocks, drainage, roads, fill materials, retaining walls, and foundation base. Management tools for post-debris management, including common disaster waste classification, and waste handling and disposal procedures, will be prepared by PUPR as Environmental Codes of Practice and/or Standard Operating Procedures.

69. **ESS4 Community Health and Safety** is relevant and includes consideration of natural hazards (e.g., earthquakes, tsunamis, tropical storms, and floods); physical hazards (e.g., unsafe facilities, unsafe operation, community entering construction sites) and accidents (e.g., fire, electrocution); traffic and road safety hazards; health issues (including noise, fugitive dust, water-borne and vector-borne diseases, as well as communicable diseases such as HIV/AIDs); hazardous materials (asbestos-containing materials, fuels, and chemicals used/stored by contractors); and access for vulnerable groups (e.g., people with physical disabilities). Post-disaster GBV and Sexual Exploitation and Abuse risks are considered high, particularly due to limited privacy and security issues. In camp sites, unsafe spaces include bathrooms, toilets, and water collection points, which are often located outside the camps. Women, children, the elderly, people with disabilities (including those with new disabilities following disaster events), and the infirmed are particularly vulnerable. A strategy for GBV/Sexual Exploitation and Abuse prevention, awareness raising, and safe design of relocation sites and public facilities will be developed. Emergency events may arise from natural or man-made hazards during construction; and specific management and mitigation measures during construction and operation will be prepared. The GoI will engage independent and qualified experts to review the design and construction of the infrastructure to be financed by the project.

70. **ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement** is relevant as the project will finance the reconstruction of small to medium-scale public infrastructure, possibly in new sites, and construction of housing units with supporting settlement infrastructure in new settlement areas, involving land acquisition. Resettlement is expected to include disaster-displaced people (i.e., those who lost their houses, lands and assets due to damages from liquefaction and tsunami) and households still living in these areas, as well as within ‘red-zone’ areas. The relocation approach for displaced people and people in red-zones will be consultative and community driven; options for relocation, including ‘satellite relocation’ based on community preferences, are being finalized by the Government. Finalization of detailed risk-informed spatial plans is needed for effective on-ground management of the affected areas, presenting additional risks for the project as some displaced people have started to move back to rebuild houses or use land for livelihood activities in these zones. Challenges concerning livelihood restoration for project-supported resettlement activities present a high risk for the project, as the many communities affected by the disaster have different livelihood needs, including agricultural, fishing, trade, and commercial activities. The proximity of the new settlement areas to these livelihood sources and the capacity of old and new areas to restore livelihoods are important considerations in resettlement planning. Such risks may increase exponentially depending on the scale of relocation, the



choice of relocation sites which may not consider access to livelihoods opportunities and people's preferences, as well as the level of institutional complexity to deliver livelihoods support. For all land acquisition processes under the project, the GoI will maintain documentation of negotiated settlements and acquisition of the resettlement sites that have been started; and provide a due diligence assessment report to demonstrate that the acquisition and transactions meet ESS 5 requirements. These requirements will be established as part of the Resettlement Policy Framework, which will form part of the ESMF, and outline resettlement principles, organizational arrangements, and design criteria to be applied to project activities/sub-projects.

71. **ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources** is relevant, although preliminary assessments indicate that none of the project sites are expected to be in legally-protected areas, natural habitats, or areas of high biodiversity values. Public facilities are likely to be reconstructed within existing building footprints whilst housing units will be constructed on new settlement sites that consist mainly of modified habitats. Further impacts on the modified habitats will be assessed during the preparation of environmental and social management plans during project implementation. Project investments might consume raw materials such as timber that would be sourced through measures specified in the "Good International Industry Practices". Preparation of environmental impact assessments and management plans will also assess and mitigate the potential impacts of project-financed construction materials, e.g., timber sources from production forest areas and the extraction of other resources such as sand, gravel, stone, etc. extracted from local quarries.

72. **ESS7 Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities** is relevant although the presence of Indigenous Peoples as per ESS7 remains to be determined once specific locations for both Components 1 and 2 activities have been finalized. Several remote tribes are present in the mountainous areas around Palu, Sigi and Daggala, including the Da'a tribe in Donggala and Sigi. An Indigenous Peoples Planning Framework will be prepared to guide the screening, consultations and engagement and management of impacts on Indigenous Peoples if they are present and/or will be affected by the project activities. This Indigenous Peoples Planning Framework will be included in the ESMF and the ownership and participation of Indigenous Peoples in project design, implementation, and monitoring and evaluation are required under the project's SEP.

73. **ESS8 Cultural Heritage** is relevant since, based on local information related to possible cultural heritage sites in the project sites, there is a low possibility that archaeological items may be uncovered during construction activities. A chance find procedure will be established as part of the ESMF as a precautionary measure.

74. **ESS 10 Stakeholder Engagement and Information Disclosures** sets a systematic approach to stakeholder engagement by the GoI to identify stakeholders and build and maintain a constructive relationship with them, in particular project-affected parties. An initial SEP for the project has been developed, outlining general principles, engagement approach, stakeholder analysis as well as a collaborative strategy and plan for an engagement process in accordance with ESS 10. Further engagement as an iterative process will continue throughout project implementation. Due to the sensitivity of post-disaster emergency context, community engagement will be undertaken once the project design, including relocation options, have been agreed in order to ensure most up-to-date information is provided. These processes have been established in the SEP and will be updated during project implementation.

E. Gender

75. The project will invest in reducing existing relevant inequalities between men and women through design strategies financed under Component 3 for the planning and design of permanent housing units and settlement



infrastructure (Component 1) and schools and health facilities (Component 2)³⁶. The project will seek to address three gender gaps in Central Sulawesi:

- i. **Women's equal access to property and land tenure rights.** Under the Indonesian law, women and men have the legal right to own land and other forms of property.³⁷ However, in practice, women are often not afforded equal opportunities and protection, and are often subject to unequal recognition of land rights.³⁸ Data from the 2017 Demographic and Health Survey shows that 29 percent of married women own land independently or jointly, as opposed to 50 percent of men. Experiences from the Reconstruction of Aceh Land Administration System (RALAS) Project demonstrate that it is possible to use post-disaster reconstruction to significantly address gender inequalities and practices that limit women's ownership and control of assets. Learning from Aceh, the project will maximize women's access to property and land tenure rights by improving awareness, access to information, strengthening implementing regulations and administrative processes, and establishing an accessible feedback and grievance redress mechanism.
- ii. **Women's access to, and participation in, post-disaster reconstruction job opportunities.** Men's access to post-disaster reconstruction work opportunities and individual benefits is often greater than women's due to gender stereotyping (i.e., post-disaster reconstruction jobs are often viewed as men's work). For example, the UNFPA's November 2018 'Gender and Inclusion Alert: Central Sulawesi Earthquake and Tsunami' preliminary assessment indicates that in sites where internally displaced persons have received job offers, 75 percent of offers were made to adult or young men and only 11 percent to adult and young women. World Bank research from Aceh, Central Java and Yogyakarta shows that access to information can be a major barrier for women's access to opportunities in disaster reconstruction efforts. The project will work to close the gap between women and men's job opportunities in disaster reconstruction efforts by ensuring that EA and PIUs commit to improving women's knowledge about reconstruction job opportunities and providing targeted outreach activities about reconstruction job opportunities specifically for women.
- iii. **Women's access to local public services and planning for housing reconstruction.** The UNFPA gender assessment of the situation in Central Sulawesi in late 2018 indicates that women do not have adequate access to information on rehabilitation and disaster management planning due to their limited access to activities outside of temporary camps and shelters. This limitation closely relates to their domestic and family care responsibilities and commitments at temporary camps and shelters. Women may also feel insecure or unsafe to access public services such as toilets and potable water due to the need to share facilities. Given this

³⁶ Gender-sensitive site and building design strategies could include safe and clear site lighting, accessible pathways, installation of clear signage, safe design of building entrances, appropriate landscaping that does not create potential hiding spaces, inclusive bathroom design that cater for the needs of women and girls.

³⁷ For example, both the Indonesian Agrarian Law No. 5/1960 and Marriage Code Law No. 1/1974 recognize women's rights to independently or jointly own land or property. While the Indonesian Civil Code (Article 108) previously required women to obtain their husband's consent before entering into a contract or managing her own assets, this article was revoked in 1963. For Muslims, inheritance is regulated under Islamic law, which outlines differentiated inheritance for women and men. For example, Book Two on Inheritance Law from the Islamic Law Compilation prescribes that assets should be divided by male and female beneficiaries at a 2:1 ratio. However, Article 183 also allows inherited parties (male and female) to agree on the distribution of property. Refer to OECD. 2012. *Women's Economic Empowerment*. Paris: OECD.

³⁸ UNIFEM, 2009; and Brown, 2003. Research shows that some of the main barriers limiting Indonesian women's access to equal ownership rights include implementing regulations and administrative processes that do not reinforce the country's national law; biased customs; and a lack of awareness about the benefits of registering family land holdings in joint names,



experience, the reconstruction plan for public facilities and housing needs should address the experience of women during and post disaster and incorporate gender-sensitive design considerations for women to access reconstructed public facilities and housing.

76. Annex 4 provides a detailed gender analysis. Table 3 summarizes the proposed gender gaps, actions, and results and indicators.

Table 3. Proposed gender gaps actions, results and indicators

Gender Gap	Gender Action	Results and Indicators
Gaps in women's equal access to property and land tenure rights. (Reference: 29 percent of married women own land independently or jointly compared to 50 percent of males).	<ul style="list-style-type: none"> EA and implementing partners improve women's awareness about the benefits and legal and administrative processes for registering family land holdings in joint names by training Land Registration Field Teams to advocate for joint land titling and establishing a quota for the minimum number of females employed in the Land Registration Teams; EA and BPN strengthen implementing regulations and administrative processes by ensuring relevant land administration documentation includes an option to jointly register land and establishing an incentive mechanism for the Land Registration Field Teams to process joint land titles; and EA and BPN set up an accessible feedback and grievance redress mechanisms to address land titling processes. 	<ul style="list-style-type: none"> Women's awareness of land or property title rights held by women (either independently or as joint owners with their husbands) in project targeted areas.
Gaps in women's access to disaster reconstruction jobs and opportunities. (Reference: 11 percent of females received job offers compared to 75 percent to males).	<ul style="list-style-type: none"> EA issues guidance to all implementing agencies about improving women's knowledge about, and access to, post-disaster reconstruction jobs and opportunities. EA activities about reconstruction job opportunities that specifically target women (e.g., through local female networks and events). 	<ul style="list-style-type: none"> Women's awareness of employment opportunities related to recovery activities financed by the project. Percentage of women satisfied with access to information about reconstruction projects and job opportunities in project targeted areas.
Gaps in women's access to local public services and planning for housing reconstruction.	<ul style="list-style-type: none"> EA and implementing partners conduct participatory planning using local networks and activities. 	<ul style="list-style-type: none"> Number of women participating in planning meetings and community activities.

F. Climate Change

77. This project contributes directly to national climate change policy objectives by strengthening climate resilience of vulnerable populations and locations in Indonesia. Project activities under Components 1 and 2 will incorporate climate change adaptation and mitigation measures such as climate resilience-informed siting of infrastructure and



housing, design features to enhance flood and storm event resilience, rainwater harvesting and passive building design, and improvement of infrastructure (such as access roads, water supply, and drainage) in new resettlement sites. Component 3 will also develop an improved data and knowledge management system that will support both disaster recovery operations and future climate-resilient spatial planning for long-term risk reduction. Annex 2 contains more detail on the project design and Annex 5 provides further detail on Indonesia's climate vulnerability.

V. GRIEVANCE REDRESS SERVICES

78. The project will establish a Grievance Redress Mechanism (GRM) to allow project stakeholders to seek satisfactory resolution to grievances they may have in relation to the project. The GRM will help to ensure that rights and interests of affected people/beneficiaries and direct workers/contracted workers are protected, and concerns are addressed adequately. The grievance process is based upon the premise that it imposes no cost to those raising the grievances (i.e., Complainants); that concerns arising from project implementation are adequately addressed in a timely manner; and that participation in the grievance process does not preclude pursuit of legal remedies under national law.

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

VI. KEY RISKS

80. **Overall risk rating and rationale.** The summary table for the Systematic Operations Risk-Rating Tool (SORT) is included in the Data Sheet. The overall risk to achieving the PDO is assessed as High, based on Substantial risks associated with complexity in technical design, implementation capacity of PIUs, and fiduciary risk; as well as High risk associated with social issues and Substantial risk associated with environmental issues. Other risks have been assessed as Moderate or Low. Due to the high frequency of natural disasters in Indonesia, there is also a moderate risk that another catastrophic event will impede the project outcomes significantly and progress will be hampered.

81. **Risks related to the technical project design are rated as Substantial.** Recovery projects face the technical difficulty of delivering fast while also improving the quality of infrastructure. Under the framework approach, the general types of sub-projects to be included are: (i) standard recovery activities in disaster-affected areas; (ii) standard construction activities in new resettlement sites; and (iii) more complex and larger-in-size recovery activities in disaster-affected areas that require longer and more detailed preparation time. In addition to civil works and goods required for the reconstruction and appropriate enhancement of health and education facilities and markets, financing



of sub-project design, procurement support, environmental and social management, implementation support, construction supervision, quality control and monitoring will be included. Rehabilitation of schools and other public facilities will require specific sets of technical designs and skills by the implementing agency. Permanent settlement infrastructure and housing will need to fit the demands of the population; consultations and technical expertise need to be integrated early in the design process. The specific needs of diverse populations including women, men, people with disabilities, and the elderly will also need to be addressed.

82. Risks related to fiduciary management are rated as Substantial. The project's FM will generally follow government systems, including budgeting, internal controls, accounting and reporting, flow of funds, and the auditing mechanism. Based on the experience of other World Bank-financed operations, FM risks relate to the capacity to conduct payment verifications. The key procurement risks are due to the possibility of: (i) delays due to the limited experience of DGHS and DGHP with the World Bank's Procurement Regulations applied under the project; (ii) inadequate procurement progress monitoring and weak contract management; (iii) procedural non-compliance due to insistence by PIUs to use the Government's procurement procedures instead of the World Bank's Procurement Regulations; (iv) rejection of lower priced bids due to narrow interpretation of qualification criteria or not seeking clarifications from bidders on factual/historic qualification information; (v) implementing agencies' insistence to use national e-procurement system which is not yet acceptable to the World Bank for use in Open International Competitive Procurement of goods, works and non-consulting services, and for consultant selection methods other than Quality and Cost Based Selection (QCBS); and (vi) proceeding with issuance of notice to commence to the contractor without finishing contract requirements and signing. Risk mitigation and capacity strengthening measures are outlined in Annex 1.

83. The environmental risk is rated as Substantial. Overall, the project will have positive environmental and social benefits in rebuilding housing units and public facilities to communities after a natural disaster, allowing people to start rebuilding their lives. However, there are very specific post-disaster conditions of the project area that need to be considered such as safety and hygiene aspects of debris waste handling, unstable geological conditions, high demand on local timber for construction works, limited capacities of local government agencies (including environmental agency), etc. Many project activities will take place on existing building footprints especially related to reconstruction and retrofitting of public facilities; the nature of the impacts is not irreversible, unprecedented or complex and the existing construction standard operating procedures and building codes administered by PUPR can be implemented as mitigation measures. Housing units constructed in new settlement sites will be located in peri-urban area and are not located in the protected areas with high environmental service or conservation values. The project aims to not simply rebuild to pre-disaster conditions but to also help the local governments and communities to 'build back better' and mitigate future earthquake risk.

84. The overall social risk is rated as High due to the inclusion of planning and resilient construction of new housing settlements (approximately 7,000 housing units) and associated infrastructure (Component 1). Five relocation areas have been identified; however, the details of the project investments and modalities for implementation, including the scale of potential relocation, are yet to be finalized. The proposed project's investments are expected to support relocation of households who have been displaced due to the tsunami and liquefaction, and those who are still occupying the red-zones (preventative resettlements).



VII. RESULTS FRAMEWORK AND MONITORING

Results Framework

COUNTRY: Indonesia

Central Sulawesi Rehabilitation and Reconstruction Project

Project Development Objectives(s)

The PDO is to reconstruct and strengthen public facilities and safer housing in selected disaster-affected areas.

Project Development Objective Indicators

Indicator Name	DLI	Baseline	Intermediate Targets	End Target
			1	
Reconstruct and strengthen public facilities and safer housing in selected diasster-affected areas				
Targeted people having safer housing completed and occupied (Percentage)		0.00	30.00	90.00
Served people having strengthened public facilities (Percentage)		0.00	30.00	100.00
Targeted people satisfied with completed housing (disaggregated by gender) (Percentage)		0.00	30.00	70.00

Intermediate Results Indicators by Components

Indicator Name	DLI	Baseline	Intermediate Targets	End Target
			1	
Component 1. Resilient construction of permanent housing units and settlement infrastructure				



Indicator Name	DLI	Baseline	Intermediate Targets	End Target
			1	
Housing units constructed to project's resilience standards (Number (Thousand))		0.00	5.00	7.00
Reconstructed houses provided with housing connection for water supply (Percentage)		0.00	30.00	90.00
Reconstructed houses provided with sanitation system (Percentage)		0.00	30.00	90.00
Constructed houses built in resettlement sites provided with direct access to a paved road network (Percentage)		0.00	30.00	90.00
Women that are aware of land or property title rights in targeted project areas (Percentage)		25.00	30.00	45.00
Women that are aware of employment opportunities related to recovery activities in targeted project areas (Percentage)		0.00	20.00	35.00
Women's participation in decision-making process meetings (Percentage)		0.00	30.00	40.00
Component 2. Resilient reconstruction and strengthening of public facilities				
Schools rehabilitated or reconstructed to project's resilience standards (Number)		0.00	100.00	200.00
Health clinics rehabilitated or reconstructed to project's resilience standards (Number)		0.00	12.00	33.00
Gender- and disability-inclusive reconstructed public facilities (Percentage)		0.00	30.00	80.00
Component 3: Project implementation support				
MIS and project website established and functioning (Yes/No)		No	Yes	Yes
Grievance redress mechanism established and functioning (Yes/No)		No	Yes	Yes
Complaints resolved (Percentage)		0.00	30.00	90.00



Indicator Name	DLI	Baseline	Intermediate Targets	End Target
			1	
Resilient and inclusive building standards are established for the project (Yes/No)		No	Yes	Yes

Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Targeted people having safer housing completed and occupied	This will measure the percentage of targeted people who have housing that has been assessed as compliant with the national building code, and are occupying the constructed housing.	Annually	Construction and project monitoring reports	The responsible agency will calculate the total number of people to be provided with new housing. Every year, the number of people who have access to constructed housing with occupation certificates will be determined, and a percentage calculated out of the total number of targeted people.	PUPR-DG Housing Provision
Served people having strengthened public facilities	This measures the percentage of people who have access to completed schools and health facilities,	Annually	Construction and project monitoring reports	The number of people being served by project-affected schools and health	PUPR-DG Human Settlements



	out of the total number of people who are served by schools and health clinics under the project.			clinics is calculated. Every year, the responsible agency will determine the number of people that have access to completed schools and health facilities, and represent this as a number of the total number of people served.	
Targeted people satisfied with completed housing (disaggregated by gender)	Percentage of surveyed people who have reported positive responses (satisfied, very satisfied) with key aspects of the resettlement consultation process including information available, facilities, facilitation, location, language, etc., disaggregated by gender and by people with a disability	Annually	Beneficiary surveys	Project facilitators will measure satisfaction levels of affected households using an agreed survey tool and report results to the PIU	PUPR-DG Housing Provision



Monitoring & Evaluation Plan: Intermediate Results Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Housing units constructed to project's resilience standards	This will measure the number new permanent housing units that have been reconstructed in new settlement areas that comply with the project's resilience standards and have occupation certificates	Annually	Construction and project monitoring reports	The responsible agency will determine the number of housing units financed under the project that have been constructed.	PUPR-DG Housing Provision
Reconstructed houses provided with housing connection for water supply	This measures the number of houses that have been provided with acceptable connections to local water supply infrastructure and meet the Government's regulations and standards	Annually	Construction and project monitoring reports	The responsible agency will calculate the number of housing units that have access to water supply infrastructure as a percentage of total housing units that are financed by the Bank	DG Housing Provision / DG Human Settlements
Reconstructed houses provided with sanitation system	This measures the total number of constructed housing units that have completed and adequate connections to the local sanitation system, that meet the Government's regulations and standards	Annually	Construction and project monitoring reports	The responsible agency will calculate the number of completed housing units with access to local sanitation networks as a percentage of the total number of housing units financed by the Bank	DG Housing Provision / DG Human Settlements



Constructed houses built in resettlement sites provided with direct access to a paved road network	This measures the number of completed housing units that have adequate access to the paved road network, which are a minimum of 3 meters wide paved local road	Annually	Construction and project monitoring reports	The responsible agency will calculate the number of completed housing units that have access to the paved road network as a percentage of the total number of housing units financed by the Bank	DG Housing Provision / DG Human Settlements
Women that are aware of land or property title rights in targeted project areas	This measures the percentage of women that are aware of property or land title rights related to ownership of new housing units and land in resettlement areas financed by the Bank	Annually	Land titles office in affected districts	The responsible agency will determine the number of property or land titles related to housing units in new settlement areas that have women as a single or joint owner, as a percentage of the total number of property or land titles	DG Housing Provision
Women that are aware of employment opportunities related to recovery activities in targeted project areas	This measures the percentage of women that have provided information on employment opportunities related to reconstruction and recovery activities in targeted project	Annually	Construction and project monitoring reports, surveys	The responsible agency will calculate the number of women that have been made aware of employment opportunities for recovery and	DG Housing Provision / DG Human Settlements



	areas			reconstruction activities financed by the Bank	
Women's participation in decision-making process meetings	This will measure the number of women participating in decision-making process meetings supported by the Bank as a percentage of the total number of participants	At each meeting	Meeting records	The responsible agency will calculate the total number of women that attended relevant meetings as a percentage of the total number of participants	DG Housing Provision / DG Human Settlements
Schools rehabilitated or reconstructed to project's resilience standards	Number of damaged education facilities (primary schools, junior secondary schools, senior secondary schools) financed by the project that have been rehabilitated or reconstructed with strengthened and upgraded standards, and have an occupation certificate	Annually	Project and construction monitoring projects	The responsible agency will determine the number of schools financed under the project that have been rehabilitated or reconstructed.	PUPR-DG Human Settlements
Health clinics rehabilitated or reconstructed to project's resilience standards	Number of damaged health facilities (puskesmas) financed by the project that have been rehabilitated or reconstructed with strengthened and upgraded standards, and have an occupation certificate	Annually	Construction and project monitoring reports	The responsible agency will determine the number of health facilities that have been rehabilitated or reconstructed under the project	PUPR-DG Human Settlements



Gender- and disability-inclusive reconstructed public facilities	This measures the schools and health facilities that incorporate the project's design standards for gender and disability inclusion (e.g., accessibility standards, compliant ramps, bathroom design, adequate lighting, etc.)	Annually	Construction and project monitoring reports	The responsible agency will calculate the number of public facilities that incorporate inclusive design standards as a percentage of the total number of assets financed by the Bank	PUPR-DG Human Settlements
MIS and project website established and functioning	This measures whether a functioning Management Information System and project website has been established by the Executing Agency	At the beginning of the project and after 2 years	Project monitoring reports	The Executing Agency will confirm whether a MIS and project website has been established	DG Human Settlements
Grievance redress mechanism established and functioning	This measures whether an adequate, functioning and robust grievance redress mechanism has been established by the Executing Agency	At the beginning of the project and after 2 years	Project monitoring reports	The responsible agency will confirm whether the grievance redress mechanism has been established	DG Human Settlements
Complaints resolved	This measures the number of complaints that have been resolved satisfactorily as a percentage of the total number of complaints received	Annually	Project monitoring documents	The responsible agency will calculate the total number of complaints that have been resolved satisfactorily according to satisfaction surveys as a percentage of the total	DG Human Settlements



				number of complaints received	
Resilient and inclusive building standards are established for the project	The project finances technical assistance and capacity building to develop relevant standards to improve resilience and inclusion standards for public facilities.	At the commencement of the project and one year after commencement	Project management reports	The responsible agency will confirm whether the relevant standards have been developed.	PUPR - DG Cipta Karya



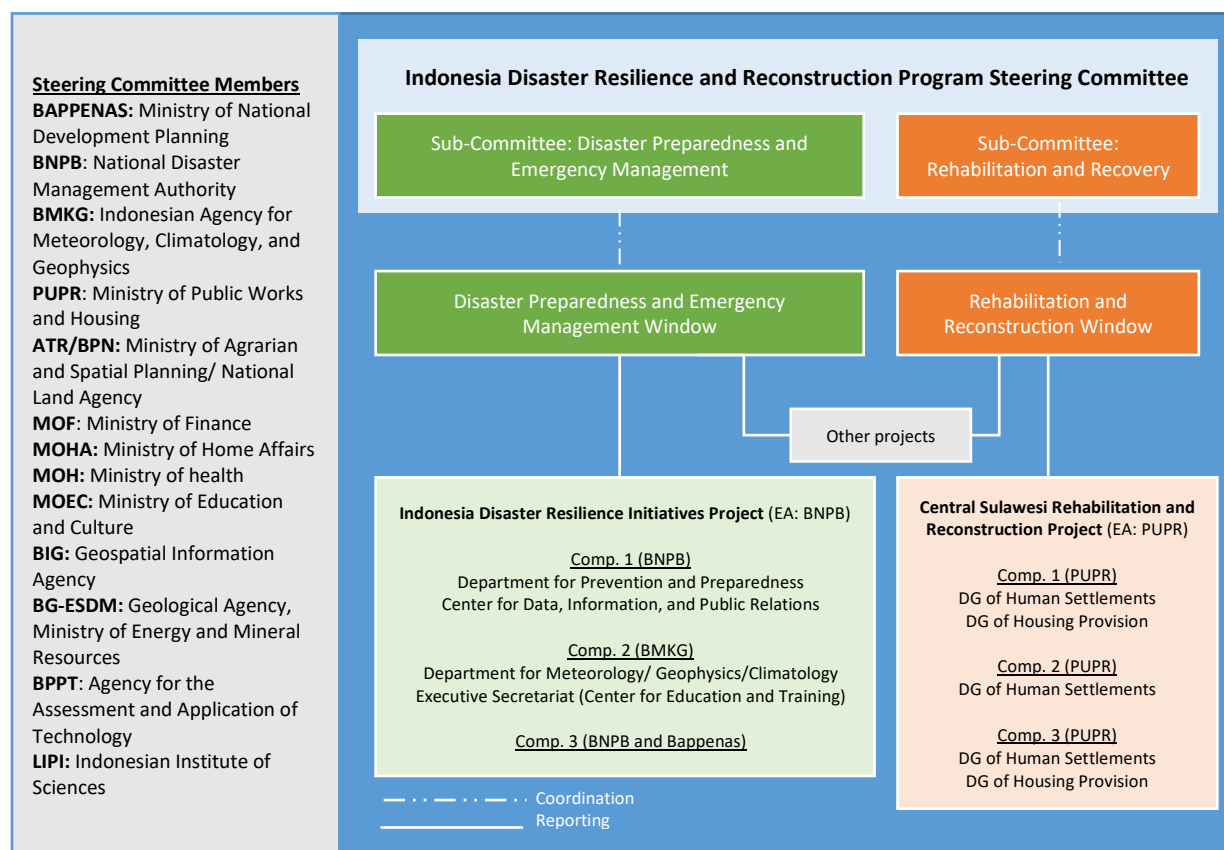
ANNEX 1: Implementation Arrangements and Support Plan

COUNTRY: Indonesia Central Sulawesi Rehabilitation and Reconstruction Project

Project Implementation Arrangements

1. **Project Coordination:** The Government intends to establish an inter-agency Steering Committee for the Indonesia Disaster Resilience and Reconstruction (IDRAR) Program, with two sub-committees responsible for their designated windows: Disaster Preparedness and Emergency Management, and Rehabilitation and Reconstruction. Members will include representatives from the PIUs of both projects (CSRRP – P169403; and IDRIP – P170874); as well as Bappenas, BNPB, PUPR, MOF, ATR/BPN, Ministry of Home Affairs, MOH, MOEC, and other relevant agencies. Steering Committee members will be responsible for providing strategic guidance, oversight, monitoring, and reporting on respective implementation activities. The Steering Committee membership and scope of responsibilities will evolve when the IDRAR program develops to include other projects and activities beyond CSRRP and IDRIP and will be supported by Component 3 (Project Implementation Support) under IDRIP. Figure 1.1 illustrates the implementation arrangements.

Figure 1.1. Project implementation arrangements



2. **Project Executing Agency:** The DGHS (Cipta Karya) in PUPR will act as the EA for this project, with day-to-day project management and project coordination under a Project Management Unit (PMU). As the EA, DGHS will be



responsible for coordinating the results achieved by each of the PIUs and for measuring progress towards the project's objectives. The PMU will also coordinate with the Steering Committee, facilitate regular coordination meetings with PIUs; implement ESSs in accordance with the ESF; manage and report on the Results Framework; and develop, utilize, and update the POM with PIUs. It will be led by a dedicated Project Coordinator, who will be responsible for managing the project's technical, fiduciary, environmental and social management, and M&E activities. PMU will include consultants with expertise in at least the following areas: engineering, procurement, social management, financial management, and monitoring and evaluation.

3. **Project Implementation Units:** PIUs will be established under both DGS to implement the project activities relevant to their existing roles and responsibilities in PUPR (see Table 1.1). They will report to the PMU and be responsible for achieving the agreed objectives and relevant performance indicators; procuring and managing consultants and managing contractors to execute project activities; and complying with the World Bank's environmental and social management, fiduciary, and M&E requirements.

Table 1.1. PIU by component

Component	Project Implementation Unit (PIU)
Component 1: Resilient construction of permanent housing units	DG of Housing Provision
Resilient construction of settlement infrastructure	DG of Human Settlements
Component 2: Resilient reconstruction and strengthening of public facilities	DG of Human Settlements

4. DGHS will implement reconstruction of housing and settlements infrastructures (Component 1) and rehabilitation and reconstruction of select public facilities (Component 2); and would plan, design, and supervise the reconstruction/construction works in close collaboration with local government agencies. Once the construction is completed and tested, it will be handed over to the relevant subnational government to operate through standard process which will be explained in the POM. DGHP will implement construction of housing units in new locations (Component 1); and would facilitate community planning process and supervise the construction works. Once completed, formal ownership of each asset will be transferred to individual households through the Government's standard land administration procedures.

5. **Project Operations Manual:** A POM will include all procedures, rules, and standards for the implementation of all components and implementation aspects of the Project including: (i) institutional arrangements; (ii) operation of the EA/PMU and PIUs; (iii) project planning and M&E; (iv) social and environmental management, reporting, communication, and human resources; (v) procurement; (vi) financial management and administrative processes; (vii) grievance procedures; and (viii) procedures for amending the POM. The POM will be developed by the time of project effectiveness.

6. **Financial Management:** The PMU will be responsible for overall project coordination, day-to-day management, budgeting, financial administration, monitoring and reporting. Following government system, there will be working unit (*Satker*) organization at each PIU, including government officers with FM functions as commitment maker, verification officer, treasurer and accounting officers. A consultant will be hired to assist the PMU in fulfilling World Bank FM requirements.



7. All PIUs will maintain separate accounting records for all payment orders (SPM) and remittance orders (SP2D). All financial transactions will be recorded in the government accounting system and included in the government accountability reports. All PIUs will keep original remittance orders (SP2D) and maintain files for audit purposes.
8. The PMU will prepare a separate set of consolidated interim unaudited financial report (IFRs) on a quarterly basis. The IFRs will contain all PIUs payments within that period. The PMU will be responsible for submitting the IFRs no later than 45 days after the end of each quarter. The PMU also will prepare an annual unaudited financial report completed with Notes to the Financial Statements for auditing purposes. The annual financial statements should be reviewed by the Inspectorate prior to submission to the auditor (BPK). An annual audit report will be furnished to the Bank no later than six months after the end of the government's fiscal year.
9. **Budgeting:** In Indonesia, financing arrangements for World Bank projects implemented by GoI agencies are governed by an integrated budget or DIPA. The sources of financing for project activities, including financing percentages, are detailed in DIPA and followed strictly.
10. **Procurement:** All Procurement under the project shall be carried out in accordance with the World Bank's Procurement Regulations for IPF Borrowers dated July 2016, revised November 2017 and August 2018, and the provisions of the Loan Agreement and approved Procurement Plan. For goods, works and non-consultant services procured through Open National Competitive procurement, the Government's procurement regulations may be used to the extent that they do not conflict with the Bank's Procurement Regulations, subject to the requirements listed in para. 5.4 of the World Bank's Procurement Regulations, which are also reflected in the Procurement Plan and incorporated in the model bidding documents acceptable to the World Bank for Open National Competitive Procurement. If a conflict or difference in opinion arises during the procurement process, the Bank will provide clarifications in writing on which should be followed.
11. The Government's SPSE e-procurement may be used only for the procurement of goods, works and non-consulting services under Open National Competitive Procurement and using the harmonized model bidding documents agreed between the Bank and LKPP (the national public procurement agency). Furthermore, the SPSE International Competitive Bidding (ICB) e-procurement system modified by LKPP may be used only for the selection of consultant firms under the QCBS method and using the World Bank's standard Request for Proposal document adjusted satisfactory to the Bank for electronic use. Procurement under all other methods, including Open International Competitive Procurement, shall be carried out through a non-electronic process with manual invitation and receipt of bids/proposals, until such time that the modification of the LKPP's modified SPSE ICB e-procurement system has been completed by LKPP acceptable to the Bank, which will be confirmed through the World Bank's written no objection. During project implementation, the World Bank's Systematic Tracking of Exchanges in Procurement (STEP) tool shall be used to record all procurement and contract implementation processing under the project.
12. Procurement under Component 1 will include civil works for the construction of approximately 7,000 permanent housing units in new settlement areas, which will be procured by DGHP, whereas settlement infrastructure will be procured by DGHS. Procurement under Component 2 will include civil works for schools, health facilities, markets and government buildings in damage-affected areas of Central Sulawesi, which will be procured by DGHS. Procurement under Component 3 will largely include consultant services and community facilitators to support the PMU and PIUs in detailed engineering design and construction supervision, community engagement, project management, financial management, procurement, technical audits, social and environmental management, and monitoring and evaluation.



13. It is expected that civil works, goods and non-consulting services under the Project will mostly be procured through Open National Competitive Procurement. Consultants Services for Design and supervision, project management support and other technical assistance will mostly be selected through the QCBS method. Given the emergency nature of the project, the detailed procurement requirements and cost estimates for each package have not been fully defined, and it is also still unclear if the existing Pokja UKPBJ (Procurement Service Unit) will be assigned to carry out all procurement activities under the project or a new Pokja UKPBJ will be established. The initial draft PPSD and Procurement Plan have been prepared by PUPR and are expected to be finalized by the first quarter of project implementation when the requirements will have been more specifically defined. The PPSD and procurement plan will take into account the emergency nature of the project and will provide appropriate flexibilities allowed under the World Bank's Regulations for streamlining the procurement processes as suited for the project. Training on the World Bank's Procurement Regulation will be delivered by the Bank to EA/PIUs as soon as Pokja UKPBJ has been established and assigned.

14. The DGHS and DGHP under PUPR have previous experience in managing Bank-financed projects, including several on-going operations, under the World Bank's Procurement Guidelines, but they do not yet have experience in applying the World Bank's Procurement Regulations. The procurement risk was determined to be substantial and the proposed risk mitigation and capacity strengthening measures are provided below:

15. Procurement Risks:

- a. Delays due to limited understanding of PIUs of the World Bank's Procurement Regulation;
- b. Inadequate procurement performance monitoring;
- c. Procedural non-compliance due to implementing agencies' insistence on following Government's procurement procedures instead of the World Bank's Procurement Regulations which govern procurement under the project;
- d. Rejection of lower priced bids due to narrow interpretation of qualification criteria and not seeking clarifications from bidders on missing factual/historic qualification information;
- e. Implementing agencies' insistence to use SPSE national e-procurement system for Open International Competitive Procurement, and for consultant selection methods other than QCBS, even though the Bank does not consider the system to be acceptable as yet for use in the above methods under Bank-financed projects.
- f. Weak contract management by the *Pejabat Pembuat Komitmen* (PPK – Commitment-making Official).
- g. Proceeding with issuance of notice to commence to the contractor without finishing contract requirements and signing.

16. The risks will be mitigated by:

- a. The World Bank will deliver training to EA/PIUs on the World Bank's Procurement Regulations and also provide hands-on guidance;
- b. Requiring use of the World Bank's online procurement planning and tracking tools (STEP) with regular reporting of procurement performance to ensure compliance with the World Bank's Procurement Regulations;
- c. Including an explicit provision in the POM and Procurement Plan to highlight that the World Bank's Procurement Regulations shall govern all procurement under the project and take precedence over Government procurement regulations;
- d. Specifying qualification criteria in bidding documents in an explicit manner such that there is no rejection of lower priced-bids without seeking written clarification from bidders on historical and factual qualification information if not provided in the bid;



- e. Using manual bidding process for Open International Competitive Procurement of goods, works and non-consultant services, and for consultant services other than QCBS method, until such time that the LKPP's modified SPSE ICB e-procurement system is determined acceptable to the Bank for use in these procurement methods;
- f. In addition to the World Bank's prior review of strategically-important and large value or complex contracts, it is proposed that the Bank will be carrying out joint fiduciary (procurement and financial management) supervision missions in the field to be conducted at least twice per year, including delivering training and carrying out ex-post reviews of no less than 30 percent of the contracts subject to the World Bank's post review. Detailed procurement steps for various methods to be used under the project will be elaborated in the POM as well as guidance on due diligence on verification of bidders' qualification documents;
- g. Qualified procurement consultants will be engaged to assist PMU/PIU in carrying out the procurement under their respective project components and to build capacity;
- h. Monitoring of procurement and contract management compliance and performance will be strengthened through centralized oversight by the PMU with the support of qualified fiduciary consultants.

17. **Environmental and social:** PUPR has a long-standing engagement and experience in managing the World Bank's safeguards through previous and on-going operations but does not have experience with the World Bank's ESF. Some of the active portfolios include the National Slum Upgrading Project (NSUP – P154782 – through DGHS), National Affordable Housing Program (P154948 – through DG of Housing Provision), and Community Water-based Supply Project/PAMSIMAS (P162654 – through DGHS). The scale of recovery activities in Central Sulawesi, combined with the need to achieve outcomes rapidly, may place constraints on the overall management of environmental and social risks. The capacity of provincial and district/municipal government agencies (through their technical agencies) to manage environmental and social risks may be affected by increased work programming and extensive environmental damages caused by the disasters.

18. **Under Component 1** on resilient construction of permanent housing units and settlement infrastructure, the DGHP will be the PIU. Land transfer in the key designated locations is being managed by ATR/BPN, whilst land acquisition in satellite locations will be managed by respective district and municipal governments. A due-diligence process for these land parcels will be conducted and no investments will be mobilized by the project until clearance has been obtained from the World Bank.

19. **Under Component 2** on resilient reconstruction and strengthening of public facilities, the DGCK as the PIU for construction activities will be responsible for managing environmental and social risks. Environmental and social risks consultants will be recruited to oversee the management of the overall environmental and social aspects of the project activities, including environmental permitting processes (AMDAL and/or UKL/UPL). Depending on the agreed institutional arrangements for construction implementation with delegation of responsibilities (to be finalized), identified environmental and social risks from each project component may be increased by tiered decentralised institutional arrangements for rehabilitation and reconstruction, and the potential lack of capacity of the asset owners, contractors and regulators to manage environmental and social risks effectively, including risks related to debris management, waste management disposal, land restoration, etc.

20. **Under Component 3**, a team of facilitators, who may build on the existing implementation mechanisms of NSUP/KOTAKU, will be mobilized to assist with community engagement, facilitation and mobilization to encourage a participatory and voluntary process of community relocation. Environmental and social consultants will be assigned to



monitor and provide technical support to the management of environmental and social aspects of the project activities, including the management of grievances.

21. **Monitoring and evaluation:** The Results Framework provides the basis for measuring progress towards the Project's objectives. It includes the PDO-level outcome indicators related to disaster recovery in Central Sulawesi, as well as component-specific intermediate indicators, with baselines and targets for each over the life of the project. Two types of M&E activities will be carried out during Project implementation: regular monitoring, and a project MTR. The project's EA will be principally responsible for project monitoring, including reporting regularly on the outcome and intermediate indicators. This will include monitoring progress across all components, financial management, procurement process, environmental and social management and progress towards the achievement of results indicators. The EA will coordinate with all PIUs and concerned subnational governments in Central Sulawesi for monitoring and evaluation activities. The specific roles and responsibilities of the EA and each PIU in undertaking monitoring and evaluation will be described in further detail in the POM.

Implementation Support Plan

22. **Implementation support strategy and approach.** The Implementation Support Plan was developed considering the following: (a) emergency nature of the project; (b) lessons learned from post-disaster recovery operations and DRM projects; (c) the GoI's implementation schedule for post-disaster recovery in Central Sulawesi; and (d) risks and needs as summarized in the Project's ESRS. Its objective is to provide targeted assistance to the GoI on the overall project supervision and technical assistance needs during project implementation. The focus of support includes supervision related to technical aspects of the project, including seismic strengthening of public facilities; mitigation of potential environmental and social risks, including those related to land acquisition and resettlement; and assistance to enhancing procurement and project financial management responsibilities. The Bank will maintain a dedicated project team in the East Asia and Pacific region that will provide hands-on support to the project and work closely with other technical experts and consultants. The core task team based in Jakarta will maintain frequent and intensive coordination with the Steering Committee, EA/PMU, PIUs; as well as with global sectoral, fiduciary, and environmental and social management specialists to support achievement of the PDO. The CSRRP will have presence in Palu initiated by the CERC under NSUP/KOTAKU, and this will be maintained for the first 18 months of project implementation.

23. **Implementation support missions.** The World Bank will conduct, at a minimum, semi-annual implementation support missions to review Project progress, performance management issues, and provide technical advice and feedback to improve the overall performance of the Project. In the 18 months of project implementation, and as needed, these missions will be undertaken more frequently. The results of each supervision mission will be discussed with the responsible PIUs for improvement of project implementation and for designing technical assistance, as needed. Special attention will be paid to the following aspects: technical, including quality checks in the field; environmental and social management; fiduciary; and project implementation pace, expenditure efficiency, and overall progress. Various assessments and audits may be conducted during these missions to help mitigate potential project risks and measure achievement towards the project objectives. These could include technical audits, value-for-money audits, forensic audits, and rolling audits. Key findings and agreed recommendations of all formal missions will be outlined in a Management Letter and Aide-Memoire, which will be used as formal documentation by both the Government and task team for follow up actions.

24. **Dedicated specialists.** The World Bank will maintain a core task team of dedicated specialists as follows.



- a) **Technical specialists** with expertise in areas relevant to the three components (e.g., engineering, disaster risk management) will participate in missions to review the quality of project implementation, provide technical guidance, and help to enhance the overall quality of project activities and achievement of project objectives. These specialists will undertake intensive coordination and dialogue with respective PIUs.
- b) **Environmental and social.** The World Bank will conduct regular missions to monitor compliance with the ESCP in line with the ESF, conduct necessary assessments of environmental and social risks, and review the implementation of ESSs. Formal supervision of financial management will be undertaken as part of each formal supervision mission. The specialists will also conduct initial training to the PMU and PIUs.
- c) **Procurement.** The World Bank will provide advice on procurement prior reviews to be carried out by the task team and conduct formal procurement support missions at least every six months to carry out post review of procurement actions in the field. An Accredited Procurement Specialist based in the Jakarta office will provide dedicated procurement support with additional guidance and support from the Procurement Hub Leader, also based in the Jakarta office.
- d) **Financial management.** The World Bank will conduct regular financial management assessments to monitor compliance with fiduciary controls including budgeting and financial planning arrangements; disbursement status, management and financial flows; internal controls (including quarterly financial reports, annual audited financial statements, and remedial actions, if any); accounting and financial reporting; and financial management facilitation. Formal supervision of financial management will be undertaken as part of each formal supervision mission. The specialists will also conduct initial training to the PMU and PIUs.
- e) **Knowledge management.** A knowledge management specialist will develop knowledge sharing events and good practice knowledge products related to the project activities.
- f) **Other experts** in urban economics, gender, monitoring and evaluation, and capacity building will participate in implementation support missions as needed to monitor implementation (M&E) against project objectives and provide inputs for potential adjustment or improvement of operations. Experts in social inclusion, resettlement, and community participation will also be mobilized to provide technical support as needed during project implementation.

Table 1.2. Skills and resources requirements

Time	Focus	Resource	Resource Estimate (# Staff weeks per year)
0 to 24 months	Team leadership	TTL/Co-TTL	25/25
	Technical: review of bidding documents, contracts, training	Technical specialists (x2)	20
		Procurement specialist	6
	Environmental and social: training, review, monitoring and supervision	Environmental specialist	6
	Procurement: training, procurement review and supervision	Procurement specialist	6
	Financial management: training and supervision	Financial specialist	6
	Other	Urban economics	2
		Gender	2
		M&E	2
		Capacity building	2



Time	Focus	Resource	Resource Estimate (# Staff weeks per year)
	Implementation support	ACS	8
25 to 48 months	Team Leadership	TTL/Co-TTL	15/15
	Technical: review of bidding documents, contracts	Technical specialists (x2)	20
		Procurement specialist	4
	Environmental and social: monitoring and supervision	Environmental specialist	2
	Procurement: procurement review and training	Procurement specialist	2
	Financial management: training and supervision	Financial specialist	2
	Other	Urban economics	1
		Gender	1
		M&E	1
		Capacity building	2
	Knowledge management	Knowledge management specialist	4
	Implementation support	ACS	12
Closing	Drawing lessons learned and mainstreaming good practices	M&E specialist	3
		Technical specialists	2

Note: ACS = Administrative and Client Support; TTL = Task Team Leader.



ANNEX 2: Detailed Project Description

COUNTRY: Indonesia

Central Sulawesi Rehabilitation and Reconstruction Project

Component 1: Resilient construction of permanent housing units and settlement infrastructure (US\$91.3 million)

1. **The DGHP has proposed a program to provide permanent housing for displaced communities in Central Sulawesi³⁹.** Targeted beneficiaries are households that lost their houses due to the tsunami and liquefaction, as well as those affected by restricted land-use in hazard-prone areas according to the Government's disaster risk zoning map. The DGHS will be responsible for providing settlement infrastructure and public facilities in new settlement sites.
2. **The Government has developed a 1:50,000 scale disaster risk zoning map of Palu and its surroundings, with a multi-hazard approach including earthquakes, tsunamis, and liquefaction⁴⁰.** This map is categorized into the following (i) prohibited use zones/ZRB4 (marked as red zones where no human settlements are permitted); (ii) limited use zones/ZRB3 (marked as orange zones where limited uses are permitted and strict building codes enforced); (iii) conditional use zones/ZRB2 (marked as yellow zones where seismic building standards are required); and (iv) development use zones/ZRB1 (marked as green zones where areas are encouraged for new town development). The map will inform the revised Spatial Plan (RTRW) and Detailed Spatial Plans (RDTR) for damage-affected areas that are expected to be issued in August 2019. Once these Detailed Spatial Plans are available, the precise number of households to be relocated can be determined.
3. **The Regional Infrastructure Development Agency (BPIW) under PUPR is coordinating the preliminary site planning for five proposed resettlement sites:** (i) Tondo-Talise (481.6ha); (ii) Duyu (41.6ha); (iii) Pombewe-Olobuju (362ha); (iv) Petobo (143.7ha); and (v) Ngatabaru (size of area not yet defined). The first three sites are included in the Central Sulawesi Governor's Decree and land transfer processes from the current concession landowners are ongoing, whilst the last two sites were identified by the local government following DAPs from Petobo. Local government authorities are also identifying several smaller resettlement areas ("satellite areas") nearer to the sites that are marked as red-zones. All sites have been selected based on their potential availability (as unused HGU or HGB concessions), and proximity to impacted areas. Initial figures on the number of permanent houses ("Huntap") to be constructed has been based on a feasibility study on the size and carrying capacity of the total concession areas (rather than the number of displaced people requiring relocation) and is yet to address the amount of land that can be acquired without dispute, and land suitability aspects.
4. **Phasing of housing construction in the resettlement sites is based on land availability.** In the short term, 193 hectares of land is available, which would be sufficient to build approximately 7,750 houses. An NGO has committed to constructing 3,000 housing units.
5. **Component 1 will finance the civil works related to resilient construction (to the Government's relevant engineering and design standards for seismic risk mitigation) of approximately 7,000 permanent core housing units (concrete, 36 square meters) in the resettlement sites.** It will also finance a comprehensive package of infrastructure and utilities in the resettlement sites, including water supply, access roads and footpaths, drainage, waste water

³⁹ For housing, the construction is generally concrete-based but several models and options are available in line with the needs of local cultures.

⁴⁰ Hydrometeorological hazards are expected to be further incorporated into this multi-hazard risk zoning map.



management, and solid waste management. Improved water supply, better access roads (e.g., better pavement and slope protection) and improved drainage will reduce the climate vulnerability of residents in the resettlement sites by ensuring all-weather physical access and continuity of basic services. Power will be supplied by Indonesia's State Electricity Company (PLN).

6. **A community-driven approach will be combined with a government agency-driven approach.** Standard concrete block houses to be constructed under the project are 36 square meter seismic resilient core houses with house connections for water supply and sanitation. The GoI has well-established structural typologies and designs for post-disaster housing projects. Compared to houses destroyed, these new houses also contain enhanced features such as improved roofing and drainage, flood-resilient building materials, and more robust construction practices; all of which enhance the performance of housing units to climate-related hazards such as floods and storms. The core housing concept provides opportunity for owners to finish, improve and expand the house incrementally. Houses and infrastructure can either be built by contractors through government-initiated procurement, through community-based procurement, or through a facilitator assisted self-build approach. All houses must fully comply with the Government's design and engineering standards for seismic risk mitigation. Planning of settlement infrastructure and community facilities will involve community meetings to meet community needs, including needs of vulnerable households and women, and encourage community ownership. House design and technology will incorporate earthquake risk mitigation standards, local culture, building materials and skills, and special needs for vulnerable people. The project will employ a certification procedure to evaluate the quality of housing construction completed. Each house must obtain a building permit and code compliance certificate (after verification tests). The project will encourage local governments to waive the usual fees to obtain a building permit and to facilitate the titling process after construction is completed. The component will also assist in housing construction for affected individuals who prefer to build in non-designated relocation areas, as long as the land ownership is clear and the location is in an appropriate development zone. Additional training on resilient housing will be provided for homeowners and builders.

7. **Community facilitators, financed under Component 3, will engage affected communities from the beginning of the relocation process.** The participatory process will be integrated with a community facilitation process similar to that under the National Slum Upgrading Project (KOTAKU) that will finance the first phase of settlement infrastructure in designated sites. Participatory planning starts from beneficiary selection and the establishment of beneficiary groups based on their preferences on location and construction approach; followed by site planning and preparation of a strategy for procurement and community oversight of construction management and supervision. The participation of vulnerable households and women will be prioritized. Facilitators and local government officials will organize community meetings for community level decision making and will provide communications tools to promote community involvement for project sustainability.

Component 2. Resilient reconstruction and strengthening of critical public facilities (US\$31.8 million)

8. **This component will focus on the resilient reconstruction and strengthening of public facilities in damage-affected areas of Central Sulawesi.** It will be aligned with the Government's Master Plan for the Rehabilitation and Reconstruction of Damage-Affected Areas in Central Sulawesi, supporting its principles and general policies. These include supporting better, safer, and sustainable developing; developing reconstruction activities holistically and inclusively; and addressing the needs of vulnerable populations.

9. **The project will support seismic strengthening and reconstruction of critical facilities to improve the seismic performance, safety and the functionality and service standards of facilities to protect lives and mitigate economic**



damages during future disasters. Prioritized critical public facilities (schools and health facilities) to be supported were identified from the draft Action Plans (*Renaksi*) of Kota Palu, Kabupaten Donggala, and Kabupaten Sigi. The project will finance the rehabilitation (and retrofitting) or strengthened reconstruction of damaged schools and health facilities in the abovementioned districts. The project may also finance rehabilitation and reconstruction of other damaged facilities such as markets and government administration buildings as deemed necessary by the GoI.

10. Civil works for the rehabilitation and reconstruction of public facilities will include the following principal types of investments: (ai) in situ repair and reconstruction of damaged assets; (ii) construction of new assets in new locations when the damaged assets cannot be rebuilt in situ; and (iii) construction and/or expansion of assets in new locations to serve people who, as a result of the earthquake, tsunami and liquefaction, must relocate from hazard-prone areas. The selection of new sites will also be informed by reduction of vulnerability to disaster hazards including tsunamis, landslides and liquefaction; and climate-related hazards such as sea level rise, flood, and storms. Component 3 will finance technical assistance for detailed engineering design and construction supervision to deliver high-quality works and full compliance with the GoI's engineering standards for seismic risk mitigation. All assets to be strengthened in situ will be inspected by qualified structural engineers to determine the best approach for strengthening the facilities to higher structural performance and safety standards. Site surveys, including assessments of soil and geotechnical conditions, will be undertaken as necessary. Engineering designs must fully comply with current engineering and design standards for seismic risk mitigation. Building back better also implies using the reconstruction effort as an opportunity to improve functionality and sustainability of public facilities to be inclusive for all genders and people with different levels of abilities. The building designs will address sustainability and inclusiveness issues holistically, including accessibility and evacuation spaces/routes with adequate signage for people with disabilities and the elderly, design features to help mitigate structural damage from potential flooding and storms, and environmental sustainability and climate-resilient approaches such as rainwater harvesting and passive design⁴¹ to increase energy efficiency.

11. Construction will be carried out by experienced national contractors. All works will be supervised by trained inspectors and qualified engineers financed under Component 3, and final acceptance and handover to GoI would be subject to Defects Liability Periods. Increased compliance with building standards to facilitate and further institutionalize the issuance procedures and monitoring of building permits (*Izin Mendirikan Bangunan* – IMB) in Central Sulawesi will be supported with technical assistance included under Component 3 of the project.

12. The seismic strengthening of existing public facilities undamaged by the recent catastrophic event may also be financed under this project. Recognizing the challenge of requiring compliance with relevant design standards for existing structures which were not originally built to the resilience standards of the updated standard designs, project financing may be used in a pilot to gain experience with retrofitted buildings demonstrating “significantly improved” structural and resilience capacity, where all new retrofitted elements comply with requirements of these design standards. PUPR has established benchmarks that meet sound seismic risk mitigation standards. Construction financed under CSRRP will be required to comply with existing building codes and standards administered by the GoI.

13. Priority critical public facilities will be identified based on a list of critical public facilities agreed by the Government with inputs from an international specialist earthquake engineering firm. Critical public facilities, such as schools, were prioritized based on exposure data and building vulnerability (including construction type, age and size; earthquake hazard at the site; number of building occupants; and probabilistic evaluation of future earthquake events), from which the average fatality rate of each building was calculated. The school facilities were then ranked based on the

⁴¹ Passive design refers to the use of natural resources in a particular microclimate to heat, cool and ventilate a building; whereas active design refers to use of mechanical or technological means to create building comfort.



amount of fatalities expected in the building based on their occupancy. In consultation with this list, specific schools and health facilities to be financed under this project will be selected based on criteria with the Government.

14. **The above assessment includes a cost-benefit analysis to help determine the efficacy of seismic strengthening for the selected damaged assets in the project area.** It will be used to evaluate the large population of buildings and sort the population to identify the most ideal option for seismic upgrading/retrofitting or reconstruction. Field data was collected to assist in developing seismic retrofitting and reconstruction costs⁴², and will be compiled to compare retrofitting costs with reconstruction costs. If the ratio is less than 60 percent, then retrofitting is recommended⁴³; otherwise, reconstruction is recommended. Based on the number of building occupants and the retrofit/reconstruction cost, the cost-benefit analysis also helps to sort the buildings and allow a phased approach to retrofitting and reconstruction. This approach provides a quantitative approach for identifying building assets to apply seismic retrofitting/upgrading measures for risk reduction.

Component 3: Project implementation support (US\$26.9 million)

17. Component 3 will finance the costs of expert consultants and community facilitators throughout the project cycle to strengthen the Government's capacity—at both the central and subnational level—on post disaster recovery. This will include, but is not limited to:

- i. Technical assistance to support Component 1, housing and settlement infrastructure, to (a) support disaster-displaced households during the entire relocation process ; (b) provide community engagement and oversight through participatory planning, project implementation and construction supervision; (c) prepare engineering designs for housing and settlement infrastructure and provide construction supervision; and (d) train local craftspeople and contractors in disaster resilient construction methods and techniques.
- ii. Community facilitator teams, in support of Component 1, housing and settlement infrastructure, mobilized through an Oversight Service Provider (OSP).
- iii. Technical assistance to support Component 2 on detailed engineering design and construction supervision to enhance high quality works in the reconstruction of facilities and full compliance with seismic engineering resilience standards.
- iv. Technical assistance for project management to support PMU and strengthen PUPR in overseeing the implementation of the project at national and subnational levels, including support for: project management, procurement, financial management activities, technical audits, compliance monitoring of construction activities, oversight of compliance with agreed social and environmental standards, oversight of compliance with social inclusion targets (e.g., gender and disability action plans), monitoring and evaluation activities, grievance redress mechanisms, and preparation and maintenance of a project database and transparent web-based MIS, and the development an improved data and knowledge management system that will support both disaster recovery operations and future climate-resilient spatial planning for long-term risk reduction.

⁴² Information collected includes: building identification details including name, location and GPS coordinates; building dimensions, height, number of stories, and framing to estimate the reconstruction or retrofitting structural costs; building occupancy to computer architectural costs; number of buildings in a campus to estimate the cost for accessibility; observed damage level, deficiencies, anomalies to determine the repair cost; building footprint and available cost estimates from local contractors to determine reconstruction costs.

⁴³ This threshold was requested by GOI due to a large number of buildings to be reconstructed under a standard 40 percent of threshold.



- v. Project management and implementation support for local governments, including local government capacity building for disaster preparedness and resilience, seismic construction standards, administration and enforcement of spatial plans and building regulations, preparation of sectoral Master Plans and feasibility studies, and beneficiary satisfaction surveys. Part of the budget is unallocated to allow flexibility in addressing unanticipated implementation challenges related to the usual dynamics of post-disaster reconstruction projects.

Technical assistance summary and preliminary cost estimates (tentative) in US\$ million

No.	Item	Agency	Costs
1	Project Management Support (PMS)	DGHS	3.0
	Support to PMU in the overall management and implementation of the project, and for the participatory planning and implementation of the resettlement sub-project, including support to DGHS and DGHP		
2	Detailed engineering design and construction supervision 1	DGHS	6.0
	Detailed engineering design and construction supervision for reconstruction of facilities and settlement infrastructure.		
3	Detailed engineering design and construction supervision 2	DGHP	2.0
	Detailed engineering design and construction supervision for reconstruction of contractor-built houses.		
4	Oversight Service Provider (OSP)	DGHS	2.0
	Provision of community facilitator teams in support of the participatory planning and implementation of the reconstruction activities.		
5	Local government capacity building	DGHS	2.5
	Capacity building in local government institutions for disaster preparedness and resilience, spatial planning, seismic construction standards, administration and enforcement of spatial plans and building regulations.		
6	Sectoral Master Plans	DGHS	2.0
	Preparation of sectoral Master Plans for water supply, drainage and flood control, sanitation and solid waste management		
7	Feasibility studies	SATGAS	1.5
	Studies to assess feasibility of rehabilitation and seismic reinforcement versus (partial) demolition and (partial) replacement for structures not yet included in the project		
8	Beneficiary satisfaction survey	DGHS	0.4
	Study to measure performance indicator on community satisfaction		
9	Unallocated	TBD	4.5
	Unallocated budget to ensure flexibility in addressing unanticipated implementation challenges		
	<i>Sub-total</i>		23.9
10	Contingencies 10%		3.0
	Total costs		26.9



ANNEX 3: Economic Analysis

COUNTRY: Indonesia

Central Sulawesi Rehabilitation and Reconstruction Project

Project Objectives

1. The intended project outcome is to reconstruct and strengthen public facilities and safer housing in selected damage-affected areas. In addition to reconstructing, rehabilitating and retrofitting damaged public facilities in damage-affected areas of Central Sulawesi, this project will also reconstruct permanent housing units and settlement infrastructure. The economic analysis was carried out using a cost-benefit methodology to estimate the net benefits arising from Component 1 and Component 2.

Project Costs

2. Table 3.1 summarizes the costs of each component and whether the components were included in the economic analysis. Component 3 was excluded from the analysis due to limitations in data availability. The investment outlay is assumed to occur only in 2019, and annual operating and maintenance costs will be assumed to be 10 percent of the initial investment outlay. Annual depreciation costs of buildings will also be considered and is assumed to be 10 percent of the investment outlay. This implies that permanent settlement infrastructures under component 1 would not be included in the annual depreciating costs.

Table 3. 1. Budget for CSRRP

Project Components	Cost (US\$ million)	Included in Economic Analysis
Component 1: Resilient construction of permanent housing units and settlement infrastructure	91.3	Yes
Construction of Settlements Infrastructures in new location	60.5	Yes
Civil Works - Construction of 7,000 housing units	30.8	Yes
Component 2: Resilient reconstruction and strengthening of public facilities	31.8	Yes
Schools	20.8	Yes
Health facilities	11.0	Yes
Component 3: Project implementation support	26.9	Yes
Project management, planning and engineering design, supervision, evaluation, capacity development, technical assistance, and contingencies	26.9	No

Project Benefits and Methodology

3. This section details the methodology of the cost-benefit analysis (CBA). The main objective is to evaluate the economic benefits of Component 1 and Component 2. The CBA will attempt to model the potential benefits of specific building types. The analysis produces two key outputs—the net present value (NPV) and the economic rate of return (ERR).



4. The cost benefit analysis relies on principles derived from the World Bank's Triple Dividend of Resilience Framework (TDRF). TDRF outlines three plausible development benefits of investing in ex-ante disaster risk management: (i) avoiding losses when disaster strikes. This includes saving lives and reducing the number of people affected, minimizing direct costs to infrastructures and other assets, and reducing indirect and direct economic losses, (ii) stimulating economic activity due to reduced disaster risks. Risk reduction inspires investors' confidence, extends planning horizons of firms, and increases land value, and (iii) development co-benefits, or uses, of a specific DRM investment. For example, improving community-based disaster preparedness could lead to improvements on women's involvement in community level activities, strengthening DRM capacity may lead to improved governance and more organized social structures. Constrained by data availability, the CBA focuses on quantifying the benefits of *(i) avoided losses when disaster strikes* and would thus be an underestimate of the true benefits derived from building disaster resilience.

5. **Data sources.** Inputs for the CBA were derived from (i) survey data such as the National Labor Force Survey (SAKERNAS) and the National Socioeconomic Survey (SUSENAS), (ii) secondary data sources such as historical disasters data from BNPB, published statistics on number of health workers, inpatient and outpatient visits, teachers, students, and (iii) inputs from existing research such as the social benefits of an extra year of education.

6. **Component 1 and Component 2 overall framework.** The methodology for Component 1 and Component 2 quantifies the economic benefits of the construction of permanent housing unit and settlement infrastructure. For Component 2, the economic benefits generated from reconstruction and strengthening of public facilities were estimated. The overarching principle is to quantify the building-specific (houses, primary schools or health facilities) economic benefits generated.

7. **Component 1. Benefits from houses and permanent settlement infrastructure.** Household members who have been displaced as a result of the 2018 Central Sulawesi earthquake are currently residing in *Hunian Sementara* ("*Huntara*"). While these temporary shelters provide basic amenities to the disaster victims, sanitation and hygiene are suboptimal as toilets are shared and the main source of clean water is provided through water containers supplied by NGOs and local authorities. Component 1 aims to assist disaster-displaced households to relocate to new settlement areas and provide housing units for disaster-affected victims. This CBA assumes that the economic benefits from component 1 is derived from the permanent settlement infrastructure and through the construction of approximately 7,000 new housing units. Comparing the 'with-project' scenario with the 'without-project scenario', the implementation of Component 1 would result in better access to water, sanitation and handwashing for the disaster-affected households. To monetize the value of increased access water and sanitation, we assume that houses would reduce the number of disability adjusted life years lost by half. Multiplying the difference in disability adjusted life years lost with average annual income would yield us a monetary value of the economic benefits of housing.

8. **Component 2. Benefits from reconstruction, rehabilitation and retrofitting of public facilities.** Given that all reconstructed, rehabilitated and retrofitted buildings will receive structural enhancements, all buildings are expected to generate benefits in terms of avoided mortality, avoided cost of repair and avoided disruption to economic activities. However, reconstruction, rehabilitation and retrofitting have different baseline scenarios for economic activities. Reconstructed buildings are expected to yield the highest economic benefits, as the baseline scenario assumes that these buildings are currently non-operational or that there is a severe lack of capacity for the building to operate at full capacity. For schools, the methodology assumes that schools are operating at 30 percent capacity prior to reconstruction, but for health facilities, the current operational capacity is assumed to be 0 percent. Rehabilitation assumes that the buildings are currently operational, but not at full capacity. Buildings (schools and health facilities) are



assumed to be at 50 percent capacity prior to rehabilitation, and 100 percent after the building has been rehabilitated in 2021. This implies that the impact of the project investments on rehabilitated buildings would be 50 percent of the total benefits generated from future economic activity. Buildings to be retrofitted are existing, fully operational buildings which will receive structural enhancements, and thus only yield economic benefits from structural enhancements. Given data limitations, the CBA does not quantify the economic benefits of avoided assets lost or environmentally sustainable buildings.

9. **Component 2. Benefits from health facilities.** Benefits from health facilities derived from the provision of outpatient care. To estimate the economic benefits of health care, the CBA places a monetary value on the number of healthy days gained as a result of seeking health care. An ordinary least squares (OLS) regression was used to estimate the number of healthy days gained as a result of seeking health care among 15- to 65-year olds. The dependent variable is the number of days an individual is ill, the covariate of interest is whether this individual sought outpatient care, and demographics controls were included in the OLS model. The coefficient estimated for the variable indicating whether an individual sought outpatient care can then be interpreted as the number of healthy days gained as result of seeking outpatient care. An implicit assumption imposed in this methodology is that all outpatient visits generate a constant level of economic benefit, which is highly unlikely due to varied patient characteristics and risk profiles. Furthermore, the variance of the benefits of outpatient care is likely to be large—for example, the benefits from receiving early diagnosis for cancer is likely much higher than a visit for acute cases. This implies that the economic benefits from health care are likely to be greater than the estimated monetary value in this CBA.

10. **Component 2. Benefits from primary schools.** To estimate the economic benefits of education, the CBA uses the concept of social returns to education, which includes not only the private returns to education, but also positive externalities and non-market effects. The estimates produced for social returns to education are typically underestimates of true social benefits, given the ease of accounting for full social costs, but difficulties in accounting for social benefits⁴⁴. This CBA methodology uses Joshi et al. (2019)'s estimates on social returns to education—a one-year increase in average years of schooling leads to a 7.96 percent increase in wages. To apply Joshi et al. (2019)'s estimates on social returns to education, a matrix of students in each year of study was constructed, and the corresponding annual income of those who completed each year of study. For example, if the number of students in year 10 (first year of senior high school) is 30, while the average income of those who did not attend senior high school is US\$1,000, then the economic benefits generated from these students is US\$2,388. Summing across the years of study for a specific building would yield us the building-specific economic benefits of education. This calculation is repeated for primary schools, and junior high schools. It is worth noting that the methodology does not account for dropouts in-between years of study.

11. **Value of a statistical life.** To estimate the economic benefits of avoided mortality, the concept of value of a statistical life (VSL) is used⁴⁵. Due to the scarcity of VSL estimates for developing countries, we adopt a “benefits transfer” method to approximate the VSL for Indonesia based on VSL estimates derived from developed countries (See Cropper and Sahin, 2009)⁴⁶. We select the VSL estimate of the Environmental Protection Agency of the USA which is equal to US\$ 9.7 million. Adjustment of the USA based VLS requires the ratio of GDP per capita for Indonesia and the USA. In

⁴⁴ Psacharopoulos, George; Patrinos, Harry Anthony. 2018. *Returns to investment in education: a decennial review of the global literature*. Policy Research working paper; no. WPS 8402. Washington, D.C.: World Bank Group.

⁴⁵ An illustration of the concept of VLS can be demonstrated using the following example: Suppose each person in a sample of 100,000 people were asked how much she would be willing to pay for a reduction in their individual risk of dying of 1 in 100,000, or 0.001%, over the next year. Since this reduction in risk would mean that we would expect one fewer death among the sample of 100,000 people over the next year on average, this is sometimes described as “one statistical life saved.” Now suppose that the average response to this hypothetical question was \$100. Then the total dollar amount that the group would be willing to pay to save one statistical life in a year would be \$100 per person × 100,000 people, or \$10 million. Therefore, VLS is not a measure of expected economic production of a person's life, nor is it an estimate of how much money any single individual or group would be willing to pay to prevent the certain death of any particular person.

⁴⁶ Cropper and Sahin, The World Bank. 2009. *Mortality and Morbidity in the Context of Disaster Risk*.



addition, following the recommendations by Cropper and Sahin (2009) to account for differing risk preferences between Indonesia and the USA, an elasticity of the VSL of 1.5 is assumed. We summarize the calculations for VSL in Table 3.2 below.

Table 3.2. VSL calculations for Indonesia

Indicator	Formula	Units	Value
VSL (USA)	VSL_{USA}	US Dollars	9,700,000
Indonesia Real GDP per capita 2016 (PPP)	Y_{IDN}	US Dollars	10,766
USA Real GDP per capita 2016 (PPP)	Y_{USA}	US Dollars	53,399
Income elasticity of VSL	ϵ	-	1.5
VSL Estimates	$VSL_{IDN} = VSL_{USA} \cdot \left(\frac{Y_{IDN}}{Y_{USA}} \right)^{\epsilon}$	US Dollars	878,156

Results and Discussion

12. **NPV and IRR.** The net present value of health facilities, primary schools, junior high schools and houses were calculated. Assuming a discount rate of 10 percent, the NPV and IRR are summarized in Table 3.3 whilst Table 3.4 summarizes the net economic benefits of Component 1, Component 2, and the entire project. Over the next 17 years, the NPV of the entire project is estimated to be US\$160 million while the IRR is estimated to be at 25 percent.

13. **Sensitivity analysis.** The sensitivity analysis for the project was conducted with regards to three variables: (i) value of a statistical life, (ii) probability of an earthquake occurring in Central Sulawesi, and (iii) changes in O&M. Results of the sensitivity analysis are shown in Table 3.5, interpreted in terms of the percentage change in each variable required to switch the NPV from positive to negative—known as the “switching value”. *Ceteris paribus*, the project could sustain a 78 percent decrease in the value of a statistical life, or a 210 percent increase in operational and maintenance cost annually or a reduction of the probability of an earthquake occurring again in Central Sulawesi from 0.087 to 0.037, and still be economically feasible.

Table 3.3. Summary of NPV and EIRR for Houses, Schools and Health Facilities

	Health Facilities	Schools	Houses
NPV (US\$)	94,159,162	35,011,455	30,821,329
IRR	66%	30%	15%

Table 3.4. Summary of NPV and EIRR for Component 1 and Component 2

	Component 1	Component 2	Entire Project
NPV	30,821,329	129,170,616	159,991,945
IRR	15%	45%	25%

*Table 3.5. Switching values from base case in Table 4*

	Component 1	Component 2	Project
Reduction in VSL (Baseline value: US\$878,156)	-23%	Positive throughout	-78%
Switching value probability of earthquake in Central Sulawesi (Baseline: Probability of 0.087)	As low as 0.073	Positive throughout	As low as 0.037
Increase in O&M costs as a percentage of investment outlay (Baseline: 10% of investment outlay)	60% increase in O&M costs annually	650% increase in O&M costs annually	210% increase in O&M costs annually

Note: Baseline values in parentheses.



ANNEX 4: Gender Analysis

COUNTRY: Indonesia

Central Sulawesi Rehabilitation and Reconstruction Project

Gaps in women's equal access to property and land tenure rights

1. **Analysis:** Under Indonesian law, women and men have the legal right to own land and other forms of property.⁴⁷ However, in practice, women are often not afforded equal opportunities and protection, and are subject to unequal recognition of land rights and tenure uncertainty. Research shows that some of the main barriers limiting Indonesian women's access to equal ownership rights include implementing regulations and administrative processes that do not reinforce the country's national law; biased customs; and a lack of awareness about the benefits of registering family land holdings in joint names.⁴⁸ Consequently, household productive assets, including land, tend to be registered under the name of husbands.⁴⁹ Data from the 2017 Demographic and Health Survey shows that 29 percent of married women own land independently or jointly as opposed to 50 percent of men.⁵⁰ Asset titling has implications for women's capacity to access other productive assets as access to finance usually requires collateral (like land and other assets), which tend to be owned by men.⁵¹

2. Experiences from RALAS Project demonstrate that it is possible to use post-disaster reconstruction as an opportunity to significantly address gender inequalities and practices that limit women's ownership and control of assets. In the aftermath of the 2004 Indian Ocean Earthquake and Tsunami, the RALAS Project focused on rebuilding Aceh's land administration system and promoting women's rights through joint land titling. The RALAS project's design included specific measures to advocate joint land titling and targeting women's involvement in the titling process,⁵² including by: (i) the National Land Agency (BPN), the Executing Agency and provincial government formulating a Joint Land Titling (JLT) Policy;⁵³ (ii) the Land Registration Field Teams explaining the value of joint land titling to communities and offering joint land titling as an option to register land; and (iii) monitoring compliance and distribution of titles in the name of women (or jointly).⁵⁴ This resulted in a significant reduction of the gender gap in access to land assets. Before the project, less than four percent of land titles in Aceh were issued in joint titles.⁵⁵ However, under the project,

⁴⁷ For example, both the Indonesian Agrarian Law No. 5/1960 and Marriage Code Law No. 1/1974 recognize women's rights to independently or jointly own land or property. While the Indonesian Civil Code (Article 108) previously required women to obtain their husband's consent before entering into a contract or managing her own assets, this article was revoked in 1963. For Muslims, inheritance is regulated under Islamic law, which outlines differentiated inheritance for women and men. For example, Book Two on Inheritance Law from the Islamic Law Compilation prescribes that assets should be divided by male and female beneficiaries at a 2:1 ratio. However, Article 183 also allows inherited parties (male and female) to agree on the distribution of property. OECD (2012) Women's Economic Empowerment. Paris: OECD.

⁴⁸ UNIFEM, 2009; and Brown, 2003.

⁴⁹ Asian Development Bank (ADB), 2006; and Mahfiana, 2016 (in Ford, 2018).

⁵⁰ Demographic Health Survey, 2017.

⁵¹ Tambunan, 2007 (In Ford, 2018).

⁵² An assessment identified that key factors influencing the low share of joint land titles were: women were insufficiently represented in field teams; time and place of meetings were often inconvenient to women caring for family members; presentations were not made in the local language; there were no women-only meetings. Each of these were addressed by the project.

⁵³ In September 2006, the Aceh-Nias Rehabilitation and Reconstruction Agency (BRR or Executing Agency) and BPN established a JLT Policy for locations acquired by the government for resettlement of tsunami victims. JLT applies to families (legally married couple or orphaned siblings) and guarantees equality in land ownership for male and female beneficiaries relocated to land purchased by BRR or local government.

<https://mirisa.files.wordpress.com/2008/08/guideline-for-joint-land-titling.pdf>

⁵⁴ World Bank. 2010.

⁵⁵ The World Bank. 2014.



a total of 222,628 land title certificates were issued to tsunami disaster survivors or their heirs and almost 30 percent of these titles (63,181) were issued to women owners (either individually or as joint owners with their husbands).⁵⁶ This figure continued to rise to 45 percent by 2008.⁵⁷

3. **Action:** Preliminary assessments indicate that similar constraints to joint land titling are relevant for the Central Sulawesi area. Reports from the field in February 2019 suggest that joint titling and women's access to land rights are yet to be considered as part of the land titling administration process. Learning from Aceh, the project will maximize women's access to property and land tenure rights by:

- i. Improving women's awareness about the benefits and legal and administrative processes for registering family land holdings in joint names by training Land Registration Field Teams to advocate for joint land titling and establishing a quota for the minimum number of females employed in the Land Registration Teams;
- ii. Strengthening implementing regulations and administrative processes by ensuring relevant land administration documentation includes an option to jointly register land and establishing an incentive mechanism for the Land Registration Field Teams to process joint land titles; and
- iii. Setting up an accessible feedback and grievance redress mechanisms to address land titling processes.

4. The project will track the share of titles issued to women either individually or as joint owners with their spouses, in project targeted areas, before and after the project's implementation. The target will be to ensure that more than 29 percent of married women own land independently or jointly (above the national average).

5. **The proposed indicator** for this gap is "percentage of land or property titles held by women (either independently or as joint owners with their husbands) in project targeted areas".

Gaps in women's access to, and participation in, post-disaster reconstruction jobs opportunities

6. **Analysis:** Experiences from the World Bank Aceh and Nias Multi-Donor Fund projects⁵⁸ and other World Bank-supported community-driven development programs demonstrate that women can work to the same standards and quality of men in post-disaster situations.⁵⁹ Despite this, men's access to post-disaster reconstruction work opportunities and individual benefits is often greater than women's due to gender stereotyping (i.e., post-disaster reconstruction jobs are often viewed as men's work). Consequently, women's recovery from disasters' economic impacts are slow. World Bank research from Aceh, Central Java and Yogyakarta has shown that access to information can be a major barrier limiting women's access to individual benefits and opportunities in disaster reconstruction efforts. The research found that "throughout the reconstruction process, community meetings and notice boards were the main mechanism for information exchange and triggering women's participation in reconstruction efforts." However, in many communities, women's access to information was highly dependent on their access to village leaders, which often led to women's high dissatisfaction about access to information.⁶⁰ For example, community feedback about the World Bank Multi-Donor Fund project activities in Aceh and Nias revealed that over 70 percent of

⁵⁶ The World Bank. 2011.

⁵⁷ The World Bank. 2014.

⁵⁸ For example, the Capacity Building for Local Resource-based Rural Roads (CBLR3) and Rural Access and Capacity Building Projects.

⁵⁹ The World Bank. 2012.

⁶⁰ Ibid.



the surveyed women (many of whom were poor or living in isolation) were dissatisfied with their access to information about reconstruction projects.⁶¹

7. Experiences from the Nias Rural Access and Capacity Building Project demonstrate that it is possible to improve information flows to women about work opportunities. The project recognized that women were not learning about work opportunities through regular community meetings and instead circulated information through alternative channels. For example, project facilitators attended Sunday church services – which many women attended – to read out notices and to talk with women about project opportunities. Tapping into these local networks and groups enabled women’s greater access to information about project activities and opportunities.⁶² Similarly, in Aceh’s and Bantul’s post disaster recovery, women were engaged in disaster and early warning systems through informal channels such as Qur’an recital activities, *arisan* (female revolving fund/saving meeting). Such experiences were evidence of the effective use of informal networks and activities among women in post-disaster areas in sharing/providing information and opportunities that can close gender gaps.

8. **Action:** A preliminary UNFPA assessment in Central Sulawesi highlights similar emerging challenges relating to women’s access to job offers and opportunities in the project area. For example, the UNFPA’s November 2018 ‘Gender and Inclusion Alert: Central Sulawesi Earthquake and Tsunami’ indicates that in sites where internally displaced persons have received job offers, 75 percent of offers were made to adult or young men and only 11 percent to adult and young women. The project stakeholders will work with other stakeholders including the gender mainstreaming working group in BNPB to provide guidance and guidelines suitable to this post-disaster context. The project will work to close the gap between women and men’s job opportunities in disaster reconstruction efforts by:

- i. Ensuring the EA issues guidance to all implementing agencies about improving women’s knowledge about, and access to, post-disaster reconstruction job opportunities; and
- ii. Targeting outreach activities about reconstruction job opportunities specifically for women (e.g. through local female networks and events).

9. **The proposed indicators** for this gap are:

- i. Percentage of women accessing information⁶³ on job offers related to reconstruction in project targeted areas; and
- ii. Percentage of women satisfied with access to information about reconstruction projects and opportunities in project targeted areas.

Women’s access to local public services and planning for housing reconstruction.

10. **Analysis:** Different genders, ages (including children and elderly), and people with disabilities have different experiences related to access to local public services and the planning and design of housing resettlements. Diverse groups that are potentially vulnerable have multifaceted needs depending on their individual experiences, mobility, religion, and socio-economic background. Inclusive urbanization principles recognize that all people have a ‘right’ to inhabit and use urban spaces, participating fully in city planning and development processes⁶⁴, and that extra efforts are needed by urban planners and designers to promote the full participation of city inhabitants.

⁶¹ Ibid.

⁶² The World Bank. 2012.

⁶³ A survey could be developed to include questions including: (1) Did you know about the job opportunities available? (2) How did you access the information? (3) Did you find the information that you needed? (4) Did you apply for the jobs? (5) Did you receive a job offer?

⁶⁴ United Nations. 2017. *New Urban Agenda*.



11. The physical design and layout of public facilities, and housing settlements, can be planned and design to be more inclusive for women. Inclusive urban planning and design principles could be integrated in the project design and utilize inclusive design and construction standards. For example, crime prevention through environmental design is a well-known concept that encourages passive surveillance of public spaces and streets, creating more ‘eyes on the street’ as well as on building entrances. Post-disaster projects are opportunities to strengthen connections between communities and the places in which they live, also helping with the trauma healing process.

12. **Action:** The UNFPA gender assessment of the situation in Central Sulawesi in late 2018 indicates that women do not have adequate access to information on rehabilitation and disaster management planning due to their limited access to activities outside of temporary camps and shelters. This limitation is related closely to their domestic/family care responsibilities and commitments at temporary camps and shelters. Women may also feel insecure or unsafe to access public services such as toilets and potable water due to the need to share facilities. Given this experience, the reconstruction plan for public facilities and housing needs should address the experience of women during and post disaster and incorporate design considerations for women to access reconstructed public facilities and housing. The project will close the gap in women’s access to local public services and housing reconstruction by:

- i. Supporting the EA and implementing partners to facilitate participatory planning and design workshops with affected communities including women and children.
- ii. Apply design considerations in the planning and design of public facilities and housing resettlement areas.

13. **The proposed indicators** for this gap are:

- i. Number of women participating in planning meetings and community activities; and
- ii. Percentage of gender- and disability-inclusive reconstructed public facilities.



ANNEX 5: Climate Change Analysis

COUNTRY: Indonesia

Central Sulawesi Rehabilitation and Reconstruction Project

1. **Climate change is recognized as a key policy issue in Indonesia.** Indonesia is one of the world's largest contributors of greenhouse gas (GHG) emissions, primarily due to high rates of deforestation and land degradation. Roughly two-thirds of the country's emissions come from land use change, particularly conversion of peatlands into agricultural plantations. Emissions from energy makes up another quarter of the country's emissions and are growing. At same time, Indonesia is highly vulnerable to the negative impacts of climate change. Extreme hydrometeorological events such as floods and droughts, which currently make up 80 percent of disaster occurrences in the country, are projected to increase with climate change.⁶⁵ In the long run, Indonesia is also anticipating impacts from slow-onset events namely sea level rise, increasing temperature, and shifting rainfall patterns.⁶⁶ Key future climate projections for Indonesia are:

- i. Sea level rise in Indonesia due to global warming is projected to reach 35-40 cm relative to year 2000 by 2015, and the maximum sea level rise (including the dynamics of melting ice) can reach up to 175 cm in 2100.⁶⁷
- ii. The projected increase in average surface temperature throughout Indonesia due to global warming until the period of 2020-2050 is approximately 0.8 - 1°C relative to recent climatic period in the 20th century.⁶⁸
- iii. Increasing annual precipitation is projected across most Indonesian islands, except in southern Indonesia where is it projected to decline by up to 15 percent.⁶⁹
- iv. Changes in the seasonality of precipitation are also projected for different locations. For example, parts of Sumatra and Borneo may become 10-30 percent wetter by the 2080s during December-February.⁷⁰ Based on two high emission scenarios (SRES A2 and B1) for 2025 and 2050, models projected reduced rainfall in June-July-August (JJA) and in the transition to the September-October-November (SON), and increased rainfall in December-January-February (DJF), in Java and Nusa Tenggara Islands.⁷¹ However, projections related to rainfall patterns are highly uncertain. There are broadly defined patterns that are not consistent across downscaled projections for Indonesia.

2. **The above manifestations of climate change will be felt through multiple development sectors and population groups, with particularly negative consequences for the poor that are disproportionately affected.** More frequent hydrometeorological disasters such as floods are likely to cause more damage to public infrastructure of provinces, cities and villages. Sea level rise brings a higher risk of coastal inundation which may affect up to 42 million people living in low laying coastal zones.⁷² Changes in rainfall patterns could increase the risk of food insecurity linked to more frequent crop failures and water insecurity linked to reduced water availability. Change in the rainfall and temperature

⁶⁵ Government of Indonesia. 2016. *Indonesia's First Nationally Determined Contributions submitted to the UNFCCC*.

⁶⁶ Government of Indonesia. 2013. *National Action Plan for Climate Change Adaptation (RAN API): Synthesis Report*.

⁶⁷ Bappenas, 2010. *Indonesian Climate Change Sectoral Roadmap - ICCSR: Basis Saintifik: Analisis dan Proyeksi Kenaikan Muka Air Laut dan Cuaca Ekstrem*, edited by Bappenas, Republik Indonesia.

⁶⁸ Bappenas, 2010. *Indonesian Climate Change Sectoral Roadmap - ICCSR: Basis Saintifik: Analisis dan Proyeksi Temperatur dan Curah Hujan*, edited by Bappenas, Republik Indonesia.

⁶⁹ World Bank. 2011. *Climate Risk and Adaptation Country Profile: Indonesia*. Washington DC.

⁷⁰ Ibid.

⁷¹ Kementerian Lingkungan Hidup. 2010. *Indonesia Second National Communication Under the United Nations Framework Convention on Climate Change (UNFCCC)*, Jakarta, November 2010.

⁷² Government of Indonesia. 2016. *Indonesia's First Nationally Determined Contributions submitted to the UNFCCC*.



patterns is also associated with potentially higher public health risks from climate-sensitive diseases such as diarrhoea, dengue and malaria.⁷³ The Government has assessed the spatial distribution of major climate change hazard risks and their potential impact levels in Indonesia (See Figure 5.1). Java, Bali and Sumatra islands are three areas that have high and very high risk compared to other regions. The risk is associated with a high degree of vulnerability caused by population, residential areas, and infrastructure in the three regions.⁷⁴

Figure 5.1. The level of climate change risks in Indonesia by region

Risks	Sumatra	Java-Bali	Kalimantan	Sulawesi	Nusa Tenggara	Maluku	Papua
Decrease in water availability	M, H, VH	H, VH	L, M	H, VH	H, VH	L, M	L
Flood	H, VH	H, VH	L, M, H	L, M, H	L	L	L, M
Drought	H, VH	H, VH	L	L, M	L, M, VH	L	L
Coastal inundation	M, H	M, H, VH	M, H, VH	M, H	M, H	M, H	M, H
The spread of dengue fever	L, M, H	L, M, H	L, M	L, M	L, M	L, M	L, M, H
The spread of Malaria	L, M	L, M, H	L, M	L, M, H	L, M, H, VH	M, H	M, H, VH
The spread of Diarrhea	L, M, H	L, M, H	L, M, H	L, M, H	L, M, H	L, M, H	L, M, H, VH
Decrease in rice production	H, VH	H, VH	-	-	H, VH	-	-
Forest fires	M, H, VH	M, H	-	-	-	-	-

Note: L: Low; M: Moderate; H: High; VH: Very High

Source: Government of Indonesia (2013)⁷⁵

3. Adapting to these threats, together with mitigating the country's contribution to global GHG emissions, is a high priority of the GoI. The country's first Nationally Determined Contributions (NDC) articulate clear climate policy objectives. For mitigation, Indonesia is committed to achieve an unconditional emission reduction target of 29 percent and a conditional target of 41 percent of the business as usual scenario by 2030, mainly through *land use, land-use change and forestry* (LULUCF) and energy measures. For adaptation, the country's medium-term strategy is to reduce risks from climate change on all development sectors - agriculture, water, energy security, forestry, maritime and fisheries, health, public service, infrastructure, and urban system- by 2030, through local capacity strengthening, improved knowledge management, convergent policy on climate change adaptation and disaster risks reduction, and application of adaptive technology.⁷⁶ The National Action Plan for Reducing GHG Emissions (2010) and the National Action Plan for Climate Change Adaptation (2013) provide the basis for development planning and budgeting to achieve the climate policy objectives through 2020.

⁷³ Government of Indonesia. 2016. *Submission to the Subsidiary Body for Scientific and Technological Advice of the UNFCCC on recent work on climate impacts on human health*.

⁷⁴ Government of Indonesia. 2013. *National Action Plan for Climate Change Adaptation (RAN API): Synthesis Report*.

⁷⁵ Ibid.

⁷⁶ Ibid.



ANNEX 6: Map

COUNTRY: Indonesia

Central Sulawesi Rehabilitation and Reconstruction Project

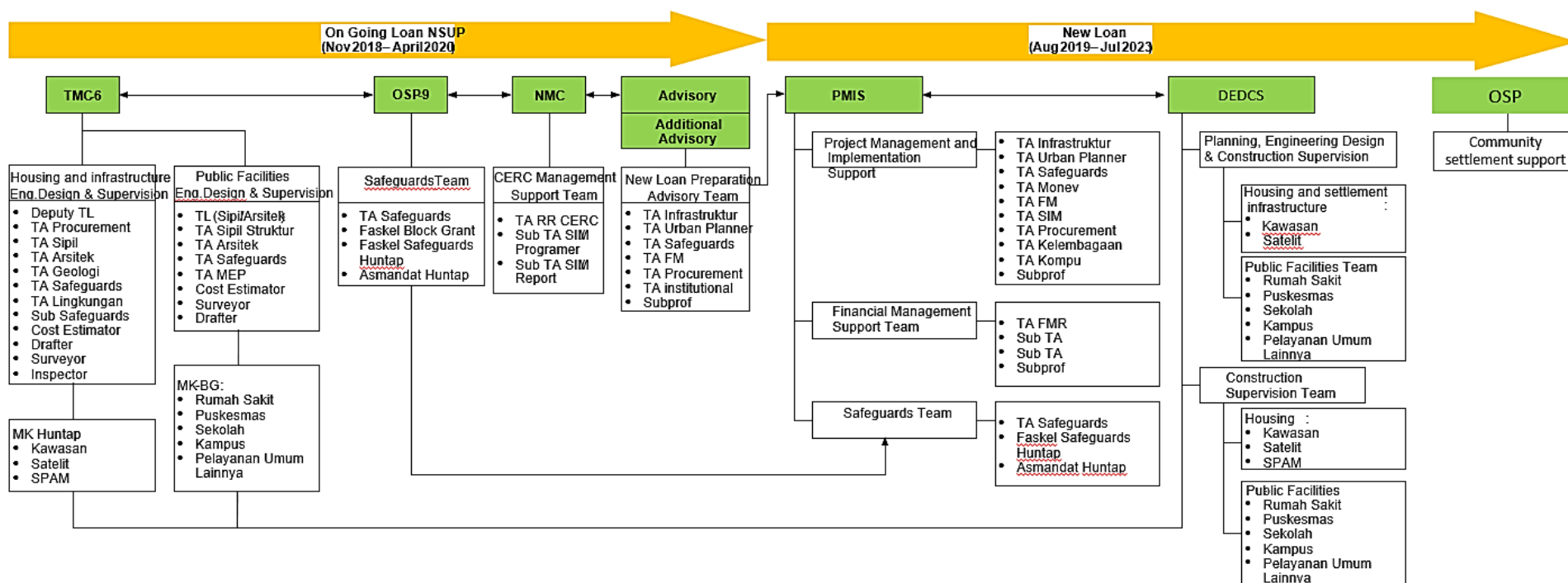




ANNEX 7: Transitional Activities and Implementation Support Arrangements

COUNTRY: Indonesia

Central Sulawesi Rehabilitation and Reconstruction Project





NSUP CERC	
IDRAR DJCK-DJPF	
IDRAR DJCK	
IDRAR DJPP	