



PHILIPPINE RURAL DEVELOPMENT PROJECT SCALE - UP

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

April 24, 2023

Table of Contents

LIST OF ABBREVIATIONS.....	1
DEFINITION OF TERMS.....	4
1. INTRODUCTION	7
1.1 The Project	7
1.2 Project Development Objectives	7
1.3 Purpose of the ESMF	8
1.4 Methodology	8
1.5 Scope of the ESMF	8
1.6 E&S Performance of Department of Agriculture on PRDP	9
2. PROJECT DESCRIPTION.....	13
a. Project Components.....	13
i. Component 1: Enhancing Local and National Level Planning (I-PLAN).....	14
ii. Component 2: Strengthening Rural Infrastructure for Enhanced Agri-Fishery Development and Market Linkages (I-BUILD).....	15
2.1.3 Component 3: Scaling-up Enterprise Cluster Development for Agri-Fishery Sector Development (I-REAP).....	17
2.1.4 Component 4: Project Management and Support, Monitoring and Evaluation (I-SUPPORT)	20
2.1.5 Component 5: Contingent Emergency Response Component (CERC).....	20
2.2 Target Areas and Beneficiaries	21
2.3 Project Cost and Implementation Schedule	21
3. POLICY, LEGAL, AND REGULATORY FRAMEWORK	22
3.1 Overview of the World Bank's (WB) Environmental and Social Standards (ESS) and Relevant Philippine Laws and Regulations	22
3.1.1 ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	22
3.1.2 ESS 2: Labor and Working Conditions	22
3.1.3 ESS 3: Resource Efficiency and Pollution Prevention and Management	22
3.1.4 ESS 4: Community Health and Safety	23
3.1.5 ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	23
3.1.6 ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	23
3.1.7 ESS 7: Indigenous Peoples.....	24
3.1.8 ESS 8: Cultural Heritage	24
3.1.9 ESS 10: Stakeholder Engagement and Information Disclosure	24
3.1.10 Overall	24
4. ENVIRONMENTAL AND SOCIAL BASELINES	33
4.1. Geography	33
4.2. Natural Resources.....	33
4.2.1. Land Resources.....	33
4.2.2. Air Quality	34
4.2.3. Freshwater Resources.....	34
4.2.4. Coastal and Marine Resources.....	35
4.2.5. Biodiversity	35
4.3. Climate.....	36
4.4. Natural Disasters, Hazards, and Risks.....	37
4.4.1. Climate Change Induced Disasters.....	37
4.4.2. Volcanoes.....	38
4.4.3. Earthquakes.....	38
4.4.4. Tsunami	38

4.5.	Socio-economic.....	39
4.5.1.	Poverty incidence	39
4.5.2.	Health and Education	39
4.5.3.	Sources of Livelihood: The agriculture, forestry, and fishery (AFF) sector	39
4.5.4.	Land Tenure and Land Use Patterns.....	40
4.5.5.	Gender and Development in Agriculture.....	41
4.5.6.	Indigenous Peoples.....	41
4.5.7.	Security and Conflict Areas	42
5.	POTENTIAL ENVIRONMENTAL AND SOCIAL RISKS AND MITIGATION.....	43
5.1.	Project Benefits.....	43
5.2.	Climate Change Co-Benefits, Risks and Impacts	44
5.3.	ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	45
5.3.1.	Vulnerability to climate change and natural disasters.....	46
5.3.2.	E&S Risks and Impacts during Construction Phase.....	46
5.3.3.	ESA of Subprojects under the Philippine Environmental Impact Statement System...	47
5.3.4.	Conflict-affected areas.....	50
5.4.	ESS 2: Labor and Working Conditions.....	50
5.4.1.	Occupational Safety and Health	50
5.4.2.	Labor disputes over terms and conditions of employment.....	51
5.4.3.	Possible Spread of COVID-19 virus and other viruses adversely affecting Community and Occupational Safety and Health (COSH).....	51
5.5.	ESS 3: Resource Efficiency and Pollution Prevention and Management	51
5.5.1.	Depletion of water resources	52
5.5.2.	Energy Consumption	53
5.5.3.	Contamination of soil and water bodies from use of pesticides and other agro-chemicals	53
5.5.4.	Water pollution from operation of enterprise facilities	53
5.5.9.	Soil erosion and sedimentation	56
5.5.10.	Dust generation during construction.....	56
5.5.11.	Noise and vibration during construction	56
5.5.12.	Water Pollution from Construction Camp.....	57
5.6.	ESS 4: Community Health and Safety	57
5.6.1.	Impacts of Labor Influx	58
5.6.2.	Food Safety.....	58
5.6.3.	Traffic and road safety	58
5.7.	ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	59
5.8.	ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	60
5.9.	ESS 7: Indigenous Peoples.....	62
5.10.	ESS 8: Cultural Heritage.....	62
5.11.	ESS 10: Stakeholder Engagement and Information Disclosure	62
5.11.2.	Gender-based violence (GBV) and Sexual exploitation and abuse and sexual harassment risks (SEA-SH)	64
6.	PROCEDURES TO ADDRESS ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS	65
6.1.	Guiding Principles.....	65
6.2.	Environmental and Social Safeguards for I-PLAN Component.....	66
6.3.	Environmental and Social Safeguards for I-BUILD and I-REAP Components.....	67
6.3.1.	Safeguards Process for I-BUILD Subprojects.....	68
6.3.2.	Safeguards Process for I-REAP Subprojects	77
6.4.	Social and Environmental Safeguard Monitoring.....	81
7.	PUBLIC CONSULTATION, INFORMATION DISCLOSURE, AND GRIEVANCE REDRESS MECHANISM	82

8. INSTITUTIONAL ARRANGEMENTS, RESPONSIBILITIES AND CAPACITY BUILDING	84
8.1. Institutional Arrangements for Environmental and Social Safeguards.....	84
8.2. Capacity Building.....	88
8.3. Budget for ESMF Implementation	88
ANNEXES	90

LIST OF ANNEXES

Annex A: Protected Areas in the Philippines

Annex B: Social and Environmental Safeguards and Biodiversity Screening for I-PLAN

Annex C: Social and Environmental Safeguards Screening Form for I-BUILD and I-REAP

Annex D: Social Inclusiveness Scoring System for Proponent Group Seeking I-REAP Funding

Annex E: Guidance in the preparation of Environmental and Social Assessment (ESA) and ESMP in Subproject Feasibility Study Reports for I-BUILD Subprojects

Annex F: Guidance in the preparation of ESA and ESMP in Subproject Business Proposal for I-REAP Subprojects

Annex G: Illustrated Technical Planning Guidelines for Communal Roads

Annex H: Illustrated Technical Planning Guidelines for Communal Irrigation Systems

Annex I: Illustrated Technical Planning Guidelines for Water Systems

Annex J: Guidelines for ESMP Preparation

- J-1: ESMP Template for Farm-to-Market Roads and Bridges
- J-2: ESMP Template for Potable Water Supply
- J-3: ESMP Template for Irrigation System
- J-4: ESMP Template for Crop Production
- J-5: ESMP Template for Multi-commodity Processing Plants
- J-6: ESMP Template for Aquaculture/Mariculture/Hatcheries/Fishponds
- J-7: ESMP Template for Slaughterhouses, Dressing Plants, Hatcheries, Meat Processing and Dairy Processing
- J-8: ESMP Template for Fish Landing/Feeder Ports
- J-9: ESMP Template for Milling/Drying/Packaging Facilities
- J-10: ESMP Template for Cold Storage/Warehouses/Greenhouses/trading and Market Centers
- J-11: Siting Criteria for batching plants, spoils disposal, borrow pits

Annex K: Guidelines in the Preparation of Contractor's ESMP (CESMP)

Annex L: Biodiversity Management Guidelines

Annex M: Integrated Pest Management Plan

Annex N: Cultural Heritage Management Plan

Annex O: Community and Occupational Safety and Health (COSH) Guidelines amidst COVID-19 and other emerging communicable diseases

Annex P: ESMP Compliance Monitoring

- P-1: E&S Compliance Monitoring Checklist for Farm-to-Market Roads and Bridges
- P-2: E&S Compliance Monitoring Checklist for Potable Water Supply
- P-3: E&S Compliance Monitoring Checklist for Irrigation System
- P-4: E&S Compliance Monitoring Checklist for Other Infrastructures
- P-5: E&S Compliance Monitoring Checklist for Enterprise Operations

Annex Q: An Outline for CERC ESMF

Annex R: Climate Co-Benefits and GHG Accounting

Annex S: Basic Safeguards Requirements for the Issuance of NOL 1 and NOL 2

LIST OF FIGURES

Figure 1. Map of Philippines	33
Figure 2. Climate Map of the Philippines.....	37
Figure 3. Distribution of active faults and trenches in the Philippines	38
Figure 4. Reef-to-Ridge Spatial Planning Framework	67
Figure 5. Flowchart for Preparing, Reviewing and Approving the PCIP.....	67
Figure 6. Environment and Social Safeguards Process Flow for I-BUILD	68
Figure 7. Roles on Environment and Social Safeguards for I-BUILD.....	69
Figure 8. Environment and Social Safeguards Activities for I-REAP	78
Figure 9. Roles on Environment and Social Safeguards for I-REAP	78
Figure 10. Social and Environmental Safeguards (SES) Institutional Arrangements of PRDP Scale-Up.....	86

LIST OF TABLES

Table 1. Proposed Subprojects Under I-BUILD Component	16
Table 2. Indicative Subproject Interventions under I-REAP	19
Table 3. World Bank ESS and Relevant Philippine Laws and Regulations and Their Applicability to PRDP Scale-Up.....	26
Table 4. Ecosystem Services and Biodiversity Values	36
Table 5. Expected Environmental and Social Impacts Associated with I-BUILD Infrastructures and I-REAP Enterprises.	43
Table 6. PEISS Requirements for Indicative Subprojects of PRDP Scale-Up.....	47
Table 7. Biodiversity Impacts and Possible Mitigation Measures.....	61
Table 8. Social exclusion related risks.....	63
Table 9. Potential Environmental and Social Risks and Impacts and the Required Instruments for Mitigation.....	70
Table 10. Environment and Social Safeguards Instruments	74
Table 11. Safeguards Activities during Business Proposal Preparation Stage under I-REAP Component	80
Table 12. Delegated Prior Review Threshold	81
Table 13. Environmental and Social Safeguards Activities and Responsible Units	87
Table 14. ESMF Implementation cost	88

LIST OF ABBREVIATIONS

Abbreviation	Full Form
A&D	Alienable and disposable land
AC	Adaptive Capacity
ACPC	Agricultural Credit Policy Council
AD	Ancestral Domains
ADSDPP	Ancestral Domain Sustainable Development and Protection Plan
AECA	Agro-Enterprise Clustering Approach
AF	Additional Financings
AFF	Agriculture, Forestry, and Fishery
AGT	Applied Geotagging Tool
AL	Ancestral Lands
AMAS	Agribusiness and Marketing Assistance Services
AO	Administrative Order
BAFPS	Bureau of Agriculture and Fisheries Product Standards
BAI	Bureau of Animal Industry
BARMM	Bangsamoro Autonomous Region in Muslim Mindanao
BCP	Business Continuity Plan
BFAR	Bureau of Fisheries and Aquatic Resources
BIFF	Bangsamoro Islamic Freedom Fighters
BMB	Biodiversity Management Bureau
BMP	Biodiversity Management Plan
BSDS	Bridge Seismic Design Specifications
C/MPMIU	City/Municipal Project Management Implementing Unit
CDPs	Cluster Development Plans
CERC	Contingent Emergency Response Component
CESMP	Contractor's Environmental and Social Management Plan
CHMP	Cultural Heritage Management Plan
CIS	Communal irrigation systems
CLUP	Comprehensive Land Use Plan
CNC	Certificate of Non-Coverage
COSH	Community and Occupational Safety and Health
COT	Certificate of Treatment
CRVA	Climate Risk Vulnerability Assessment
CSIP	Commodity System Investment Planning
CSPP	Conflict-Sensitive and Peace-Promoting
DA	Department of Agriculture
DED	Detailed Engineering Design
DENR	Department of Environment and Natural Resources
DGCS	Design Guidelines, Criteria, and Standards
ECAs	Environmentally Critical Areas
ECC	Environmental Compliance Certificate
ECPs	Environmentally Critical Projects
EHSGs	Environmental Health and Safety Guidelines
EQ	Environmental Impact Quotient
EIS	Environmental Impact Statements
EMB	Environmental Management Bureau
EMFG	Environmental Management Framework Guidelines
EOMS	Enterprise Operation Monitoring System
ESA	Environmental and Social Assessment
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESSs	Environmental and Social Standards

Abbreviation	Full Form
eVSA	Expanded Vulnerability and Suitability Analysis
F2C2	Farm and Fisheries Clustering and Consolidation
FCAs	Farmers Cooperatives and Associations
FFRS	Farmers and Fisherfolks Registration System
Fls	Financial Intermediaries
FLAG	Forest Land Use Agreement
FMR	Farm-to-Market roads
FMRNP	FMR Network Plan
FPIC	Free Prior and Informed Consent
FFS	Farmers' Field School
GAP	Good Agricultural Practices
GBV	Gender-Based Violence
GDP	Gross Domestic Product
GGU	Geo-mapping and Governance Unit
GHG	Greenhouse gas
GIIP	Good International Industry Practice
GMP	Good Manufacturing Practice
GRM	Grievance Redress Mechanism
HACCP	Hazard Analysis and Critical Control Point
I-BUILD	Rural Infrastructure Market Linkage
IEE	Initial Environmental Examination
IESSF	Integrated Environmental and Social Safeguards Framework
IKSP	Indigenous Knowledge Systems and Practices
IP	Indigenous Peoples
IPCC	Intergovernmental Panel on Climate Change
I-PLAN	National and Local Level Planning
IPMP	Integrated Pesticide Management Plan
IPPF	Indigenous Peoples Policy Framework
IPRA	Indigenous Peoples Rights Act
I-REAP	Enterprise Development
IRRI	International Rice Research Institute
I-SUPPORT	Project Implementation Support
JTR	Joint Technical Review
KBA	Key Biodiversity Areas
LARPF	Land Acquisition and Resettlement Policy Framework
LARRF	Land Acquisition, Rehabilitation, and Resettlement Framework
LCCAPs	Local Climate Change Action Plans
LGUs	Local Government Units
LMP	Labor Management Procedures
MED	Monitoring and Evaluation Division
MEL	Monitoring, Evaluation, and Learning
MGB	Mines and Geosciences Bureau
MILF	Moro Islamic Liberation Front
MIPA	Ministry of Indigenous Peoples' Affairs
MPDO	Municipal Planning and Development Officer
MPMIU	Municipal Project Management and Implementation Unit
MRDP	Mindanao Rural Development Project
NAFMIP	National Agriculture and Fisheries Modernization and Industrialization Plan
NAMRIA	National Mapping and Resource Information Authority
NCCA	National Commission for Culture and the Arts
NCIP	National Commission on Indigenous Peoples
NEDA	National Economic and Development Authority
NFRDI	National Fisheries Research and Development Institute
NGAs	National Government Agencies
NHCP	National Historical Commission of the Philippines
NOL	No Objection Letter

Abbreviation	Full Form
2NPCO	National Project Coordination Office
NTP	Notice to Proceed
NWRB	National Water Resources Board
ODS	Ozone Depleting Substances
OECD	Organisation for Economic Co-operation and Development
OL	Original Loan
OSH	Occupational Safety and Health
PABES	Philippine Agricultural and Biosystems Engineering Standard
PAFES	Provincial Agriculture and Fishery Extension Service
PAGASA	Philippine Atmospheric, Geophysical and Astronomical Services Administration
PAPs	Project Affected Persons
PCA	Philippine Coconut Authority
PCIPs	Provincial Commodity Investment Plans
PDRRM	Philippine Disaster Risk Reduction and Management
PG	Proponent Group
PHIVOLCS	Philippine Institute of Volcanology and Seismology
PISA	Program for International Student Assessment
POM	Project Operations Manual
POPS	Peace and Order and Public Safety
POPs	Persistent Organic Pollutants
POW	Program of Works
PPDO	Provincial Planning and Development Officer
PPMIU	Provincial Project Management and Implementation Unit
PPPs	Public-Private Partnerships
PRDP	Philippine Rural Development Project
PSA	Philippine Statistics Authority
PSO	Project Support Office
PWS	Public Water Supply
R2R	Ridge-to-Reef
RAFIP	Regional Agriculture and Fisheries Investment Portfolio
RAP	Resettlement Action Plan
RFO	Regional Field Office
RPAB	Regional Project Advisory Board
RPCO	Regional Project Coordination Office
SAPA	Special Use Agreement in Protected Area
SDD	Sex Disaggregated Data
SEA/SH	Sexual Exploitation and Abuse/ Sexual Harassment
SEP	Stakeholder Engagement Plan
SES	Social and Environment Safeguard
SOGIE	Sexual Orientation, Gender Identity and Expression
SP	Subproject
SPARs	Subproject Appraisal Reviews
STDs	Sexually Transmitted Diseases
SWA	Statement of Work Accomplished
TCP	Tree Cutting Permit
VCA	Value Chain Analysis
VCI	Value Chain Infrastructure

DEFINITION OF TERMS

AA/AAA slaughterhouse	The AAA slaughterhouses are those with facilities and operational procedures appropriate to slaughter livestock and fowls for sale in any market, domestic or international while AA are those with facilities and operational procedures sufficiently adequate that the livestock and fowls slaughtered therein are suitable for sale in the domestic market. (Source: National Meat Inspection Service (NMIS))
Ancestral Domain	The 1997 IPRA Law defines ancestral domains as “all areas generally belonging to ICCs/IPs comprising lands, inland waters, coastal areas, and natural resources therein, held under a claim of ownership, occupied or possessed by ICCs/IPs, by themselves or through their ancestors, communally or individually since time immemorial, continuously to the present except when interrupted by war, force majeure or displacement by force, deceit, stealth or as a consequence of government projects or any other voluntary dealings entered into by government and private individuals/corporations, and which are necessary to ensure their economic, social and cultural welfare. It shall include ancestral lands, forests, pasture, residential, agricultural, and other lands individually owned whether alienable and disposable or otherwise, hunting grounds, burial grounds, worship areas, bodies of water, mineral and other natural resources, and lands which may no longer be exclusively occupied by ICCs/IPs but from which they traditionally had access to for their subsistence and traditional activities, particularly the home ranges of ICCs/IPs who are still nomadic and/or shifting cultivators”
Ancestral Domain Sustainable Development & Protection Plan (ADSDPP)	Consolidation of plans of IPs within an ancestral domain for the sustainable management and development of their land and natural resources as well as the development of human and cultural resources based on their indigenous knowledge systems and practices.
Certificate of Non-Overlap	A certificate issued by the NCIP attesting to the fact that the area where a particular plan, program, project or activity will be done, does not overlap with or affect any ancestral domain.
Certification Precondition (CP)	A certificate issued by the NCIP, signed by the Chairperson, attesting to the grant of FPIC by the concerned IPs after appropriate compliance with the requirements provided in this guideline.
Compensation	Refers to payment in cash or in kind of the replacement costs of the acquired or affected assets.
Environmental Compliance Certificate	A certificate issued by DENR-EMB after compliance with the requirements of the Philippine Environmental Impact Statement System.
Environmental Impact Assessment	Process that involves evaluating and predicting the likely impacts of a project on the environment during construction, commissioning, operation and abandonment stages. It also includes designing appropriate preventive, mitigating and enhancement measures addressing these consequences to protect the environment and the community's welfare.
Environmental Impact Statement (EIS)	A document, prepared and submitted by the project Proponent to DENR-EMB that serves as an application for an ECC. It is a comprehensive study of the significant impacts of a project on the environment.

EOMS	A tool for better planning and implementation, practices, processes and procedures that are used in the development, deployment and execution of the approved business plans and strategies and all associated with enterprise operations activities.
F2C2	Farm and Fisheries Clustering and Consolidation Program. This is an approach being adopted across all DA agencies and programs, through which farmers and fishers are encouraged/supported to cluster/group to improve economies of scale and cost-efficient production, harvest, processing, and marketing operations (DA Memorandum Circular 21 of 2022).
Free Prior and Informed Consent	A consensus of all members of an IP community to be determined in accordance with their respective customary laws and practices, free from any external manipulation, interference and coercion, and obtained after fully disclosing the intent and scope of the activity, in a language and process understandable to the community.
Hazard	Refers to the physical process or event itself, not its potential adverse effects, that can harm to human health, natural environment, livelihoods, property or other socio-economic conditions.
Meaningful consultation	A process that (i) begins early in the project preparation stage and is carried out on an on-going basis throughout the project cycle; (ii) provides timely disclosure of relevant and adequate information that is understandable and readily accessible to affected people; (iii) is undertaken in an atmosphere free of intimidation or coercion; (iv) is gender inclusive and responsive, and tailored to the needs of disadvantaged and vulnerable groups; and (v) enables the incorporation of all relevant views of affected people and other stakeholders into decision making, such as project design, mitigation measures, the sharing of development benefits and opportunities, and implementation issues.
PRDP Marketplace	An online platform lodged to the DeliverE website which aims to showcase the PRDP products in a single platform to integrate the proponent groups to digital commerce. DeliverE is a modernized marketing system that connects food producers and consumers without the need for unnecessary trading layers. Deliver-E uses a blockchain system created by a Filipino tech startup, Insight Supply Chain Solutions (InsightSCS), which integrates related e-commerce and logistics application services from consolidation points to central warehousing facilities, and then to last-mile delivery services to reach end-clients.
Project Affected Persons (PAPs)	Any person or persons who would be identified, to be affected by any of the following circumstances: - Acquisition or possession by the Project, in full or in part, permanent or temporary, of any title, right or interest over houses, lands (including but not limited to residential, agricultural and grazing lands) and/or any other fixed/movable assets; - Acquisition or possession by the project of crops (annual and perennial) and trees whether partially or in whole; - Whose business/livelihood is in part or as a whole affected by the Project.
Protected Area	Identified portions of land and water set aside by reasons of their unique physical and biological significance, managed to enhance biological diversity and protected against destructive human exploitation.

Risk	Any direct or indirect loss due to inadequate or failed internal processes, people and systems, or from external events. The WB ESF classifies projects according to risk that takes into account relevant issues such as type, location, sensitivity, and scale of the project; the nature and magnitude of the potential environmental and social risks and impacts; and the capacity and commitment of the Borrower (including any other entity) responsible to manage the environmental and social risks and impacts in a manner consistent with the ESSs.
------	--

1. INTRODUCTION

1.1 The Project

The Philippine Rural Development Project (PRDP) Scale-Up is an offshoot from the original PRDP and its two Additional Financing which was implemented since 2014 by the Department of Agriculture (DA) with support from the World Bank. PRDP Scale-Up is an expanded response to the persistent challenges confronting the agri-fishery sector and the rural communities in the country. Building on the good practices, experiences and lessons learned from the original PRDP, the PRDP Scale-Up will continue to focus on food value chains to ensure greater connectivity, mobility, accessibility, availability, and affordability of food to meet consumer demand.

PRDP Scale-Up is envisaged to introduce a more holistic design and strategies by looking at a broader agri-food/commodity system to address the gaps in the whole commodity value chains, level up approaches and innovations based on lessons learned, contribute to improving climate resilience and modernizing the agriculture and fisheries sector. Interventions include the emphasis on rebuilding the whole value chain, improving the food supply chain and logistics, prioritizing Farm-to-Market Roads (FMRs) with Value Chain Infrastructure (VCI) support, the inclusion of rice and corn focusing on value addition, and mainstreaming of institutional reforms in the DA programs and projects.

The project aims to improve farmers and fisherfolk access to markets and increase income from agri-fishery activities (on and off-farm) by adopting the clustering and consolidation strategy of farmers and fisherfolk groups producing priority commodities that are within the Provincial Commodity Investment Plans (PCIPs) and aligned with the National Agriculture and Fisheries Modernization and Industrialization Plan (NAFMIP). Value Chain Analysis (VCAs) and PCIPs under the I-PLAN component will remain as references in identifying and prioritizing interventions that would be developed into subprojects.

Farm-to-Market Roads (FMRs) would comprise the bulk of the investments for financing, followed by VCI support such as pre- and post-harvest facilities as common service facilities to facilitate better access to quality and safe agriculture produce. The FMRs and VCI support under the I-BUILD component as well as big ticket enterprise subprojects under the I-REAP component will form part of the project.

Similar to the original PRDP, the PRDP Scale Up will cater to Local Government Units (LGUs) at the provincial, municipal, and city levels as primary implementing partners of infrastructures, and FCA and/FCA clusters, including LGUs, as eligible proponents for enterprise development subprojects. FCAs with existing Cluster Development Plans (CDPs) will be considered as priority beneficiaries given their preparedness for project implementation.

Implementation of the original PRDP and its two AFs resulted in good practices including for environment and social safeguards. Mainstreaming efforts are underway to mainstream such innovations into the overall systems and procedures of DA. The project will continue to strengthen the mainstreaming efforts and pursue integration of the innovations which are being adopted by DA offices. Technical assistance and capacity building under the project implementation support (I-SUPPORT) will be intensified to enable the LGUs to take on their expanded role of pursuing agricultural development.

1.2 Project Development Objectives

The project development objective statement is:

“To improve farmers and fisherfolk access to markets and increase income from selected agri-fishery value chains.”

The adoption of clustering and consolidation strategy implemented by the DA's Farm and Fisheries Clustering and Consolidation (F2C2) Program will further improve the economies of scale and leverage the bargaining power of Farmers Cooperatives and Associations (FCAs). Anchored on the strategic framework of the NAFMIP, the project will conduct regional articulation of the PCIPs with the F2C2 Cluster Development Plans (CDPs) as integral and core components of project interventions. Inclusion of the private sector is also a centerpiece of this project, tapping into their resources, and alignment of agri-fishery activities to the industry demands. PRDP Scale-Up will complement existing DA development programs and projects across target commodities. Project implementation will be further strengthened with the institutionalization of the new environmental and social safeguards framework and protocols, including adoption of latest guidelines on infrastructure development and enhancement of digitalization efforts, to ensure accountability, transparency and efficiency of all activities inherent to the project operation.

1.3 Purpose of the ESMF

This Environmental and Social Management Framework (ESMF) of PRDP Scale-Up aims to provide guidance to DA and its responsible units in the assessment and management of environmental and social risks and impacts of project activities. The framework has been prepared since the project involves subprojects and locations which are not yet known until implementation.

The ESMF builds on the experience, operational procedures, and institutional capacity of DA in implementing the World Bank safeguards policies from the original PRDP and its precursor, the Mindanao Rural Development Project (MRDP) (2000-2014). PRDP Scale-Up will continue to strengthen its system of ensuring environmental and social assessment, evaluation, monitoring and reporting throughout project implementation.

The ESMF serves as a tool for the environmental and social assessment process and mitigation planning once the respective technical details of subprojects are available. The framework provides guidance to DA to ensure that environment and social assessments and other safeguard requirements will be carried out in compliance with national regulations and in accordance with the World Bank's Environmental and Social Framework (ESF). This ESMF will be an integral part of the Project Operations Manual.

1.4 Methodology

This ESMF was prepared in reference to the Integrated Environmental and Social Safeguards Framework (IESSF) of the original PRDP. Enhancements were introduced to incorporate the requirements of nine applicable Environmental and Social Standards (ESSs) of the World Bank ESF in addition to the relevant Philippine laws and policies. Consultations were held with several DA units, PSOs, RPCOs and Social and Environment Safeguard (SES) units who are involved with the PRDP to gather best practices, lessons learned, gaps and suggestions to help improve the safeguard systems and instruments. Consultations were also held with national government agencies, and Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) to gather views, comments, and suggestions for the effective implementation of PRDP Scale-Up, particularly on the ESMF and environmental and social issues that should be taken into consideration by the project.

1.5 Scope of the ESMF

The ESMF presents the criteria and procedures to manage the environmental and social risks of subprojects under I-BUILD and I-REAP. The ESMF also applies to I-PLAN on the preparation/updating of the VCAs and PCIPs to determine potential environmental and social issues of each of the investments considered in the PCIPs.

The ESMF contains the following:

- a) Description of the components and proposed activities to be financed under the project;

- b) Requirements and procedures to be followed for screening of subprojects and the requirements for environmental and social assessment;
- c) Anticipated environmental and social risks and impacts of project components and activities;
- d) Procedures for evaluation of risks and impacts of subprojects;
- e) Environmental and Social Management Plans (ESMPs), guidelines and other plans addressing risks and impacts as identified in the environmental and social assessment;
- f) Compliance monitoring and reporting requirements;
- g) Institutional roles and responsibilities and budget for ESMF implementation.

1.6 E&S Performance of Department of Agriculture on PRDP

PRDP has institutionalized the environmental and social safeguards framework and protocols and developed guidelines on infrastructure development and enterprises that takes into account the management of environmental and social impacts of subproject activities. It has also increased accountability, transparency and compliance of subprojects with national laws and regulations on environment, Indigenous Peoples, and resettlement. Among the major achievements of PRDP that will be followed up and strengthened for PRDP Scale-Up to include the elements of World Bank -ESF are:

a) Institutionalization of the Social and Environment Safeguards (SES) Team

The SES Unit of the PRDP Original Loan, AF1, and AF2 has been established since 2014 as part of the loan agreement. Eight years in practice, there are valuable experiences and lessons learned gained and the unit has identified success factors and good practices in ensuring compliance and implementation of Safeguard Policy and the implementation of the project. The SES Team at the national, regional, and local level that enabled DA to ensure that subprojects are complying with the requirements for environmental and social assessment and implementation of safeguards instruments. At the DA national level, the National SES Unit is responsible for the overall management/administration of the project's environmental and social risks and impacts. SES Unit has been designated at four Project Support Offices (PSOs) covering Luzon, Visayas and Mindanao who are responsible for overseeing cluster operations and support services and providing technical assistance and coordination with regards to management of environmental and social risks of subprojects. At each region, designated SES Unit at the Regional Project Coordination Offices (RPCOs) provide assistance to LGUs/project proponents in the conduct of safeguards activities, review and monitoring of subprojects. Each Provincial/Municipal/City LGU is required to designate safeguards focal persons/teams to ensure that subprojects are complying with the environmental and social requirements of this ESMF, which has expanded based on the first institutional set up prescribed in the earlier IESSF. The composition of the LGU's Project Management and Implementation Unit has also entailed involvement of other key offices such as the assessor's office which proved to be critical in the land acquisition processes involving parcellary maps and delineation of lands for updating of the tax maps.

To date, there are a total of 78 SES heads and staff, consisting of hired and organic DA staff, assigned at the national (5), cluster (14) and regional (59) levels. The capacity of SES staff has improved over the years through various trainings and lessons learned from implementing PRDP. The organizational structure of PRDP will be maintained and strengthened for PRDP Scale-Up with additional qualified staff with various expertise in environment and social safeguards. Capacity building activities and re-training of SES staff, including LGU and proponent group counterparts and mainstreaming of safeguards processes and procedures for other DA units will continue under PRDP Scale-Up.

b) Integrated Environmental and Social Safeguards Framework (IESSF) under the original PRDP as the precursor of this Project Scale-up ESMF

The original PRDP has developed and implemented the IESSF which includes an Environmental Management Framework Guidelines (EMFG), Land Acquisition, Rehabilitation, and Resettlement

Framework (LARRF), an Indigenous Peoples Policy Framework, and Grievance Redress Mechanism Framework (GRM). The two succeeding PRDP Additional Financing projects have further mainstreamed the IESSF in the process of subproject identification and prioritization and compliance to safeguards policies. These are done through environmental and social screening, regular conduct of consultations, conduct of environmental and social assessments, preparation and implementation of ESMPs, disclosure of safeguard documents, and establishment of the grievance redress mechanism (GRM) at the national down to the local level to ensure transparency, social inclusivity, and ownership. A No Objection Letter will only be issued once a subproject is found to comply with the IESSF requirements. The ESS documents are used to monitor subproject implementation until the decommissioning stage.

In light of the COVID-19 pandemic, the IESSF was updated to include COVID-19 prevention guidelines that ensures community health and safety. This ESMF has benefitted from the comprehensive IESSF and the safeguards implementation track record achieved by PRDP through the years.

c) Established Land Acquisition Rehabilitation and Resettlement Framework (LARRF)

The existing Land Acquisition Rehabilitation and Resettlement Framework (LARRF) lays down strict provisions which PRDP has consistently implemented while exercising conscious effort to engender meaningful community participation and PAPs' satisfaction, mindful though it is of the rigorous process and big amount of time involved. The LARRF allows different modes of land acquisition such as Negotiated Settlement, Donation, Usufruct, Lease Agreement and expropriation as the last option. Land acquisition under PRDP is replete with good practice including ensuring that ROW that have been previously acquired by LGUs are now properly documented, donated portions of lots are annotated in land titles or similar document, and that these are deducted from taxable areas of owners' properties. In a particular case in South Upi, Maguindanao in BARMM where most residents had only tax declarations for their lots, the PRDP paved the way for the people to secure their land titles wherein donated portions were deducted from taxable areas of owners' properties.

It is significant to note that LGUs have already adopted this set of guidelines in the implementation of their own projects. The following are identified as the success factors:

- a. Various Consultation Modalities. PRDP has adopted various modalities of consultation, whichever mode or combination of modalities is deemed most applicable to the area, including house-to-house consultations with the PAPs. The RPCO SES and LGUs consult all PAPs down to the last one who lives in the remotest area where most of the vulnerable reside. Communities, particularly project affected persons, have appreciated the consultations that are conducted which demonstrates that they are a part of the decision-making process and that the process is transparent.
- b. Inclusiveness. PRDP ascertains that meaningful consultations are conducted among beneficiaries and that all concerns of PAPs are taken into account. As per PRDP's social database, among the PAPs, there are vulnerable groups and individuals such as solo parents, senior citizens, income-poor households, persons with disabilities (PWDs) and indigenous peoples. PRDP has ensured they are included in consultations and are informed of their entitlements and that additional assistance are provided when necessary.
- c. Full Disclosure. PRDP has always adhered to a full disclosure policy ensuring communities and PAPs are well aware about the project details, their rights and entitlements. Full disclosure of pertinent information has enabled communities and PAPs to make informed decisions.

- d. Protection of rights of displaced PAPs. To date, under the original PRDP and its AFs, there were 149 households physically displaced while no economic displacement impact has been experienced by PRDP. All 149 households have been resettled, compensated, and/or assisted with the reconstruction of their houses. The SES Unit has made sure that the affected households are resettled prior to the start of construction activities. PRDP has monitored the resettled PAPs to ensure that their socio-economic status has been restored and/or improved from pre-project state.

d) Established Indigenous Peoples Policy Framework (IPPF)

Under the original PRDP, Indigenous Peoples have been beneficiaries of farm-to-market roads under I-BUILD and members of proponent groups under I-REAP to ensure that they are included and have the same opportunities to access project benefits. As of the last PRDP 2022 Report, PRDP has benefitted 638,725 IPs or about 127,745 IP households who are within the subproject influence areas. PRDP has worked with a wide range of IPs in the country including the Ivatans in Batanes; the Kalinga, Ibaloi, Kankanaey, Tinggian in the Cordillera Autonomous Region (CAR); the Aetas of Central Luzon, Cuyunon and Tagbanua from Palawan; Ati and Panay-Bukidnon in Visayas and the Manobo, Talaandig, Higaonon, B'laan, Mamanwa, Subanen in Mindanao. A total of twenty-seven (27) Indigenous Peoples Plans have been prepared and have been/are being implemented across the country with majority in Mindanao (20). Implemented Indigenous Peoples Plans have benefitted various Indigenous Cultural Communities such as the Mansaka, Mandaya, Ata-Manobo, Dibabawon, Bagobo, B'laan in Mindanao; Tagbanua and Batak Tribe in Palawan and Panay-Bukidnon and Ati communities in Iloilo. The PRDP Scale-up shall continue to ensure that subproject proponents such as the LGUs conduct meaningful consultations with Indigenous Peoples communities so that their needs, interests and concerns are considered in the design and final configuration of specific subprojects under I-BUILD and I-REAP components as well as in the formulation of VCA and PCIP under the I-PLAN component. Further, the PRDP Scale-up will adopt the existing Grievance Redress Mechanism (GRM) which incorporates the traditional grievance resolution processes of the IP communities such as the involvement of IP Council of Elders.

e) Strengthened Partnership in the Management of Environmental and Social Impacts and Risks

The project has strengthened its partnership with the LGUs in the management of environmental and social impacts and risks into the subproject implementation process wherein the Social and Environmental safeguards roles and responsibilities were defined along the project cycle, from planning to project implementation until completion and decommissioning.

- **Designation of Active SES Focal Persons**

The LGUs, as required by the project, designate members of the P/C/MPMIU in charge of the social and environmental safeguards. In the early years of implementation, these designated LGU SES staff were mainly involved during the preparation stage. Orientation, training and coaching on the IESSF, environmental and social assessment and formulation of E&S management plans (e.g. ESMP, IP Plan, RAP) as part of the subproject FS preparation, E&S safeguards monitoring and supervision, GRM, and Citizens Monitoring. Their role during implementation has been reinforced through a project memorandum advising the LGUs to include LGU SES as signatory to the Statement of Work Accomplished (SWA). Through time, the active participation of the P/C/MPMIU SES focals has become apparent and are always present in the billing and weekly monitoring activities.

- **Use of Information, Education, Communication Materials**

On the onset of the COVID-19 Pandemic in 2020, the LGU and the SES Unit's capacity to attend and conduct consultations were limited. Though the pandemic is a force majeure, the requirement for consultations documents is mandatory. To remedy the situation, the RPCO Unit SES made changes on how to disseminate project information without compromising health protocols. The Unit started creating IEC materials, e.g., subproject specific pamphlets, distributed by one or two LGU staff to all concerned communities. The Unit made sure that the IECs are in the vernacular for easy comprehension and encourage feedback. This has been the case in many RPCOs especially in RPCO 8.

- **Strengthening Communication at the PG level**

The pandemic restricted the movement in conducting monitoring and inspection. To facilitate continuous exchange of information, the Unit created various modes of communication. This includes the use of Facebook Group Chats (GCs) with the LGUs, a separate GC with the PG, and functional mobile hotlines. This has been the case in many RPCOs especially in RPCO 8.

f) **Digitalizing of Compliance Monitoring Tools**

The Team has now shifted to the use of digital solutions in its safeguards monitoring. The previous way involves printing lengthy pages of compliance monitoring report which are physically hand-carried in the field during site inspections for manual checking.

Now, the team makes use of the Kobo Toolbox in checking the status of the contractor's safeguards compliance through a smartphone/ device. The Kobo Toolbox is an online platform which enables a customized survey form to be downloaded and shared in the app for easy use.

The reports from the compliance monitoring are also submitted digitally and are presented in graphs using the Compliance Monitoring Dashboard which has been made possible with the assistance of the Geo-mapping and Governance Unit (GGU). The dashboard is created - to show the status of compliance of the contractor or whoever is involved in the compliance of safeguard concern.

g) **Robust Grievance Redress Mechanism (GRM)**

The PRDP has a robust -GRM that is currently able to cater and handle various feedback and complaints. The PRDP GRM has put in place systems for documenting and monitoring grievances while ensuring confidentiality. This system includes a GRM web-based system for logging complaints, categorizing them, and monitoring the status of their resolution. To date there are a total of 403 recorded feedback and complaints falling under the following categories: 1) right-of-way (ROW) or land acquisition; 2) Community and Occupational Safety and Health; 3) Project Processes and Mechanisms; 4) infrastructure quality; 5) procurement; 6) consultation processes; 7) enterprise operations; and 8) others or those not related to PRDP. Out of the 403 recorded feedback and complaints there are a total of 248 complaints with a resolution rate of 98%. During PRDP's 8 year-implementation it faced challenging cases such as those which involved fraud and corruption, uncooperative stance of parties involved thus stalling resolution process, and prevailing political environment with vested interest in a subproject area causing slow resolution process. Despite these challenges, the resolution rate of 90% and above has been maintained all throughout the PRDP implementation. The high resolution rate can be attributed to the following factors: 1) clear resolution process; 2) structure allows having multiple level entry points (community, LGUs, RPCO, PSO and NPCO) using various mode of uptakes where people can lodge their feedback and complaints and 3) mechanism allows resolution at the local/community level including respecting indigenous peoples resolution process reinforcing principle of stakeholder engagement especially among vulnerable groups; 4) staff equipped with requisite skills to

implement the GRM. The GRM that is now being used by PRDP will be adopted by the PRDP Scale-Up with enhancements to cater to potential SOGIE-related complaints and cases related to GBV and SEA/SH to ensure that the GRM has a survivor-centered approach. A separate GRM for project workers shall also be established under PRDP Scale-Up.

h) Adopting SES Tools in DA Regular Program and LGUs in Enhancing Project Performance

Through the project's effort on Mainstreaming its Tools, the SES Unit has now started mainstreaming to the DA Regular Program the Environment and Social Management Framework (ESMF) and the Grievance Redress Mechanism (GRM) as Innovations 8 and 9.

Several DA regional offices have adopted the Grievance Redress Mechanism of the PRDP in the DA's regular banner programs and creating the grievance committee in its offices.

Aside from this, most LGUs have started adopting the Land Acquisition, Rehabilitation, and Resettlement Framework and Resettlement (LARRF), Indigenous Peoples (IP) Plan, and Resettlement Action Plan (RAP) following the safeguards policy in their internal process. The provisions and its intentions have proven increased community participation and PAP's satisfaction.

i) Expanded Vulnerability and Suitability Analysis (eVSA)

DA has adopted the Operations Manual for infrastructure and enterprise support with climate-proofed technical planning parameters for rural infrastructure. Together with the Applied Geotagging Tool (AGT), the eVSA serves as a science-based decision support system that has further strengthened transparency and accountability and ensures availability and compatibility of the subproject location and resources.

j) Applied Geotagging Tool (AGT)

The AGT has strengthened transparency and accountability mechanisms as it is able to deter overlapping proposals, insubstantial road influence area, overestimation of data, and duplication/parallelism to existing roads ensuring cost-efficient investments. In the PRDP Scale-Up, the AGT will be further enhanced with the development of a geotagging dashboard and eVSA overlay for DA-wide geospatial information management system. The tool will also utilize remote sensing and geo-dashboard and system analytics.

k) Community Monitoring

PRDP has organized Community Monitoring Teams in monitoring the implementation and operation and maintenance (O&M) of subprojects. The process enabled communities to obtain a higher sense of ownership of the subprojects in their localities which is an important element to the sustainability of the subproject. Instead of merely beneficiaries, the citizens become partners of the DA and the proponent LGUs in ensuring the performance of the subprojects.

2. PROJECT DESCRIPTION

a. Project Components

The PRDP Scale-Up will cover all four interlinked components of the original PRDP and its two Additional Financing, namely, I-PLAN, I-BUILD, I-REAP, and I-SUPPORT and a fifth component (Contingency Emergency Response Component, CERC) on financing to respond to crisis or emergency. The key activities and interventions in each component are described below:

i. Component 1: Enhancing Local and National Level Planning (I-PLAN)

The I-PLAN component of the PRDP Scale-Up will lay down the strategic framework in the context of overall project operation and implementation of interventions. Invoking NAFMIP (2021-2030) as the medium-term strategic framework for the rationalization of DA's plans and budgets, the primary goal of the I-PLAN Component of the PRDP Scale-Up is to strengthen the framework and linkages for the delivery of devolved but integrated agriculture and fishery services by the national and local government units. The component anticipates seeing the results of capacity development activities reflected in the updated and enhanced VCAs and PCIPs.

Enhancements to the PCIP process would include the introduction of a regional/spatial perspective, integration of climate adaptation and mitigation measures, and promotion of private sector financing, and insurance, consistent with the Food Security Development Framework and the Devolution Transition Plan of the DA. Whereas the ongoing PRDP does not provide value chain support for rice and corn, PRDP Scale-Up would include support in the development and formulation of VCAs and Commodity Investment Plans for these commodities.

Adhering to the clustering and consolidation approach, the rolling out of the regional perspective in the planning process will be conducted to expand the investment planning initiatives from the local level ensuring a regional perspective in the governance of value chains. The Regional Agriculture and Fisheries Investment Portfolio (RAFIP), as an output of the process, will ensure linkage and alignment of local plans to directions and strategies at the national level. With the integration of PCIPs and CDPs into the RAFIP, it will ensure alignment and articulation of the NAFMIP directions and strategies along the commodity value chains. Activities to be financed would be through the following sub-components:

- **Subcomponent 1.1: Operationalizing the National Agriculture and Fisheries Modernization and Industrialization Plan (NAFMIP)**

Technical assistance, studies, workshops and training would be financed to: (i) incorporate regional/spatial perspectives into PCIP planning, along with generation of RAFIP which would highlight PCIP multi-commodity and multi-provincial interventions in the region with potential for clustering and upscaling, based on regional analysis; (ii) strengthen the planning process through assessment of climate and natural hazard risk and vulnerabilities through the use of available information from different decision-support tools such as Climate Resiliency and Vulnerability Assessment (CRVA), eVSA, and FishVOOL (Fisheries Vulnerability Assessment Tool) that are being made available through the Planners Portal; (iii) strengthen convergence with DA partners and engagement with the private sector through the Commodity System Investment Planning (CSIP) process to broaden the base for agri-fishery sector transformation, and to promote Public-Private Partnerships (PPPs) as the catalyst for further investments; (iv) strengthen operational guidelines to ensure LGU-Project Implementation Units are adequately and consistently staffed, trained and resourced to implement PRDP-Scale-up, in keeping with the "Institutional Strengthening Action Plan". (This would be undertaken in conjunction with Component 4 activities and would be aligned with DA's Devolution Transition Plan for implementing the Mandanas ruling); (v) formulate VCAs for rice and corn in line with the National Food Security agenda and in collaboration with the DA's Rice and Corn Banner programs; and (vi) Enhance digital platforms, particularly the existing "Planners Portal" to strengthen planning, decision-making and e-Learning through improvements in climate information and data storage, maps for better visualization, and Decision Support Tools (e.g. eVSA, CRVA, VCAs) (This would include training in the use of digital planning platforms that provide feedback on markets, innovation and industry bottlenecks and meet the needs of decision-makers at various levels).

- **Subcomponent 1.2: Improving NAFMIP Implementation Strategies and Approaches**

Technical assistance, studies, training, and workshops would be financed to help in addressing identified gaps in the value chain and in the design of policies and investments supporting the consolidation, modernization, industrialization, and professionalization of the agri-fishery sectors. For research and capacity-building activities, the I-PLAN Component will act as a vehicle for innovations as it explores areas aligned with the sector's reform agenda such as through: (i) development of efficient supply chains linking producers with market outlets; (ii) more accessible financing across all value chain stakeholders; (iii) spatial planning for identification of development needs based on growth potentials, climate risks and vulnerabilities; (iv) promotion of improved inputs, climate-smart technologies and innovations; (v) proactive organization of clusters involving training and capacitation; and (vi) encouragement of youth engagement in agriculture with a view to promoting a new generation of business-oriented, climate knowledgeable farmers; a goal that includes a significant opportunity for expanding the roles of women in the agri-fishery sectors¹. The sub-component would also continue to support (i) the leveraging of resources for PCIPs through stronger engagement with the private sector; (ii) harmonization of strategies in the allocation of resources and delivery of support services among implementers; and (iii) a platform for discussion and feedback on market and innovation developments, as well as industry bottlenecks.

- ii. **Component 2: Strengthening Rural Infrastructure for Enhanced Agri-Fishery Development and Market Linkages (I-BUILD)**

The I-BUILD component will focus on delivering climate-resilient access and value chain infrastructure support with the end goal of building up food distribution hubs and logistics systems to provide unhampered mobility, access and stable supply of food commodities and other agri-fishery products with reduced transport, handling, and hauling costs thereby improving product quality and prices in target markets. It will take off from I-PLAN's strategic overlay of criteria and parameters in coming up with key investment areas in the value and supply chains from the regional perspective. To further ensure more climate-resilient and sustainable rural infrastructure investments, hazard mapping analysis will be considered in the design and planning of infrastructure subprojects with the incorporation of the Philippine Agricultural and Biosystems Engineering Standard (PABES) and the environmental and social framework. Activities to be financed would be through two sub-components as follows.

- **Subcomponent 2.1: Strengthening Critical Public Value Chain Infrastructure Support**

This would finance the design and construction of climate resilient rural infrastructures such as FMRs, Public Water Supply (PWS-levels 1 & 2), irrigation facilities (e.g., sprinkler, drip, solar powered, ram pump, and spring development), as well as public pre-and post-harvest facilities (e.g., tramlines, abattoirs, dressing plants, fish landings and watch towers). The updated criteria and procedures for the preparation, review, approval and financing of infrastructure sub-projects will adopt those defined in the well-established PRDP- Project Operations Manual for I-Build. Enhancements include the use of provincial/municipal (climate and natural) hazard maps and information from the GeoRiskPH data platform (<https://www.georisk.gov.ph>), which hosts multi-hazard maps from different government agencies for evaluating the risk profile of proposed subprojects to better inform the engineering design and implementation requirements. Whenever possible, the Green Building Code² would be incorporated in the design and construction of vertical structures to lessen the subproject's effects on the environment through

¹ Engagement with youth training would be a joint effort under Components 1 & 3 and would be through collaboration with other DA agencies and programs promoting youth engagement in agriculture and agribusiness. These include Mentoring and Attracting Youth to Agribusiness (MAYA) Program, Kabataang Agribiz of Agribusiness and Marketing Services (AMAS), Youth for Mechanization (Y4M) of Philippine Center for Postharvest Development and Mechanization (PHiMech), and Kapital Access for Young Agri-entrepreneurs (KAYA) of Agricultural Credit Policy Council (ACPC).

² The Green Building Code of the National Building Code (Presidential Decree No. 1096, 2015)

improved energy efficiency, water and wastewater management, materials sustainability, solid waste management, site sustainability, and indoor environmental quality.

- **Subcomponent 2.2: Improving the Effectiveness and Sustainability of Agri-Fishery Value Chain Infrastructure**

This would support technical assistance, studies and capacity-building for updating specifications and the use of provincial/municipal (climate and natural) hazard maps to ensure infrastructure design and implementation requirements address regional variabilities and differentials to climate risk, impact, and vulnerabilities. The climate adaptation measures to be introduced are expected to generate significant climate co-benefits through: (i) mainstreaming climate resilience throughout the lifecycle of subproject asset management; (ii) technical support for LGUs to enhance their design, implementation and O&M requirements and capacity; (iii) use of science-based instruments (GIS-based tools, including the georisk.gov.ph platform) to better identify climate risks and vulnerability of subprojects; (iv) more climate-resilient design standards permitting all-weather access, while also providing for increased frequency of extreme weather events; (v) strengthened climate resilient road safety measures; and (vi) completion of the FMR Network Plan (FMRNP) enabling the mainstreaming of a harmonized screening guide to rationalize FMR investments based on access needs and climate vulnerability, across government agencies. Table 1 presents the description of proposed subprojects under I-BUILD.

Table 1. Proposed Subprojects Under I-BUILD Component

Subproject Type and Indicative Cost (PHP)	Description
Farm to market road 21.7 million/ Kilometer	5.00 / 6.10 meters carriageway width, depending on the traffic count (based on DPWH DO 112, series of 2019, in addition to Department Order 11, series of 2014) including: ● Mandatory concreting of shoulders with road gradient above 10% ● Mandatory concreting of canals with road gradient above 10% regardless of soil classification ● Provision of slope protection structures on all side cuts following the I-BUILD geometrical and design specifications. The design of the slope protection shall depend on the hydrological and geo-physical conditions of the subject landscape, soil classification and slope stability. (reinforced concrete structures, stone masonry, grouted riprap, concrete sheet piles, crib walls, gabions, and slope stabilization through bio-engineering and rock netting, rock nailing technology) ● Mandatory road safety design, road signs, and pavement markings based on DPWH Highway Safety Design Standards Manuals (Part 1 (Road Safety Design Manual) and Part 2 (Road Signs and Pavement Markings Manual))
Bridge 1.17 million/ linear meter	5.60 / 6.70 meters carriageway, depending on the PCCP width 20 tons live load capacity depending on current and projected traffic load (based on DPWH DO No. 179, series of 2015 which uses HL-93 as live load consideration and seismic load in accordance with DPWH LRFD Bridge Seismic Design Specifications (BSDS), 1st edition, 2013); Structural design based on AASHTO³ HS20-44/HL 93 live loads criteria Revetment at bridge abutments 50 meters upstream and downstream of the bridge for drainage management, slope protection, and additional slope reinforcement when necessary

³ AASHTO refers to the American Association of State Highway and Transportation Officials, a standard setting body that publishes specifications, test protocols and guidelines in highway design and construction.

Subproject Type and Indicative Cost (PHP)	Description
Irrigation Facilities 0.35 million /hectare	Communal irrigation systems (CIS), small-scale irrigation facilities for high-value crops, solar-powered irrigation systems, ram pumps, sprinklers, spring development irrigation, drip irrigation projects
Potable water supply 0.38 million / household	Level 1 (single point system) such as dug or drilled wells with hand pump, spring, rain collector. Level 2 (standpipes or communal faucet system) drilled shallow/ deep well, spring, infiltration gallery, with piped distribution systems with reservoir(s) which feed a limited number of public or communal taps (within 25-meter radius)
Value-chain rural infrastructures 52 million / unit	Public use managed by LGUs such as slaughterhouses, dressing plants, fish landings, tramlines, feeder ports, and watch towers.

2.1.3 Component 3: Scaling-up Enterprise Cluster Development for Agri-Fishery Sector Development (I-REAP)

The Enterprise Development component aims to increase productivity, value addition and improve access to the market of enterprise clusters through efficient cluster-based agricultural and fishery productivity enhancement interventions. Strategically, I-REAP aims to support proponent groups/enterprises in the provision of common service facilities designed to raise the profitability of agri-fishery producers and enterprises. This would be through clustering to achieve economies of scale in operation and product consolidation, and through technical support to improve product quality, reduced post-harvest losses, strengthened market bargaining power and linkages. The identification of enterprises, commodities, investments and technical support would be prioritized through the PCIP process in conjunction with the prioritization of value chain supportive infrastructure under Component 2.

The clustering of agri-fishery producers would be linked with ongoing DA initiatives, particularly the Farm and Fisheries Clustering and Consolidation Program (F2C2)⁴ and implementation of the Provincial Agriculture and Fishery Extension Service (PAFES)⁵; an initiative to help capacitate LGUs in coordinating technical services, clustering of producers, and in supporting market development activities. This would be underpinned by the DA Memorandum Circular 21 (2022) that requires all DA Bureaus and agencies to focus their technical support on the strengthening of agri-fishery production through Good Agricultural, Animal and Fishery Practices⁶, as well as compliance with food safety and quality standards⁷. Overall management of this component would be enhanced through the

⁴ F2C2: Farm and Fisheries Clustering and Consolidation Program. This is an approach being adopted across all DA agencies and programs, through which farmers and fishers are encouraged/supported to cluster/group to improve economies of scale and cost-efficient production, harvest, processing, and marketing operations (DA Memorandum Circular 21 of 2022).

⁵ Through PAFES, provision of integrated, coordinated agriculture and fishery extension services at the provincial LGU level is planned to become a reality. Local delivery of these services was mandated in the Local Government Code (1991) and reiterated in the 1997 Agriculture and Fisheries Modernization Act. But LGUs previously lacked resources to deliver them. Funding is to be enabled through the provision of additional resources to LGUs as a result of the 2019 Mandanas ruling of the Supreme Court. Beginning in 2021, each DA-RFO has been piloting the establishment of PAFES in one province. PAFES is being rolled out following a learning-by- doing approach, with the goal of integrating, coordinating, and strengthening the various service delivery systems now operating, *albeit* with each agency currently pursuing its own mandates and extension delivery programs for farmers and fisherfolk.

⁶ Good Agricultural Practices in the Philippines (GAP); A.T. Banza, L.E Mojica, & A. Cielo (2013): South-eastern Asian Regional Center (SEARCA). Other similar approaches include Good Animal Husbandry Practice (GAHP), Good Aquaculture Practices (GaqP), Good Manufacturing Practices (GMP), and product standards.

⁷ The DAs Bureau of Agriculture and Fisheries Standards (BAFPS) is responsible for setting and enforcing agri-fishery product standards, including processing, preservation, packaging, labeling, importation, exportation, distribution and advertising.

“Enterprise Operation Monitoring System (EOMS)⁸ developed under PRDP to track the progress of enterprise operations and achievement of the enterprise operations based on the approved Business Plans. Activities to be financed would be through two sub-components as follows.

- **Subcomponent 3.1: Strengthening agri-fishery enterprise cluster productivity and market access**

The sub-component would fund civil works, equipment and machinery for small to large-scale climate-resilient pre- and post-harvest, processing, logistics, and distribution facilities to enhance the efficiency of FCA/FCA cluster operations, improve product quality and safety, along with enhanced logistics responsive to consumer demand and market outlets.

Proponent Group subproject proposal submissions could come from; (i) Local Government Units (LGUs) where it can be demonstrated that there is a critical value chain-based need and private sector investment is not forthcoming. (In such cases, the LGU would be required to identify a partner FCA, cluster of FCAs, or a private business entity that will manage or co-manage the operations of the enterprise), and (ii) FCA or Cluster of FCAs. (In such cases, the lead FCA or FCA cluster would be responsible for the subproject proposal formulation, implementation and operation, which may be done in partnership with a private agribusiness entity). Subproject (SP) proposals submitted by an LGU or FCA/FCA cluster may also be initiated by a private agribusiness entity, but the proposal would be required to identify the partner LGU or FCA/FCA cluster who will be the proponent of the subproject.

- **Subcomponent 3.2: Enhancing Agri fishery Enterprise Cluster Capacity**

This would fund technical assistance, studies, training and workshops providing a wide range of services tailored to meet Enterprise Business Plan requirements,⁹ e.g., for: (a) improved technical and management performance; (b) access to innovative technologies; (c) market diversification; (d) promotion of products through trade fairs and online platforms, e.g., the PRDP Marketplace¹⁰; and (e) access to finance and insurance. Technical services would be through Program Contracts with agencies best equipped in the area to provide such services. For those producer clusters entering into formalized market agreements with enterprises, technical assistance would be based on Proponent Group Cluster Development Plans¹¹. Such services would, in particular, focus on climate-smart approaches¹² for improving the quality of produce at farm gate and encompass modern on-farm, cultivation, handling, storing, crating, grading and food safety technologies, as

⁸ The EOMS is a tool for better planning and implementation, practices, processes and procedures that are used in the development, deployment and execution of the approved business plans and strategies and all associated with enterprise operations activities.

⁹ Business Services could include (i) climate smart and environmentally friendly production technologies and agro-ecological farming practices; (ii) improved harvesting, conditioning, storage and transport for enhanced quality and shelf-life of produce; (iii) food safety and quality standards, traceability systems, certification and branding; (iv) organization of a responsible and efficient supply chain; (v) e-warehouse management systems; (vi) business and financial management; (vii) market information and diversification; and (viii) loans and credit financing. Access to financing, including for the financing of operating costs, would be facilitated through the development of framework agreements with commercial banks such as the Philippines Development Bank and the Landbank, provision of improved mutual information of FCAs/FCA clusters and local branches, preparation of loan applications as part of business planning, mandatory agricultural insurance and use of subproject assets and marketing agreements as collateral.

¹⁰ The PRDP Marketplace is an online platform lodged to the DeliverE website which aims to showcase the PRDP products in a single platform to integrate the proponent groups to digital commerce. DeliverE is a modernized marketing system that connects food producers and consumers without the need for unnecessary trading layers. Deliver-E uses a blockchain system created by a Filipino tech startup, Insight Supply Chain Solutions (Insight SCS), which integrates related e-commerce and logistics application services from consolidation points to central warehousing facilities, and then to last-mile delivery services to reach end-clients.

¹¹ Cluster Development Plans, as detailed in DA-Memorandum Circular 21 (2022), are required for each producer cluster being supported. It is required to be a long-term plan addressing cluster needs for marketing, improvement in productivity, operation, organization development, financing and sustainability. FCAs with existing CDPs would be considered as priority beneficiaries given their preparedness for Project implementation.

¹² Technical services would be tailored according to need and would be designed to improve agricultural practices, quality and shelf-life of agri-fishery products through: (a) adopting more climate resilient and environmentally friendly cultivation technologies (e.g., through improved varieties of crop and livestock more resilient to heat and /or water stress, insects, parasites etc.; and (b) strengthening management practices to conserve water, minimize use and run-off of fertilizers and chemicals (e.g., through use of screen house, plastic culture, drip irrigation, IPM, leaf nutrient testing etc.), and (iii) improving harvesting and farm-gate practices for enhancing quality and shelf-life of produce (e.g., through better grading, storing, crating, packing, and mode of transport).

well as facilitated access to financing and insurance. Other activities to be supported under this component would include: (a) support for PAFES implementation through training of the LGUs in market development and clustering; (b) collaboration across DA agencies in the promotion of youth engagement in agriculture and agribusiness¹³ in support of this strategic activity under Component 1; and (c) strengthened partnerships with the private sector¹⁴.

Investments in I-REAP are small to large-scale, high-impact investments and enterprise development through common service facilities, capacity-building, and other agri-aqua-support services for FCAs and FCA clusters. Table 2 presents the indicative list of I-REAP subprojects.

Table 2. Indicative Subproject Interventions under I-REAP

Value Chain Segments	Indicative Subprojects or Elements of Subprojects
Input Supply/ Sourcing	● Seedling Nurseries and Seed Banks ● Tissue Culture Laboratories/ Centers ● Organic Fertilizer Production/ Composting centers ● Fish hatcheries and nurseries ● Feed milling plants ● Multiplier farms, breeding centers for livestock and poultry
Production	● Crop, Livestock, Dairy, and Fish production enterprises (communal farming facilities i.e. greenhouse, grow-out houses/pens, cattle feedlots, fishponds, etc.) ● Common Service Facilities for mechanized farming/ Farm Machinery and Equipment Service Centers (land preparation, direct seeding, transplanting, spraying, harvesting, repair services, etc.) including the local fabrication and manufacturing of agri-fishery machinery and equipment
Consolidation	● Buying, Consolidation and Packaging centers for High Value Crops with logistics service facilities (Hauling trucks, refrigerated vans, etc.)
Postharvest	● Establishment and operation of Common Service Facilities for primary post-harvest processes (drying facilities, fermentation houses, HWT/VHT facilities, etc.). ● Storage for Grain, High Value Crops, Meat and Fish Products (Cold Storage facilities, Warehouses with drying and postharvest equipment, Silos, etc.)
Processing	● Rice and Corn processing centers ● GMP compliant Crop/ Meat/ Dairy/fish processing facilities

¹³ Ibid

¹⁴ By way of example, the project would strengthen the partnership with Jollibee Group Foundation (JGF) in the implementation of the Agro-Enterprise Clustering Approach (AECA) that helps both field agents and small farmers to learn new skills and build improved trading relationships with value chain actors. JGF has accredited 17 farmer groups as its suppliers since 2008 when the program started. The foundation's farmer-partners now supply white onions, green bell peppers, tomatoes, and other vegetables to Jollibee, Chowking, Greenwich, and Mang Inasal. They are also able to bid for the requirements of other restaurants, hotels, and supermarkets. JGF's approach of clustering farmers has enabled FEP farmer groups scale up their operations and successfully maintain their status as Jollibee Group suppliers and find other markets. The DA has decided to mainstream AECA through its Farm and Fisheries F2C2 Clustering and Consolidation Program (F2C2). (Jollibee Foods Corporation is a major national fast-food group that sources the majority of its agricultural raw products from rural producers). This involve the engagement of FCAs and clusters through training in business skills and empowering them to be farmer-entrepreneurs. AECA is also supporting FCAs to take advantage of economies of scale of their produced marketable surplus.

	• Non-food products processing facilities (abaca, coco coir, rubber, etc.)
Marketing	• GMP-compliant Food supply hubs, i.e. trading posts/centers, and food terminals equipped with cold or dry storage facilities pre-processing/processing facilities, and logistics facilities • Establishment of auction market facility complete with equipment and the holding pens for large animals including the auction market system

2.1.4 Component 4: Project Management and Support, Monitoring and Evaluation (I-SUPPORT)

This would finance project management, technical assistance, studies, training and capacity building for project staff. It would support all oversight, management, fiduciary, and M&E aspects of the project including execution of an Institutional Strengthening Action Plan designed to ensure POM guidelines, procedures and processes are fully understood and followed. Organizational arrangements and implementation procedures would be integrated with those of PRDP. It would include the adoption, with some modification of the POM of PRDP, and of the various digitized and web-based tools used for management oversight, M&E, Grievance Redress Mechanism (GRM), document tracking, service standards, knowledge sharing and information dissemination. The various functions would be implemented by units comprising; Administration, Finance, Legal, Economics, Social and Environmental Safeguards, M&E, InfoAce, Governance and Geotagging, and Budget and Accounting. The continuity of staff, functions and implementation procedures provide a solid basis for the nationwide and transformational scope of PRDP Scale-Up. Staffing requirements would be augmented as needed through the hiring and engagement of permanent DA personnel.

Technical assistance, studies, training and workshops would support: (i) further digitalization of project management processes for planning, capacity building, meetings, and other coordination activities, as well as for the monitoring and supervision of investments¹⁵; (ii) mainstreaming of the new Environmental and Social Framework requirements; (iii) fiduciary management and oversight with particular reference to the Institutional Strengthening Action Plan which, *inter alia*, calls for regular reviews of implementation guidelines, procedures and protocols as well as options for providing/strengthening internal audit coverage of project activities, (iv) further development of document processing/monitoring innovations; (v) mainstreaming development of a Knowledge Management Portal for sharing experiences and good practices; (vi) enhanced information advocacy, communication, and education¹⁶, and (vii) mid-term and end-project evaluations.

2.1.5 Component 5: Contingent Emergency Response Component (CERC)

This component will allow for rapid reallocation of uncommitted project funds towards urgent needs in the event of a geophysical, climate-related, or man-made disaster or public health emergency. Such events may include extreme weather such as typhoons, disease outbreaks, or earthquakes. The trigger for activating the CERC will be agreed during appraisal and could include evidence such as the declaration of a State of Calamity by the mandated national or subnational authority or a State of Public Health Emergency. The agreed trigger would enable the reallocation of uncommitted project funds to support immediate response and recovery needs. Disbursements would be made against a

¹⁵ This would include expanded deployment of geo-based tools such as geo-video, video-tagging using unmanned aerial systems/vehicles (UAS/UAV), geo-dashboard and the effective Grievance Redress mechanism established under PRDP

¹⁶ PRDP Scale-up will include new initiatives through development of information, education and communication (IEC) materials that will focus on human interest, new avenues of content and innovation, engagement of the private sector and development of knowledge products. Communication activities will also highlight the increasing visibility of the World Bank, DA and the PRDP as enablers and mobilizers of rural agri-fishery development in the country.

positive list of critical goods, civil works, and consulting services. Annex Q provides the outline for ESMF CERC. The Project Operations Manual (POM) will include detailed descriptions and procedures.

2.2 Target Areas and Beneficiaries

PRDP Scale-Up covers the 16 regions composed of 82 provinces in the country. The direct project beneficiaries would be LGUs, FCAs and other Enterprises¹⁷ engaged through joint ventures in provision of common service facilities, as well as the agri-fishery producer households linked through market agreements with such service facilities.

Investments in infrastructure will greatly improve all weather road access and facilitate rural access to health care, childbirth facilities, and hospitals, social services and education. Economic opportunities for women will also be expanded through the transformative changes being promoted under the project to achieve a more business-oriented approach to development of the agri-fishery sectors that will come through clustering and enterprise development. To underpin this opportunity and encourage a new generation of farmers and fishers, the project would include a particular focus on skills training for women in business planning, management, finance and accounting.

2.3 Project Cost and Implementation Schedule

The PRDP Scale-Up will be implemented over a six-year period from 2024 until 2029 with a proposed project cost estimated at US\$827.48 Million, of which US\$600.00 Million comes from World Bank financing and US\$227.48 Million from counterpart funding.

¹⁷ Enterprises may include clusters of FCAs, producers associations, federations, processors, consolidators, food manufacturers etc. across all segments of the value chain.

3. POLICY, LEGAL, AND REGULATORY FRAMEWORK

3.1 Overview of the World Bank's (WB) Environmental and Social Standards (ESS) and Relevant Philippine Laws and Regulations

PRDP Scale-Up will adopt relevant Environmental and Social Standards (ESSs) under the World Bank's Environmental and Social Framework (ESF)¹⁸. The ESF is designed to avoid, minimize, reduce, or mitigate adverse environmental and social risks and impacts of subprojects. The project will also comply with the Philippine Government's environmental laws, standards, rules, and requirements, which impose restrictions on activities to manage impacts on the environment and people.

Out of the ten (10) ESSs, there are nine (9) that are applicable to PRDP Scale-Up. This includes ESS 1 to ESS 8 and also ESS 10. A brief on the objectives and guidelines of each of the applicable ESSs are outlined in Table 3 which also outlines the Relevant Philippine Laws and Regulations. Table 3 also presents the identified gaps between the laws and regulations of the Philippines compared to WB's ESSs, and the proposed safeguard instruments to address these gaps that reference the IESSF, safeguards instruments and operational procedures that were developed in the original PRDP and AF1 and 2.

3.1.1 ESS 1: Assessment and Management of Environmental and Social Risks and Impacts

ESS 1 prescribes the responsibilities for the assessment, management, and monitoring of environmental and social risks and impacts associated with a project. The Philippine Environmental Impact Statement System (PEISS) (Presidential Decree 1586) and its implementing rules and regulations reflect the key elements of ESS 1. The project will strengthen PRDP's current IESSF and expand it to an ESMF that will describe in detail the process of risk and impact assessment to be addressed in the preparation and implementation of the ESF instruments using available information and tools.

3.1.2 ESS 2: Labor and Working Conditions

ESS 2 promotes safety and health at work, fair treatment, non-discrimination, and equal opportunity of project workers. It also prescribes protection of vulnerable workers such as women, persons with disabilities, children (working age), and migrant workers, contracted workers, community workers, and primary supply workers. It also prohibits the use of all forms of forced labor and child labor and supports the principles of freedom of association and collective bargaining of project workers in a manner consistent with national law.

The Labor Code of Philippines promotes equal work opportunities regardless of sex, race or creed and regulates the relations between workers and employers. In addition, occupational safety and health standards ensures safety and health at the workplace. The DOLE Department Order No. 198-2018 sets out the implementing rules and regulations of this Act. A Labor Management Procedures (LMP) has been prepared to fully align with the ESS 2. Guidelines for civil works in the time of COVID-19 pandemic that was prepared under PRDP will also be implemented.

3.1.3 ESS 3: Resource Efficiency and Pollution Prevention and Management

ESS 3 promotes the sustainable use of resources, including energy, water, and raw materials that integrate the principles of cleaner production. It also sets out the application of mitigation hierarchy that considers technically and financially feasible resource efficiency and pollution prevention measures that are proportional to the risks and impacts associated with the project and consistent

¹⁸ For the comprehensive discussion on the objectives and requirements of the WB's ESF, refer to <https://pubdocs.worldbank.org/en/837721522762050108/Environmental-and-Social-Framework.pdf>

with the Good International Industry Practice (GIIP) and Environmental Health and Safety Guidelines (EHSGs).

The Philippines has several comprehensive laws, regulations, and standards on managing resources, pollution and wastes. These laws and their implementing rules and regulations prescribe rational appropriation, utilization, exploitation, development, conservation and protection of resources, including provisions to safeguard environment and rights of affected communities. All applicable laws will be applied in the project to manage anticipated environmental and social risks and impacts. The project will support initiatives that promote clean technologies and innovations and pollution mitigating measures.

3.1.4 ESS 4: Community Health and Safety

ESS 4 addresses the health, safety, and security risks and impacts of project-affected communities. It sets out the requirements to anticipate and avoid adverse impacts on project-affected communities from both routine and nonroutine circumstances. It also promotes quality and safety and requires considerations related to climate change in the design and construction of infrastructures; avoiding or minimizing community exposure of project-related traffic and road safety risks, diseases, and hazardous materials; and requires measures to address emergency events.

The Philippine regulations contain elements that address health, safety, and security risks and impacts on project-affected communities. The National Biosafety Framework is outlined in Executive Order (EO) 514 as part of the country's commitment to the Cartagena Protocol on Biosafety. It relates to biosafety policies, measures and guidelines concerning research, development, handling and use, transboundary movement, and release and management of regulated particles into the environment.

All projects are required to conduct risk hazard assessment particularly for facilities and installations with potential exposure of community to chemicals and hazardous materials. The project would build on the climate vulnerability and suitability analysis tools¹⁹ developed under PRDP through expanded use of provincial/municipal, natural and climate hazard maps to address regional/spatial variabilities to climate risks.

3.1.5 ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

ESS 5 aims to avoid involuntary resettlement or, when unavoidable, minimize involuntary resettlement by exploring project design alternatives and mitigation measures to manage unavoidable adverse social and economic impacts. It also strictly prohibits forced eviction and requires that any resettlement activities are properly planned and implemented with appropriate disclosure of information, meaningful consultation, and informed participation of those affected.

Building from the existing PRDP IESSF, the Land Acquisition and Resettlement Policy Framework (LARPF) has been developed and strengthened to correspond to the core principles of ESS5, in particular incorporating provisions related to prohibition of forced eviction. The updated LARPF incorporates the lessons learned, good practices and innovations from PRDP. The project shall fully adopt the ESS 5 provisions. Under PRDP Scale-Up, as with PRDP, land acquisition is the responsibility and accountability of the subproject proponents such as the LGUs.

3.1.6 ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources

ESS 6 aims to protect and conserve biodiversity and habitats by applying mitigation hierarchy and the precautionary approach in the design and implementation of projects that could have an impact on biodiversity. It promotes the sustainable management of living natural resources and support livelihoods of local communities, including Indigenous Peoples, and inclusive economic development, through the adoption of practices that integrate conservation needs and development priorities. ESS

¹⁹ *ibid*

6 is relevant to PRDP Scale-Up because of wide-range of potential subprojects involving primary production and/or harvesting of living natural resources.

The project will only develop parcels of land that are classified and used as agricultural lands and areas that are part of the FMR road network providing access to the distribution hubs and value chain centers will not traverse or encroach into strict protection zones of declared protected areas (e.g. national parks, key biodiversity areas, and primary forest reserves).

3.1.7 ESS 7: Indigenous Peoples

ESS 7 is intended to ensure that the development process fosters full respect for human rights, dignity, aspirations, identity, culture, and natural resource-based livelihoods of Indigenous Peoples (IPs) through promotion of sustainable development benefits and opportunities in a manner that is accessible, culturally appropriate, and inclusive. It also aims to avoid, minimize, mitigate, and/or compensate adverse impacts of projects on IPs. The Indigenous Peoples Rights Act (IPRA) of 1997 is generally consistent with requirements of ESS 7.

As with the original PRDP, the Project will continue to implement subprojects in areas where there are Indigenous Peoples. The project will continue to have IP beneficiaries of farm-to-market roads under I-BUILD and members of proponent groups under I-REAP.

3.1.8 ESS 8: Cultural Heritage

ESS 8 aims to protect and preserve cultural heritage, in tangible and intangible forms, from adverse impacts of project activities. The assessment of the presence of cultural heritage is integral in the environmental and social assessment and is done through consultations with relevant stakeholders, review of regulations for managing cultural heritage, and inventories, maps and surveys of cultural resources.

The National Cultural Heritage Act of 2009 (RA 10066) is the principal law in the country that requires the protection, preservation, conservation, and promotion of cultural heritage, its property and histories, and ethnicity of local communities. PRDP Scale-Up will ensure through the environmental screening process that any chance finds or other physical cultural resources are identified and preserved following the NCCA guidelines and RA 10066 rules and regulations.

No cultural heritage areas are expected to be affected and/or could lead to impacts. The ESMF provisions however includes screening mechanisms to identify cultural heritage areas and includes the chance find procedures to be followed in line with the requirements of the ESS8.

3.1.9 ESS 10: Stakeholder Engagement and Information Disclosure

ESS 10 aims to establish stakeholder engagement as a continuing and iterative process that allows a project to identify, communicate, and facilitate dialogue with affected people. During project preparation, ESS 10 requires the early identification of and consultation with affected and interested parties to gather their views and concerns for consideration in the project design, implementation, and operation. The standard also provides project-affected parties with accessible and inclusive means to raise issues and grievances and allow borrowers to respond to and manage grievances.

3.1.10 Overall

Overall, the Philippines has a comprehensive ES policy framework that corresponds to the core principles of the 10 ESS. While the requirements of ES assessment and consultations are well defined in the PEISS, there are other laws and regulations that supplement and complement conformance to the ESS. The PEISS, in itself, serves both as the planning and regulatory tool to enable projects to identify and mitigate impacts and risks while also recognizing the significant issues which fall entirely within the mandates of other laws or agencies which have jurisdiction and authority over a particular issue. The congruence of the Philippine policy framework to the ESF provides a strong legal platform for the application of the ESF standards. There are, however, variances between the Philippine policy

framework and some requirements of the ESF in terms of the operational/enabling policies. While the below provides some key examples, the variance and applicability for PRDP Scale up project is discussed in Table 3. Further, Chapter 6 of ESMF elaborates systematic steps and processes to address the compliance with ESF requirements.

- a) Specificity of the guidelines as well as the definition of the scope/coverage of application of standards—a major example is the guidelines on the ES assessment as well as the criteria for the classification/categorization of projects.
- b) Coherence of procedural guidelines that might affect the results or application of the policy—for instance, the ESF has specific guidelines on stakeholder engagement, but it is more generalized in the Philippine policies; and
- c) Clarity on policies and links of different institutional or organizational responsibilities—this is particularly noted for ESS3 and ESS6 which focus on resource efficiency and biodiversity broadly whereas the Philippine policies are by specific type of resources and, correspondingly, mandated by different regulatory bodies.

Table 3. World Bank ESS and Relevant Philippine Laws and Regulations and Their Applicability to PRDP Scale-Up

World Bank ESS	Relevant Philippine Laws and Regulations	Applicability to PRDP Scale-Up
ESS1 - Assessment and Management of Environmental and Social Risks and Impacts	• Philippine EIS System (PD 1586) and DENR AO 2003-30 • National Building Code of the Philippines (PD 1096), amending RA 6541 • Philippine Environment Policy (PD 1151) • Philippine Environment Code (PD1152)	Depending on size/scale and location, subprojects are required to undertake an environmental impact assessment and secure an Environmental Compliance Certificate (ECC) based on the PEISS guidelines (PD 1586). Those projects generating insignificant and manageable impacts may secure the Certificate of Non-Coverage (CNC) from the DENR/BARMM-MENRE. Potential environmental impacts may occur during the civil works for roads, bridges, water supply and irrigation systems, as well as during construction activities for building the common facilities and enterprise structures. During the operation of facilities such as slaughterhouses, dressing plants, processing and production plants, it is expected that wastes (i.e. wastewater, air/odor pollution, solid wastes as well as hazardous wastes will be generated). Activities that will require water abstraction (water supply and irrigation) can potentially cause impacts on sustainability of the resource, biodiversity and fisheries. Social risks are related to potential land acquisition for roads and irrigation systems and potential exclusion or direct impacts of IPs, marginalized people, landless farmers, women-headed households, or other vulnerable groups. These issues will be evaluated in the Environmental and Social Assessment (ESA). The project will strengthen PRDP's current IESSF and expand it to an ESMF that will describe in detail the process of risk and impact assessment to be addressed in the preparation and implementation of the ESF instruments. Under the provisions of ESS 1 and to ensure that all risks and impacts of subprojects are assessed, the proposed activities will: (i) conduct an ESA for each proposed subproject through a screening process to determine eligibility for funding based on E&S risks. ESA is prepared by the subproject proponent as part of the FS/business proposal that will identify environmental and social risks, hazards, social impacts and conflicts in the project cycle and utilizing available information and instruments developed thru the original PRDP iii) determine the mitigation measures needed to address anticipated potential risks (proposed and existing activities) provided in ESMP; and (iii) require

World Bank ESS	Relevant Philippine Laws and Regulations	Applicability to PRDP Scale-Up
		securing of applicable permits and clearances for the subproject such as ECC/CNC, Water Permit, Tree Cutting Permit. etc.
ESS2 - Labor and Working Conditions	• Labor Code of the Philippines (PD 442 as amended by RA 6715) • Civil Service Law (PD 807) • Occupational Safety and Health Standards Act (RA 11058) and DOLE DO 198-2018 • Safe Spaces Act (PD 11313) • Anti-Sexual Harassment Act of 1995 (RA 7877)	The project involves civil works and direct and contracted workers who will be hired and/or mobilized. The project would involve engaging or procurement of civil works contractors as well as mobilization/hiring of local workers for the infrastructure. While the direct workers and contracted local workers, who will be mobilized for the project activities, including construction of infrastructure, business development and implementation, are also beneficiaries, the project will ensure that their engagement will be compliant to the general policies and requirements for voluntary, non-harmful or non-hazardous work, just compensation/benefits as prescribed by the Labor Code. The Philippine labor laws and regulations contain the key elements of ESS 2 that includes Labor Management Procedures (LMP), terms and conditions of employment, rights of workers, occupational health and safety, non-discrimination and equal opportunity, prohibition on forced labor, and provisions on workers' organizations, grievance mechanism, and regulations for vulnerable workers, including child workers. The Safe Spaces Act (RA 11313) provides the protective measures on gender-based sexual harassment in streets, public spaces, online workplaces, and education or training institutions. The Anti-Sexual Harassment Law (RA 7877) defines the grounds for sexual harassment cases and prescribes the sanctions and penalties for offenders The LMP has been prepared to fully align with the ESS 2. Guidelines for civil works in the time of COVID-19 pandemic that was prepared under PRDP will also be implemented.
ESS3 - Resource Efficiency and Pollution Prevention and Management	• Philippine Environment Code (PD1152) • Water Code of the Philippines (PD 1067) • Philippine Clean Water Air Act (RA 9275) • Marine Pollution Decree (PD 979) • Philippine National Standards for Drinking Water (DOH Administrative Order 2017-0010)	The potential subprojects will create potential impacts to water resources particularly for water supply and irrigation systems; pollution (water, air, odor, solid and hazardous wastes), wastewater from processing activities, dust emission from milling activities, and runoff of agro-chemicals from agricultural activities. There may also be potential clearing of vegetation/trees, use of agro-chemicals, and soil erosion and sedimentation from land tillage and/or crop harvesting. Civil works may generate construction-related impacts such

World Bank ESS	Relevant Philippine Laws and Regulations	Applicability to PRDP Scale-Up
	• National Policy on Water Safety Plan (DOH AO 2014-0027) • Philippine Clean Air Act (RA 8749) • Ecological Solid Waste Management Act (RA 9003) • Toxic Substances and Hazardous and Nuclear Wastes Control Act (RA 6969) • Fertilizer and Pesticide Act (PD 1144) • Renewable Energy Act of 2008 (RA 9513) • Organic Agriculture Act (RA 10068) • DA Administrative Order 09-2020 on ecologically sound and smart crop pest management • Energy Efficiency and Conservation Act of 2019 (RA 11285) • Philippine Biofuels Act (RA 9367) • Revised Forestry Code (PD 705) • Philippine Fisheries Code of 1998 (RA 8550) • Expanded National Integrated Protected Areas System (e-NIPAS) Act (RA 11038) • Wildlife Resources and Conservation and Protection Act of 2001 (RA 9147) • Philippine Green Building Code, as referral code of National Building Code (PD 1096)	as dust, soil runoff, noise, vibration, and wastes/debris. The requirements of the relevant laws will be applied by the project. The Environmental and Social Management Plan (ESMP) are developed to manage these anticipated environmental and social risks and impacts of the project. The screening process will determine if there are any subprojects or activities generating wastes and pest management issues; if so, Waste Management Plan and Integrated Pesticide Management Plan (IPMP) will be required to ensure that these wastes and agro-chemicals are well-managed and disposed of properly. Templates of ESMPs specific to FMRs/bridges, PWS, irrigation, crop production, etc. are included in the ESMF. The project's approach towards integrating climate-resilient design and disaster risk management during infrastructure design and implementation is described in the ESMF to ensure that the subprojects are located in safe places that will not be duly exposed to the harsh impacts of climate change and natural disasters.
ESS4 - Community Health and Safety	• Philippine Disaster Risk Reduction and Management (PDRRM) Act (RA 10121) • Climate Change Act of 2009 (RA 10174) • PD 1586 (1987) – Philippine EIS System and DENR AO 2003-30 • Presidential Decree 856 – Sanitation Code of the Philippines • Batasang Pambansa 344 – Accessibility Law • RA 11058 - Occupational Safety and Health Standards	The ESS4 and pertinent public health laws will apply to the project. There will be civil works that could cause disturbance to community in terms of dust, noise, soil runoff, and spread of communicable diseases, i.e. COVID19 and Sexually Transmitted Diseases (STDs). The CESMP need to be prepared in line with the guidelines and CSHP, mandated by the Philippines law through the DOLE shall form part of the CESMP. This will ensure safety of the community and workers. Field activities of workers will follow the COVID-19 and emerging diseases prevention and management procedures. PRDP Scale-Up would build on the climate vulnerability and suitability analyses tools developed under PRDP through expanded use of provincial/municipal,

World Bank ESS	Relevant Philippine Laws and Regulations	Applicability to PRDP Scale-Up
	• DOLE Department Order 198-2018 • Construction Safety Guidelines for the Implementation of Infrastructure Projects During the COVID-19 Public Health Crisis • Fire Code of the Philippines (PD 1185) • Philippine Green Building Code, as referral code of National Building Code (PD 1096) • Engineering Geological Geohazard Assessment (Mines and Geosciences Bureau Memorandum Circular 2002-43) • National Biosafety Framework (Executive Order 514) • Biotechnology and genetically modified plant and plant products (DOST-DA-DENR-DOH Joint Department Circular 1, series 2016) • Review of Comprehensive Land Use Plans (HLURB MC 2019-01 and HLURB MC 2019-02) • DPWH Design Guidelines, Criteria and Standards for roads and bridges	natural and climate hazard maps to address regional/spatial variabilities to climate risks.
ESS5 - Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	• Right-of-Way Act (RA 10752) • Indigenous Peoples Rights Act (IPRA); • RA 7279 of 1992 or the Urban Development and Housing Act (UDHA); • RA 11201 of 2019 or known as the Department of Human Settlements and Urban Development Act; • RA 7160 or the Local Government Code of 1991. • PEISS (PD 1586) • Property Registration Decree (PD 1529) • The Public Land Act (Commonwealth Act No. 141 of 1936) • RA 6657 and DAR AO 1, 2002	The project anticipates that right-of-way for roads and bridges, community irrigation canals and waterpipes and sites of water sources for potable water systems as well as the sites for the value chain infrastructure support such post-harvesting facilities, cold storage facility, AA/AAA slaughterhouses, trading posts, and other facilities will need to be secured and acquired. Land acquisition for the subprojects especially FMRs may result in displacement whether physically and/or economically that will require resettlement and livelihood assistance and restoration. The LARPF has been developed to provide guidelines on screening, identification, and mitigation of involuntary resettlement impacts of subprojects under the project in accordance with the World Bank's -ESF particularly -ESS 5 on Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement as well as with relevant legislations of the Philippine government. It builds on PRDP's best practices and lessons learned from

World Bank ESS	Relevant Philippine Laws and Regulations	Applicability to PRDP Scale-Up
		implementing the Land Acquisition, Resettlement, and Rehabilitation Policy Framework (LARRPF) that have been developed as part of the original PRDP's Integrated Environmental and Social Safeguards Framework (IESSF) under the World Bank (WB) Operational Policy (OP) 4.12 on Involuntary Resettlement. The LARRPF has been constantly updated and currently contains provisions for land donation and expropriation which are also included in the LARPF. To be consistent with ESS 5, the LARPF also reflects provisions related to forced eviction. The LARPF will continue to use the subproject screening criteria for resettlement. A Resettlement Action Plan (RAP) will be prepared during project implementation when a subproject location has been identified to involve impacts related to land acquisition and involuntary resettlement.
ESS6 - Biodiversity Conservation and Sustainable Management of Living Natural Resources	- Philippine EIS System and DENR AO 2003-30 (PD 1586) - RA 11038 - E-NIPAS Act - RA 8550 – Philippine Fisheries Code - RA 9147 – Wildlife Resources Conservation and Protection Act - PD 1559 – Revised Forestry Code - RA 8435 – Agriculture and Fisheries Modernization Act	ESS6 is applicable to this project since some subprojects may take place within or nearby protected areas, designated forest lands, national parks, or marine sanctuaries. To prevent encroachment in forests, natural parks, and protected areas, the ESMF provides a screening mechanism for proposed activities to exclude activities that would involve significant conversion or degradation of protected areas and other natural habitats. Subprojects that cause significant impacts to biodiversity are required to develop a Biodiversity Management Plan as part of the ESMP and to implement measures that promote the sustainable management of natural resources and livelihoods of local communities.
ESS7 - Indigenous People/Sub-Saharan African Historically Underserved Traditional Local Communities	- IPRA (RA 8371) - RA 11054 of 2018 known as the "Organic Law for the Bangsamoro Autonomous Region in Muslim Mindanao"	ESS7 applies to the project since there may be subprojects located in Ancestral Domains (AD) of IPs or sites with known IPs. There may be risks that IPs do not have equal and culturally appropriate access to benefits and may not be adequately consulted during decision making. The Indigenous Peoples Policy Framework (IPPF) developed by the project shall further strengthen the existing mechanisms of PRDP to ensure meaningful participation and protection of rights of the Indigenous Peoples compliant to WB ESS7 and consistent with the Philippines' Indigenous Peoples Rights Act (RA 8371) of 1997. The IPPF incorporates lessons learned, good practices and innovations from PRDP's extensive 8-year experience in implementing the World Bank Safeguards policies through its IESSF. The Indigenous Peoples Rights Act (IPRA) of 1997 is generally consistent with requirements of ESS 7. The law contains elements of fostering full respect for

World Bank ESS	Relevant Philippine Laws and Regulations	Applicability to PRDP Scale-Up
		the rights, dignity, aspirations, identity, culture, and natural resource-based livelihoods of IPs as well as mechanisms for development initiatives to avoid adverse impacts of projects on IPs, or when avoidance is not possible, to minimize, mitigate and/or compensate for such impacts. Meaningful consultations, FPIC, and grievance redress mechanisms are observed across the development stages. Meaningful consultations are also provided for IPs outside AD/ALs under IPRA and other Philippine laws though procedures are less rigid compared to IPs within AD/Ls. For Indigenous Peoples in Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), the RA 11054 of 2018 known as the "Organic Law for the Bangsamoro Autonomous Region in Muslim Mindanao" has provisions that further protect the rights of non-Moro Indigenous Peoples in BARMM. It is to be noted that the ESS 7 and IPRA are consistent except on (i) when FPIC applies and (ii) who determines consent. On the first item, ESS 7 requires FPIC under 3 conditions as described in the IPPF. In contrast, IPRA requires FPIC when subprojects are located in or affecting ancestral domains. The project will undergo and secure FPIC if either the conditions of ESS 7 or IPRA are encountered. WB ESS 7 states that <i>"FPIC <u>does not require unanimity</u> and may be achieved even when individuals or groups within or among affected Indigenous Peoples disagree"</i> while the IPRA defines FPIC as <i>"the <u>consensus</u> of all members of the ICCs/IPs to be determined in accordance with their respective customary laws and practices, free from any external manipulation, interference and coercion, and obtained after fully disclosing the intent and scope of the activity, in a language and process understandable to the community"</i>. WB ESS 7 does not require unanimity however IPRA requires a consensus decision among all members of the ICCs/IPs. As a rule, the more stringent policy will prevail over the less stringent. In this case, the project shall adopt the definition of FPIC as per RA 8371 (IPRA) which PRDP has always adhered to.
ESS8 - Cultural Heritage	RA 10066 (Philippine Cultural Heritage Act, 2009)	RA 10066 and ESS8 are applicable to this project. The environmental screening process will ensure that any chance finds or other physical cultural resources are identified. The ESMF has included a chance find procedure which requires identification and preservation of any areas of potential cultural importance

World Bank ESS	Relevant Philippine Laws and Regulations	Applicability to PRDP Scale-Up
		or artifacts based on the National Commission for Culture and the Arts (NCCA) guidelines and rules under RA 10066.
ESS9 - Financial Intermediaries	-	ESS9 is not applicable to the project. There are no Financial Intermediaries (FIs) or public and private financial services providers involved in the project.
ESS10 - Stakeholder Engagement and Information Disclosure	● PD 1586 (1987) – Philippine EIS System ● DENR AO 2017-15 ● Local Government Code of 1991 ● Urban Development and Housing Act of 1992 (RA 7279) ● RA 11201 of 2019 or known as the Department of Human Settlements and Urban Development Act ● Indigenous Peoples’ Rights Act of 1997 (RA 8371)	ESS10 applies to the project. The Stakeholder Engagement Plan (SEP) is developed to identify the primary stakeholders that include the project affected stakeholders who will either benefit or be adversely affected as well as key individuals/groups that are involved in various parts of the value chain or component/activities of the project. The SEP also provides guidance in the conduct of public participation through open and participatory consultations with communities and affected persons. The public disclosure and consultations will enable stakeholders to give feedback on project risks and impacts and that may help develop measures to address these aspects during project implementation. GRM that is now being used by PRDP but will include measures to make it sensitive to Sexual Exploitation and Abuse/ Sexual Harassment (SEA/SH) incidents and Sexual Orientation, Gender Identity and Expression (SOGIE)-related issues.

4. ENVIRONMENTAL AND SOCIAL BASELINES

PRDP Scale-Up sites are geographically dispersed over the country covering a wide range of landscapes and coastal areas with physical characteristics that are heterogenous in nature, encompassing lowland plains, mountainous terrain, riverine systems, fluvial waterways, and long, rugged coastlines. Project locations are agricultural lands located in low-income rural areas, of various types and stages of development.

4.1. Geography

The Philippines is an archipelago that is composed of over 7,100 islands. There are three major geographical areas in the country: (i) Luzon Island in the north, where Manila is located; (ii) Mindanao in the south; and (iii) Visayas which is a group of islands in between Luzon and Mindanao. There are 82 provinces which comprise the 16 regions. The country has 21,000 miles of natural coastline²⁰. There are 421 principal river basins, of which 18 are considered major river basins. The Bureau of Fisheries and Aquatic Resources (BFAR) reported that there are 79 lakes in the country mostly utilized for fish production, with 10 considered as major hosts for aquaculture production.

The interior of the country is generally mountainous, with mountain peaks reaching almost 10,000 feet. There are extensive fertile plains along the coast and in the center of the country; lush and scenic rolling hills, with valleys crossed by rivers. Less than 10% of the land area or about 5 million hectares remains covered by forests and only 800,000 hectares of this forest is considered old growth forest.²¹

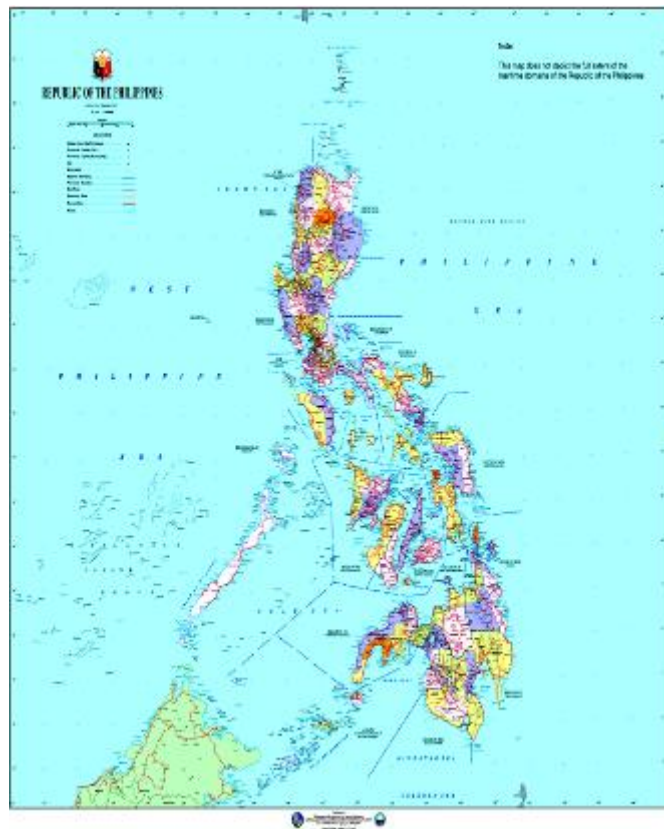


Figure 1. Map of Philippines

Source: NAMRIA

4.2. Natural Resources

4.2.1. Land Resources

The Philippines has a total land area of around 300,000 km². This can be classified into two: (i) forestland, accounting for 53 percent and (ii) alienable and disposable (A&D) land which accounts for 47 percent of the total land area. Land classified as A&D may be used for agriculture, residential, industrial, commercial, and recreational purposes. Over the past years, land cover has significantly changed due to urbanization and increase in human settlements. The National Mapping and Resource Information Authority (NAMRIA) reported that built-up areas have doubled from 302,340 hectares in 2003 to 692,121 hectares in 2010, while the area of closed forest cover decreased by about 26 percent. Logging, forest fires, slash-and-burn farming, pests and diseases, and other activities like mining are major reasons for forest depletion. Agricultural areas also decreased by 11.25 percent from 2003 to

²⁰ <https://www.countryreports.org/country/Philippines/geography.htm>

²¹ <https://www.countryreports.org/country/Philippines/geography.htm>

2010.²² Land resources are threatened by changing land uses, degradation, and increasing population. Logging, surface and strip-mining activities have been identified as primary reasons adversely affecting the country's forests, their biodiversity, and causing soil erosion.

Soils: The Bureau of Soils and Water Management (BSWM) reported that Philippine soils have already inherent low organic matter (OM) and this is further aggravated by erosion. The highest reported erosion rate was measured in the banana-coffee -pineapple intercropping at 421 tons/hectare/year and the lower reported soil loss was for primary forest at 0.2 tons/hectare/year (BWSM, Asio, 1986). The World Bank (1989) reported soil loss at 1 ton/hectare/year for undisturbed forest and 300-400 tons/hectare/year for *kaingin*. Corn farming in sloping uplands has been considered one of the most damaging agricultural production systems in the country, notably by Briones (2010), Francisco (1994), and delos Angeles (1998). (Source: <http://bswm.da.gov.ph/why-bswm/>)

Solid Wastes and Disposal on land: Through policy/regulatory and facilitatory role, the DENR has facilitated to minimize waste by establishing a total of 11,546 materials recovery facilities (MRFs) servicing a total of 14,450 barangays nationwide. The number of sanitary landfills in the country increased from 187 in 2019 to 241 in 2020. (Source: DENR website). As of February 28, 2023, the DENR-EMB registered a total of 163 licensed treatment, storage, and disposal (TSD) facilities in the country that caters to hazardous wastes.

4.2.2. Air Quality

The DENR has several ambient air quality monitoring stations nationwide that measures the concentration levels of particulate matter (PM). As reported by the DENR, the baseline air quality in the rural areas of the Philippines is relatively better and doesn't pose any cause for concern. Air pollution is prominent to urban areas in the Philippines due to vehicle emissions, smoke from domestic open burning, industrial sources and dust from construction areas. As reported in the National Air Quality Status Report, 2020 prepared by the DENR. The average concentration levels of PM10 improved by 64% from 76 ug/NCm in 2011 to 27 ug/NCM in 2020. For PM2.5, where the standard is 25 ug/NCm, the monitoring results indicated that the nationwide average PM2.5 was reduced to 15 ug/NCm in 2020 from 20 ug/NCm in 2016 (Source: <https://www.denr.gov.ph/index.php/speeches/2341-state-of-the-philippine-environment-during-the-national-virtual-earth-day-2021-celebration-22-april-2021>). However, in the recent past, the air quality deteriorated in urban areas, in particular Metro Manila, on account of lifting of Covid-19 restrictions. For the most part, this was due to an acute surge in the number of vehicles on the street.

4.2.3. Freshwater Resources

The country has 314 inland wetlands and 2,487 river systems. Out of the 314 inland wetlands, there are 221 lakes, 39 water storage areas, 45 marshes, swamps, and ponds, and 9 peatlands²³. Groundwater resources are estimated at 260,000 m³/year, with a net groundwater inflow of 33,000 m³/year (NEDA, 2022). The country's water security is affected due to the increasing water demand from the growing population and urbanization. The estimated water availability per capita stands at 1,553 m³/year, which indicates that the country is already below the international "water stress" threshold of 1,700 m³/year and is fast approaching the "water scarcity" threshold of 1,000 m³/year (USAID, 2018). Major water users are power generation and irrigation. The NEDA (2022) reported that water is a scarce resource that requires management to improve in the areas of integrated, holistic approach to development management planning, implementation and operation. This includes demand management, pollution control, watershed, and groundwater protection.

Based on the DENR monitoring of 36 priority recreational water bodies in 2020, only 21 or 58% were found to be within the water quality guidelines in terms of fecal coliform counts. Of the 83 rivers that were monitored in 2020, 60 rivers or 72% passed the water quality standard for dissolved oxygen.

²² NEDA. Philippine Action Plan for Sustainable Consumption and Production. 2022

²³ DENR-BMB. 2016

(Source: DENR Accomplishment Report, 2020 (Source: <https://emb.gov.ph/water-quality-management-section-2/>)). Industries and commercial enterprises that generate wastewater and discharge into a receiving waterbody are regulated by the DENR and are required to provide wastewater treatment facilities to ensure compliance with the effluent standards. Those that are complying with the standards are granted the Wastewater Discharge Permit and are required to monitor the quality of the effluent through quarterly self-monitoring reports submitted to DENR Coastal and Marine Resources

4.2.4. Coastal and Marine Resources

The Philippines is an important ecological zone and has the fifth longest coastline in the world and a maritime area spanning 2.2 million km². The country has a total of 797,719 hectares of coral reef area, 489,006 hectares of seagrass beds, and 303,373 hectares of mangrove forests (NAMRIA, 2016). The country is considered the epicenter of marine biodiversity globally because of a wide variety of ecosystems that are sources of food and raw materials and provide services such as carbon sequestration, shoreline protection, nutrient cycling, and nursery to marine species. Coastal and marine resources contribute about 19 to 36 percent of the country's food supply (NEDA, 2022). There are also several sectors that are reliant on coastal and marine resources such as food production, tourism, energy, transport, and other industrial services. FAO in 2020 reported that the country's production constituted 2.06% of the total world production of 211.87 MMT. Furthermore, the country ranked 11th in the world with 826.01 thousand MT or 1.01% share of the total global aquaculture production of 82.10MMT, marking USD 1.89 billion total value for fish, crustaceans, and mollusks (FAO, 2020).

Issues faced by marine and coastal resources include unsustainable coastal development, illegal fishing and overfishing activities which has led to low catch per unit effort and consequently lower income for fishers. Pollution from disposal of solid waste, sewage, industrial effluents, mine tailings, oil from shipping, and agricultural runoff has resulted in degradation of coastal and marine water quality. In a report by the DENR-EMB, only about 39 percent of monitored marine waterbodies passed the water quality standards for Class SB water bodies (i.e. suitable for bathing, contact recreation, commercial propagation of shellfish, and spawning areas of milkfish and other similar species).

Mangroves, as defined by the DENR are part of the coastal and marine ecosystem that includes seagrass and the coral reefs. According to Maritime Review in 2016, out of the 70 salt-tolerant mangrove species, around 66 percent or 46 species exist in the Philippines.

4.2.5. Biodiversity

The Philippines is a country rich in biodiversity and natural resources. It has 228 Key Biodiversity Areas (KBAs) which are home to 855 globally important species of plants, mollusks, elasmobranchs, fishes, amphibians, and reptiles. There are 248 declared protected areas, covering a total area of about 7,797,143.17 hectares (BMB 2022). The terrestrial protected areas cover 4,620,000 hectares while the marine protected areas account to 3,140,000 hectares. Detailed list of these protected areas can be found in Annex A.

Although the country is considered as one of the world's biodiversity hotspots or biologically rich areas, it has lost at least 70% of the original habitat including at least 700 threatened species due to human activities and threats of habitat destruction.²⁴ The Biodiversity Management Bureau (BMB) reported biodiversity values of ecosystem services at Php2,309.50 Billion.²⁵ Natural resources provide ecosystem services to the population and raw materials for economic activities. However, the country's natural resources struggle to provide food and inputs for production as the economy and population continue to increase. Poverty aggravates the environmental stress as the marginalized population relies on the environment and natural resources for subsistence and livelihood.

²⁴ The Philippine Clearing House Mechanism. <http://www.philchm.ph/status-of-philippine-biodiversity-2/>

²⁵ The Philippine Clearing House Mechanism. <http://www.philchm.ph/status-of-philippine-biodiversity-2/>

Table 4. Ecosystem Services and Biodiversity Values

Ecosystem Service	Php (Billion)
Timber and fuelwood production	1.1
Water provision	50.9
Ecotourism	157.0
Carbon offset	453.0
Flood prevention	41.0
Prevention of soil erosion	10.0
Fishery production	111.0
Crop production	1,416.0
Coral reef	62.1
Mangrove	7.4
Total	2,309.5

Source: Biodiversity Finance Initiative (BIOFIN) Project and BMB CEPA Group

4.3. Climate

The climate of the Philippines is tropical, characterized by relatively high temperature, high humidity, and abundant rainfall. There are two major seasons: (i) rainy season from June to November; and (ii) dry season from December to May. The mean annual temperature is 26.6°C and the coolest month is in January with a mean temperature of 25.5°C. The warmest month is in May with a mean temperature of 28.3°C.²⁶ Due to the high temperature and the surrounding bodies of water, the Philippines has a high relative humidity which varies between 71% in March and 85% in September. Rainfall varies from one region to another, depending on the direction of the moisture-bearing winds and the location of the mountains. Baguio City in the north, Eastern Samar, and Eastern Surigao receive the greatest amount of rainfall while the southern portion of Cotabato receives the least amount of rain.

²⁶ <https://www.pagasa.dost.gov.ph/information/climate-philippines>

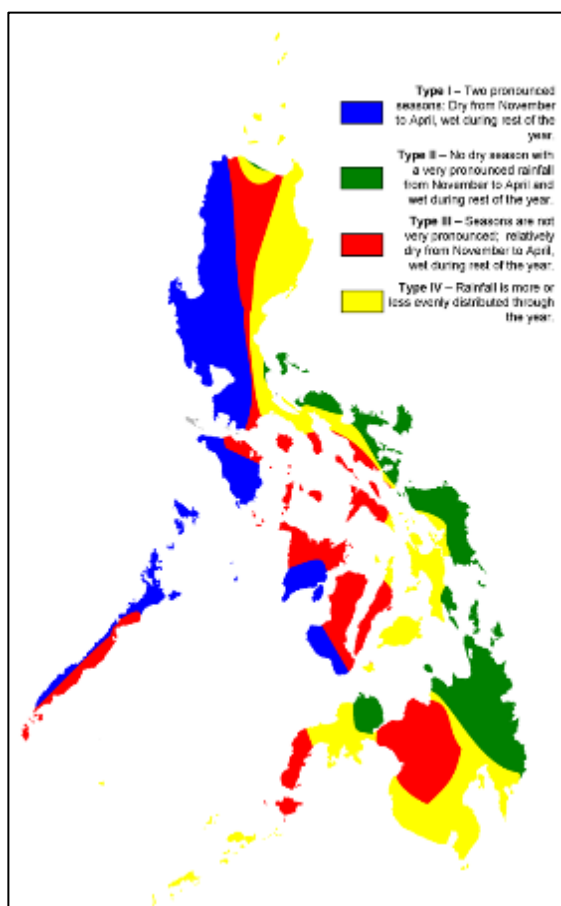


Figure 2. Climate Map of the Philippines

Source: PAGASA

Based on the distribution of rainfall, the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) divided the country into four climate types as shown in Figure 2.

The Philippines is ranked first among the most vulnerable countries to climate change according to the 2022 world risk report.²⁷ Impacts of climate change due to extreme weather events cause annual losses in Gross Domestic Product (GDP), droughts, threats to biodiversity and food security, rising sea level, and risks to public health. The poor and the most vulnerable, many among them live in rural areas, are disproportionately affected by destructive weather occurrences. In 2021, the Department of Finance reported that 98.2 percent of the country's total Php515.51 billion losses and damages from 2010 to 2020 is attributed to climate hazards. The Government reported that about 1 million hectares of grasslands are highly vulnerable to climate change in the future and that most grasslands are prone to fires, particularly during summer with extended periods without rainfall.

The agriculture sector is most vulnerable to climate change. From 2011 to 2015, the sector suffered production losses of 2.9 million tons of rice and 1.02 million tons of corn (DA, 2015)²⁸ and

damage to infrastructure due to calamities. The Intergovernmental Panel on Climate Change (IPCC) projected that by 2051 to 2060, the maximum fish catch potential of Philippine seas will decrease by as much as 50 percent compared to 2001-2010 levels due to global warming trends. The International Rice Research Institute (IRRI) reported that based on temperature trends on irrigated field experiments, grain yield decreased by at least 10 percent for each 1°C increase in growing season minimum temperature in the dry season.

4.4. Natural Disasters, Hazards, and Risks

The intrinsic geographic location and physical conditions of the country makes it prone to various natural disasters like typhoons, volcanic eruptions, earthquakes, and other natural catastrophes that cause substantial damage to agriculture. The country is located between two tectonic plates (Eurasian and Pacific) which continually move, causing both volcanic events and earthquakes.

4.4.1. Climate Change Induced Disasters

Climate change affects weather conditions, temperatures, and sea level, which provides additional risks, altering the agriculture-fishery ecosystem and even resulting in pest infestation and disease epidemics.

The agriculture sector has been significantly affected by climate shocks that damage crops, livestock, and rural infrastructure, and disrupt the logistics of agriculture products and supplies. Increasing

²⁷ National Integrated Climate Change Database and Information Exchange System. <https://niccdies.climate.gov.ph/climate-change-impacts>

²⁸ <https://niccdies.climate.gov.ph/mitigation/agriculture>

temperatures are affecting crop and livestock yields, fostering pest outbreaks, and reducing labor productivity. By 2050, estimates suggest that climate change will decrease agricultural productivity in the Philippines by 9–21 percent²⁹. Increasing temperature and ocean acidification are also affecting fisheries' productivity. Sea-based hazards from sea-level rise, storm surges, and saltwater intrusion will also significantly impact coastal and freshwater fisheries, particularly in the marginalized coastal communities of Visayas and Mindanao³⁰. These, in turn, will increasingly contribute to risks of food deficits, increased food insecurity, social and economic disruption. Given the agricultural sector's acute exposure, rural communities are especially at risk.

4.4.2. Volcanoes

The country has about 300 volcanoes, of which 22 are classified as active and five are classified as high active. These highly active volcanoes are Taal, Mayon, Bulusan, Kanlaon, and Hibok-Hibok.³¹ Hazards associated directly with volcanic eruption are lava flow, tephra flow or ashfall and ballistic projectiles, pyroclastic density currents, lateral blasts, and volcanic gas.

4.4.3. Earthquakes

The PHIVOLCS operates in 108 seismic monitoring stations in the country to monitor earthquakes. Strong earthquakes are a serious risk in the country, except in the Palawan region. From 1968-2022, the PHIVOLCS has recorded eighteen destructive earthquakes in the Philippines, with magnitudes ranging from 5.8 to 8.1.

4.4.4. Tsunami

The coastal areas in the country particularly those facing the Pacific Ocean, South China Sea, Sulu Sea and Celebes Sea can be affected by tsunamis that may be generated by local earthquakes (PHIVOLCS, 2022). Local tsunamis occur in coastal areas within a hundred kilometers of the earthquake source or from a landslide or a pyroclastic flow.

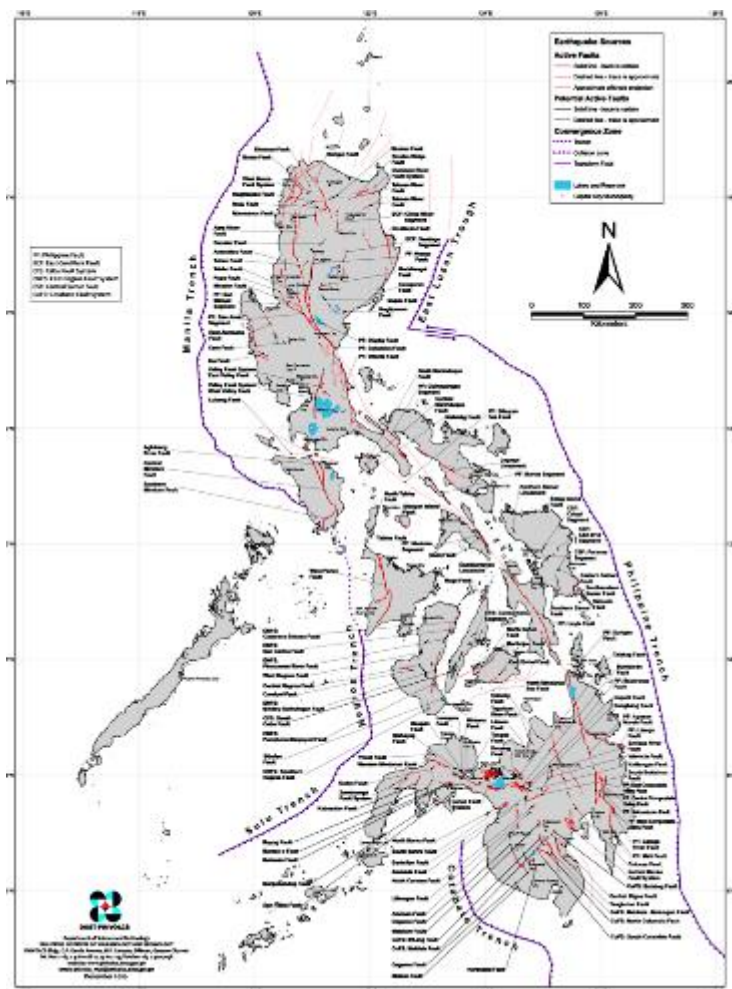


Figure 3. Distribution of active faults and trenches in the Philippines

Source: PHIVOLCS

²⁹ Gevaña, D., Pulhin, J. and Tapia, M. (2019) Fostering Climate Change Mitigation through a Community-Based Approach: Carbon Stock Potential of Community-Managed Mangroves in the Philippines.

³⁰ Alliance of Biodiversity International and CIAT and WFP 2021.

³¹ ADRC. 2011. Philippines' Country Profile. http://www.adrc.asia/countryreport/PHL/2011/FY2011A_PHL_CR.pdf

4.5. Socio-economic

4.5.1. Poverty incidence

Driven by high growth rates and structural transformation, between 1985 and 2018 poverty rates in the Philippines fell by two-thirds. By 2018, the middle class had expanded to cover nearly 12 million people and the economically secure encompassed 44 million. Already faced with the challenge of high rate of income inequality, the latest poverty estimates show that the country's gains in poverty reduction from 2015 to 2018 were partially reversed as the poverty incidence in 2021 increased to 18.1 percent, up from 16.7 percent in 2019, but remained lower than the 23.5 percent in 2015, largely due to the government cash transfers targeted to low-income households.

The COVID-19 global pandemic in 2020 greatly affected the country's economy. Both the economic and social impacts of the pandemic disproportionately affected the poorest and most vulnerable: many lost their incomes, and children who did not have the means to learn with digital devices experienced learning losses. They were also more likely to receive COVID-19 vaccines later, especially those in poor rural areas and hard-to-reach communities.

The circumstances in the rural parts of the Philippines have not been very positive for a long time and pose many challenges for the Philippine government. The percentage of households living in poverty, or poverty incidence, has consistently been greater in rural areas. According to the latest Philippine Statistics Authority (PSA) report, farmers and fisherfolk in rural areas with incomes below the official poverty limits had the greatest rates of poverty, at 31.6 percent and 26.2 percent, respectively. Additionally, these sectors registered the highest rates of poverty in 2015, at 40.8 percent and 36.9 percent, respectively³².

4.5.2. Health and Education

Even before the COVID-19 pandemic in 2020, there were worrying signs of an education crisis in the Philippines. The report of the Program for International Student Assessment (PISA) of the Organisation for Economic Co-operation and Development (OECD) in 2018 showed Filipino students ranking the lowest among 79 countries in mathematics, science, and reading.³³ In a 2022 report by the World Bank on "learning poverty," which assesses difficulties in reading comprehension among elementary students, the Philippines had a dismal 91 percent rating of learning poverty.

It is to be expected that the poor performance of Filipino students will be exacerbated as a result of the public health emergency during the pandemic. Aside from the economic contraction that the Philippines experienced, it also resulted in significant social sector losses, which may be harder to recover. These include learning losses, low levels of routine vaccinations, and the slowdown of healthcare-seeking behaviors in the population, among others. An estimated five percent of primary school-aged children in the Philippines did not enroll in 2022 while 91 percent may not be able to read or understand short and age-appropriate text by age 10. The full impact of this erosion in human development will not be apparent until later, and, if left unaddressed, will lead to poor education and health outcomes for a generation of children. Rebuilding and catching up will require strong prioritization of education and health to prevent a more lasting negative impact on human development (PDP, 2023-2028).

4.5.3. Sources of Livelihood: The agriculture, forestry, and fishery (AFF) sector

The country's overall economy is significantly dependent on agriculture. This happens both in terms of direct contribution to production and employment as well as to manufacturing and service sectors. For many of the poorest rural households, agriculture is the only or main source of income. The majority of them rely on fishing and subsistence farming for their livelihoods. The agriculture, forestry, and fishery (AFF) sector comprises of 109.03 million residents. The sector contributed 11.09 percent

³² Philippine Statistics Authority . 2022. <https://psa.gov.ph/psa-press-release-tags/poverty-statistics-basic-sectors>

³³ [Addressing the Philippine education crisis - BusinessWorld Online \(bworldonline.com\)](#)

of the GDP from 2011 to 2021. Of the three major economic sectors of the country, AFF in the third quarter of 2022, is the least productive, contributing only 8.5 percent of the GDP.

Smaller farm sizes, the decline in farming productivity and profitability, as well as unsustainable farming practices, which resulted in deforestation and diminished fishing grounds are some of the contributing factors to rural poverty. Limited access to finance and credit services, profitable goods, and business opportunities are other barriers. COVID-19 further compounded the problem as it has taken a heavy toll on rural livelihoods with the disruption of food supply chains cascading to loss in income and access to affordable and safe foods. There has been a significant decline in the volume of agricultural production by 3.11 percent or 17.03 million tons because of a lower number of farm laborers affecting about 100.77 million people worldwide³⁴.

The AFF sector is severely affected by the impacts of climate change. The country has constantly been facing the brunt of changing climate, with yearly devastation brought by strong typhoons, floods, landslides, and climate-induced diseases. The poor and the most vulnerable, many of whom live in rural areas, are disproportionately affected by destructive weather occurrences. In 2021, the Department of Finance reported that 98.2 percent of the country's total P515.51 billion losses and damages from 2010 to 2020 is attributed to climate hazards³⁵.

4.5.4. Land Tenure and Land Use Patterns

Under the 1987 Constitution, all lands are divided into public domain and private lands (which includes ancestral lands). Private lands are either in private ownership or held by the State in its capacity as a private individual. Privately-owned lands are subject to eminent domain; that is, they can be taken back by the State provided that the repossession is for public purposes and the requirements of due process and just compensation are satisfactory. Lands in the public domain, on the other hand, are further subdivided into: (1) non-disposable lands and therefore not available for alienation (i.e., natural parks, mineral lands, and forest lands); and (2) disposable lands and hence available for alienation (i.e., agricultural lands).³⁶

Land use planning considers how the most sustainable, appropriate, and beneficial use of land can be determined. Local land use planning was strengthened by the Republic Act No. 7160 in 1991 to follow the principle of subsidiarity. The Comprehensive Land Use Plan (CLUP), the main planning instrument, aims to provide a sound foundation for managing past, current and projected land use and for the allocation of land resource use of the whole territory of a city/municipality.³⁷

Cadastral systems can provide a technical mode to assemble information about the tenure status of landholders. This information is crucial as the tenure status determines the potential land use for landowners or land dwellers. While the Philippines has systems responsible for collection of tenure information, the described inconsistencies and shortcomings in the spatial planning system stretch to the situation of land classification. The cadastral systems of different planning administrations and sectoral agencies are largely disconnected, and exact delineation of different parcels and land types is often missing. Landholders thus face a multitude of different forms of formal, semi-formal and informal land titles. Hence, the use of land, especially by smallholder farms, often takes place unregulated. Non-tenant farming or land use under unclear tenancy arrangements (such as customary use) are widespread phenomena in the Philippines, despite existing efforts to implement comprehensive agrarian reform.³⁸

³⁴ SEARCA. 2022. <https://www.manilatimes.net/2022/06/10/news/regions/make-urban-agriculture-a-weapon-vs-covid-19/1846847>

³⁵ Philippine News Agency. 2022. <https://www.pna.gov.ph/articles/1125991>

³⁶ [PolicyMatrix Land Use-Policy Planning and Administration Final.pdf \(senate.gov.ph\)](#)

³⁷ German Institute for Development Evaluation (DEval) Policy Brief 2018

³⁸ German Institute for Development Evaluation (DEval) Policy Brief 2018

4.5.5. Gender and Development in Agriculture

The Magna Carta of Women (Republic Act No. 9710) defines Gender and Development Program (GAD) as the development perspective and process that is participatory, empowering, equitable, sustainable, free from violence, respectful of human rights, supportive of self-determination and actualization of human potentials. It seeks to achieve gender equality as a fundamental value that should be reflected in development choices and contends that women are active agents of development, not just passive recipients of development.

Based on the Farmers and Fisherfolks Registration System (FFRS) as of November 2022, a total of 6,151,553 are involved in agriculture and fisheries sector and 42.8 percent comprises women who are classified as farmers, farmworkers, fisherfolk, and agri-youth. The Department of Agriculture as part of its Gender and Development plan has identified the following client-focused gender issues which the Department continuously addresses through its programs, projects and policies: 1) Rural Women, consisting of women farmers, fisherfolk, workers, micro-entrepreneurs (WMEs) have limited access to market services and opportunities; 2) Limited/Lack of women's access to production support services for their agri-based activities Sex Disaggregated Data (SDD) from the DA Monitoring and Evaluation Division (MED) in 2017 showed that the number of women beneficiaries was lower than men (less than 50 percent) in the following production support services: seeds (35 percent), planting materials (43 percent), Animals (32 percent); 3) Limited entrepreneurial skills and knowledge among rural women, particularly WMEs; 4) Lack of access of women farmers to farm production related and postharvest machineries, facilities and equipment. SDD in 2017 showed that the percentage share of women beneficiaries is 39 percent.

4.5.6. Indigenous Peoples

The term "Indigenous Peoples" is often described as social groups with a cultural identity distinct from the mainstream society. Due to the varied and changing contexts in which indigenous peoples are found, no single definition can capture their diversity. All definitions of the concept of "indigenous" regard self-identification as a fundamental criterion for determining the groups to which the term indigenous should be applied.

There is no official figure yet from the PSA on the total population of the Indigenous Peoples in the Philippines, however it is estimated that the country's indigenous population is between 10-20 percent of the national population scattered all over the country.

Indigenous Peoples who are traditionally farmers, hunters and fishers, have great knowledge about their environment. These communities are generally situated in areas that are rich repositories of high biodiversity. Through generations, IPs have established systems and coping mechanisms rooted in their traditional knowledge, customs, and practices to different circumstances affecting their communities. These are all founded on one fundamental principle: to ensure that the community survives.

However, because IPs have been historically and still continue to be marginalized, they are greatly disadvantaged economically. IP communities have very limited or no access to information and knowledge on new, modern agricultural practices, inputs and technologies, as well as improved plant stock/seeds that will complement their Indigenous Knowledge Systems and Practices (IKSPs). IKSPs refer to systems, institutions, mechanisms, and technologies comprising a unique body of collective wisdom evolved through time that embody patterns of relationships between and among peoples and between peoples, their lands and resource environment, including social, political, cultural, economic and spiritual dimensions, consisting as well of adaptive mechanisms which have allowed indigenous peoples to survive and thrive within their given socio-cultural and biophysical conditions.

With depleting environmental resources and competing demands for these natural resources, farmers and fisherfolks usually resort to unsustainable and suboptimal farming practices, perpetuating an environmental vicious cycle. Slash-and-burn farming practices lead to depletion of the forest cover, pushing some animals further into the wild resulting in diminished catch for hunters. For fisherfolk,

non-IP migrant fishers using destructive fishing methods such as dynamite & cyanide fishing destroys habitats resulting in depleted fish stocks. The lack of or badly deteriorated access roads result in costlier farm produce of IPs making them economically uncompetitive in the open/free market.

4.5.7. Security and Conflict Areas

The Philippines faces multiple security concerns, ranging from the existence of lawless armed groups, armed revolutionary groups, terrorist and violent extremist especially in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM). During the 18-year period from 1986-2004, 91 percent of all provinces were affected by ideology-based armed conflicts as per the 2005 Philippine Human Development Report. Although Mindanao is generally associated with conflict, the degree and magnitude of conflict vary depending on the geographic location with BARMM particularly being a more sensitive area. Unique to the Bangsamoro region is the presence of “rido”, a type of sporadic and retaliatory/vendetta type of violent conflict involving clans or families and at times communities usually triggered by transgressions of clan / family welfare, honor, ownership and or power. Citing Conflict Alert Report 2020 the highest concentrations were in Lanao del Sur and Maguindanao including the city of Cotabato. Majority of these feuds were fueled by personal and political grudges, and land conflicts, among others. In Maguindanao, feuds erupted in the municipalities comprising the SPMS Box (Shariff Aguak, Pagatin (now Datu Saudi Ampatuan), Mamasapano, and Datu Salibo) and involved groups such as the Moro Islamic Liberation Front (MILF) and the Bangsamoro Islamic Freedom Fighters (BIFF) that fought over land.³⁹

The non-Moro Indigenous Peoples (IPs) comprise about 3-4 percent of the total BARMM population, situated across the 12 municipalities in Maguindanao and Lanao del Sur. The non-Moro IPs in BARMM face multiple security challenges ranging from being caught in the crossfires between state and non-state armed groups, violent harassment of IP communities within the peripheries of MILF and BIFF camps or areas of jurisdictions leading to forced evacuation and eventual occupation of their ancestral lands and summary killings of their tribal leaders.⁴⁰

Children often comprise a significant proportion of any crisis-affected population and are considered among the most vulnerable in armed conflict as they are dependent on parents and adults for care and protection. As per Save the Children Philippines, 96.4 percent or 3.6 million of the population of the Bangsamoro Autonomous Region for Muslim Mindanao (BARMM) are vulnerable to conflict. Of this number, 48.8 percent or 1.8 million of them are children. Prolonged conflicts across Mindanao aggravate the situation of hunger and malnutrition among children especially those under five years of age. Conflict is also present in other parts of the country where insurgency remains an issue. During elections, conflict tends to intensify with rival families or candidates.

³⁹ World Bank document, BARMM Context (2021)

⁴⁰ World Bank document, BARMM Context (2021)

5. POTENTIAL ENVIRONMENTAL AND SOCIAL RISKS AND MITIGATION

This chapter presents the anticipated environmental and social benefits and risks in the implementation of project activities, particularly those related to the construction and operation of infrastructure linkage subprojects under I-BUILD and the enterprise development activities under I-REAP. These investments have on-the-ground subprojects that are most likely to generate E&S risks. As part of the PCIP preparation, any possible adverse impacts to the environment and the community will be assessed during the investment planning and consultation process under I-PLAN.

5.1. Project Benefits

Overall, with proper design and commitment, the PRDP Scale-Up will provide positive impacts on increased food security, increased agricultural production from value chain infrastructure support and enhanced access to markets, and increased income for farmers and fisherfolks from agri-fishery activities due to level-up approaches and innovations on climate resilience, proven new technologies and systems. The project will also enable the farmers and fisherfolks to have common service facilities that can help increase production efficiency, reduce labor cost, reduce postharvest losses, improve product quality, and increase product storage life.

The typical typology of subprojects considered under the project include: farm-to-market road/bridges; irrigation; potable water supply; crop production; multi-commodity processing; aquaculture, mariculture, hatcheries, fishponds; slaughterhouse, dressing Plant, hatchery meat processing, dairy processing; fish landing, feeder ports; milling, drying, packaging facilities; cold storage; warehouse, greenhouse; trading and market center. Considering these typologies, the subsequent sections present the potential environmental and social risks and impacts. Table 5 presents a broad/indicative list of issues/impacts to be considered under different ESS.

Table 5. Expected Environmental and Social Impacts Associated with I-BUILD Infrastructures and I-REAP Enterprises.

Environmental and Social Standard	Potential Environmental and Social Impact
ESS1: Assessment and Management of Environmental and Social Risks and Impacts	Vulnerability to natural, geologic and climate hazards
	Encroachment on buffer zone of protected area and forests
	Encroachment on mangrove forest, marshland, wetlands
	Change in land surface structure/topography/slope
	Conflict-affected areas
ESS2: Labor and Working Conditions	Occupational health and safety
	Labor disputes over terms and conditions of employment
	Gender-based violence (GBV) and sexual exploitation and abuse and sexual harassment risks (SEA-SH)
	Labor influx causing community peace & order issues
	Exposure to COVID19, sexually transmitted diseases, and other communicable diseases
ESS3: Resource Efficiency and Pollution Prevention and Management	Depletion of water resources from excessive water abstraction
	Energy consumption
	Runoff of pesticide and agro-chemical residues causing degradation of water quality

Environmental and Social Standard	Potential Environmental and Social Impact
	Soil erosion from construction activities, quarry, borrow pits, materials & waste sites
	Water pollution from enterprises facilities
	Air pollution and GHG
	Odor
	Solid waste and byproducts
	Chemicals and hazardous waste
	Use of ODS
	Water-borne diseases in water supply
	Dust from construction
	Noise and vibration from construction
	Generation of construction wastes
	Domestic sewage and sanitation issues during construction
ESS4: Community Health and Safety	Community health and safety
	Food safety
	Traffic congestion
	Traffic-related accidents
ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Land acquisition and displacement
	Land conversion
ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	Disturbance of ecosystem, flora and fauna
	Loss of genetic resources and variability
	Diseases from livestock and poultry
	Impact on ecosystem services
	Removal of trees and vegetation
ESS7: Indigenous Peoples	Impact on IP/ICC
ESS8: Cultural Heritage	Impacts on cultural properties and traditions
ESS10: Stakeholder Engagement and Information Disclosure	Conflicts
	Gender and vulnerability
	Community engagement and cohesion
	Economic growth
	Food security

5.2. Climate Change Co-Benefits, Risks and Impacts

The Philippines is extremely vulnerable to the effects of climate change particularly in terms of extreme temperature causing drought; extreme precipitation causing flooding and landslides; sea level rise; storm surges; and strong winds. The project's approach towards integrating climate-resilient

design and disaster risk management during infrastructure design and development is described in the ESMF and begins with the conduct of the e-VSA and ESA to ensure that the subprojects are located in safe places that will not be duly exposed to the harsh impacts of climate change and natural disasters. It is a part of the project strategy to make climate-resilient design and disaster risk management mandatory for all its components, beyond what is required for the infrastructure design and development. Under Component 1, I-PLAN would update PCIPs so they incorporate risks and climate resilience information, criteria and standards, for efficient sub-project design, site selection, and decision making. All investments under Components 2 (I-BUILD) and 3 (I-REAP) would feature climate change adaptation/mitigation into their design and construction. The project would continue to integrate the existing climate-resilient infrastructure mainstreaming frameworks. Since the Philippines is considered to be one of the world's most vulnerable countries to climate change, the government has raised the Building Code standards and relevant rules and regulations, requiring all infrastructure projects, especially government investments, to comply with climate-resilient design and disaster risk management protocol to ensure the safety and security of people, public goods, services and assets, livelihoods, natural resources, and environmental sustainability.

To estimate the impact of the project on GHG emissions and carbon sequestration, a GHG ex-ante analysis was carried out for every single intervention and then aggregated to obtain a net carbon balance calculating the net balance of CO₂ equivalent GHG emitted or sequestered with-project interventions compared to a without-project scenario (baseline scenario using conventional technologies). The assessment of the carbon stock changes (emissions or sinks), expressed in equivalent tons of CO₂ per hectare and year focused on the Infrastructure and Enterprise Development investments of PRDP Scale-up, as modelled in the Economic and Financial Analysis (EFA). Since the project would be implemented over 5 years (2024-2028), the analysis was run over a total of 20 years, with a capitalization phase of 15 years. Based on interventions described in the EFA, the total Net Carbon Balance would reach an estimated average of +25,710 tons of CO₂eq emissions per year of the project, corresponding to an estimated total of +514,193 tons CO₂eq emitted over the entire project life. A direct consequence of the PRDP's goal to increase profitability by promoting the construction and operation of processing facilities as well as the construction of new roads and rural infrastructure, most of the interventions emit CO₂eq, compared to the without-project scenario. The activities with carbon sequestration are the coffee agroforestry and the irrigated vegetables which have water, soil, and residue management that improve carbon stock. However, the project is also expected to address climate vulnerabilities and bring innovation (techniques and new technologies), which would improve resource efficiency and reduce post-harvest wastage. Such mitigation benefits are not counted by the calculations using the GHG formula EX-ACT but would significantly offset the emissions by the project. Annex P presents the climate co-benefits and GHG accounting.

5.3. ESS 1: Assessment and Management of Environmental and Social Risks and Impacts

The subprojects will be geographically dispersed over the entire Philippines and may be located on different islands with divergent geophysical features and topography. There may be aquaculture subprojects in coastal areas, rivers, or lakes. Irrigation, water supply and commodity enterprise subprojects may use groundwater resources, spring water, lakes or rivers which are typical sources of water for drinking, agriculture, residential and commercial use. For crop production, agricultural farmlands are generally well-defined in terms of land use and location since existing regulations prohibit conversion of forests and protected areas to agricultural use.

The project will utilize available information such as the eVSA and CRVA which includes land and soil suitability analysis to evaluate the condition of the soil, climate, slope and topography, water availability, drainage, erosion hazard, predominant flora and fauna, and the natural features of agricultural land where the subproject will be located. The assessment also refers to the geotagging against information on protected areas, ancestral domains, and presence of climate and geologic

hazards from DENR, Phivolcs and PAGASA. The project documents will inform the detailed design of the infrastructure-support activities which include feasibility studies, business plans, strategy papers, and the conduct of subproject-specific -ESA as required under ESMF as well as compliance of the subproject with the PEISS.

5.3.1. Vulnerability to climate change and natural disasters

The intrinsic geographic location and physical conditions of the country are prone to various natural disasters like typhoons, volcanic eruptions, earthquakes, and other natural catastrophes that cause substantial damage to agriculture. There are crops such as rice that have high water requirements and therefore are highly vulnerable to impacts of changing climate. Recurring typhoons, floods and drought are major threats to rice production in recent years. Typhoons and droughts lead to changes in pattern of temperature and rainfall and these conditions result in high percentage of production losses. Climate change also affects temperatures, and sea level, which provides additional risks, altering the agriculture-fishery ecosystem and even resulting in pest infestation and disease epidemics.

Science-based tools (for hazard and weather forecasting) and information systems in planning, investment prioritization, resource allocation, monitoring, and evaluation to rationalize and pursue climate-resilient investments in PRDP Scale-Up will be used to generate optimum impacts and benefits of the project. The CRVA based on the Protocol for Integrating CRVA into PCIPs that was developed under PRDP will be used to provide information related to hazards, Adaptive Capacity (AC), and climate suitability. The available CRVA information on crops will be expanded to cover all provinces and commodities by integrating information on Disaster Risk Reduction and Management, geologic hazards and natural hazards such as earthquakes, fault lines, volcanoes, landslides, liquefaction, soil erosion, flooding, storm surge, tsunami, etc. from available information from Phivolcs, DENR-Mines and Geosciences Bureau, and DOST-PAGASA. The planning of investment areas in value and supply chains will consider the local perspective, hazard mapping and the Philippine Agricultural and Biosystems Engineering Standard (PABES). For the rural access infrastructures, I-BUILD will adopt the DPWH Department Order 112 series of 2019⁴¹, in addition, to Department Order 72 series of 2014 and DPWH Department Order No. 179 series of 2015 re: DPWH Design Guidelines, Criteria, and Standards (DGCS), 2015 Edition (Volume 5 – Bridge Design)⁴².

5.3.2. E&S Risks and Impacts during Construction Phase

The construction of FMRs, bridges, water supply, irrigation, common facilities, and enterprise facilities will entail direct physical impacts and disturbance in the area and surrounding community in terms of dust, noise, vibration, soil erosion, generation of construction debris and wastes as well as health and safety issues for workers and the community. Other construction-related impacts may result from Contractor's temporary office, storage area, batching plant, quarry site and sources of aggregates, oil and gas leaks from equipment, sanitary facilities, health and safety issues related to the management of COVID-19 and other infectious diseases, and movement of trucks and equipment to the site. These could pose health and safety risks to workers and surrounding communities. There may be areas for cement mixing or stockpiling of construction materials in the premises of a subproject site that could be sources of construction-related risks.

Most of the civil works will generate temporary and localized construction impacts that could be prevented or reduced to acceptable levels through proper planning and by applying good construction practices and proper site management. Site-specific impacts during the construction stage will be evaluated for each subproject and which will be addressed in the ESMPs and CSHP to address the site-

⁴¹ DPWH DO 112, series of 2019 uses 6.1 meters carriageway width for FMRs with average daily traffic count greater than 200.

⁴² DPWH DO No. 179, series of 2015 uses HL-93 as the live load consideration and the seismic load is in accordance with DPWH LRFD Bridge Seismic Design Specification (BSDS), 1st edition, 2013. (Use of 20 tons as the live load capacity of the bridge depending on the traffic load)

specific construction-related impacts. The typical subproject environmental and social impacts for the project's construction activities related to waste generation are presented in ESS6.

5.3.3. ESA of Subprojects under the Philippine Environmental Impact Statement System

All subprojects under I-REAP and I-BUILD are subject to environmental and social assessment under PEISS. Under the PEISS, certain project types that are considered environmentally critical and all projects that are located in environmentally critical areas are required to prepare an Environmental Impact Statement. The DENR Admin Order (DAO) No 30 Series of 2003 has further defined four categories of projects, based on their type, scale and location. Category A projects are considered Environmentally Critical Projects (ECPs). Category B projects are not considered environmentally critical but are located in Environmentally Critical Areas (ECAs) and are above certain scale or size thresholds. Category C-type projects are environmental enhancements such as wastewater treatment and solid waste management. Lastly, Category D projects are neither environmentally critical types nor located in environmentally critical areas or those that are below not environmentally critical but located in environmentally critical areas and are below certain scale or size thresholds. Category D subprojects are not required to prepare -EIS-. The Revised Procedural Manual for DENR DAO 2003-30 specifies the scale or size thresholds below which a non ECP located in ECA would fall under Category D.

It is expected that most of the Infrastructure Development (I-BUILD) subprojects and Enterprise Development (I-REAP) enterprises will fall within either Category B or D. For Category D subprojects, the proponent group or LGU will obtain from DENR a Certificate of Non- Coverage (CNC). Category B subprojects are required under PEISS to undergo Initial Environmental Examination (IEE). The IEE, which also contains the -ESMP, will serve as the subproject's -EIS which will be subject to review by the DENR with the issuance of an Environmental Compliance Certificate (ECC) as the desired outcome.

Based on the indicative list of subprojects of PRDP Scale-Up, Table 6 shows the requirements under the PEISS. This criteria forms part of the Philippines regulatory system and depending on the type of the project, as part of the proposed SES Screening internalizes the ESA requirements. The ESMF provides specific guidance for conduct of ESA as well as specific sector level guidance for the SPs in 11 sectors.

Table 6. PEISS Requirements for Indicative Subprojects of PRDP Scale-Up

Subproject	Project Size Parameters	Category B	Category D
Roads, new construction	Length with no critical slope OR length with critical slope	EIS: ≥ 20 km, OR ≥ 10.0 km IEE: > 2.0 km but < 20.0 km, OR > 2.0 km but < 10.0 km	≤ 2 km
Roads, Widening, rehabilitation and/or improvement	Increase in capacity (in terms of length/width) AND Length with no critical slope OR length with critical slope	EIS: $> 50\%$ increase in capacity AND ≥ 20 km, OR ≥ 10.0 km IEE: $> 50\%$ increase in capacity AND > 2.0 km but < 20.0 km, OR > 2.0 km but < 10.0 km	$\leq 50\%$ increase in capacity but ≤ 2 km increase in length
Bridges	Length	EIS: ≥ 5 km but < 10.0 km IEE: > 50 m but < 5.0 km	Regardless of length for foot bridges; ≤ 50 m for other bridges

Subproject	Project Size Parameters	Category B	Category D
Bridges, rehabilitation and/or improvement	Increase in capacity (in terms of length/width) OR Length	EIS: $\geq 50\%$ increase in capacity OR ≥ 10.0 km IEE: $\geq 50\%$ increase in capacity but < 10.0 km	$\leq 50\%$ increase in capacity but ≤ 2 km increase in length
Irrigation (Distribution System Only)	Service area	EIS: $\geq 1,000$ hectares IEE: > 300 hectares but $< 1,000$ hectares	≤ 300 hectares
Water Supply Projects (without dam)	Type	Levels III (Distribution system only)	Level II/ Level I (Water Refilling Station)
Impounding System or Flood Control Project	Reservoir flooded area	EIS: > 5 hectares but < 25 hectares OR impounded water > 5 million m^3 but < 20 million m^3 IEE: ≤ 5.0 hectares AND impounded water ≤ 5.0 million m^3	None
Minor Dams	Reservoir flooded area and Water Storage capacity	EIS: > 5.0 hectares but < 25.0 hectares OR impounded water > 5.0 million m^3 but < 20.0 million m^3 IEE: ≤ 5.0 hectares AND impounded water ≤ 5.0 million m^3	
Sea Port, Causeways, and Harbors	Area to be developed	< 15 hectares reclamation OR > 1.0 hectare but < 25 hectares (w/o reclamation)	≤ 1.0 hectares (w/o reclamation)
Rice/Corn Mill	Milling Rate	> 1 ton/hr	≤ 1 ton/hr
Poultry	Stock Population	$> 10,000$ heads but $< 100,000$ heads	$\leq 10,000$ heads
Pigs/Goat (enclosed)	Stock Population	> 100 heads but $< 5,000$ heads	≤ 100 heads
Fishery/Aquaculture Projects using fresh or brackish water	Total water spread area to be utilized	> 1 hectare but < 5 hectares	< 1 hectare OR seaweed farming
Compost/fertilizer making	Daily capacity	$> 3,750$ MT annual capacity	$\leq 3,750$ MT annual capacity
Agricultural plantation	Area to be planted	EIS: ≥ 500 hectares IEE: ≥ 50 hectares but < 500 hectares	< 50 hectares
Agricultural Processing including rice, corn, fruits and vegetables and other agricultural products	Annual production capacity	EIS: $\geq 50,000$ MT IEE: $> 5,000$ MT but $< 50,000$ MT	$\leq 5,000$ MT

Subproject	Project Size Parameters	Category B	Category D
Processing of dairy products	Monthly production capacity	EIS: $\geq 10,000$ L (liquid) OR ≥ 100 MT (solid)	≤ 100 L (liquid) or ≤ 1 MT (solid)
		IEE: > 100 L but $< 10,000$ L (liquid) OR > 1 MT but < 100 MT (solid)	
Coconut processing plants	Annual production capacity	EIS: $\geq 25,000$ MT	≤ 200 MT
		IEE: > 200 MT but $< 25,000$ MT	
Animal products processing (fish/meat processing, canning, slaughterhouses, etc.)	Annual production capacity	EIS: $\geq 2,500$ MT	≤ 200 MT
		IEE: > 200 MT but $< 2,500$ MT	
Other types of food (and other food by-products, additives, etc.) processing industries	Annual production capacity (finished product)	EIS: $\geq 50,000$ MT	≤ 200 MT
		IEE: 200 MT but $< 50,000$ MT	
Leather and related industries	Annual production capacity	> 200 MT but $< 2,500$ MT	≤ 200 MT
Paper and plastic based products	Annual production capacity	$> 15,000$ MT	$\leq 15,000$ MT
Commercial buildings and other similar structures including food preservation (e.g., drying, freezing) and other methods aside from canning	Area to be utilized (gross/total floor area including parking and other areas)	EIS: ≥ 5.0 hectare	≤ 1 hectare
		IEE: > 1 hectare but < 5.0 hectare	
Storage facilities, toxic/hazardous materials	Storage capacity	EIS: $\geq 1,000$ MT	None
		IEE: $< 1,000$ MT	
Batching and Cushing plant, sand and gravel washing	Type and year of operation	Regardless of size or capacity	Mobile or to be operated for less than 1 year

The actual screening of subprojects based on the above criteria shall be done by the proponent group or LGU with the assistance from PLGU and/or the RPCO. In doing so and especially for subprojects that are not listed above, the proponent group or LGU should consult the latest version of the Revised Procedural Manual for DAO 30-2003 to be provided by the RPCO; the latest guidelines prevail in cases of conflict with the above classification guidelines. While no Category A subprojects are expected, in case there is/are subproject/s falling under Category A, as well as Category B, the proponent LGU shall comply with the EIS requirements of the concerned regional office of the Environmental Management Bureau (EMB) for evaluation. The World Bank will conduct prior review of subprojects falling under Category A when warranted.

It should be noted that an ESMP is still required for subprojects deemed not covered under the PEISS. This would ensure that environmental and social impacts for such non-covered subprojects under the PEISS are addressed during implementation.

5.3.4. Conflict-affected areas

The project covers all provinces in the Philippines including areas known to have a history of conflict or are conflict-affected areas. The SES Screening Form shall include an assessment of the presence or absence of conflict in the area. It shall further determine if the entry of the PRDP Scale Up subproject could trigger and/or exacerbate the identified conflict in the area. If it is determined that the subproject is within a conflict-affected area, the project shall conduct a conflict context assessment and ensure that the risks identified are addressed and mitigated through the conduct of social preparation and continuous dialogue with the community, especially with community and religious leaders in the locality. The SEP is developed to contain the consultation standards and methods of engagement. If the subproject is assessed to trigger and/or exacerbate the identified conflict in the area, the subproject proponent must redesign/adjust the proposed subproject to avoid exacerbating the identified conflict.

If armed conflict or military operation takes place within the subproject areas, the project workers, and subproject contractors will be evacuated following the local emergency protocols. The Memorandum of Agreement (MOA) with the LGUs will include provisions for briefing of all project workers/staff on the local protocol for notification, evacuation, rescue, and safety protocols of the LGUs. Each LGU has its mandated procedure and structure for security and safety in case of armed conflict, which is usually led by the Municipal/Barangay Peace and Order Committee and articulated in detail through the Peace and Order and Public Safety (POPS) Plan. The LGU protocols provide the contact details and process for early warning; rescue/evacuation procedures or steps; and temporary shelter, if necessary. The DA will establish contact details and processes for concerned LGUs to appropriately inform the NPCO/PSO/RPCO about the status of project workers in any event of armed conflict.

5.4. ESS 2: Labor and Working Conditions

Given the large value of the project and since most of the funds would be on infrastructure subprojects, the labor requirement is expected to be large at an aggregate level, but small-to medium-scale at a local sub-project level. The bulk would consist of contracted workers that will be hired during construction. Additional project staff at the national, regional, and provincial levels would be needed to help implement the project. Nevertheless, labor risks are expected to be low to moderate given the strong Philippines Labor Code which is at par with international standards for child labor, labor management, and decent work as per ESS 2, and the track record of the implementing agency of contracting well performing construction enterprises for infrastructure sub-projects. The minimum age under the Labor Code is even higher at 15 years compared with the ESF's 14. A set of Labor Management Procedures (LMP) is annexed in this ESMF and includes a GRM, specific for project workers.

5.4.1. Occupational Safety and Health

There are several physical, biological and chemical hazards in enterprise facilities that affect worker health and safety such as hazards due to slippery conditions; use of machines and tools; movement of transport equipment such as forklift, trucks and containers in the facility; inhalation and ingestion of dust and aerosols; high levels of humidity excessive temperatures; exposure to noise; improper ventilation, poor lighting, or exposure to chemical-handling activities that may cause skin irritation or other allergic reactions. Recommended mitigation measures in the ESMP include:

- Maintain walking and working surfaces clean and dry by preventing spillages through equipment design and operation.
- Providing workers with PPEs such as hearing protection, gloves, apron, anti-slip footwear, where necessary.
- Demarcate transport corridors and working areas
- Provide handrails on platforms, ladders and stairs.

- Ensure electrical and mechanical safety on equipment and facilities
- Prepare emergency plans and training for workers
- Provide proper ventilation of enclosed or semi-enclosed areas
- Install exhaust ventilation with filters, cyclones in areas prone to dust generation
- Apply Hazard Analysis and Critical Control Point (HACCP)⁴³ as well as standard procedures on sanitation, Good Manufacturing Practice (GMP), pest control, chemical control, allergen control.

During construction of infrastructure and enterprise facilities, hazards to workers may arise from the use of materials such as paints and solvents as well as from working conditions that require working at heights or in confined spaces, working in trenches and excavations, poor lighting, and working with electrical and mechanical tools and systems. Construction workers may also experience extended working hours and night work that could contribute to mental stress and fatigue.

Mitigation measures to address risks to occupational safety and health during construction include:

- Identification of potential risks or hazards to project workers, particularly those that may be life-threatening.
- Implement the approved Construction Safety and Health Program (CSHP) in compliance with the DOLE OSH guidelines.
- Designate an onsite Safety Officer duly accredited by DOLE.
- Assign a contact person onsite to receive/respond to complaints from the barangay/ community; provide the name/contact number of the responsible person to the Barangay.
- Require workers to wear safety gadgets/PPEs such as hard hats, gloves, safety belts, rubber boots, and goggles, appropriate to the task.
- Post safety signs/posters as reminders of safety protocols in strategic areas within the construction area.
- Conduct of periodical safety training/orientation to workers
- Provide sufficient lighting at night.
- Provide barricades / safety barriers particularly at excavations and stockpiles of aggregates.
- Provide first-aid kit at the construction site to ensure immediate medical attention in case of accidents.
- Comply with the COVID-19 health and safety guidelines of the Government.

5.4.2. Labor disputes over terms and conditions of employment

The project shall set-up an accessible, well-functioning and efficient grievance redress mechanism and ensure its compliance to ESS 2 consistent with the Labor Code of the Philippines as per developed LMP of the project.

5.4.3. Possible Spread of COVID-19 virus and other viruses adversely affecting Community and Occupational Safety and Health (COSH)

Even now, the COVID-19 virus and its other variants continue to be a threat to public safety around the world. The project shall continue to comply with all the requirements needed prior to deployment and continuation of operations and activities as set forth in the project Guidelines harmonized with national and local issuances relevant to a declaration of a Public Health Crisis (i.e., COVID-19 pandemic).

5.5. ESS 3: Resource Efficiency and Pollution Prevention and Management

The subprojects under I-BUILD, in particular water supply and irrigation systems, and the subproject interventions under I-REAP such as processing plants, hatcheries, fishponds, cold storage, non-food processing facilities, dry and milling facilities may generate pollution to air, water, and land, and utilize resources that would affect sustainability of the resource, ecosystem services, and adversely impact

⁴³ HACCP is a tool to assess hazards and establish control systems that focus on prevention rather than relying mainly on end-product testing. (Source; FAO)

the local and regional environment. There are agricultural activities that are expected to contribute to greenhouse gas (GHG) emissions due to crop and livestock production, food processing, hatcheries, among others. These subprojects are required to integrate the principles of cleaner production in the design and processes to improve efficient use of resources, energy, water and raw materials, consistent with Good International Industry Practice (GIIP), with reference to the Environment, Health, and Safety Guidelines (EHSGs). Building structures will follow the Green Building Code, when possible, to lessen the subproject's adverse effects on the environment through improved energy efficiency, water and wastewater management, materials sustainability, solid waste management, site sustainability, and indoor environmental quality.

5.5.1. Depletion of water resources

The potable water systems under the project include Levels 1 and 2 systems. Sources may include surface water from lakes, streams, rivers and groundwater. There may be risk that the water source is not properly located which will affect water quality and availability. The potential adverse effects of surface water withdrawal on the water body and downstream ecosystems will be evaluated in the ESA including appropriate environmental flow assessment to determine acceptable withdrawal rates. Protection of the water quality will be ensured by locating the potable water supply intake at least 25 meters away from any septic tank or any raw wastewater discharges and areas as prescribed by the Sanitation Code. In addition, the water quality should conform to the Philippine National Drinking Water Standards.

Communal irrigation systems include gravity-fed systems, small-scale irrigation facilities such as solar-powered irrigation systems, ram pumps, sprinklers, spring development irrigation, and drip irrigation for high-value crops. Similar to water supply, the source of irrigation water will be assessed in the ESA to ensure sustainability of the resource. The source of irrigation water should be able to meet the quality standard for irrigation, i.e., minimum silt content and absence of water-borne diseases such as schistosomiasis, malaria, etc.; avoid damage/disturbance to ecologically significant habitats of flora and fauna; and intake point, or diversion should be outside the core zone of protected areas or critical watersheds.

A subproject involving water abstraction, whether from surface or ground water resource, will be required to secure a Water Permit from the National Water Resources Board (NWRB) to ensure that there is adequate allocation of water rights. This will be done in advance of subproject design and form part of the SES screening and ESA .

Other considerations in the development of the water resource are:

- Avoiding construction of water intake structures in sensitive ecosystems known to have threatened and endangered species or fish spawning areas within the hydraulic zone of influence.
- Assessment of potential land subsidence issues and saline water intrusion for groundwater sources.
- Ensuring the release of adequate environmental flows in the case of water supply subproject requiring a dam or impounding structure.

Enterprise facilities in the value chain such as multicommodity processing plants for dehydrated products, food and fish processing, meat processing, dairy processing, livestock breeding and grow-out facilities, slaughterhouses, and dressing plants demand relatively high volume of water in the operation and maintenance of the facilities. There may be instances where surface or groundwater is not enough and other sources including seawater or brackish water may be used to produce potable water.

Water requirements of these processing facilities may vary, depending on the specific operation. For instance, food processing may require washing of raw materials that consume large quantities of water. Poultry production can operate through dry cleaning or less frequent washing.

Similar to water supply and irrigation facilities, any enterprise facility that will abstract water directly from surface or groundwater resource will be required to secure a Water Permit from NWRB to ensure allocation of water rights. These facilities will also be required to integrate water conservation measures in the design of facilities.

5.5.2. Energy Consumption

The processing facilities under I-REAP including the cold storage facilities will require energy to operate equipment and refrigeration and cooling systems during storage of crops, raw materials and products. As part of the ESMP, these subprojects will be required to implement operational, maintenance and housekeeping measures for energy efficiency such as energy efficient design, lighting and appliances, insulation of refrigeration areas and use of automatic closing doors and airlocks. Opportunities to recover energy (waste heat) from thermal processes such as in ovens and dryers and in blanching and steam peeling operations in food manufacturing processes will be explored with these subprojects. Wherever feasible, the opportunities for use of agricultural crop waste as fuel for energy generation such as composting to generate biogas will be promoted.

5.5.3. Contamination of soil and water bodies from use of pesticides and other agro-chemicals

The use of pesticides and other agro-chemicals in crop production would cause potential contamination of soil, affect species, groundwater, and surface water resources. Eutrophication and pollution of the receiving water body may result from enrichment of water by nitrogen and phosphorus nutrients from runoff of fertilizer and pesticide residues. The excessive nutrient in water may cause degradation in water quality leading to algal blooms and reduce oxygen concentration in bottom waters that would affect aquatic species. Where agrochemicals such as artificial fertilizers and pesticides use is needed, appropriate mitigation measures should be implemented such as:

- Storage, handling, and application should be in a manner consistent with the recommendations for hazardous materials management presented in the WBG General EHS GIIP.
- Prepare an IPMP that includes procedures for the selection, procurement, storage, handling, and ultimate destruction of all out-of-date pesticide stocks that should be prepared in accordance with FAO guidelines and consistent with FPA regulations.
- Personnel must have appropriate training including certification, where relevant to handle and apply pesticides safely.
- Ensure that any pesticides to be used are manufactured, formulated, packaged, labelled, handled, stored, disposed of, and applied according to the FAO International Code of Conduct on Pesticide Management.
- Use selective pesticides with low Environmental Impact Quotient (EIQ) where appropriate, rather than broad-spectrum products, to minimize impacts on non-target species.
- Avoid using banned or prohibited pesticides and agrochemicals and encourage using bio-control agent instead. The banned/restricted agro-chemicals are included in the IPMP.

5.5.4. Water pollution from operation of enterprise facilities

The effluent streams from multicommodity processing plants for dehydrated products, food and fish processing, meat processing, dairy processing, livestock breeding and grow-out facilities, slaughterhouses, and dressing plants may have high biochemical and chemical oxygen demand (BOD⁴⁴ and COD⁴⁵) resulting from organic wastes and from the use of chemicals and detergents in some processes such as cleaning and washing operations. The effluent may contain pathogenic bacteria, suspended and dissolved solids, oil and grease, nutrients and microbes, and variable pH. Wastewater from slaughterhouses, fish and meat processing, and dressing plants is contaminated with blood, oil

⁴⁴ Biochemical oxygen demand (BOD) refers to the amount of oxygen consumed by bacteria and other microorganisms in the decomposition of organic matter. It indicates the amount of organic pollution present in the aquatic ecosystem.

⁴⁵ Chemical oxygen demand (COD) measures the amount oxygen required to chemically oxidize the organic matter and inorganic nutrients. High COD means a greater amount of oxidizable organic material which will reduce the dissolved oxygen levels.

and grease, and fats which contain high levels of nitrogen and phosphorus, that contribute to algal blooms in waterways.

Activities generating wastewater is required to provide a wastewater treatment facility that will meet the DENR Effluent Standards. The wastewater treatment facility will include treatment systems such as oil and grease separation and collection, disinfection, and disposal of sludge and residuals.

5.5.5. Air Pollution and Greenhouse Gases

Activities involving drying, grinding, milling, and storage may potentially produce dust and particulates. Processing facilities generating dust will be required to install dust collection systems and fugitive dust-control measures (e.g., wetting of vehicle parking areas and dirt access roads).

Crop and livestock production generate air pollution and GHGs through release of carbon dioxide, methane and nitrous oxide, hydrogen sulfide, ammonia, and other organic compounds. The practice of burning of plant biomass produces carbon dioxide, nitrous oxide, and particulates. Livestock produces methane through gut fermentation and decay of excreta. FAO reported agriculture as a dominant anthropogenic source of ammonia with livestock accounting for about 40 percent of global emissions, mineral fertilizers for about 16 percent, and biomass burning and crop residues for about 15 percent.⁴⁶

On the other hand, farming can also be a carbon sink with carbon locked up in cropland soils as soil organic matter from crop residues and manure. Carbon sequestration measures that include enhancing biomass production; application of low-cost plant growth bio-fertilizers; agricultural conservation practices (no till, application of manure and biochar); nitrogen fixation by leguminous crops; reduced pesticide use; crop rotation; and mixed crop-livestock production can help reduce GHG emission from agriculture and promote carbon sequestration. Annex R presents Climate Co-Benefits and GHG Accounting for the project.

5.5.6. Odor

Some of the enterprise facilities such as slaughterhouses, dressing plants, food/meat/fish processing facilities and livestock production produce ammonia gas and odorous compounds from denitrification of manure and other organic materials. In meat processing, odor may be released from cooking and smoking activities. Odor is also produced during inappropriate handling and disposal of organic wastes. The pungent odor may be an irritant to neighboring communities.

The subprojects will be required to consider the distance to residential areas in siting facilities. Mitigation measures to avoid odor includes engineering controls and good housekeeping practices such as:

- composting of manure to reduce odor emission.
- provision of odor control equipment such as scrubbers to remove odors
- control of temperature, humidity and other environmental factors contributing to odor generation.
- use of enclosure techniques.
- waste minimization practices that reduce storage time and avoid waste putrefaction.

5.5.7. Solid Wastes

The food processing activities may generate solid wastes in the form of inedible materials, packaging, rejected products from sorting, grinding, and other production processes. In slaughterhouses, dressing plants, and hatcheries, organic waste materials such as animal hair/feathers, excreta, and waste feeds are generated. Manure contains nitrogen, phosphorus, and other excreted substances such as hormones, antibiotics, and heavy metals that may result in release of ammonia and other gases. These organic wastes also contain bacteria and pathogens that may potentially affect soil and

⁴⁶ Prospects for the Environment – Agriculture and the Environment. Food and Agriculture Organization (FAO). <https://www.fao.org/3/y3557e/y3557e11.htm>

water. Dairy processing facilities also generate solid organic wastes from milk spillages, filter residues, sludge from separators and wastewater treatment and packaging wastes.

Solid waste generation and management may include:

- Segregation of solid waste process waste and non-conforming products for reprocessing and/or by-product use
- Reduce volume of packaging waste
- Use recycled materials without compromising food safety
- Use uncontaminated sludge from wastewater treatment as fertilizer or in the production of biogas
- Minimize inventory storage time for raw materials to reduce losses from putrefaction
- Practice good housekeeping.

5.5.8. Chemicals and Hazardous Materials

Livestock production uses hazardous materials such as disinfecting agents, antibiotics and hormonal products. Aquaculture also involves handling and use of hazardous materials like oil, fertilizers, and other chemicals. Food processing also uses chemicals and detergents as part of plant cleaning operation and preservation in long-term food storage. Cold storage, chilling and freezing equipment use ammonia and refrigerants, some of which may be classified as Ozone Depleting Substances (ODS) that are banned or being phased-out by the country as part of the commitments to the Montreal Protocol on Substances that Deplete the Ozone Layer. Crop production uses pesticides to manage pests and diseases as well as other agro-chemicals and fertilizers to improve productivity. Some of these pesticides, insecticides, herbicides, and fertilizers may be subject to prohibitions under the Stockholm Convention on Persistent Organic Pollutants (POPs) and Rotterdam Convention on the Prior Informed Consent for Certain Hazardous Chemicals and Pesticides in International Trade.

Other hazardous wastes that may be generated from operation of enterprise facilities include used oil from servicing of equipment and standby generators, oily rags, empty chemical containers, waste electronic and electrical equipment, and busted lamps. Crop production may also produce empty containers of pesticides and agro-chemicals which are considered as hazardous wastes. Any electronic wastes generated must be disposed as per the e-waste disposal guidelines.

Wastes that will be generated during the construction activities will include debris such as excavated soil for foundation works, concrete debris, rebars, wires, nails, broken glass, wood, pipes, empty containers of paint, solvents, strippers, epoxy resins, adhesives, degreasers, oily rags, used oil, spent welding electrode sticks/rods, busted lamps, among others. The excavation of substructure and foundation may also result in cutting soil. There may also be food wastes generated by workers and other ordinary solid wastes (bits of paper, plastics, and packaging materials). Except for the empty containers of paints, solvents, epoxy resins, adhesives, degreasers, oil rags, and busted lamps which are classified as hazardous wastes, most of the wastes are considered as inert and non-hazardous wastes.

PRDP Scale-Up will prohibit the use of chemicals and hazardous materials subject to international bans and phaseouts consistent with the Government's commitments to international agreements such as the Montreal Protocol and Kigali Agreement on ODS, Stockholm Convention on POPs and Rotterdam Convention. The SES screening will include assessment of activities requiring refrigerants, pesticides, and other chemicals to determine whether subproject activities will involve use of chemicals and hazardous materials that are subject to international restrictions. The list of banned and restricted pesticides is provided in the IPMP.

As part of the ESMP, hazardous waste should always be segregated from the non-hazardous wastes. A designated area should be provided for the temporary storage of hazardous wastes such as empty containers of paints, solvents, epoxy resins, adhesives, and degreasers, oily rags, and busted lamps. Proper labels should be affixed on bins of containing hazardous wastes. As a hazardous waste generator, the contractor is required to secure a Hazardous Waste Generator Registration with the

DENR and to commission the services of a DENR-registered hazardous waste transporter and treater for the collection and safe disposal of hazardous wastes. A Hazardous Waste Manifest must be completed to document the amount of hazardous waste collected and disposed for offsite treatment. The DENR-recognized treater should issue a Certificate of Treatment (COT) to the contractor to ascertain the safe treatment and disposal of the hazardous waste. The COT records shall be kept for proper documentation.

5.5.9. Soil erosion and sedimentation

Soil erosion may also occur during land development for planting which could cause topsoil losses. Implementation of agricultural activities in sloping areas may exacerbate soil erosion.

During construction of the infrastructures and enterprises, excavation works for foundations and footings of structures and buildings may cause soil erosion during rainfall events. Road construction may also cause erosion and increased sedimentation/siltation from earthworks on steep slopes. Soil erosion may also occur from the operation of quarry sites, borrow pits, and spoils disposal areas. Storm water runoff may carry soil into canals and reduce the water-carrying capacity of the canal or waterbody that could contribute to flooding during heavy rains. Excessive soil runoff may also lead to sedimentation of creeks and rivers. Another potential risk of soil runoff is from the residues from cement mixers and washing of equipment which could likewise clog canals.

In order to avoid impacts on drainage, the following measures must be implemented:

- Avoid earthworks during rainy months, as much as feasible.
- Stockpile of excavated soil (including aggregates and sand) away from drainage canals and water courses.
- Stockpiles of excavated soil and aggregates/sand should be provided with sediment control measures such as silt traps, barriers and trenches.
- Prohibit washing of cement mixers and other construction vehicles at the site.
- Conduct daily cleaning and sweeping of the construction site and periodically remove soils, stones and wastes from gutters, drainage canals and ditches.
- During rain events, check the drainage system to see if these are blocked. Remove materials and wastes that have been swept away by stormwater.

5.5.10. Dust generation during construction

Dust will be generated from construction activities and from the movement of construction vehicles. Air quality issues may also arise from stockpiles of excavated soil and aggregate and sand materials as these can be carried by wind. Airborne dust will have a negative impact on the health of workers and to communities along the access roads. Dust will be mitigated through:

- Watering and dust abatement activities
- Require workers to wear particle mask
- Keep stockpiles of aggregate and sand materials covered with well-fixed plastic sheeting, tarpaulins or other geotextiles, including trucks delivering these materials to avoid suspension or dispersal of fine soil particles during dry and windy days.
- Equip concrete mixing equipment with dust shrouds.
- Impose speed limits on construction vehicles particularly when passing through community areas or sensitive areas such as hospitals, schools or religious institutions (i.e., temples, mosques and churches).
- Periodically clean-up debris at the work site.
- Prohibit idling of construction vehicles while unloading materials at the site.
- Provide workers with PPE.

5.5.11. Noise and vibration during construction

Noise and vibration during construction may occur during operation of equipment and movement of delivery vehicles at the site. Noise caused by operation of machinery and haulage vehicles can cause

nuisance to surrounding areas. Workers are also directly exposed to noise. In order to avoid the risks and impacts of noise and vibration, the following measures are recommended:

- Provide temporary anti-noise barriers to barricade the construction area and shield sensitive receptors.
- Impose speed limit on construction vehicles when passing community areas or sensitive areas such as hospitals, schools or religious institutions.
- Deliver fabricated steel plates and cut/bend reinforcing steel to desired size to minimize cutting activities onsite.
- Require workers to wear ear plugs.
- Implement construction activities in consideration to time, duration, and scale to optimize the use of construction equipment, machineries and vehicles in accordance with noise emission standards.
- Strictly control construction activities close to historical/archaeological sites.

5.5.12. Water Pollution from Construction Camp

Domestic sewage will be generated during construction due to the presence of workers at the site. The contractor will be required to provide temporary toilet facilities with septic tanks or portable toilets (“portalets”) including available water and hand-washing facilities for the workers. These facilities will be kept clean and sanitized at all times. The septic tank should be located more than 25 meters of an existing water supply well or surface water body and should be located in a place where its odor cannot reach a busy community area. If portalet services are available in the locality, the contractor should ensure that the contents of the portalet are regularly collected by the third party portalet provider for offsite treatment and disposal at least on a weekly basis or once contents are almost 2/3 full. The third party portalet service provider should also have a Discharge Permit from the DENR.

5.6. ESS 4: Community Health and Safety

The community health and safety risks for this project are expected to be small in magnitude, site-specific with expected low cases of serious adverse effects to human health, adequate protocol on the prevention and management of infectious and communicable diseases such as COVID-19 and STDs will be put in place by the PRDP Scale-Up. Field activities of workers will follow the project-prescribed COVID-19 management procedures including land development, construction, farming and food production activities. Workers would include organic and contractual staff -from the municipal and provincial offices, DA and PRDP units, and staff of the contractors and private business partners.

The project’s approach towards integrating climate-resilient design and disaster risk management during infrastructure design and development is described in the ESMF and begins with the conduct of the e-VSA and ESA to ensure that the SPs are located in places that are unlikely to be exposed to the harsh impacts of climate change and natural disasters. It is part of the project strategy to make climate-resilient design and disaster risk management mandatory for all its components. Since the Philippines is considered as one of the world's most vulnerable countries to climate change, the government has raised the Building Code standards and relevant rules and regulations, requiring all infrastructure projects, especially government investments, to comply with climate-resilient design and disaster risk management protocol to ensure the safety and security of people, public goods, services and assets, livelihoods, natural resources, and environmental sustainability.

The potential risks to health and safety of the community associated with the subproject activities include nuisance from noise, airborne dust, falling debris, and potential spread of any communicable disease, among others. To manage community and health issues, the following mitigation measures will be implemented:

- Conduct consultations with neighboring communities and Barangay about the project and the schedule of works.

- Provide safety nets/screens for protection of adjacent properties and passersby.
- Install canopy if the building/structure is next to a road or building that may be affected by falling debris.
- Install fencing of the construction site
- Provision of safety signages and posters
- Guarding of the access point to ensure that the public is prevented from entering unsafe areas.

5.6.1. Impacts of Labor Influx

Labor influx is not likely to impose significant risks in subproject areas where local labor is normally sufficient for the project's construction requirements. RA 6685 Preference for Local Workers requires at least 50 percent of unskilled and 30 percent of skilled labor requirements will be actual residents in the province, city, and municipality. Construction activities for large scale subprojects may bring contracted workers from different regions having different dialects and cultural backgrounds. Such cases may have potential impacts on vulnerable communities including IPs and could potentially exacerbate existing conflict in some sensitive areas in the country.

The project shall ensure the accountability of Contractor for any misconduct of its workers through contract conditions stipulating obligations to manage labor influx risks that are within the contractors' control; conduct community orientations and conduct regular worker orientations on proper behavior and values in coordination and communication among the community particularly on their cultural traditions and practices, potential health/disease concerns such as heat stroke/stress, tuberculosis, tetanus, malaria, HIV/Aids, among others, and prohibition on drug use, appropriate areas for smoking, and control on alcohol consumption. The project has developed the LMP that details the mitigation measures for potential risks brought about by labor influx.

5.6.2. Food Safety

The production, processing, handling and storage of agricultural commodities require corresponding measures to ensure safety of the food products for consumption of the general public. Biological and chemical agents present in the agricultural produce may cause adverse health effects from ingestion of the microorganism, toxins or chemical contaminants. For instance, there is strong epidemiological evidence linking the presence of biotoxins causing paralytic shellfish poisoning (PSP) and diarrhetic shellfish poisoning (DSP) in molluscan shellfish. *Vibrio vulnificus* in warm estuarine environments have reported cases of primary *septicaemia* and sometimes mortality (FAO, 2008)⁴⁷

PRDP Scale-Up adopts sound practices along the food chain based on principles defined in Good Agricultural Practices (GAP) and in-plant control of food processing based on HACCP analysis.

5.6.3. Traffic and road safety

The introduction of FMR and bridges may increase the volume of vehicular traffic in the community. Some rural communities are not used to road traffic which may lead to vehicular related accidents. Some areas will also have agricultural tramlines instead of FMR and bridges depending on the physical condition and the terrain of the land. Tramline-related accidents may occur if the users do not observe safety precautions or if the parts of the tramline are substandard. In order to avoid human accidents, the tramlines will be strictly used for cargo only and no person will be allowed to ride the tram car. Tramline operators will be trained to stay within the maximum weight capacity of each tram car. The implementer of the tramline will also be required to follow the specification standards based on PNS/BAFS 322-2021 (Agricultural Tramline System Specifications) prescribed by the design to avoid using substandard parts.

Construction activities may cause an increase in movement of heavy vehicles for the transport of construction materials and equipment increasing the risks of traffic-related accidents and injuries to

⁴⁷ Food safety and public health risks. Associated with products of aquaculture. Iddya Karunasagar. FAO-UN. 2008

workers and local communities, restriction of access, -congestion of roads adjacent to the sites during construction and delivery of materials, The movement of large delivery trucks to the site may block narrow roads that may affect the safety of the community, especially children. This may be minimized through coordination with local communities, education and awareness-raising and adoption of procedures on traffic safety measures that would protect project workers and road users. Proportional to the scope and nature of subproject activities, traffic safety measures include:

- Implementation of speed control
- Collaboration with local communities and authorities about schedule of movement of construction vehicles
- Provision for gender and PWD responsive design of the road
- Assignment of flag persons to direct flow of vehicles
- Installation of road signages
- Emphasizing safety aspects among drivers, including precautionary measures when passing through community areas, avoiding dangerous routes and times of day to reduce risk of accidents
- Adopting limits for trip duration and arranging driver rosters to avoid overtiredness
- Regular maintenance of vehicles to minimize serious accidents caused by vehicle malfunction.

5.7. ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

PRDP Scale-Up will involve the construction of rural infrastructure mainly FMRs and value chain infrastructure support under the I-BUILD component as well as small to large scale enterprise subprojects under the I-REAP component. Among the five components, investments in I-BUILD are likely to bring about the most impacts on land acquisition as the bulk of infrastructure subprojects under the Project involve construction/rehabilitation of climate-resilient rural access such as -FMRs and bridges. As with the original PRDP, right-of-way acquisition for FMRs will entail loss of land, crops, and community infrastructures, private such as house or a portion of it, fences and others. The Project will also fund irrigation systems, potable water supply, and value-chain rural infrastructure support which will also incur minor impacts on private land and crops. For communal irrigation systems, small-scale irrigation facilities such as solar-powered irrigation systems, ram pumps, sprinklers, spring development irrigation, and drip irrigation projects for high-value crops will also be eligible for funding. Subprojects that will provide value chain infrastructure support for public use managed by the proponent LGUs include slaughterhouses, dressing plants, fish landings, tramlines, feeder ports, and watch towers. Vertical structures will follow the Green Building Code to lessen the subproject's effects on the environment through improved energy efficiency, water and wastewater management, materials sustainability, solid waste management, site sustainability, and indoor environmental quality

Investments in the I-REAP component will include small to large-scale, high-impact investments ramping up economic and enterprise development through common service facilities, capacity building, and other support services for LGUs, FCAs and FCA clusters. Impacts related to land acquisition will be involved under I-REAP when these enterprises need land for rural infrastructures such as cold storages, warehouses, greenhouses, trading and market centers, and hatcheries to support their operations. Loss of land and crops for I-REAP are expected to be minimal given the scale of the infrastructures needed.

The Land Acquisition and Resettlement Policy Framework (LARPF) has been developed to provide guidelines on screening, identification, and mitigation of involuntary resettlement impacts of subprojects under the project in accordance with the World Bank's Environment and Social Framework (ESF) particularly ESS 5 on Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement as well as with relevant legislations of the Philippine Government. It builds on PRDP's best practices and lessons learned from implementing the -LARRPF that have been developed as part

of the original PRDP's -IESSF under the World Bank (WB) Operational Policy (OP) 4.12 on Involuntary Resettlement.

5.8. ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources

There may be SPs that could potentially affect critical and natural habitats, natural resources, and areas of ecological importance. Some activities may also possibly occur in the vicinity of protected areas. Aquaculture activities may potentially result in conversion of natural habitats and affect ecosystem services. This includes removal of mangrove areas for excavation of ponds and construction of fish cages; alteration of natural hydrology of bays, rivers or wetlands; potential release of alien species into the natural environment during operations; potential loss of genetic resources due to collection of larvae, fry, or juveniles; potential release of artificially propagated seed; and development of antibiotic resistance in pathogenic bacteria that can spread from farms to wild stock. Crop production may also result in loss of genetic resources and variability.

In view of such potential impacts, the project recognizes the need for protecting and conserving biodiversity and habitats, and the sustainable management of food systems and agriculture are intrinsic to project design. The project will only develop parcels of land that are classified and used as agricultural lands and areas that are part of the FMR road network providing access to the distribution hubs and value chain centers will not traverse protected forests or protected areas. To prevent overlaps with forests, natural parks and protected areas, the project will include in the ESMF, the Environment Screening criteria and the negative list of SPs, that may cause any intrusion, disturbance, collection or harvesting of raw materials or land development in these areas. The project will only use official land classification maps and will not pursue any re-classification, conversion, or modification of critical natural habitats. Neither will it cause any change in land use of environmental protection and conservation zones to agricultural land or the removal of natural vegetation in natural habitats. During construction, potential disturbance of forestland, protected areas and natural habitats may be possible due to encroachment and human activities such as increase in noise level, removal of terrestrial flora (including trees), and disturbance to wildlife. To address this the ESMP will prescribe mitigation measures to prohibit such encroachment or disturbance by the activities caused by the land development, construction, movement of materials or by the project workers.

Impacts to Natural Habitats, Biodiversity and Ecosystem Services. The implementation of subprojects may cause disturbance of natural habitats or cause the introduction of invasive or non-native species that may threaten ecological balance. FMRs may traverse grazing areas of animals, i.e. cows, goats, and carabaos. Healthy ecosystems ensure human well-being by providing food, materials (e.g. wood, crops, etc.) and clean water, and also breaks down waste materials. There are also many plants and other organisms that may be useful in medical research or contain substances used as medicines. Crop cultivation methods may also lead to impacts on biodiversity and threats to the ecosystem through loss of genetic resources and variability.

Diseases from Livestock and Poultry. Some enterprise activities of the project may include procurement of farm animals from other provinces to be used in poultry and livestock farming activities. It may be possible that these animals are carriers of diseases such as African Swine Flu, foot and mouth disease, mad cow disease, and other emerging livestock-related diseases. To manage this, all farm animals which will be sourced from other provinces or municipalities shall undergo mandatory animal quarantine prior to their entry in the province/city/municipality. These shall also be examined by the municipal or provincial veterinary officer after the quarantine period.

Table 7 provides the expected impacts and the possible mitigation measures which need to be considered as part of the preparation and implementation of SPs

Table 7. Biodiversity Impacts and Possible Mitigation Measures

Biodiversity Impacts	Mitigation Measures
Impact on ecosystem services	● As part of the SES screening and ESA, ascertain the biodiversity importance of the area in coordination with the DENR-BMB. ● Avoid destruction of mangrove areas. ● Ensure that natural vegetation habitat is left intact by designing facilities with vegetated buffer zones and habitat corridors. ● Design facilities to achieve no net loss of biodiversity, where feasible, through restoration, offsets, creation of ecologically comparable areas for biodiversity, and/or compensation of direct users of biodiversity. ● Ensure minimum disturbance to surrounding areas when harvesting or gathering crops. ● Minimize vegetation clearing and alteration of landform particularly in areas adjacent to flora of higher conservation significance and in vicinity of ecologically significant areas through road / pipeline rerouting.
Salinization of agricultural land from indiscriminate use of fertilizers and other agro-chemicals	● Provide embankments around brackish ponds as physical barriers between agriculture and aquaculture activities. ● Properly treat and dispose saline/brackish water
Introduction of alien or genetically engineered species that disturb existing ecological balance, cause loss of species biodiversity, loss of genetic diversity, and result to transmission/spread of diseases in aquaculture	● In aquaculture systems, provide barriers to prevent escape of species from pond-based systems such as screens/mesh, fish-proof strainer. ● Consider flooding, rainfall data, storm surges, and high tides in the design of the aquaculture ponds. ● Conduct regular inspection of cages and pens.
Loss of genetic resources and variability in crop production	● Promote low-till and no-till strategies in crop production to maintain the structure of soil ecosystems. ● Use certified crop seeds that do not contain seeds from invasive alien species. ● Use of agro-chemicals approved by FPA. ● Promote the use of organic agricultural practices.
Loss of access of animals	● Assess activities on farm grazing and animals crossing the road ● Provide animal passages as part of the road design ● Provide animal crossing signages.
Threat to ecosystem biodiversity from practice of capturing female eggs, fry, juveniles and fingerlings in aquaculture	● Conduct breeding of stock material in captivity.
Eutrophication of aquatic environment from runoff and leaching of excess crop nutrients from crop production	● Implement balanced nutrient application to avoid over fertilization and reduce the use of crop nutrients. ● Use crop rotation methods ● Use plants to cover soil to reduce loss of nutrients. ● Incorporate organic waste materials into soils rather than burning. ● Apply organic matter, such as manure, to replace chemical fertilizers to the extent practical.

Biodiversity Impacts	Mitigation Measures
	Establish buffer zones, strips, or other “no treatment” areas along water bodies, rivers, creeks, and lakes to act as a filter to catch potential runoff from crop production areas.

5.9. ESS 7: Indigenous Peoples

As with the original PRDP, the PRDP Scale-Up will continue to implement subprojects in areas where there are Indigenous Peoples. Thus, the need to involve IP/ICCs in the regional and provincial level planning as well as the preparation and implementation of subprojects and ground activities in their localities. Their active involvement would ensure that their needs, interests, and concerns are considered not only in the regional and provincial plans but also in the design and final configuration of specific subprojects under I-BUILD and I-REAP components. In addition, there is a need to avoid, mitigate and/or compensate for any adverse effects on their communities caused by activities supported by the project. An Indigenous Peoples Planning Framework (IPPF) has been developed in accordance with the World Bank-ESF particularly - ESS 7 to ensure that negative impacts on IPs will be mitigated and positive impacts will be enhanced.

5.10. ESS 8: Cultural Heritage

PRDP Scale-Up will not fund subprojects that would displace damage, render inaccessible and/or render inoperable any structures that are deemed to have high cultural and historical significance by either the IPs or the mainstream population.

Cultural heritage includes both the tangible and intangible aspects. Tangible cultural heritage includes movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have cultural significance. Intangible cultural heritage includes practices, representations, expressions, knowledge, and skills, as well as the associated instruments, objects, artifacts, and cultural spaces that communities and groups recognize as part of their cultural heritage.

Where a subproject may significantly impact cultural heritage that is material to the identity and/or cultural, ceremonial, or spiritual aspects of the affected IPs communities' lives, priority will be given to the avoidance of such impacts. Where significant project impacts are unavoidable, the subproject proponent will obtain the FPIC of affected Indigenous Peoples as stipulated in the project's IPPF.

A Cultural Heritage Management Plan (CHMP) will be prepared and implemented for subprojects affecting tangible and intangible cultural heritage based on the results of the ESA. In addition, procedures for chance find will be required for these subprojects. The chance find procedure is used in case of accidental discovery of an artifact or fossil of possible cultural or historical significance. The procedure in this ESMF describes a physical cultural resources management plan in the ESMP that includes the cultural heritage management measures to avoid or mitigate any adverse impacts on physical cultural resources; measures needed for managing any chance find; and the reporting system to authorities, in compliance with the requirements of the National Cultural Heritage Act of 2009 (Republic Act 10066), National Museum Act of 1998 (Republic Act 8492) and Cultural Properties Preservation and Protection Act (Presidential Decree 374).

5.11. ESS 10: Stakeholder Engagement and Information Disclosure

5.11.1.1. Social exclusion related risks

Project processes may inadvertently exclude vulnerable and marginalized groups if the necessary mitigation measures are not put in place. Vulnerable groups or individuals refer to those who may be more likely or at a higher risk to be adversely affected by the subproject impacts and/or more limited than others in their ability to take advantage of the project benefits or participate in consultation processes. Vulnerable groups are placed at a disadvantaged position as a result of the barriers they

experience to social, economic, political and environmental resources, as well as limitations due to illness or disability (i.e., smallholder families, single-headed households, women and children, persons with disabilities, elderly, income-poor households, indigenous peoples). Refer to Table 8 for various social exclusion related risks.

Table 8. Social exclusion related risks

	Potential Social exclusion related Risks	Mitigating Measures
1	Risk of elite capture “whereby public resources are biased for the benefit of a few individuals of superior social status in detriment to the welfare of the larger population” that perpetuates further exclusion of marginalized and vulnerable groups	Conduct meaningful consultations in the whole project cycle as stipulated in the SEP Conduct SES early screening (under I-PLAN component) and SES screening for I-BUILD and I-REAP subprojects Conduct social inclusiveness screening during subproject preparation (under I-REAP component) Put in place policies in the enterprise operations manual that provide equal opportunities to small farmers and fisherfolks to use the common service facilities. Put in place a grievance and feedback mechanism accessible especially to small farmers and fisherfolks and vulnerable groups.
2	Non equitable benefit-sharing	Conduct meaningful consultations in the whole project cycle as stipulated in the SEP Conduct social inclusiveness screening Put in place in the enterprise operations manual and policies that ensure equitable benefit-sharing among PG members and that non-members have equal access to the benefits of the enterprise and infrastructure subprojects Put in place a grievance and feedback mechanism
3	Gender disparities in partaking of project benefits (access to credit, market services and opportunities, training opportunities, leadership roles among others)	Conduct meaningful consultations in the whole project cycle as stipulated in the SEP Conduct of social assessments as part of the formulation of commodity investment plans and specific subproject proposals Include in the Project Results Framework indicators that targets women beneficiaries reached by agri-fishery services and assets and women participation in clustered enterprises either as direct beneficiaries and/or as leading in decision making and planning activities
4	Exclusion of Indigenous Peoples communities	Conduct of meaningful consultations as set out in the IPPF and SEP Conduct SES early screening in the investment planning process (under I-PLAN component) to ensure the integration of the ADSDPP or in the absence of an ADSDDP any existing plan of the IP community into the commodity system investment planning if IP is identified as a stakeholder in the value-chain analysis
5	Infrastructures rendered inaccessible to vulnerable groups due to design barriers thereby not fully benefiting from the project; difficulty of access in terms of draft	Conduct meaningful consultations during subproject preparation to ensure that the recommendations and concerns of vulnerable groups are taken into consideration in the final infrastructure design. Apply universal design principles in which the design and composition of an environment can be accessed,

	animals, machinery and farm equipment due to change of elevation of road from original road level	understood, and used to the greatest extent possible by all people regardless of their age, size, ability or disability, gender, ethnicity. The ESMP should include mitigating measures to address these risks (i.e. follow BP 344 Accessibility Law, IPRA law to ensure culturally appropriate design, DPWH Toolkit for making roads infrastructure gender responsive)
--	---	---

The SEP has been developed to ensure that stakeholders are informed about the project, its risks and impacts, and the mitigation measures to address any adverse effects to stakeholders and communities. The SEP of PRDP Scale-Up shall further strengthen and improve the existing consultation processes established by the project from planning to monitoring and evaluation to ensure equity and inclusiveness especially among vulnerable groups.

5.11.1.2. Project grievances

Despite the best efforts in project design and implementation, grievances will be raised, and managing these grievances in a respectful and timely way is important whether it is an issue on land acquisition compensation, relocation of homes, labor-related issues among other potential grievances and queries. The PRDP has set up a robust Grievance Redress Mechanism which is an integral project management element that intends to seek feedback from beneficiaries and resolve complaints on project activities and performance. The GRM for PRDP Scale-Up was improved to be sensitive to GBV and SEA-SH cases. The project has developed various safeguards documents that stipulates the management of grievances such as the SEP, IPPF, LARPF and LMP.

5.11.2. Gender-based violence (GBV) and Sexual exploitation and abuse and sexual harassment risks (SEA-SH)

Protocols for early detection of GBV and SEA/SH will be developed. Referral mechanism to address such will be defined, using existing community-based networks for protection of women and children against violence as prescribed by law, e.g., RA11313, RA7877, RA9262, RA No. 7610 (1991), and JMC No. 2010-2 on the establishment of VAWC desk. These laws prescribe the referral network to address the legal, psycho-social, medical, and other effects of SEA/SH, which involves trained staff and organized village committees for the protection of children and women.

The project's GRM shall ensure that its personnel are equipped with the knowledge, skills and attitudes to handle such cases. The project's GRM shall also ensure effective coordination with partners and national authorities to establish standard operating procedures and referral pathways. The GRM shall establish a clear referral system where victims feel safe reporting their cases of GBV and SEA-SH risks. Part of the GRM shall be the engagement and raising awareness of communities on GBV and SEA-SH prevention, risk mitigation and response.

6. PROCEDURES TO ADDRESS ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS

6.1. Guiding Principles

PRDP Scale-Up consists of activities whereby the exact scope and location remains to be determined. This ESMF has been prepared to ensure that project activities will not result in adverse risks and impacts to the environment and communities and that any residual and/or unavoidable impacts are mitigated in line with WB's ESF and national regulations. The ESMF will guide the implementing units under DA, the LGUs, farmers and fisherfolks in screening and addressing environmental risks of proposed activities, thereby, determining the appropriate environmental and social mitigation and management measures required for subproject implementation. This ESMF contains the procedures from the original IESSF of PRDP, but includes additional measures for the screening, assessment and management of environmental and social risks in line with the WB ESSs.

Overall, the guiding principles for environmental and social safeguards of PRDP Scale-Up encompasses the following:

- *Adopt a mitigation hierarchy* - Anticipate and avoid risks and impacts; where avoidance is not possible, minimize or reduce risks and impacts to acceptable levels; once risks and impacts have been minimized or reduced, mitigate; and where significant residual impacts remain, compensate for or offset them, where technically and financially feasible.
- *Integrate environmental and social assessment in planning* – The multi-criteria decision analysis in addition to PCIPs and hazard maps will include criteria for environmental impacts of the project when ranking and prioritizing pipeline subprojects. In addition, the feasibility study of a subproject provides opportunities for subprojects to consider environmental and social safeguards as an integral part in the design process.
- *Promote resource conservation, waste minimization, and pollution control* – This will include prioritization of subproject activities involving resource conservation, improved cultivation, harvesting, handling and storage techniques that would mitigate climate and environmental issues through techniques to minimize water requirements, heat stress, more effectively manage nutrient and chemical use and run-off; and activities that improve improved energy efficiency, water and wastewater management, materials sustainability, solid waste management, site sustainability, indoor environmental quality, and cleaner production opportunities.
- *Screening of subprojects within or in vicinity of protected areas, important ecosystems, and ancestral domain of indigenous peoples* – This is facilitated through geospatial analysis using subproject location overlaid with maps of protected areas/key biodiversity areas, and ancestral domains that are available from DENR-EMB and NCIP, respectively. Information on important ecosystems will be secured through site validation and consultations with local communities.
- *Institutionalization of climate risk screening* – This is facilitated through geospatial analysis through the use of provincial/municipal hazard maps and information from the GeoRiskPH data platform, DENR-MGB, and PHIVOLCS, and from other government agencies.
- *Adoption of climate-resilient structures* – Adoption of enhanced climate-resilient infrastructure standards of the DPWH, National Irrigation Administration, Philippine National Standards, Bureau of Agriculture and Fisheries Standards, Philippine Agricultural and Biosystems Engineering Standards, National Building Code of the Philippines, and National Meat Inspection Code.
- *Promote transparency through stakeholder participation and information disclosure* – This is facilitated through the conduct of consultations with various stakeholders and affected communities including women and vulnerable groups throughout the project cycle.

- *Promote environmental and social capacity building and institutional strengthening* – Capacity building activities such as workshops and trainings for DA units and LGUs on integrating the safeguard principles and instruments will strengthen the project's goal in managing environmental and social risks of the project.

6.2. Environmental and Social Safeguards for I-PLAN Component

The investment planning process developed under PRDP will be adopted to include the social and environmental safeguards and biodiversity screening (Annex B) that will be conducted by the I-PLAN Team. The screening will be used early in the investment planning process to avoid any possible adverse impacts to the environment and community while implementing the provincial investment program. As part of the screening process, the project will screen out the High-risk SPs and all the SPs which could cause Substantial risk shall be referred to the World Bank for clearance. Screening will take the following into consideration:

- *Environmental connectivity* – refers to the critical inter-relationship among landscapes (spatial planning units) that must be considered in investment planning. This will highlight the importance of sustaining ecological balance and inter-dependence among landscapes as a spatial unit of analysis. The spatial framework planning will assess critical ecological relationships (e.g., wastewater runoff towards coastal areas, presence of conservation areas, mangrove areas, etc.) that must be addressed across landscapes following the ridge-to-reef/watershed management approach.
- *Multi-factor risk assessment* – The multi-risk factor risk assessment uses the Climate Risk Vulnerability Assessment (CRVA) that was created to generate information for DA on hazards, adaptive capacity, and climate suitability to support resilience-building initiatives. The DA has also developed through the National Fisheries Research and Development Institute (NFRDI) the Fisheries Vulnerability Assessment Tool (FishVool) to assess the vulnerability of the fishery sector to potential impacts of climate change.
- *Harmonization and coordination with LGU resilience plans* – The PCIPs will be checked against the Local Climate Change Action Plans (LCCAPs) that were prepared by the LGUs based on science-based assessment to ascertain climate risks that may impact commodity investments.

Integrated spatial planning tool introduced in the original PRDP will be adopted which uses the Ridge-to-Reef (R2R) planning approach (Figure 3). Based on the Operational Manual of I-PLAN, landscape ecosystem approach will be applied to:

- a) Promote planning and institutional convergence within the planning area (especially the province) using integrated terrestrial and coastal spatial planning frameworks;
- b) Minimize if not avoid overlap or duplication between and among planned investments;
- c) Articulate the “functional role” of zones within a planning area, e.g., production center vis-à-vis agro-industry hub/park (growth center) serving production areas (core-periphery integration);
- d) Identify agro-industry business centers located in urban and peri-urban areas to be tied to clusters of farmers and fisherfolk living in peripheral/rural areas; and
- e) Enhance the ecological balance between and among landscapes, e.g., protecting the biological integrity of waterways within a watershed.

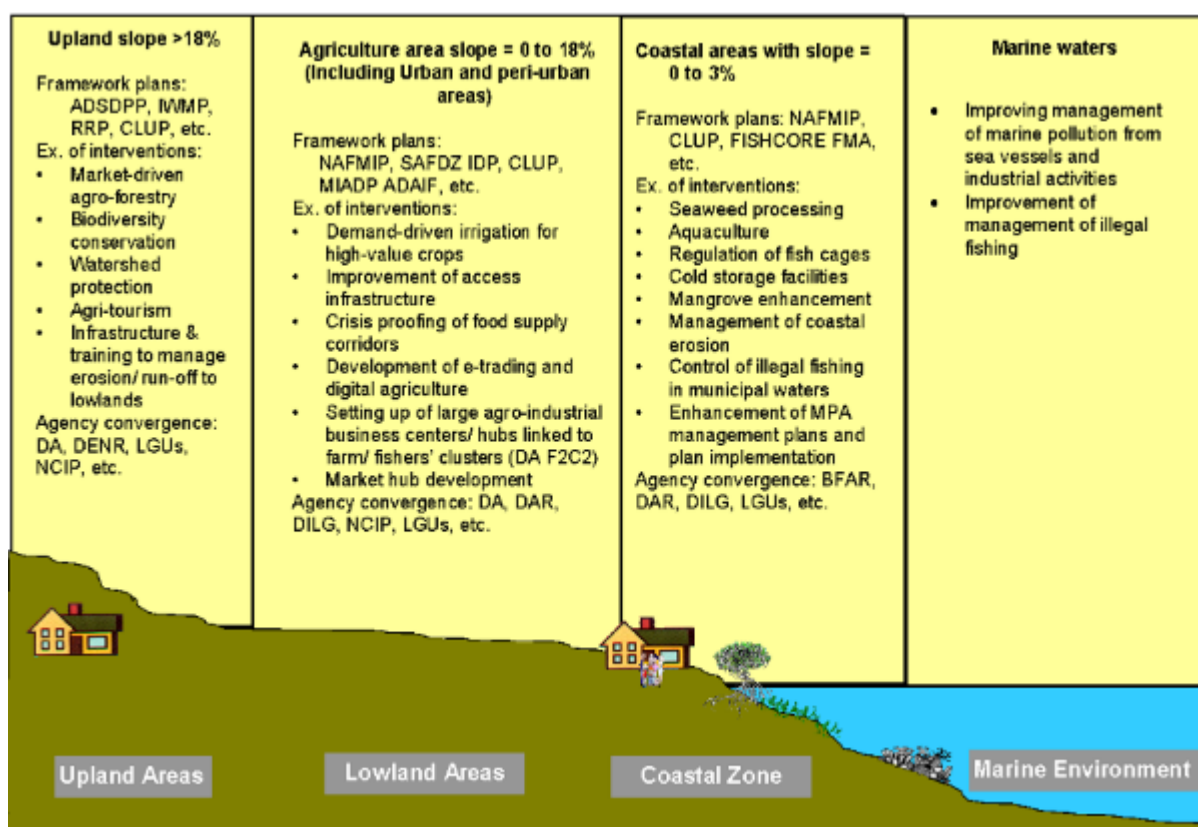


Figure 4. Reef-to-Ridge Spatial Planning Framework

Source: I-PLAN Enhanced Operations Manual, December 2021

The SES early screening is integrated as a complementary investment planning using results from the e-Vsa, CRVA, Fish Vool, participatory planning, Comprehensive Land Use Plans (CLUPs) of the LGUs and geo mapping of the GGU to identify geologic hazards, proximity to protected areas, and ancestral domains of IPs. The SES early screening involves review of the draft PCIP interventions matrix against SES criteria that will be applied to each proposed intervention. The screening will allow identification of safeguards issues that may affect the implementation of the provincial investment program. SES early screening for I-PLAN will be conducted by the Provincial Core Planning Team and/or regional CPT (technical support) in coordination with the RPCO SES Team and GGU.

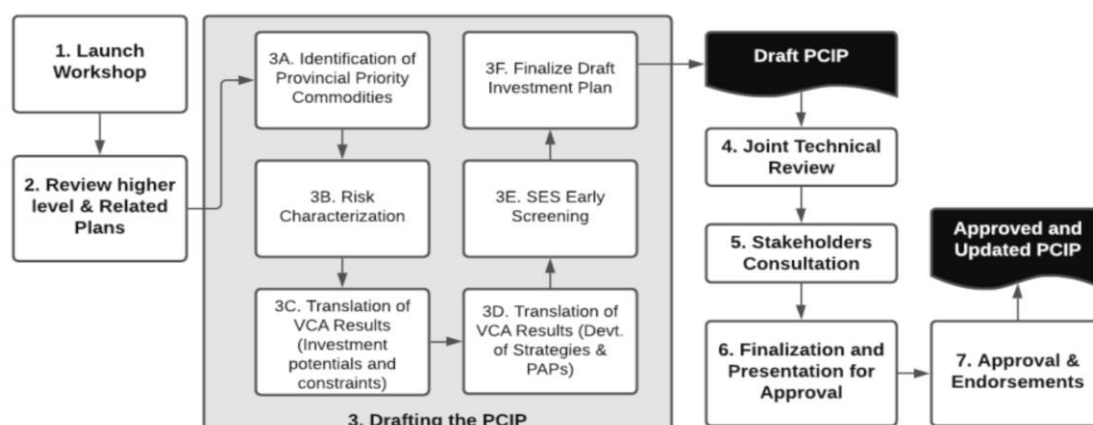


Figure 5. Flowchart for Preparing, Reviewing and Approving the PCIP

Source: I-PLAN Enhanced Operations Manual, December 2021

6.3. Environmental and Social Safeguards for I-BUILD and I-REAP Components

The subproject development process for I-BUILD and I-REAP consists of six general stages: (i) identification, (ii) validation, (iii) preparation, feasibility study/subproject proposal and detailed

engineering design, (iv) appraisal, review, evaluation, and approval, (v) implementation (procurement and contract implementation), and (vi) monitoring and reporting (operation and maintenance). The essential elements of environmental and social safeguards are present in all of these stages.

The succeeding sections describe the steps in environmental and social safeguards for I-BUILD and I-REAP components of PRDP Scale-Up. The procedures are based on the IESSF and the operation and lessons learnt from the ongoing PRDP. The procedure integrates the policy frameworks on stakeholder engagement, social inclusion, land acquisition and resettlement, indigenous peoples, and environmental management, consistent with the WB ESF and the requirements of the Philippine laws.

6.3.1. Safeguards Process for I-BUILD Subprojects

Figure 6 outlines the process of environment and social safeguards for I-BUILD subprojects while Figure 7 presents the roles of safeguards in the I-BUILD process flow, the safeguard instruments, and the prescribed timelines for each process.

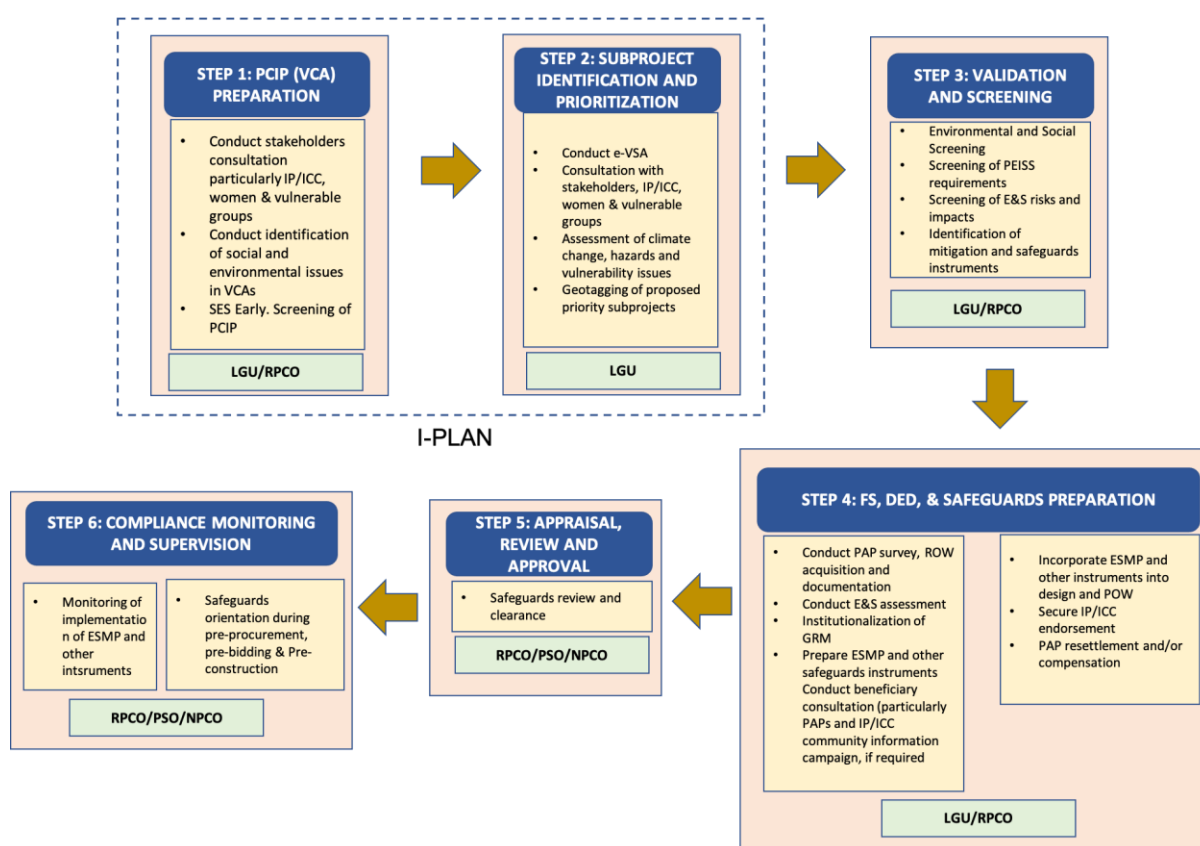


Figure 6. Environment and Social Safeguards Process Flow for I-BUILD

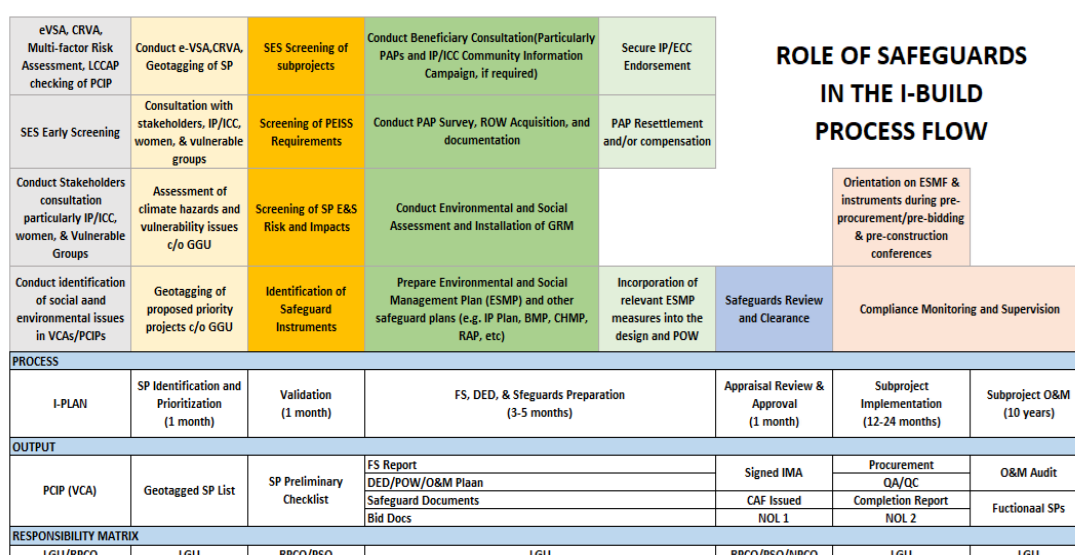


Figure 7. Roles on Environment and Social Safeguards for I-BUILD

Step 1: Subproject Identification and Prioritization

I-BUILD subprojects are identified and prioritized based on results of a participatory planning process under I-PLAN and the use of science-based tools such as eVSA. The subproject identification includes consultation with stakeholders on climate change with emphasis to hazard and vulnerability assessment, its magnitude, frequency and location of impact. The information gathered will allow the LGUs to develop a list of subprojects on the localized PCIP, VCA, geotag proposed subprojects, and provide detailed information or subproject profile of priority subprojects.

6.3.1.1. STEP 2: Subproject Validation and Screening

For I-BUILD, relevant data needed for the priority subprojects are subjected to analysis in order to establish its technical, economic, institutional, and social and environmental viability. In this phase, the subproject is subjected to more in-depth technical consideration of the identified hazard and vulnerability and potential impacts of the subprojects on the environment and communities. During validation, the SES Screening Form (Annex C) is used.

- **Overlay Subproject Location with Protected Areas, Ancestral Domain and Hazard Prone Areas**

In coordination with the Geo-mapping and Government Unit (GGU) of DA, the location of the subproject proposal is overlaid with the protected areas, ancestral domain and hazard prone areas. The results of the subproject mapping will prompt any of the following subsequent safeguard's activities and requirements:

- If any of the subproject is found within a declared strict protection zone of a protected area, the subproject is considered not eligible for funding under PRDP Scale-Up.
- If the subproject is in the multiple use zone and buffer zone of a protected area, the subproject will be required to secure a PAMB Resolution and Clearance, and the Special Use Agreement in Protected Area (SAPA).
- If subproject is located in forest land, a Forest Land Use Agreement (FLAG) from DENR will be required. If located in an ancestral domain of IP, the subproject will be required to undertake the FPIC process and to secure the Certificate of Precondition from NCIP.
- If the subproject has been identified to be located in a highly susceptible area to hazards such as flood, landslide, tsunami, storm surge, seismic risks, and volcanic risks, the subproject will be considered and will require to provide climate change adaptation strategies and clearance from DENR, PAGASA, PHIVOLCS or any equivalent body.

During screening and validation, the environmental and social risks and impacts of the subproject are identified. The safeguards measures and instruments needed to manage these risks are likewise identified. Table 9 summarizes the different social and environmental impact scenarios to guide the P/C/MPMIU and proponents on the type of intervention or documentation needed to establish safeguard compliance while Table 10 describes the various safeguards instruments. Note that some of the potential risks and impacts and mitigation measures may also apply to the I-REAP component.

Table 9. Potential Environmental and Social Risks and Impacts and the Required Instruments for Mitigation

Potential Risks/Impacts	Mitigation	Required E&S Instruments/Documents
ESS1: Assessment and Management of Environmental and Social Risks and Impacts		
Presence of natural and geologic and climate hazards in the subproject area that may affect safety and vulnerability of the infrastructure/ enterprise	Conduct CRVA and use information and resources on geologic hazards and natural hazards such as earthquakes, fault lines, volcanoes, landslides, liquefaction, soil erosion, flooding, storm surge, tsunami, etc. from available information from PHIVOLCS, DENR-Mines and Geosciences Bureau (MGB), and DOST-PAGASA and disaster risk reduction management plans of LGUs	- Map of the subproject location overlaid with natural and geologic hazard assessment (seismic, geologic, hydrometeorological) - Clearance from DENR/PHIVOLCS/PAGASA or any equivalent body if in a disaster or hazard prone area
Possible encroachment on protected area, forest land, marine ecosystem, and key biodiversity area	- Conduct ESA and SES screening to determine biodiversity impacts in consultation with DENR-BMB to ascertain biodiversity value of ecosystem that may be affected by the subproject - Ensure that the subproject activities will not result in conversion of natural habitats in line with the ESMF and BMP. - Avoid the destruction of mangrove areas. - Design facilities to achieve no net loss of biodiversity, wherever feasible, through restoration, offsets, creation of ecologically comparable areas for biodiversity, and/or compensation of direct users of biodiversity. - Conduct consultations with the communities as part of the SEP to avoid conflicts of interest.	- Map of subproject location overlaid with the nearest Protected Area, marine ecosystem and key biodiversity area - Clearance from PAMB or any equivalent body if inside multiple use zone of protected area - Tenorial instrument from DENR, i.e., Forest Land Agreement (FLAG) if located in forest land - ESMP with Biodiversity Management Plan (BMP)
Subproject may trigger and/or exacerbate conflict in conflict-affected areas and may affect overall subproject implementation	- Conduct assessment of presence of conflict in the area and ensure that risks identified are addressed and mitigated through the conduct of social preparation and continuous dialogue with the community. - Develop an evacuation plan in case of insurgency or conflicts or military operation within the subproject areas.	- SES Screening form - Included in MOA/U with LGUs the provisions for briefing of project workers/staff on local protocol for notification, evacuation, rescue and other safety protocols as stipulated in the LGU Peace and Order and Public Safety Plan (POPS Plan) as stipulated in the Local Government Code.
ESS2: Labor and Working Conditions		

Potential Risks/Impacts	Mitigation	Required E&S Instruments/Documents
Occupational safety and health	Undertake health screening of workers and comply with the safety measures and good housekeeping as per submitted and approved DOLE OSH Plan	● ESMP ● ESA as part of the FS ● DOLE-approved CSHP
Labor disputes over terms and conditions of employment	Set-up an accessible, well-function and efficient GRM for worker in line with the LMP and consistent with the Labor Code of the Philippines	GRM for workers
Labor influx	Give priority employment opportunities to qualified workers from the locality.	● ESMP ● ESA as part of the FS ● CESMP
Spread of COVID-19 virus and other communicable diseases	Comply with requirements on COVID-19 and communicable disease prevention prior to deployment and continuation of construction and operation of the subproject, following national and local government guidelines as set forth in ESMF/CSHP.	● ESMP ● ESA as part of the FS ● DOLE-approved CSHP ● CESMP
ESS3: Resource Efficiency and Pollution Prevention and Management		
Salinization of agricultural land due to conversion or use for aquaculture; eutrophication of aquatic environment from crop nutrient leaching	Develop the ESMP with measures to provide embankments around brackish pond as physical barrier between agriculture and aquaculture activities; proper treatment and disposal saline/brackish water; balance nutrient application; establishment of buffer zones, strips or areas that act as filter to catch potential runoff from crop production area.	ESMP with BMP
Impacts on water resource efficiency of water supply and irrigation activities and enterprises abstracting water	Subprojects involving water abstraction (surface or groundwater) will be required to secure a Water Permit from NWRB to ensure allocation of water rights.	● Water Permit issued by NWRB for PWS and CIS subprojects ● Water Quality Test for CIS ● Water Potability Test for PWS, Enterprises and other facilities, as applicable
Generation of wastes and pollution (water, air, GHG, odor, solid and hazardous wastes)	● Integrate in the ESMP and subproject design the provision of waste management system/measures to abate pollution, minimize waste. Subprojects that will implement cleaner production and waste minimize approaches will be given priority under PRDP Scale-Up ● Include in the BP/FS/DED the wastewater treatment facility and air pollution control facility, storage for hazardous wastes, as applicable	● ESMP ● ECC ● Cleaner production and waste minimization plan ● Waste management plan
Construction-related impacts such as dust, noise, vibration, soil erosion, traffic and transport of materials, waste generation, water pollution, spread of	● Develop ESMP to address construction-related impacts to the environment including those that will be generated at activities in the construction camp, quarry site, batching plant, and borrow pits.	● ESMP (including the construction camp, quarry site, batching plant, and borrow pits) ● CSHP ● ESA as part of the FS

Potential Risks/Impacts	Mitigation	Required E&S Instruments/Documents
communicable diseases, emergencies and accidents	Develop a CSHP to address site-specific construction-related impacts.	
ESS4: Community Health and Safety		
Community safety and health	Undertake risk assessment to identify potential adverse impacts to the community and seek their acceptance and appropriate management measures through consultations	- ESMP - COSH Guideline - DOLE-approved CSHP - ESA as part of the FS
ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement		
Acquisition of land and Road Right-of-Way (RROW)	- Appropriate compensation through mutually agreed compensation scheme consistent with the entitlement policy of the ESMF/LARPF - Negotiated settlements, alternative compensation package which, through negotiation, PAP agreed with the subproject proponent, provided the total equivalent value of the package is not less than replacement cost of all the lost assets. - Refer to LARPF for other modes of acquisition	- ESMP - Documentation of Compensation Execution (MOU or MOA between LGU and PAP and Proof of compensation) - Documentation of appropriate mode of acquisition - Resettlement Action Plan - Documentation of consultations with beneficiaries and project affected persons (PAPs) - PAPs entitlement survey
Physical and/or economic displacement of Project Affected Persons (PAP)	- Consultation with and participation of PAPs in planning and implementation of resettlement plans - Resettlement consistent with the entitlement policy of the ESMF/LARPF.	- Documentation of consultations (minutes of meeting, attendance sheets) - Resettlement Action Plan with comprehensive inventory/survey - Documentation of Compensation Execution
Access restriction to place of residence, livelihood and cultural resources	Appropriate compensation of lost assets and provision of livelihood assistance consistent with the entitlement policy of the ESMF/LARPF. It should be noted that if access restrictions constitute loss of more than 20% of the livelihood source of income, the PAP is considered "economically displaced" and should be provided with a RAP which involves livelihood support or restoration.	- ESMP - Documentation of Compensation Execution - Resettlement Action Plan - Minutes of consultations with beneficiaries and PAPs
Possible impact on utilities, i.e., electric post during construction of FMRs	Consult with the electricity service provider and affected communities regarding the need to transfer affected electric posts and the temporary power interruption caused by the activity.	Electric Post Transfer Plan
Access restriction to natural resources	Consultation with and participation of PAPs in planning.	- ESMP - Minutes of consultations with PAPs
ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources		
Loss of variability in crop production	Include in the ESMP/BMP measures that promote low-till and no-till strategies, use of organic agricultural	- ESMP with BMP - Integrated Pest Management Plan

Potential Risks/Impacts	Mitigation	Required E&S Instruments/Documents
	practices, use of agro-chemicals approved by FPA, use of certified crop seeds, and ensure protection of natural enemies of pests. Conduct training on pesticide use, handling and storage	- Evidence of IPM- Farmer Field School (FSS) conducted DA-/ KASAKALIKASAN coverage in the area - Evidence of training on proper pesticide use, handling, and storage - Sanitary/Phytosanitary Clearance Food Safety Clearance, as applicable to subproject activities involving food commodities from agriculture, livestock and fisheries.
Possible removal of trees, and crops	- Conduct tree inventory and develop a tree replacement plan; secure Tree Cutting/ Earth Barring Permit from DENR/PCA - If coconut trees will be affected, secure Clearance from the Philippine Coconut Authority (PCA). - If crops and other economic trees will be affected, develop a compensation plan in line with the LARPF.	- Tree replacement plan - Tree Cutting Permit from DENR and PCA including special tree cutting permit - Compensation for economic losses in case of affected crops, coconut and other trees of economic value
ESS7: Indigenous Peoples		
Impact on Indigenous Peoples communities and/or ancestral domain	Conduct FPIC in line with ESMF and the IPPF	- Documentation of conduct of meaningful consultations (gender disaggregated attendance sheets; Photographs of actual consultation sessions undertaken; Dated minutes of meetings and matrix of clarifications, issues and concerns raised and how they were explained or addressed) - Certificate of Pre-Condition/Certificate of Non-Overlap from NCIP - IP Plan, if applicable as per IPPF
ESS8: Cultural Heritage		
Impact on cultural heritage and properties	Include in the ESMP the cultural heritage management measures and chance find procedures	- Cultural Heritage Management Plan - Chance find procedure
ESS10: Stakeholder Engagement and Information Disclosure		
Social exclusion related risks; non-equitable benefit-sharing; gender disparities in partaking project benefits; exclusion of IPs	- Conduct meaningful consultations in line with ESS10 and the ESMF/SEP - Conduct social inclusiveness screening - Organize a GRM accessible to stakeholders especially small	- GRM - Documentation of stakeholder consultations - Social Inclusiveness Scoring System

Potential Risks/Impacts	Mitigation	Required E&S Instruments/Documents
	farmers and fisherfolks and vulnerable groups Conduct meaningful consultations with IPs (as applicable) and vulnerable groups as set out in the IPPF and SEP	

Table 10. Environment and Social Safeguards Instruments

E&S Instrument	Description
Environmental and Social Assessment (ESA)	ESA is conducted after the screening process to identify the potential risks and impacts of subprojects. The EIS/IEE submitted to DENR may be used as reference in the ESA. The EPRMP is prepared for subprojects involving an existing project requiring expansion or modification to identify areas of concern or corrective actions in line with the requirements of securing the ECC amendment. The ESA forms part of the FS/Enterprise Proposal.
Environmental and Social Management Plan (ESMP)	The ESMP is an instrument that provides mitigation measures to site-specific impacts of a subproject. The site-specific ESMP includes sub-plans on waste management, OSH management, construction site management, and environmental and social compliance monitoring parameters. A subproject will prepare the ESMP as per guidelines in Annex J (1-12) for those activities identified during the screening process. In addition, Annex G, H, I respectively provide resources to integrate E&S considerations as part of technical planning guidelines for Community roads, irrigation systems, and water systems subprojects.
Contractor's Environmental and Social Management Plan (CESMP)	Provides the practical mitigation actions and measures to be implemented by contractors on to avoid, minimize and mitigate negative environmental and social impacts during construction. The CESMP contains site-specific measures in line with the ESMF and WBG EHS Guidelines. Annex K presents the template of the CESMP.
Resettlement Action Plan (RAP)	Subprojects that will involve physical and/or economic displacement whether temporary or permanent are required to prepare a RAP. A The RAP will be prepared commensurate to the level of impacts as per inventory and entitlement survey conducted by the subproject proponent LGU. The RAP should be in accordance with the provisions of the LARPF.
Entitlement Survey and Inventory of Project Affected Persons Forms	An inventory and entitlement survey of the affected lands and assets for each subproject, using said Forms (refer to the LARPF) shall be accomplished.
Indigenous Peoples Plan	The IPPF from the IESSF has been upgraded to include the new provisions related to Free Prior Informed Consent (FPIC) as per ESS 7. The IPPF sets out the guidelines on when the Indigenous Peoples Plan is required.
Labor Management Procedure (LMP)	The LMP sets-out the guidelines on labor matters, including measures on how to avoid and/or mitigate labor-related risks and issues such as unsafe working conditions, child labor, unfair treatment and discrimination at work. It includes the requirements for GRM of workers.
Biodiversity Management Plan (BMP)	This is a supplemental plan in the ESMP that applies to subprojects that have potential impacts on biodiversity, ecosystem services, and ecologically significant areas based on the results of screening. The BMP guidelines are found in Annex L.
Community and Occupational Safety and Health (COSH) Guidelines	This includes the health protocols and standards to prevent COVID-19 and other communicable diseases in line with national and local government issuances.
Integrated Pest Management Plan (IPMP)	The IPMP applies to activities likely to use pesticides including other agro-chemicals in crops and livestock activities. Annex M presents the guidelines of the IPMP.

E&S Instrument	Description
Cultural Heritage Management Plan	This applies to activities that have been identified during screening as located inside or adjacent to cultural heritage areas. The plan includes the chance find procedures to be followed in line with the requirements of the National Museum and/or the National Historical Commission of the Philippines (NHCP). Annex N presents the guidelines for the CHMP.
Stakeholder Engagement Plan (SEP)	The Stakeholder Engagement Plan (SEP) contains a stakeholder analysis and details the participatory and disclosure processes under the PRDP Scale-Up that will be mainstreamed into the project operations. The SEP also describes the robust Grievance Redress Mechanism (GRM) that is now being used by PRDP and will be adopted by the PRDP Scale-Up. To further align the GRM with the ESF, the SEP discusses measures to make it sensitive to sexual exploitation and abuse/sexual harassment (SEA/SH) incidents and Sexual Orientation, Gender Identity and Expression (SOGIE)-related complaints.

After the screening, a subproject will be required to present the documentation showing that the beneficiaries accepted the subproject. In the case of subprojects with IPs, documentation of the consultations/FPIC and proof of acceptance of the subproject will be required.

6.3.1.2. Step 3: Subproject Preparation, Feasibility Study and Detailed Engineering Design

During the subproject preparation of feasibility study and detailed engineering design, - the subproject will now undergo the ESA to further - describe the environmental and social risks and impacts of the subproject resulting from the E&S Screening during Field Validation. The ESA will form part of the FS and DED. The ESMP will be developed to address the risks and impacts that have been identified from the ESA. The ESA/ESMP preparation is further guided by the results of the consultations with PAPs, IPs/ICC, and other project-affected stakeholders. The ECC/CNC will have to be secured from the DENR while Certificate of Non Overlap (CNO)/Certificate of Precondition (for subprojects located in ADs or in an area affecting IPs) from NCIP. These are mandatory requirements to ensure that the subproject and its location have been given clearance from the DENR and granted authority by the NCIP.

For water supply and irrigation subprojects, the application for Water Rights from NWRB will be presented at the FS stage.

During this stage, the following are the requirements on safeguards which are detailed in the project's LARPF:

- 100% survey of project affected persons (PAPs) and accomplished Inventory and Entitlement Survey of Project Affected Persons Forms (refer to LARPF). Note that there should be information dissemination of the subproject in the community prior to the survey and that the survey should be done together with the barangay officials.
- Valuation of identified affected properties based on fair market value
- 100% Consultation with beneficiaries and PAPs of SPs under IREAP and 100% consultation for PAPs of SPs under IBUILD. Below is the suggested agenda for the community consultation:
 - Full disclosure of the proposed project, its design, costs, etc.
 - Road Right-of-Way and compensation
 - Grievance Redress Mechanism
 - Open forum
 - Other matters
- Acquisition of ROW/site and preparation of ROW acquisition documents (Compensation Agreement, DOD/Waiver, RAP, Expropriation documents, etc.)

- Preparation of the Environmental and Social Assessment (ESA) in the FS based on the E&S Screening result
- Preparation of ESMP, and all applicable management plans (BMP, CHMP, IP Plan, others) and other safeguard instruments
 - Secure ECC/CNC, CNO/CP and other applicable environmental clearances and permits (e.g. application for NWRB Water Permit, Tree Cutting Permit)
- Preparation of other relevant documentary requirements depending on the subproject
- Inclusion of all safeguards costs in the economic and financial analysis.

6.3.1.3. Step 4: Safeguards Review and Clearance

During subproject appraisal and review (SPAR), the following will be reviewed by the SES Unit prior issuance of clearance for NOL 1 and NOL 2⁴⁸

- 100% survey of PAPs
- Valuation of identified affected properties based on fair market value
- Consultation with beneficiaries and PAPs
- Accomplished Inventory and Entitlement Survey of Project Affected Persons Forms (refer to LARPF)
- Complete Land and/or ROW acquisition documents (Compensation Agreement, DOD/Waiver, RAP, Expropriation documents, etc)
- IP Plan (if applicable)
- Permits (ECC/CNC, CNO/CP etc.)
- Application of permits i.e. Tree cutting permit and NWRB
- For transfer of electric posts, transfer cost will be shouldered by the LGU and should have been estimated and included in the Economic and Financial Analysis.
- PAMB Clearance if inside multiple use zone and buffer zone of protected area.
- ESA , ESMP and other applicable safeguard instruments

Once the above have been cleared by the SES Unit, the subproject documents will undergo the review and approval process of the Regional Project Advisory Board (RPAB).

A Safeguards No Objection Letter No. 1 (NOL 1) will be issued if the above requirements have been complied with except for expiration issues in Tree Cutting Permit (TCP), Full Resettlement of the physically displaced and compensation of PAPs which should be complied with prior to issuance of NOL 2. Annex S presents the basic requirements in the issuance of NOL 1 and NOL 2.

While the high-risk SPs will be screened out, the SPs which could cause potential substantial risks shall be referred to the Bank for clearance with the supporting screening, initial due diligence, and SES review comments. In addition, the World Bank task team will review all the SPs crossing the investment thresholds as per the criterial referred under section 6.3.2.5.

The ESMP is included in the bid documents once DED and Program of Works are prepared to inform the contractor about the requirements, safeguard instruments (CSHP, CESMP), and resources needed to implement the mitigation measures to manage environmental and social risks.

⁴⁸ NOL 1 is the document issued by the project to the Procuring Entity which signal the start of the procurement process while the NOL 2 is the document issued to the Procuring Entity that signals them to award the contract to the winning bidder/supplier.

6.3.1.4. Step 5: Safeguards Compliance Monitoring and Supervision

During the compliance monitoring and supervision stage, the RPCO will ensure that the subproject has complied with all safeguards requirements prior to implementation. During procurement, RPCO will attend the pre-procurement and pre-bidding activities to discuss the safeguards requirements. The subproject will be required to submit the following:

- Any lacking safeguards compliance requirements such as Tree Cutting Permit and proof of compensation of PAPs prior to NOL 2
- Contractor's Safety and Health Plan approved by DOLE
- Contractor's ESMP.

During the pre-construction conference, the subproject will be required to undergo safeguards orientation to ensure that the contractor understands the mitigation measures needed to manage environmental and social impacts as well as the monitoring and reporting requirements.

During subproject implementation, the subproject will be required to undertake the following:

- Submit a safeguard compliance monitoring report as part of the monthly progress report
- Report fatality or serious injury to the Bank no later than forty-eight (48) hours after learning of the fatality or serious injury and the status of action taken within a period of 7 days from the incident.
- Submit the tax deduction/tax exemption/annotation/tax credit
 - For tax declaration, deduction should start 2 months after issuance of NOL2/NTP and copy of new tax declarations should be submitted
 - For titled lands, annotation should be completed prior to turn over of subprojects.
Note that parcellary survey by a geodetic surveyor is required.
- Compliance Monitoring Checklist (Annex P-1 to 11) and reports
- Semi-Annual GRM Survey
- Survey on the socio – economic conditions of PAPs especially those under RAP and expropriation cases.

The LGU is required to submit monthly progress reports containing the status of safeguards implementation.

6.3.2. Safeguards Process for I-REAP Subprojects

Outlined in Figure 7 is the safeguards process flow for I-REAP component. Figure 8 presents the roles of the responsible units, safeguards instruments, and timeframe to process applications of enterprise subprojects.

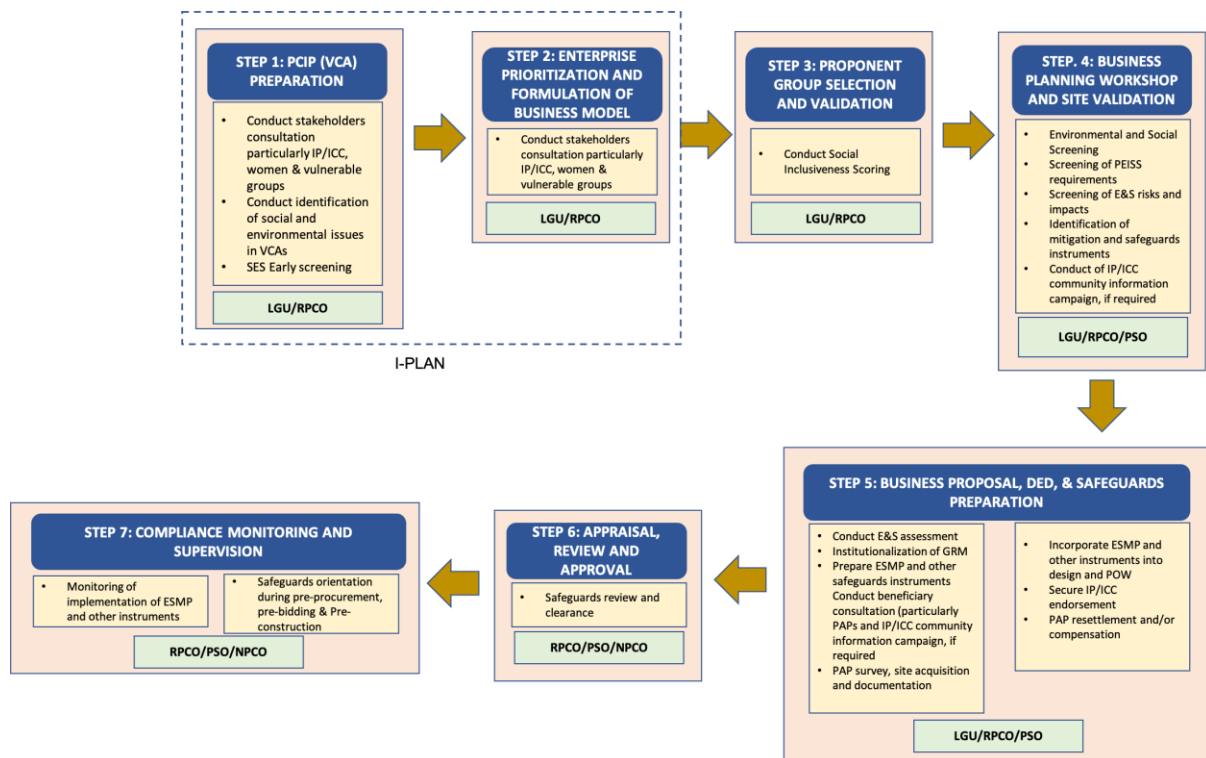


Figure 8. Environment and Social Safeguards Activities for I-REAP

		Social Inclusiveness Scoring		ROLE OF SAFEGUARDS IN THE I-REAP PROCESS FLOW				
eVSA, CRVA, Multi-factor Risk Assessment, LCCAP checking of PCIP	Conduct e-VSA, CRVA, Geotagging of SP	SES Screening of subprojects	Conduct Beneficiary Consultation(Particularly PAP's and IP/ICC Community Information Campaign, if required)	Secure beneficiary approval and IP/ICC endorsement if with IP/ICCs				
SES Early Screening	Consultation with stakeholders, IP/ICC, women, & vulnerable groups	Screening of PEISS Requirements	Conduct PAP Survey, ROW Acquisition, and documentation	PAP compensation, donation and for resettlement	Orientation on ESMP & instruments during pre- procurement/pre-bidding & pre-construction conferences			
Conduct Stakeholders consultation particularly IP/ICC, women, & Vulnerable Groups	Assessment of climate hazards and vulnerability issues c/o GGU	Screening of SP E&S Risk and Impacts	Conduct Environmental and Social Assessment and Installation of GRM	Secure relevant documentary requirements	Compliance Monitoring and Supervision			
Conduct identification of social and environmental issues in VCAs/PCIP's	Geotagging of proposed priority projects c/o GGU	Identification of Safeguard Instruments	Prepare Environmental and Social Management Plan (ESMP) and other safeguard plans (e.g. IP Plan, BMP, CHMP, RAP, etc)	Incorporation of relevant ESMP measures into the enterprise operations, civil works design and ROW	Safeguards Review and Clearance	Safeguards Review and Clearance, if there is still for compliance	Compliance Monitoring and Supervision	
PROCESS								
I-PLAN	Enterprise Prioritization and Formulation of Business Model (4 days)	Proponent Group Selection and Validation (4 days)	Business Planning Workshop and Site Validation (7 days)	BP/DED & Safeguards Preparation (2 months and 5 days)	Appraisal Review & Approval (25 days)	Subproject Implementation (30 days)	Subproject O&M (10 years)	
OUTPUT								
PCIP (VCA)	Enterprise Prioritization Result and Business Model	Ranking of PG	SP Checklist	Business Plan Validation	RPAB NOL 1	Procurement NOL 2	O&M Audit	
		Validation and Confirmation Report	Draft Business Plan and Attachments	Safeguard Documents	Signed IMA	Release and Liquidation of Tranches		
				DED/POW	CAF Issued	Monitoring and Progress Reports		
				Bid Docs	Enterprise Agreement Operational	Completion Report Turn Over		
RESPONSIBILITY MATRIX								
LGU/RPCO			PG/LGU/RPCO/PSO			RPCO/PSO/NPCO	PG/LGU	LGU

Figure 9. Roles on Environment and Social Safeguards for I-REAP

Step 1: Subproject Identification

Subproject identification in I-REAP are based on the commodity VCAs as translated in the PCIPs or CCIPs. The P/C/MPMIU conducts the evaluation of documents submitted by the Proponent Group (PG)/FCA in terms of whether the proposed subproject is within the PCIP and if the documents are complete, correct, and updated. Upon evaluation, the P/C/MPMIU will issue the Certification that the proposed subproject is within the PCIP and that the PG has the technical, financial and organizational

capability to implement the proposed subproject. A Business Modelling workshop/consultation is then conducted with the assistance of RPCO, if needed. The workshop looks at users or direct beneficiaries of the enterprise, problems and gaps, opportunities, social acceptability, better social inclusion, and environmental management initiatives and programs.

6.3.2.1. Step 2: Proponent Group Selection and Validation

- **Overlay Subproject Location with Protected Areas, Ancestral Domain and Hazard Prone Areas**

During validation, the SES Screening Form (Annex C) is accomplished. Similar to I-BUILD Component, the location of the subproject proposal is overlaid with the maps of protected areas, ancestral domain, and hazard prone areas, in coordination with GGU. The results of the subproject mapping will prompt the subsequent activities and requirements for the subproject.

- **Social Inclusiveness Assessment**

I-REAP subprojects are likewise subjected to validation that includes criteria on engagement/participation of women, social inclusiveness assessment, screening of environmental and social impacts, and screening of PEISS requirements in the EIA.

As early as the conception stage and to be finalized during validation by RPCO, all I-REAP proposals shall undergo mandatory social inclusiveness scoring system using the form provided in Annex D. The conduct of meaningful consultations and separate IP Community Campaign is done by the PG with assistance of LGU and RPCO SES. The LGU SES shall conduct the Social Inclusiveness Scoring System (Annex D) for PGs seeking I-REAP funding with the validation of RPCO SES to determine the degree of social inclusiveness of the subproject proponent following the procedures.

6.3.2.2. Step 3: Business Planning and Site Validation

- **Social and Environmental Assessment**

Subprojects will be screened using the screening checklist in Annex C to determine its eligibility in terms of environmental and social site sensitivity and to assess risks and impacts from subproject activities. Similar to I-BUILD, the subproject location will be overlaid with the shapefile of the protected areas, ancestral domain and hazard prone areas.

The ESA will determine the ESMP and other requirements to be undertaken as part of the subproject. Eligible activities are identified based on-site sensitivity, risks of the activities, and in terms of environmental and social management.

Following the screening against eligibility, subproject activities will be further screened to determine the type of safeguard instruments needed to address or mitigate identified risks and impacts.

6.3.2.3. Step 4: Subproject Preparation, Subproject Proposal and Detailed Engineering Design

Preparation of the business plan for the proposed clusters of enterprises requires the inclusion of required documents as proof of compliance to the SES of the PRDP. A strategic planning and business planning workshop shall be conducted by the RPCO supported by the PSO. The P/C/MPMIU shall support the RPCO and the PSO in the conduct of the activity. The objectives of this workshop are to a) orient the P/C/MLGU and the PG on the documentary requirements for the approval of I-REAP subproject; b) develop the Capacity Development Plan and Business Continuity Plan; and c) draft the business plan. To determine the risk and hazards that the proposed subproject may encounter, the conduct of the business continuity planning workshop will be done through the technical assistance of the P/C/MLGU and RPCO/PSO and/or NPCO. The said activity will have two parts: (1) understanding disaster risk reduction and management (DRRM) and (2) development of a Business Continuity Plan (BCP).

A proposed enterprise subproject with infrastructure components shall follow the I-BUILD Operations Manual, including the format and technical requirements for the Detailed Engineering Design (DED)

and Program of Works (POW). The PG/LGU Engineer, I-REAP, I- BUILD, and SES should closely coordinate with each other to ensure all details of the enterprise interventions, operational plan, production and processing standards, compliance to other standards (FDA, PABES, etc.), and other requirements, as well as social and environmental safeguards aspects, are well incorporated and taken into consideration in the development of the design and location of the proposed enterprise infrastructure.

The subproject proposal should conform with the requirements on social and environmental safeguard through the conduct of the following activities:

Table 11. Safeguards Activities during Business Proposal Preparation Stage under I-REAP Component

Safeguards Activity	Responsible Unit
1. Conduct Environmental and Social Assessment (refer to Annex F)	Proponent Group with assistance from LGU and RPCO SES
2. Conduct of meaningful consultation among PG members and nearby communities and a separate IP Community Consultation.	Proponent Group with assistance from LGU and RPCO SES and in coordination with NCIP
3. Preparation of ESMP (refer to Annexes J1 to J11)	Proponent Group with assistance from LGU and RPCO SES
4. Conduct PAP Survey	Proponent Group with assistance from LGU and RPCO SES
5. Secure IP Endorsement and Prepare IP Plan, if applicable	Proponent Group with assistance from LGU and RPCO SES and in coordination with NCIP
6. Institutionalization of GRM	Proponent Group
7. Incorporate safeguards related costs in the financial analysis	Proponent Group with assistance from RPCO SES and Economist
<i>For Proposed Subprojects with Infrastructure Component</i>	
8. Incorporate relevant ESMP measures in the design and program of works	Proponent Group
9. ROW acquisition and documentation (including annotation and transfer of land title to the proponent group, if applicable)	Proponent Group with assistance from LGU and RPCO SES
10. PAP resettlement and/or compensation	Proponent Group with assistance from LGU and RPCO SES

6.3.2.4. Step 5: Subproject Appraisal, Review, Evaluation, and Approval

Upon receipt of the complete package of an I-REAP subproject business plan, the RPCO will convene the Technical Review Committee which is composed of representatives from the different units and components of PRDP Scale-Up, commodity experts, industry experts, practitioners, and other technical experts as necessary. All subproject proposals that passed the RPCO Technical Review Committee, except micro- enterprise subprojects, shall be endorsed by the RPCO to the PSO and/or the NPCO, depending on the threshold, for the conduct of the Joint Technical Review (JTR). This may be conducted on-site or through virtual and shall be attended by technical staff from the PSO/ NPCO (I-REAP, I-BUILD, I- PLAN, SES, Economics Team, GGU, M and E, Procurement and Finance units). The following are the thresholds for the conduct of JTR:

- a) All subprojects that will be issued with NOL 1 by the RPCO, except for micro- enterprise subprojects shall go through the JTR of the PSO;
- b) All subprojects that will be issued NOL 1 by the PSO shall go through the JTR of the NPCO.
- c) Further, the following provides a summary of delegated prior review thresholds. The World Bank will review and clear proposed subprojects with estimated cost of more than USD2,500,000.00 for I-REAP Subprojects and more than USD10,000,000.00 for I-BUILD subprojects. In addition, the SPs

which could cause potential substantial risks shall be referred to the Bank for clearance with the supporting screening, initial due diligence, and SES review comments.

Table 12. Delegated Prior Review Threshold

OFFICE	I-REAP	I-BUILD
RPCO	≤ 300,000.00	≤ 300,000.00
PSO	≤1,000,000.00	≤1,000,000.00
NPCO	>1,000,000.00 TO ≤ 2,500,000.00	>1,000,000.00 to ≤ 15,000,000.00
World Bank	> 2,500,000	> 10,000,000.00

6.3.2.5. Step 6: Subproject Implementation (Procurement and Contract Implementation)

Progress of procurement, delivery of goods and construction of infrastructure/s shall also be monitored through AGT by the LGU, RPCO, and PSO GGU teams. The ESMP and other safeguards instruments will form part of the bid and contract documents.

6.3.2.6. Step 7: Monitoring and Reporting

Compliance to the ESMP measures by the subproject proponent and any actual environmental and social issues associated with the subproject that may crop up during the course of operation will be periodically monitored.

Monitoring will be done through the use of the SES Compliance Monitoring Checklist for enterprise operations presented in Annexes P1 to P5. It is a useful tool primarily to determine the status of safeguards compliance of subprojects as well as in guiding partner PGs and LGUs on the safeguards measures that need to be complied with during the operations stage.

The PRDP NPCO/PSO/RPCO SES and/or IREAP and the P/C/MLGU shall have a regular compliance monitoring visit and reporting during operation of the enterprise. Consequently, through self-compliance monitoring, the Proponent Group shall submit every month the Safeguards Compliance and Impact Monitoring Report to the RPCO. The said report shall form part of the EOMS. The status of sustainability-related monitoring are incorporated in the MIS in the Enterprise Operations Monitoring System (EOMS) for I-REAP.

The utilization and operation of the production support assistance and infrastructure and equipment of the completed I-REAP subproject will be subjected for monitoring of the success indicators as stated in the business plan objectives within the duration of PRDP, in accordance with the minimum AGT requirement applicable to each enterprise.

The GGU NPCO/PSO/RPCO will provide geotag photos, both the production support assistance and infrastructure and equipment and sampling size of maximum of thirty (30) recipients scattered in various locations. For production support, photos shall be taken in stages while infrastructure and equipment photos shall be taken twice a year. This would also be a documentation and monitoring of accomplishments of success indicators.

6.4. Social and Environmental Safeguard Monitoring

The Social and Environmental Safeguard Dashboard is in the early stage of development and is being introduced in PRDP Scale-Up. The dashboard is an online portal that allows PRDP to monitor subproject performance. Enhancements proposed on the dashboard include geospatial data on protected areas, critical watershed, major river basins, typhoon track, CRVA and information on ancestral domains. The enhanced dashboard is expected to be used in validating information on subproject proposals.

7. PUBLIC CONSULTATION, INFORMATION DISCLOSURE, AND GRIEVANCE REDRESS MECHANISM

Building on existing collaborative relationships with stakeholders: The PRDP has a long-standing relationship with the various project stakeholders having an extensive 8-year experience in project implementation. The original PRDP has a well-established partnership with the various LGUs as the project's primary implementing partners. The PRDP has since upheld the principles of meaningful consultation in all its processes and has adopted various ways to ensure the participation of various stakeholders in the whole project cycle. The PRDP Scale-up shall build on its existing collaborative relationship with its stakeholders and continue its active engagement with them.

Stakeholder Engagement during Project Preparation. The Project conducted an online consultation meeting last December 16, 2022 with representatives from the PRDP Original Loan, AF1, AF2 who are involved in the I-PLAN, I-BUILD, I-REAP Components and the I-SUPPORT Component Units particularly the Social and Environmental Safeguards (SES) Unit, Geo-mapping and Governance Unit (GGU) and Monitoring and Evaluation (M&E) Unit. The consultation meeting provided the opportunity to discuss the proposed ESMF outline and gather suggestions and recommendations based on the extensive experience of the Project staff in implementing the original PRDP. The meeting also provided clarity on the scope of each of the components and the institutional arrangements and stakeholders that will be involved in the implementation of PRDP Scale-Up. The project staff provided inputs, comments and suggestions that were taken into consideration in the formulation of the ESMF and other safeguards documents. To further strengthen collaboration and ensure views of various stakeholders are taken into consideration and to ensure effective implementation of PRDP Scale-Up, the Project actively engaged relevant National Government Agencies (NGAs) in the consultation process last January 4, 2023 to gather views, comments and suggestions based on the PRDP Scale-Up ESMF. The consultation process enabled the Project to properly document the views, comments and suggestions raised by the NGAs and BARMM Ministries - Ministry of Agriculture Fisheries and Agrarian Reform (MAFAR), Ministry of Environment, Natural Resources and Energy (MENRE), Ministry of Indigenous Peoples' Affairs (MIPA) - that shall contribute to the effective implementation of PRDP Scale-Up. Particularly on the following items: i) ESMF; ii) Environmental and social issues that should be taken into consideration by the Project and iii) Possible significant environmental and social impacts of PRDP Scale-Up proposed list of subprojects.

Stakeholder Engagement Plan (SEP): The project values the importance of an open and transparent interaction with project stakeholders and adheres to a participatory and consultative approach in engaging stakeholders. The SEP has been developed as a standalone document to ensure that stakeholders are informed about the project, its risks and impacts, and the mitigation measures to address any adverse effects to stakeholders and communities. The SEP of PRDP Scale-Up shall further strengthen and improve the existing consultation processes established by the project from planning to monitoring and evaluation to ensure equity and inclusiveness especially among vulnerable groups. The SEP describes the various stakeholder engagement mechanisms woven into the whole project cycle. It includes stakeholder identification and analysis and mapping to determine the appropriate stakeholder engagement methods and activities. The SEP takes into consideration times of crisis such as the COVID-19 pandemic, strategies to ensure inclusion of indigenous peoples communities, women and other vulnerable groups as well as strategies for engagement in conflict areas.

Disclosure: The SEP will be disclosed at the DA website together with other safeguard documents and instruments such as the ESMF, LARPF, IPPF and LMP. The SEP shall be reviewed periodically and enhanced accordingly based on additional information and experiences during project implementation as deemed relevant.

Grievance Redress Mechanism (GRM): The original PRDP has set up an effective GRM which is an integral project management element that intends to seek feedback from beneficiaries and resolve

complaints on project activities and performance. To further align the GRM with the ESF, the SEP will discuss measures to make it sensitive to sexual exploitation and abuse/sexual harassment (SEA/SH) incidents and Sexual Orientation, Gender Identity and Expression (SOGIE)-related complaints. The mechanism shall ensure that (i) the public within the project influence are aware of their rights to access, and shall have access to, the mechanism free of administrative and legal charges; (ii) that these rights and interests are protected from poor project performance, especially of beneficiaries and/or affected persons; and (iii) concerns arising from project performance in all phases are addressed effectively.

The setting up of the GRM is formally installed at various levels of the project – at the national, cluster, regional, provincial and city/municipal and barangay/community levels based on the established procedures and protocols and set timeframes. Each subproject proponent LGU and Farmers and Fisherfolk Cooperative and Associations (FCAs), or FCA clusters for enterprise subprojects will be required to establish a functional GRM as early as during subproject preparation and should be supported by appropriate human and financial resources. The GRM to be established at the LGU will serve all subprojects and related project activities that are implemented or under the auspices of the LGU. The SEP details further the core principles of the GRM, various ways to access the GRM, the Grievance Investigation and Resolution Process and the Grievance Organizational structure and Roles and Functions.

8. INSTITUTIONAL ARRANGEMENTS, RESPONSIBILITIES AND CAPACITY BUILDING

8.1. Institutional Arrangements for Environmental and Social Safeguards

The existing implementation structure of the original PRDP will be maintained in the proposed PRDP Scale-Up. The National Project Coordination Office (NPCO), stationed at the DA Central Office, will continue to handle overall coordination and support, particularly in the areas of information and external communications and the coordination of the project management information system and monitoring and evaluation. The NPCO will serve as the Secretariat of the National Project Advisory Board (NPAB).

The four Project Support Offices (PSOs) will be maintained to oversee regional cluster operations and support services covering Luzon, Visayas and Mindanao. The PSO's key role pertains to the disbursement of funds and the preparation of reports related to funds management, including provision of technical assistance and coordination with the covered regions. It also supports the NPCO in ensuring the achievement of project milestones, results, and outcomes.

At the regional level, the Regional Project Coordination Offices (RPCOs) lodged at the DA Regional Field Office (RFO) in each of the 16 regions will likewise be sustained. The RPCO will lead the implementation at the regional level and will directly provide technical assistance and coordinate with the proponent LGUs, FCAs /FCA clusters with support by the PSOs. The Regional Project Advisory Board (RPAB), headed by the respective Regional Executive Director of the DA-RFO, continues to be constituted to provide technical guidance and approves subproject proposals for funding under the project.

At the local level, counterpart implementing units will be lodged at the proponent provincial/municipal/city LGUs designated as Provincial/Municipal/City Project Management Implementing Unit (P/C/MPMIU).

In terms of environment and social safeguards activities, the existing institutional structure of PRDP will be maintained but additional staff with various expertise related to E&S safeguards will be hired to enhance the existing manpower resources. The following are the key agencies and DA units involved on environment and social safeguards:

a) National Project Coordination Office (NPCO)

The NPCO shall designate one Social and Environmental Safeguards (SES) Unit Head and one SES Alternate Unit Head; and hire one SES Specialist, four SES Officers and one Associate SES Officer who shall consolidate all Compliance Monitoring Reports from various PSOs and alert NPAB of any systemic compliance issues or any project-wide operational policy issues affecting the project's ability to comply with environmental and social safeguards requirements that were not resolved at regional level.

b) Project Support Office (PSO)

The PSO shall designate/hire one SES Unit Head, one SES Specialist, one SES Officer and one Associate SES Officer who shall work very closely with the Infrastructure Development (I- BUILD) and Enterprise Development (I-REAP) teams. The PSO shall:

- Provide training and technical assistance to RPCO SES Unit and engineering team as well as selected SES focal persons of PPMIUs, CPMIUs and MPMIUs;
- Review and clear compliance of subprojects before submitting them to the NPCO for no objection;
- Consolidate all Compliance Monitoring Report from RPCOs and submit them to the NPCO.

c) Regional Project Coordination Office (RPCO)

The RPCO shall designate one SES Unit Head and hire one SES Officer and two Associate SES Officers and a team from Infrastructure Development (I-BUILD) and Enterprise Development (I-REAP) who shall undergo training in environmental and social safeguards aspects of subproject preparation, review and approval and alert RPAB of any systemic compliance issues or any project-wide operational policy issues affecting the project's ability to comply with environmental and social safeguards requirements.

The RPCO shall:

- Provide assistance to the LGUs/project proponents in the conduct of safeguards activities and the preparation of safeguards documents;
- Provide review and clearance of subprojects on the safeguards aspects;
- Conduct periodic site visit to monitor progress of subproject implementation; and
- Consolidate all Compliance Monitoring Reports from LGUs and FCAs/FCA clusters and submit them to the PSO.
- maintain and update the social database system, disclosure of SES documents and registry of grievances and resolution lodge at the RPCO, LGU and FCA level

d) Provincial/City/Municipal Project Management and Implementation Unit (P/C/MPMIU)

The Proponent LGU, whether - Provincial, City or Municipality, is required to establish a Project Management and Implementation Unit (PMIU) with staff, resources and responsibilities for implementing subprojects (i.e., Provincial - PPMIU; City - CPMIU or Municipal - MPMIU). The P/C/MPMIU shall have as its members the Provincial/City/Municipal Planning and Development Officer (P/C/MPDO), the Provincial/City/Municipal Engineer or anyone who is an engineer by profession and a counterpart SES team to be designated at the LGU level specifically as a member of its P/C/MPMIU to ensure that there will be dedicated safeguards staff that oversee implementation of the ESMF and compliance with other safeguards requirements and guidelines at the local level. They shall be responsible for the overall management of the environmental and social risks and impacts of subproject/s. The P/C/MPMIU shall:

- Help communities comply with the safeguards requirements,
- Prepare subprojects according to the ESMF
- Assist the FCA/FCA clusters comply with the safeguards requirements, if I-REAP subproject proponent is FCA/FCA clusters
- Submit a monthly, quarterly and annual Safeguards Compliance Monitoring Reports to RPCO.

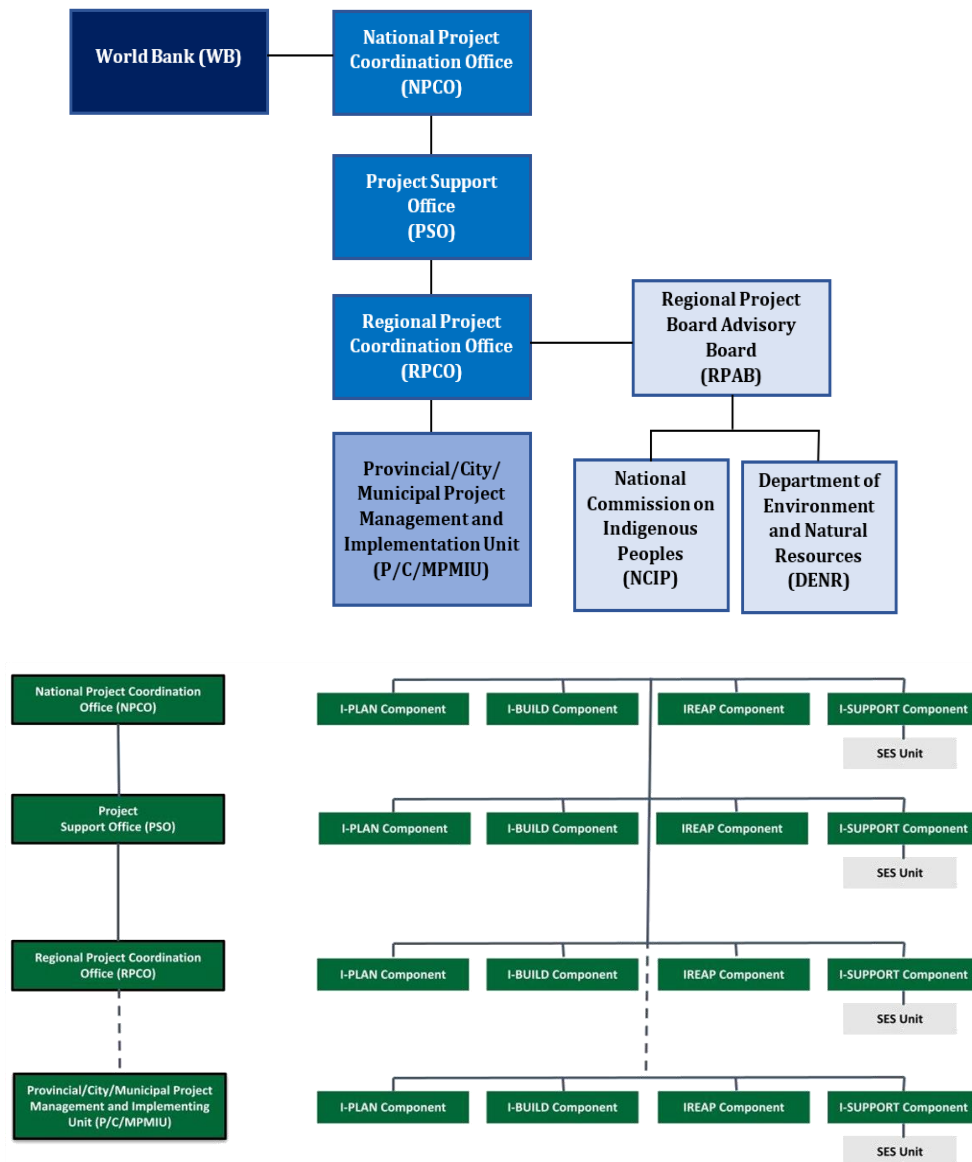


Figure 10. Social and Environmental Safeguards (SES) Institutional Arrangements of PRDP Scale-Up

The roles of the various DA units and LGUs in terms of E&S safeguards activities are outlined in Table 13.

Table 13. Environmental and Social Safeguards Activities and Responsible Units

Stage in Subproject Preparation	Safeguards Activities	Responsible Unit
Subproject Identification/ Validation	Conduct Environmental and Social Screening (refer to Annex C; SES Screening Form)	Subproject proponent with assistance from RPCO SES
	Conduct the Social Inclusiveness Scoring System for proponent group seeking I-REAP funding (refer to Annex C: Social Inclusiveness Scoring System)	LGU-ESS and validated by the RPCO-SES
	Conduct meaningful consultations and separate IP Community Information Campaign, if required.	Subproject proponent with assistance from RPCO SES
Feasibility Study Preparation	Conduct Environmental and Social Assessment (ESA)	Subproject proponent with assistance from RPCO SES
	Conduct meaningful consultations and separate IP community consultation, if required.	Subproject proponent with assistance from RPCO SES and in coordination with NCIP
	Prepare Environmental and Social Management Plan (ESMP)	Subproject proponent with assistance from RPCO SES
	Conduct PAP survey	Subproject proponent
	- Secure IP endorsement - IP Plan, if applicable	Subproject proponent with assistance from RPCO SES and in coordination with NCIP
	Operationalization of GRM	Subproject proponent
	Gather data on safeguards related costs to be included in the economic and financial analysis	Subproject proponent with assistance from RPCO SES and economist
Detailed Engineering and Program of Works Preparation	Incorporation of relevant ESMP measures into the design and program of works	Subproject proponent
	ROW acquisition and documentation	Subproject proponent
	PAP resettlement and/or compensation	Subproject proponent
Review and Approval	Safeguards review and issuance of clearance	RPCO/PSO, SES, Infrastructure Development (I-BUILD) and Enterprise Development (I-REAP) Teams
Procurement (Bidding, Awarding)	- Discussion of safeguards compliance with the Contractor during the procurement activities (pre-procurement, pre-bidding, and pre-construction conferences) such as Contractor's ESMP (refer to Annex K: Guidelines in the formulation of the Contractor's ESMP) - Also refer to Annex O Guidelines on Community and Occupational Safety and Health (COSH) on prevention of COVID-19 and other emerging communicable diseases.	
Construction	- Compliance Monitoring - Refer to Annex P1 to P5 for the Safeguards Monitoring Checklist	PLGU and RPCO SES, Infrastructure Development (I-

Stage in Subproject Preparation	Safeguards Activities	Responsible Unit
		BUILD) and Enterprise Development (I-REAP)
Turnover	Compliance Evaluation	RPCO/PSO, SES, Infrastructure Development (I-BUILD) and Enterprise Development (I-REAP) Teams

8.2. Capacity Building

Component 3 of PRDP Scale-Up covers the capacity building measures to DA units and LGUs in environmental and social safeguards. Capacity building will be achieved by continuous training programs for existing staff at NPCO, PSOs, and RPCOs. Deep dive training is planned on the ESMF, WB ESF and ESS principles, and various ESF instruments of the project.

Continuous capacity building is also planned throughout project implementation for the different SES Units as well as for subproject proponent LGUs and FCA/FCA clusters on the following topics:

- ESMF, ESF Instruments, and ESS
- Emergency Response and Preparedness
- Disaster and Risk Management
- Indigenous Peoples Policy Framework (IPPF)
- Cultural Heritage Management Plan (CHMP)
- Grievance Redress Mechanism (GRM) and environmental and social dispute resolution
- E&S monitoring and reporting
- Community health and safety
- Biodiversity management planning
- Climate resilience in the agriculture sector
- Training on cultural and conflict sensitivity and assessment
- Conflict-Sensitive and Peace-Promoting (CSPP) approaches
- Gender and development
- Other related trainings as required during project implementation.

8.3. Budget for ESMF Implementation

The estimates of the budget for the implementation of the ESMF is included in the budget under I-SUPPORT, comprising of costs for screening of subprojects, site validation, capacity building, implementation support, and monitoring. Accordingly, the proponent LGUs shall allocate funds to cover the costs for the implementation of the ESMF and ESF instruments, other related safeguards, and administrative costs for the LGU SES team (e.g. survey, meetings/consultations, safeguards supervision and monitoring, etc).

The costs of ESMF supporting activities will be shouldered by both the LGUs/ FCAs, whichever is the subproject proponent. All design related subproject costs are to be financed under the total subproject cost shared by the PRDP and the LGUs/FCAs while activities that fall outside the eligible items under the Program of Works (POW) will be shouldered by the LGU. These include the cost for permit applications, consultations, ROW acquisition, implementation of the resettlement action plan. Activities that will incur costs with the respective source are itemized in the table below:

Table 14. ESMF Implementation cost

Sl. No.	Item	Assumptions	Cost (Php)
1	Consultancy and Remuneration at the NPCO	Hiring of NPCO SES Staff (1 Specialist, 4 Officers, 1 Associate Officer) and Designation of DA Regular Staff (1 Unit Head and 1 Alternate Head) for five years	26,444,931.84

2	Consultancy at the PSO	Hiring of PSO SES Staff (1 Unit Head, 1 Specialist, 1 Officer, 1 Associate Officer) for five years	53,527,134.00
3	Consultancy and Remuneration at the RPCO	Hiring of RPCO SES Staff (1 Specialist, 1 Officer, 1 Associate Officer) and Designation of DA Regular Staff as Unit Head for five years	117,989,696.00
4	SES Trainings and Workshops	As enumerated in the Proposed PRDP Scale Up Cost Tab	24,123,138.00
5	Implementation of SEP	Stakeholder Engagement Plan (SEP) costs for stakeholder engagement activities in all components (I-PLAN, I-BUILD, I-REAP, and I-SUPPORT)	696,065,488.00
6	NPCO technical assistance to LGUs ⁴⁹	Includes traveling and communications expenses as enumerated in the Proposed PRDP Scale Up Cost Tab	17,848,000.00
7	Design-related costs/ Mitigation Measures ⁵⁰	Since subproject and site varies, design-related/ mitigation measures costs shall be included in the Project Cost as per Detailed Engineering Design (DED) and Program of Works (POW).	To be determined
8	ESA/ESMP of Infra SPs	To be borne by LGU and FCA/ FCA clusters	0
9	ESA/ESMP of Enterprise Subprojects	To be borne by LGU and FCA/ FCA clusters	0
10	Consultations	To be borne by LGU and FCA/ FCA clusters	0
11	Site and Right-of-Way (ROW) Acquisition ⁵¹ ()	To be borne by LGU and FCA/ FCA clusters	0
12	Permits and Clearances (e.g. ECC, CP, Tree Cutting Permit, etc.)	To be borne by LGU and FCA/ FCA clusters	0
13	Relocation/ Transfer of electric Posts (as needed)	To be borne by LGU and FCA/ FCA clusters	0
14	IP Plan (as needed)	To be borne by LGU and FCA/ FCA clusters	0
15	Tree Replacement Plan (as needed)	To be borne by LGU and FCA/ FCA clusters	0
16	Labor Management Procedure	To be borne by LGU and FCA/ FCA clusters	0
17	Biodiversity Management Plan	To be borne by LGU and FCA/ FCA clusters	0
18	Integrated Pest Management Plan	To be borne by LGU and FCA/ FCA clusters	0
	Total		935,998,387.84

⁴⁹ For validation of subprojects, Subproject Appraisal and Review (SPAR), Compliance Monitoring, Mission and Grievance Resolution

⁵⁰ For example, slope protection structures, drainage, catchment basin, ramps, siltation pond, waste treatment facility, liquid and hazardous waste storage, flood mitigation measures

⁵¹ Including parcellary survey, appraisal, compensation, Resettlement Action Plan

ANNEXES

Annex A: Protected Areas in the Philippines

Annex B: Social and Environmental Safeguards and Biodiversity Screening for I-PLAN

Annex C: Social and Environmental Safeguards Screening Form for I-BUILD and I-REAP

Annex D: Social Inclusiveness Scoring System for Proponent Group Seeking I-REAP Funding

Annex E: Guidance in the preparation of Environmental and Social Assessment (ESA) and ESMP in Subproject Feasibility Study Reports for I-BUILD Subprojects

Annex F: Guidance in the preparation of ESA and ESMP in Subproject Business Proposal for I-REAP Subprojects

Annex G: Illustrated Technical Planning Guidelines for Communal Roads

Annex H: Illustrated Technical Planning Guidelines for Communal Irrigation Systems

Annex I: Illustrated Technical Planning Guidelines for Water Systems

Annex J: Guidelines for ESMP Preparation

- J-1: ESMP Template for Farm-to-Market Roads and Bridges
- J-2: ESMP Template for Potable Water Supply
- J-3: ESMP Template for Irrigation System
- J-4: ESMP Template for Crop Production
- J-5: ESMP Template for Multi-commodity Processing Plants
- J-6: ESMP Template for Aquaculture/Mariculture/Hatcheries/Fishponds
- J-7: ESMP Template for Slaughterhouses, Dressing Plants, Hatcheries, Meat Processing and Dairy Processing
- J-8: ESMP Template for Fish Landing/Feeder Ports
- J-9: ESMP Template for Milling/Drying/Packaging Facilities
- J-10: ESMP Template for Cold Storage/Warehouses/Greenhouses/trading and Market Centers
- J-11: Siting Criteria for batching plants, spoils disposal, borrow pits

Annex K: Guidelines in the Preparation of Contractor's ESMP (CESMP)

Annex L: Biodiversity Management Plan Guidelines

Annex M: Integrated Pest Management Plan Guidelines

Annex N: Cultural Heritage Management Plan Guidelines

Annex O: Community and Occupational Health and Safety (COHS) Guidelines amidst COVID-19 and other emerging communicable diseases

Annex P: ESMP Compliance Monitoring

- P-1: E&S Compliance Monitoring Checklist for Farm-to-Market Roads and Bridges
- P-2: E&S Compliance Monitoring Checklist for Potable Water Supply
- P-3: E&S Compliance Monitoring Checklist for Irrigation System
- P-4: E&S Compliance Monitoring Checklist for Other Infrastructures
- P-5: E&S Compliance Monitoring Checklist for Enterprise Operations

Annex Q: An Outline for CERC ESMF

Annex R: Climate Co-Benefits and GHG Accounting

Annex S: Basic Safeguards Requirements for the Issuance of NOL 1 and NOL 2