Department of Agriculture

PHILIPPINE RURAL DEVELOPMENT PROJECT SCALE-UP

RURAL INFRASTRUCTURE MARKET LINKAGE

I-BUILD

(Intensified Building-Up of Infrastructure and Logistics for Development)

OPERATIONS MANUAL

June 2023

Table of Contents:

List of Tables:

List of Figures:

Annexes:

Annex 1	PRDP SU - List of Priority Subprojects and its Explanatory Notes
Annex 2	PRDP SU - Feasibility Study Outline for FMR
Annex 3	PRDP SU - Feasibility Study Outline for Irrigation Facilities
Annex 4	PRDP SU - Feasibility Study Outline for Potable Water Supply
Annex 5	PRDP SU - Feasibility Study Outline for Value Chain Rural Infrastructure - Slaughterhouse Dressing Plant
Annex 6	PRDP SU - Feasibility Study Outline for Value Chain Rural Infrastructure - Fish Landing Feeder Port
Annex 7	PRDP SU - Feasibility Study Outline for Value Chain Rural Infrastructure - Warehouse - Warehouse with MPDP
Annex 8	PRDP SU - Subproject Validation Report for FMR and Bridges
Annex 9	PRDP SU - Subproject Validation Report for Irrigation System
Annex 10	PRDP SU - Subproject Validation Report for Potable Water Supply
Annex 11	PRDP SU - Subproject Validation Report for Value Chain Rural Infrastructure
Annex 12	PRDP SU - Traffic Count Form and Instruction
Annex 13	PRDP SU - Review Checklist for FMRs and Bridges
Annex 14	PRDP SU - Review Checklist for Irrigation Facilities
Annex 15	PRDP SU - Review Checklist for Potable Water Supply
Annex 16	PRDP SU - Review Checklist for Value Chain Rural Infrastructure
Annex 17	PRDP SU - Typical Drawings for Access Road subprojects
Annex 18	PRDP SU - Typical Drawings for RCDG Bridge - Bored Pile subprojects
Annex 19	PRDP SU - Typical Drawings for RCDG Bridges
Annex 20	PRDP SU - Typical Drawings for Communal Irrigation subprojects
Annex 21	PRDP SU - Drawings and Specifications for Small Scale Irrigation System Subprojects
Annex 22	PRDP SU - Typical Drawings for Potable Water Supply Subprojects
Annex 23	PRDP SU - Typical Warehouse Solar Drier Drawings
Annex 24	PRDP SU - Typical Rock Causeway Timber Port Drawings
Annex 25	PRDP SU - Standard Drawing Size & Title Blocks
Annex 26	PRDP SU - POW Format
Annex 27	PRDP SU - Subproject Signboard
Annex 28	PRDP SU - Construction Log Book
Annex 29	PRDP SU - Weather Chart
Annex 30	PRDP SU - Site Inspection Report

Appendix:

Abbreviations & Acronyms:

ABE - Agricultural and Bio-system Engineer

ACEL - Association of Carriers and Equipment Lessors

ADB - Asian Development Bank

ADSDPP - Ancestral Domains Sustainable Development and Protection Plan

ADT - Average Daily Traffic

AF-1 - First Additional Financing

AF-2 - Second Additional Financing

AFMP - Agriculture and Fisheries Modernization Plan

Agri. - Agriculture

AIP - Annual Investment Plan

ARC - Agrarian Reform Community

BAC - Bid and Award Committee

BAFE - Bureau of Agricultural and Fisheries Engineering

BAI - Bureau of Animal Industry

BARMM - Bangsamoro Autonomous Region in Muslim Mindanao

BAWASA - Barangay Water and Service Association

BER - Bid Evaluation Review

BFAR - Bureau of Fisheries and Aquatic Resources

BSWM - Bureau of Soils and Water Management

CAF - Certificate of Availability of Funds

CARI - Contractor' All Risk Insurance

CAO - City Agriculture Office

CBR - California Bearing Ratio

CENRO - City Environment and Natural Resources Office

CEO - City Engineering Office

CHARM - Cordillera Highland Agricultural Resource Management Project

CIS - Communal Irrigation System

CLGU - City Local Government Unit

CNC - Certificate of None Coverage

COA - Commission on Audit

CP - Contractor's Profit

CPDO - City Planning and Development Office

CPM	- Critical Path Method
CPMIU	- City Project Management Implementing Unit
CSO	- Civil Society Organizations
CSS	- Context Sensitive Solutions
DA	- Department of Agriculture
DAR	- Department of Agrarian Reform
DC	- Direct Cost
DED	- Detailed Engineering Design
DENR	- Department of Environmental and Natural Resources
DEO	- District Engineering Office
DILG	- Department of the Interior and Local Government
DO	- Department Order
DOH	- Department of Health
DOLE	- Department of Labor and Employment
DOST	- Department of Science and Technology
DPD	- Deputy Project Director
DPWH	- Department of Public Works and Highways
DSWD	- Department of Social Welfare and Development
DTI	- Department of Trade and Industry
DUPA	- Detailed Unit Price Analysis
e-VSA	- expanded Vulnerability and Suitability Assessments
ECC	- Environmental Compliance Certificate
Econ	- Economics
EDC	- Estimated Direct Cost
EPC	- Estimated Project Cost
ESF	- Environmental and Social Framework
ESMP	- Environmental and Social Management Plan
ESSF	- Environmental and Social Safeguards Framework
EU	- European Union
FCA	- Farmers Cooperatives/Associations
FMR	- Farm to Market Road
FPIC	- Free and Prior Inform Consent
FS	- Feasibility Study

GGU	- Geo-mapping and Governance Unit
GOP	- Government of the Philippines
I-BUILD	- Intensified Building-Up of Infrastructure and Logistics for Development
	- Rural Infrastructure Market Linkage
I-REAP	-
I-PLAN	-
I-SUPPORT	-
IA	- Irrigators Association
IDC	- Indirect Cost
IDO	- Institutional Development Officer
IEC	- Information, Education and Communication
IMA	- Implementation Management Agreement
INFRES	- Infrastructure for the Rural Productivity Enhancement Sector
IP	- Indigenous People
IQMDS	- Infrastructure Quality Monitoring and Durability System
ITP	- Inspection and Test Plan
JBIC	- Japan Bank for International Cooperation
JIT	- Joint Inspectorate Team
JTR	- Joint Technical Review
LB/ES	- Labor Based Equipment Supported
LGU	- Local Government Units
LOI	- Letter of Intent
LP	- Loan Proceed
LWUA	- Local Water Utilities Administration
MAFAR	- Ministry of Agriculture-Fishery and Agrarian Reform
MAO	- Municipal Agriculture Office
MEO	- Municipal Engineering Office
MENRO	- Municipal Environment and Natural Resources Office
MLGU	- Municipal Local Government Unit
MMTR	- Minimum Materials Testing Requirement
MOA	- Memorandum of Agreement
MPDO	- Municipal Planning and Development Office
MPMC	- Municipal Project Monitoring Council

MPMIU - Municipal Project Management Implementing Unit

MRDP - Mindanao Rural Development Program

NAFMIP - National Agriculture and Fisheries Modernization and Industrialization Plan

NCIP - National Commission on Indigenous Peoples

NGO - None Government Organization

NIA - National Irrigation Administration

NMIS - National Meat Inspection Service

NOL - No Objection Letter

NOL-1 - No Objection Letter one (1)

NOL-2 - No Objection Letter two (2)

NPCO - National Project Coordination Office

NPSC - National Project Steering Committee

NTP - Notice to Proceed

NWRB - National Water Resources Board

O & M - Operations and Maintenance

OCM - Overhead, Contingencies and Miscellaneous

OHSP - Occupational Health and Safety Program

OL - Original Loan

OM - Operations Manual

OMAS - Operation and Maintenance Audit System

PA - Provincial Agriculturist

PABES - Philippine Agricultural and Bio-systems Engineering Standard

PAES - Philippine Agriculture Engineering Standard

PAO - Provincial Agriculture Office

PAP - Project Affected Person

PBD - Philippine Bidding Documents

PCCP - Portland Cement Concrete Pavement

PCIP - Provincial Commodity Investment Plan

PD - Project Director

PDC - Provincial Development Council

PDM - Precedence Diagram Method

PE - Provincial Engineer

PEO - Provincial Engineering Office

PENRO - Provincial Environment and Natural Resources Office

PERT - Project Evaluation and Review Technique

PhilFIDA - Philippine Fiber Industry Development Authority

PhilMech - Philippine Center for Postharvest Development and Mechanization

PLGU - Provincial Local Government Unit

PMIU - Project Management Implementing Units

PO - Private Organization

POW - Program of Works

PPDC - Provincial Planning Development Council

PPDO - Provincial Planning and Development Office

PPMC - Provincial Project Monitoring Council

PPMIU - Provincial Project Management Implementing Unit

PRA-PSA - Participatory Rural Appraisal - Participatory Social Analysis

PRDP - Philippine Rural Development Project

PRDP SU - Philippine Rural Development Project Scale Up

PSO - Project Support Office

PWS - Potable Water Supply

QP - Quality Plan

RAED - Regional Agricultural Engineering Division

RAFIP - Regional Agriculture and Fisheries Investment Portfolio

RBME - Results Based Monitoring and Evaluation

RCBC - Reinforced Concrete Box Culvert

RED - Regional Executive Director

RFO - Regional Field Office

RFU - Regional Field Unit

RIA - Road Influence Area

RMA - Rapid Marketing Analysis

ROMAT - Regional Operations and Maintenance Audit Team

ROW - Right of Way

RPAB - Regional Project Advisory Board

RPCO - Regional Project Coordination Office

RPMC - Regional Project Monitoring Council

RROW - Road Right of Way

RTD	- Regional Technical Director
SES	- Social and Environmental Safeguards
SP	- Subproject
SPAR	- Subproject Appraisal Report
SPIS	- Solar Powered Irrigation Systems
STP	- Standard Penetration Test
SWA	- Statement of Work Accomplishment
SWIP	- Small Water Impounding Project
VAT	- Value Added Tax
VCA	- Value Chain Analysis
VCRI	- Value Chain Rural Infrastructure
VPD	- Vehicles per Day
VSA	- Vulnerability and Suitability Assessment
WB	- World Bank

1.0 The Rural Infrastructure Market Linkage (I-BUILD) Operations Manual

1.1 Rationale and Purpose

The Philippine Rural Development Project Scale Up (PRDP SU) is an expanded response to the persistent challenges confronting the agri-fishery sector and the rural communities in the country 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). The Project aims to improve farmers and fisher folk access to markets and increase income from agri-fishery activities.

PRDP Scale Up envisioned to introduce a more holistic design and strategies by looking at a broader agri-fisheries 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 support, the inclusion of rice and corn focusing on value addition, and mainstreaming of institutional reforms in the Department of Agriculture (DA) programs and projects.

The Rural Infrastructure Market Linkage - Intensified Building-Up of Infrastructure and Logistics for Development (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 Bio-systems Engineering Standard (PABES), Green Building Code and the compliance with the new Environmental and Social Framework.

This operations manual is specifically prepared for the implementation of the Rural Infrastructure Market Linkage (I-BUILD) component. It will aid how subprojects in PRDP Scale Up will be identified, prioritized, validated, prepared, reviewed, evaluated, approved, implemented until its operation and maintenance. The subprojects that will be implemented under the loan are those that will contribute to the following key result areas:

1. Improving farmers and fisher folks access to markets and increase income from agri-fishery activities.
2. Higher productivity as a result of increased cropping intensity, cropped areas and average yields,
3. Food security and improved health from readily available potable water,

4. Increase in market value of agri-fishery products traded or processed, reduction in transport / post-harvest losses and reduction in hauling cost resulting in higher volume of outputs, better quality and more efficient support facilities,
5. Improving flow, distribution and prepositioning of agri-fishery foods, products and services even in times of calamity and epidemic/pandemic.

Project implementation will be further strengthened with the institutionalization of the new Environmental and Social Safeguards Framework (ESSF) 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.

This manual will serve as a source book of information and procedures that can be used by the Department of Agriculture (DA), the Local Government Units (LGUs) and Farmers Cooperatives/Associations (FCA's) along the project development cycle.

1.2 Structure of the Manual

The manual is divided into 6 parts. **Part 1** is about the Rural Infrastructure Market linkage (I-BUILD) operation's manual, **Part 2** is about PRDP Scale-Up which includes the component description, the types of eligible rural infrastructure, the objectives and target outputs, the subproject development processes, the organizational set-up and implementation arrangements and policies, **Part 3** is the Rural Roads and Bridges, **Part 4** is the Irrigation System Facilities, **Part 5** is the Potable Water Supply and **Part 6** is the Value Chain Rural Infrastructure.

There are details in the manual that are placed in the appendices and annexes and the others are referred to the other operations manual on procurement, financial management, Geotagging and Good Governance, Social and Environmental Safeguards framework and monitoring and evaluation.

The annexes pertain to the various sample forms and pre-formatted documents to be used from pre-implementation to post-implementation of subprojects such as survey forms, validation forms, feasibility study formats, program of works, typical drawings, implementation progress monitoring forms, completion report format and other templates.

1.3 Scope of the Manual

The manual applies to rural infrastructure subprojects that are proposed for implementation under Rural Infrastructure Market Linkage (I-BUILD) component and infrastructure support of the Enterprise Component (I-REAP Civil Works) of PRDP Scale Up. It provides the guidelines on subproject Identification and Prioritization, subproject Validation, subproject Preparation and Packaging of feasibility and detailed engineering design, subproject Review, Evaluation and Approval, subproject Implementation and subproject Operation and Maintenance.

The infrastructure subproject types are farm to market roads and bridges, irrigation system facilities, potable water supply, value chain rural infrastructures and the civil works of the enterprise component (I-REAP).

1.4 Use and Target Users

The intended use of the manual will hope to harmonize the understanding of the different levels of Project management and LGU Proponents. The primary users are the DA line agencies and offices involved in the Project as well as the implementing LGUs and FCA's and participating POs and NGOs.

2.0 The Philippine Rural Development Project (PRDP) Scale Up

2.1 Background

Original Loan (OL)

Eight years into its implementation, the Philippine Rural Development Project (PRDP) has gained a wealth of experience in its engagement with various partner agencies, particularly with the Local Government Units (LGUs), in the delivery of the needed agriculture and fisheries services for rural development. Building on the good practices, experiences, and lessons learned from the Mindanao Rural Development Program (MRDP), the PRDP has significantly leveled up in strengthening this partnership by espousing relevant institutional and operational reforms in project implementation. The Project has become a viable platform of engagement with local governments in terms of integrating the national development agenda with local investment priorities through the commodity value chain approach, which is expressed in the Provincial Commodity Investment Plans (PCIPs) approved by all 81 provinces in the country.

First Additional Financing (AF-1)

This prompted the Project to request the US$ 450 million additional financing in 2016 to address the excess demand underpinned by the LGUs' strong interest and confidence to partner with the DA in pursuing their infrastructure development priorities. The US$ 170 million first additional financing (AF-1) which became available in 2018 focused mainly on additional rural infrastructures (I-BUILD) with 87% (PhP 8.6 billion) of the allocation. The Project has since employed prioritization criteria to strategically rationalize the types of investments to be funded, giving priority to LGUs that have not received PRDP interventions yet and to LGUs with good implementation performance. An additional selection and prioritization criteria for FMRs have been established as the subproject pipeline points to FMRs and FMRs with bridges being the most in-demand in terms of the type of investments comprising 94% of the I-BUILD allocation. This has further placed the DA, through the PRDP, as the lead for providing rural access in the countryside. Already, around 78 out of the 81 provinces with PCIPs have availed of funding with AF-1.

Second Additional Financing (AF-2)

The timing of the US$ 280 million second additional financing (AF-2), which only started in September 2021, has made the Project responsive to the impacts brought about by the COVID-19 pandemic. The PRDP has retrofitted the interventions under AF-2. Infrastructure

investments focus on rural access to address gaps in the movement of agri-fishery products as well as on pre and post-harvest facilities to preposition and shore up the supply of primary commodities in strategic areas.

The addition of the EU co-financing grant to the AF-2 (or AF2-EU) has further broadened the Project's engagement with the more vulnerable sectors in Mindanao by focusing on LGUs with low-income and capacities, conflict-affected areas, Indigenous Peoples, and the BARMM.
The midterm evaluation study for PRDP conducted in 2018 underscored the importance of FMRs in reducing transport and hauling costs of farm and fishery produce and lowering production costs enabling farmers and fisher folks to offer better quality produce and enjoy bigger profits. The FMRs have proven to yield positive spillover effects stimulating economic and activities outside of the agriculture sector by bringing in more livelihood opportunities in rural areas.

Lessons Learned in Implementing the PRDP

The valuable lessons learned from the implementation experiences of the component have paved for developing and updating approaches and innovations to adhere to the development goals of the original Project.

Learning-by-doing as an approach to capability building of Project implementers on feasibility study preparation. This is perceived as an effective approach from the start of the engagement until the completion of activities and sub-projects. This ensures that all the stakeholders understand the process and the Project requirements, which allows a faster preparation of documents and approval of subprojects. Progressive capacity-building activities may be undertaken according to the level of competence and technical capacities to progress from one competency to another without being overwhelmed with the technicalities of information and knowledge.

The conduct of a Joint Technical Review (JTR) by the NPCO, PSO, and RPCO in the review of subproject proposals is an effective approach to fast-track the subproject review and approval process. It also prevents LGUs from a frequent revision of the project documents like the Feasibility Studies (FS) and Detailed Engineering Designs (DEDs) as the project review team (NPCO, PSO, and RPCO) provide collective and harmonized comments and agreements.

Involvement of the communities in monitoring the implementation and Operation and Maintenance (O&M) of subprojects encourages increased ownership of development projects. Through the Citizens Monitoring Teams organized by the PRDP, communities are able 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 quality of the subprojects.

Mainstreaming of the Infrastructure Quality Monitoring and Durability System (IQMDS) to DA and LGU in the implementation of infrastructure SPs ensures road quality. Apart from close supervision and monitoring of the works during implementation, the IQMDS is proven to be effective in ensuring the quality of roads implemented. Project development in

infrastructure is multi-disciplinary, thus, it is ensured that the other dimensions of subprojects aside from engineering aspects are taken into consideration, which are vital during implementation and during the O&M stage where impacts are expected.

2.2 Salient Features of PRDP Scale Up

The following are some of the enhancements from PRDP to PRDP Scale Up and features that the component will continue to pursue.

1. It will cover 82 PLGUs, MLGUs and independent component cities in 16 regions. The Proponent LGUs (Province/Municipalities/Cities) is the focal point of PRDP Scale Up investment planning and implementation.

2. The DA-RFUs/RPCOs are given more responsibility for overseeing the implementation of PRDP SU initiatives and the main source of support to LGUs. This in effect mainstreams the PRDP approaches within permanent government structures, i.e., the DA-RFUs. The PSO will provide technical support to the DA RFUs/RPCOs while the NPCO will facilitate coordination with the different oversight agencies and World Bank.

3. More capability building interventions – The planning and implementation capacities of the participating agencies and implementing units of PRDP SU will be strengthened especially in the planning approach using i) science-based tools in the subproject identification and prioritization stage to include the vulnerability and suitability assessment prepared by BSWM (VSA), expanded vulnerability and suitability assessments (e-VSA) and value chain analysis (VCA); and (ii) aligning rural infrastructure prioritization to local needs as prescribed in the provincial commodity investment plans (PCIPs). The basis for prioritization and selection of local infrastructure would be the regional AFMPs and the corresponding PCIPs. Concepts of climate change infrastructure resiliency and geo-tagging will be pursued in PRDP Scale Up.

4. Sustainability measures - the LGUs shall be required to submit a workable operation and maintenance plan (O&M) together with proof of yearly budget allocation for operation & maintenance activities during the submission of the feasibility study for approval.

5. Emphasis to be placed on transparency and accountability through the Results Based Monitoring and Evaluation (RBME) system highlighting the use of real time information gathering through geo-tagging. This aids implementers assess performance and make immediate adjustments as the Project progresses. Citizens participation through Civil Society Organizations' (CSOs) engagement in support to the Open Government Partnership will be pursued in PRDP SU.

6. Safer and more climate resilient Farm to Market Roads, Bridges, Irrigation Systems Facilities, Potable Water Supply and Value Chain Rural Infrastructures.

2.3 Goals, Objectives and Expected Outcomes

1. The Rural Infrastructure Market Linkage (I-BUILD) component aims to continue to develop a strategic network of safe and climate-resilient rural infrastructure and facilities supportive of the value chain in the Project areas.

2. From the pipeline and from the newly proposed subprojects by the LGUs, the types of infrastructure needed for PRDP scale up are farm-to-market roads, bridges, Irrigation System Facilities, potable water supply, and value chain rural infrastructure facilities.

3. At the end of PRDP Scale Up, the Rural Infrastructure Market Linkage (I-BUILD) component envisions to attain the following of which are stated in the Project's Development Objectives:

   ✓ 30% reduction in transport costs in roads linking production areas to markets.

   ✓ 40% reduction in travel time of farmer/ fisher folks from farm to market.

   ✓ 180% Cropping intensity increased in areas served with new/improved irrigation services

   ✓ 90% of completed climate-smart value chain infrastructure facilities operating as designed

Table 2-1 IBUILD Indicative Physical and Financial Targets:

Subproject Type	**No. SPs**	**Unit**	**Physical Target**	**Total Cost (EPC)**
Farm to Market Roads	141	kms.	931.09	20,475,205,384.27
FMR with Bridge	29	kms.- l.m.		6,234,558,987.95
Road Component		kms.	243.31	
Bridge Component		l.m.	1,173	
Bridges	12	l.m.	789	1,041,400,000.00
Irrigation	36	Ha.	2,517.64	803,539,026.74
Potable Water Supply	46	No. of HH.	64,512.00	2,456,930,517.75
Value Chain Rural Infrastructure	62	No. of SPs.	62	3,221,750,812.71
Total	**326**			**34,233,384,729.42**

2.4 Eligible Infrastructure Subprojects under PRDP Scale Up

The eligible rural infrastructure subprojects for PRDP Scale Up are *construction, upgrading, rehabilitation, repair, retro-fitting and completion* of: (a) Farm to Market Roads and Bridges; (b) Irrigation system facilities such as: CIP, CIS, SWIP, SPIS, Ram Pump, Spring Development Irrigation, Drip Irrigation System, shallow Tube Wells and other pressurized irrigation system (c) Potable Water Supply (Level 1 & 2) including desalination facility; and (d) "Value Chain Rural Infrastructures".

Value Chain Rural Infrastructures needed in the value chain to enhance the productivity and give value added quantities to products in agriculture and fishery industries such as production facilities, pre and post-harvest facilities, marketing facilities, consolidation facilities, processing facilities are eligible for funding for PRDP Scale Up.

Specific eligible facilities for Value Chain Rural Infrastructure under IBUILD funds are slaughterhouse / abattoir, poultry dressing plants, fish landing and facilities, feeder ports, tramlines, watch towers, slope stabilization works, silos, warehouses, warehouse with solar driers/MPDP/mechanical driers,, cold storage facilities, agriculture composting facility, livestock auction facility, fish hatcheries and fishponds facilities, trading posts/centers and other infrastructure fully operated and managed by the LGU.

Other Value Chain rural infrastructures such as silos, warehouses, warehouse with solar driers, solar driers, cold storage facilities, fish hatcheries and fishponds facilities, trading posts/centers, food terminals equipped with cold or dry storage facilities, greenhouses, corn drying to milling centers/facilities with warehouses, silos, rice processing centers (for drying, milling, and packaging) with logistics facilities, fish trading centers with pre-processing and cold storage facilities, livestock breeding and grow-out facilities, dairy barns / production facilities, meat processing plants, dairy processing plants / centers with testing facilities, feed mill and other facilities managed by FCAs, co-managed by the LGU and FCAs and co-managed by FCAs and private entities are eligible IREAP funds.

The I-BUILD component will fund the subprojects identified under I-BUILD. This are value chain rural Infrastructure types categorized as public infrastructure and are those included in the I-BUILD identification and prioritization processes. I-REAP component will fund the value chain rural infrastructure support facilities identified under I-REAP procedures and processes to be operated by the LGUs and FCAs under the IREAP guidelines However, the design, review, approval and implementation is under the I-BUILD component.

The following lists of items or activities are not eligible for financing out of the proceeds of the Loan through Sub-projects: (a) use of pesticides, herbicides, insecticides, and asbestos; (b) purchase of land, ammunitions; (c) construction of school buildings; (d) construction of health centers; (e) construction of dam with height of 15 meters and above; (f) construction of roads within protected areas and national highways; (g) construction of national irrigation systems; (h) repair of government offices and (i) activities for fiestas, religious and other cultural activities.

2.5 Selection and Prioritization Criteria

The infrastructure development needs in the PRDP Scale Up project areas are numerous and varied. There is a high demand for IBUILD subprojects and its cost based from the pipelined subprojects is much higher than the IBUILD allocated budget and need to be prioritized. The project will continue to adopt the mechanism to prioritize the funding of subprojects based on key socio-economic indicators that have the greatest impact and are aligned with the development objectives and thrusts of the new project. The selection and prioritization criteria shall guide the Rural Infrastructure Market Linkage (I-BUILD) component to properly select and prioritize the most beneficial subprojects from several infrastructure value chain options or combinations. The main objective of such selection and prioritization criteria is to ensure that the selected subprojects will contribute optimally to the attainment of the objectives of PRDP Scale Up.

1. **General Selection Criteria**

✓ Relevance – The subproject must be relevant to the PRDP Scale Up goal of increasing rural incomes and enhancing farm and fishery productivity in the targeted project areas.

✓ Importance – The subproject must be a felt need of the LGUs that will benefit from the subproject.

✓ Urgency – The subproject must bring immediate results in terms of alleviating the plight of the rural agricultural poor by contributing to their increase in productivity and income.

✓ Viability – The subproject must be viable in the medium- and long-term not only from an economic, but from the social and environmental viewpoints as well.

2. **Specific Selection Criteria**

In furtherance of the above general criteria, the following specifics are prescribed:

a. First Tier Criteria:

✓ The proponent LGU must be willing and capable to contribute the required equity.

✓ The proponent LGU and FCA must have the technical capability to plan and implement the subproject.

✓ The proponent LGU must have an Agricultural Bio-system Engineering Office. (LGUs to create an ABE Office if they do not have one, in compliance to the CSC Resolution No. 2200373 and Memorandum Circular No. 12, series of 2022). Until such time that ABE Office is created the LGU has an option to hire AB Engineers. (refer to DA Memo No. 17 s. 2023)

- The Project will suspend the implementation of the criteria on the LGU's ABE office or its creation for two (2) years starting from the loan effectiveness of the project.

- LGUs that already have an ABE office shall include the office in the structure of their P/M/C PMIU.
- LGUs that does not have and ABE office should provide a commitment to hire an Agricultural and Bio-system Engineer and engage the ABE during the implementation of the subproject as a member of the P/M/C PMIU.
- LGUs that have an ABE employed under the P/M/C Agricultural Office should engage the ABE during the preparation of the proposal documents and during implementation as member of the P/M/C PMIU.

✓ LGUs that participated in DA Projects (eg. PRDP, MRDP, INFRES, CHARM) should have had satisfactory performance (physical and financial) during the implementation and in the O&M of completed SPs. There should be no DA Projects' policies violated like: i) fund diversion or un-liquidated funds for a period of 2 years from its due and non-payment of obligations; ii) not completed and abandoned subprojects due to the LGU's negligence; and iii) O&M rating of "severe" or "bad" at the latest assessment period which connotes failure of maintenance by the proponent.

b. Second Tier Criteria:

✓ The subproject must be a part of a priority value chain both in terms of the type of agri-fisheries product and the geographical location of the value chain.

✓ The subproject must generate economic and social benefits.

✓ The subproject must not encroach on protected areas and shall not in any case have adverse impacts on the environment and in consideration of the ADSDPP.

✓ The subproject except PWS must be in consonance with the provincial commodity investment plan (PCIP) of the PLGU and the CCIP of the CLGU, the DA regional Agriculture and Fisheries Modernization Plan (AFMP), National Agriculture and Fisheries Modernization and Industrialization Plan (NAFMIP), Regional Agriculture and Fisheries Investment Portfolio (RAFIP) containing key inter-provincial investment areas as output of regional perspective planning based on PCIPs, commodity roadmaps and Cluster Development Plans.

✓ The SP should serve an influence area that has significant agricultural potential within the agriculture and fisheries production areas, coastal landing points, and pre-postharvest and processing facilities.

✓ FMR SP must be included at the FMR Network Plan and irrigation SP must be included at the Irrigation / SSIP masterplan.

3. Prioritization Criteria

Even after the number of proposed subprojects were screened on the basis of the above criteria, based from the pipelined subproject, there are more sub-projects than the funds to implement them. This is where prioritization needs to be done and the following should be the prioritization guide:

- ✓ Number of beneficiaries – the bigger the higher the priority.
- ✓ EIRR – at least 10%; the higher the EIRR, the higher the priority.
- ✓ Per capita subproject cost – the lower the cost per beneficiary, the higher the priority.
- ✓ Subproject location – higher priority shall be given to subprojects located in LGUs that had no or limited government assistance similar to the type of subprojects being proposed.
- ✓ Gender and/or children sensitivity – all other things being equal, a subproject with more women and/or children to be benefited shall have higher priority.
- ✓ Level of poverty – if reliable statistics are available, the higher the poverty level, the higher the priority.
- ✓ SPs with established right-of-way (ROW) have higher priority

The IBUILD prioritization scheme for PRDP SU is attached as Appendix A

2.6 Schedule of Implementation

Table 2-2 IBUILD Indicative Physical Target per year

Subproject Type	Unit	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Farm to Market Roads	kms.	-	101.15	391.64	313.97	367.64	**1,174.40**
Bridges	l.m.	-	-	178.00	315	1,469.00	**1,962.00**
Irrigation	Ha.	60.00	1,070.00	625.00	662.64	100.00	**2,517.64**
Potable Water Supply	No. of HH.	-	5,403.00	5803.00	11,331.00	41,975.00	**64,512.00**
Value Chain Rural Infrastructure	No. of SPs.	12.00	16.00	9.00	15.00	10.00	**62**

Table 2-3 IBUILD Indicative Financial Target per year (EPC)

Subproject Type	Unit	Physical Target	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Farm to Market Roads	kms.	1,174.40	3,428,023,673.53	8,102,571,268.33	6,806,264,943.10	5,366,481,581.83	1,807,101,680.64	25,510,443,147.45
Bridges	l.m.	1,962.00	105,054,580.58	267,505,152.04	393,902,025.85	1,115,119,656.32	406,730,382.77	2,288,311,797.59
Irrigation	Ha.	2,517.64	34,952,000.00	407,460,000.00	161,331,600.00	197,396,124.06	2,399,302.67	803,539,026.74

Potable Water Supply	No. of HH.	64,512.00	206,141,981.44	313,381,331.69	494,091,456.24	1,170,763,039.53	272,552,708.80	2,456,930,517.75
Value Chain Rural Infrastructure	No. of SPs.	62	830,395,498.91	596,784,941.52	927,993,849.33	777,971,033.99	88,605,488.94	3,221,750,812.71
			4,604,567,734.48	**9,687,702,693.59**	**8,783,583,874.54**	**8,627,731,435.75**	**2,577,389,563.87**	**34,280,975,302.24**
			13.43%	28.26%	25.62%	25.17%	7.52%	100%

Table 2-4 IBUILD Indicative Financial Target per year (LP+GOP)

Subproject Type	**Unit**	Physical Target	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Total**
Farm to Market Roads	kms.	1,174.40	3,085,221,306.19	7,292,314,141.50	5,936,916,085.48	4,132,414,548.64	1,364,896,215.78	21,811,762,297.59
Bridges	l.m.	1,962.00	94,549,122.53	240,754,636.84	328,848,454.61	845,954,233.16	302,119,043.69	1,812,225,490.83
Irrigation	Ha.	2,517.64	31,456,800.00	366,714,000.00	133,215,280.00	149,571,326.85	1,679,511.87	682,636,918.72
Potable Water Supply	No. of HH.	64,512.00	185,527,783.30	282,043,198.53	385,625,303.70	876,311,827.25	203,227,432.64	1,932,735,545.42

Value Chain Rural Infrastructure	No. of SPs.	62	747,355,949.02	537,106,447.37	691,105,655.95	564,917,852.84	66,503,842.26	2,606,989,747.46
			4,144,110,961.04	**8,718,932,424.23**	**7,475,710,779.74**	**6,569,169,788.74**	**1,938,426,046.25**	**28,846,350,000.00**

Table 2-5 IBUILD Indicative Financial Target per year (LP)

Subproject Type	**Unit**	Physical Target	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Total**
Farm to Market Roads	kms.	1,174.40	2,742,418,938.83	6,482,057,014.67	5,256,289,591.17	3,595,766,390.46	1,184,186,047.72	19,260,717,982.84
Bridges	l.m.	1,962.00	84,043,664.47	214,004,121.63	289,458,252.02	734,442,267.53	261,446,005.41	1,583,394,311.07
Irrigation	Ha.	2,517.64	27,961,600.00	325,968,000.00	117,082,120.00	129,831,714.44	1,439,581.60	602,283,016.04
Potable Water Supply	No. of HH.	64,512.00	164,913,585.16	250,705,065.36	336,216,158.08	759,235,523.29	175,972,161.76	1,687,042,493.64
Value Chain Rural Infrastructure	No. of SPs.	62	664,316,399.13	477,427,953.22	598,306,271.02	487,120,749.44	57,643,293.37	2,284,814,666.18
			3,683,654,187.59	**7,750,162,154.87**	**6,597,352,392.29**	**5,706,396,645.17**	**1,680,687,089.86**	**25,418,252,469.78**

Table 2-6 IBUILD Indicative Financial Target per year (GOP)

Subproject Type	**Unit**	Physical Target	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Total**
Farm to Market Roads	kms.	1,174.40	342,802,367.35	810,257,126.83	680,626,494.31	536,648,158.18	180,710,168.06	2,551,044,314.75
Bridges	l.m.	1,962.00	10,505,458.06	26,750,515.20	39,390,202.59	111,511,965.63	40,673,038.28	228,831,179.76
Irrigation	Ha.	2,517.64	3,495,200.00	40,746,000.00	16,133,160.00	19,739,612.41	239,930.27	80,353,902.67
Potable Water Supply	No. of HH.	64,512.00	20,614,198.14	31,338,133.17	49,409,145.62	117,076,303.95	27,255,270.88	245,693,051.78
Value Chain Rural Infrastructure	No. of SPs.	62	83,039,549.89	59,678,494.15	92,799,384.93	77,797,103.40	8,860,548.89	322,175,081.27
			460,456,773.45	**968,770,269.36**	**878,358,387.45**	**862,773,143.58**	**257,738,956.39**	**3,428,097,530.22**

Disclaimer:
The above physical and financial figures are used for estimating and planning purposes only and shall not be misconstrued as allocations. The Project will allocate the funds on a first compliance first serve basis as it accepts eligible, viable, complete and ready proposals from the LGUs

2.7 Pre-implementation Activities

To ensure the efficient implementation of rural infrastructure subprojects, several activities need to be undertaken prior to the actual implementation as set-out:

1. The conduct of the social and institutional capacity assessment;

2. Survey of displaced persons;

3. Conduct of free and prior inform consultation in IP areas and secure the necessary Free and Prior Inform Consent (FPIC) clearances from NCIP;

4. The mobilization of partner agencies and institutions;

5. The execution of an Information, Education and Communication (IEC) campaign to harness public support for PRDP Scale Up; and

6. Subproject identification, prioritization, preparation of FS and detailed engineering design by LGUs.

The implementation of various capacity building activities will be done specially for those first time LGUs as the need arises so that actual outputs will be realized after each capacity building activity.

2.8 Post-implementation Activities of Subprojects

The project will continue to emphasize the importance of proper operation and maintenance and the crucial role of LGUs for SP sustainability. Sanctions for non-compliance of the operation and maintenance requirements, like suspension of further releases or disqualification from further participation in PRDP Scale Up and future DA projects, shall be imposed.

Likewise, the O&M audit result following the O&M program undertaken in each DA Project like PRDP / InFRES / MRDP / CHARMP shall be used by the RPCOs/PSOs in rating any of the beneficiary LGUs desiring to avail of further support from PRDP Scale Up. Results of the audit should show an overall satisfactory rating for the LGU to qualify for further PRDP Scale Up investments in all project components.

Operation and maintenance of irrigation facilities shall be the responsibility of the LGU. Institutional development activities prior to and during the first year after subproject turnover shall focus on enabling the Irrigators Association (IA) to adequately undertake day-to-day operational activities and become financially self-sustaining through efficient collection of irrigation service fees. The irrigators association for new irrigation systems must be registered from any authorized government agency prior to subproject turn-over.

Communal irrigation systems (CIS) currently under the supervision of the NIA, even if rehabilitated under PRDP, shall continue to be monitored and assisted for O&M by the NIA. IAs that had existing repayment obligations with the NIA shall continue to pay their amortization to the NIA. However, the cost of rehabilitation shall not be added to their obligation.

The operation and maintenance of new schemes constructed by the LGU shall be monitored and assisted by the LGU through the Provincial / Municipal / City Agriculture Office.

The operation and maintenance of potable water system shall be the responsibility of the LGU and endeavors to gradually prepare the water users association to be financially self- sustaining through a well-structured tariff. The water users' association must be registered from any authorized government agency before subproject turn-over.

For the Value Chain Rural Infrastructure (VCRI) types under I-BUILD, the LGU is responsible in the operation and maintenance. For the value chain rural infrastructure support facilities under I-REAP, the LGUs and FCAs managing the facility is responsible in the operations and maintenance of the IREAP civil works.

Operations and maintenance of value chain rural infrastructure includes not only the building but also structures as support to the building such as parking area, access road, site development works, drainage systems and others.

For purposes of budgeting the LGUs O&M fund, the unit cost range of operation and maintenance per subproject type are as follows

Table 2-7 Operation & Maintenance Indicative Unit Cost per Subproject Type

Subproject Type	**Unit**	**O&M Unit Cost (PhP)**
Gravel Road	Km	PhP. 65,000.0 to 110,000.0 /km/annum
Concrete Road	Km	PhP. 50,000.0 to 90,000.0/km/annum
Bridge	Lm	PhP 6,000.0/lm/annum
Irrigation System	Hectares	3 to 5 cavans of palay/ha/cropping or its peso equivalent
Potable Water System	% of investment cost	11%of investment/annum.
Buildings	Square meter	PhP 200/sqm of floor area/annum.

To ensure that funds are available during the O&M period, the LGU must ensure that the O&M plan and budget are included in the Annual Investment Plan (AIP) covered with appropriations ordinance. The LGU can open a trust fund account for the O&M fund deposit or preferably using the trust fund account used during the subproject implementation.

2.9 Subproject Development Process

Table 2-8 Subproject Processes, Outputs & Responsible Agency

	Phases	Process & Expected Outputs	Responsibility
1.	Subproject Identification and Prioritization	Subprojects identified and prioritized were the results of a participatory planning process such as Value Chain Analysis (VCA), Rapid Marketing Analysis (RMA), science based tools such as the expanded Vulnerability and Suitability Analysis (e-VSA), Participatory Rural Appraisal Participatory Social Analysis (PRA-PSA), and other planning tools. Special input in this planning phase is an orientation and appreciation of climate change with due emphasis to hazard and vulnerability assessment, its magnitude, frequency and locational impact to the subproject and importance of stakeholders' participation. **Expected Outputs**: a) List of SPs based on the localized AFMP, PCIP; the DA regional AFMP, Regional Perspective Plan, NAFMIP, Regional Agriculture and Fisheries Investment Portfolio (RAFIP) containing key inter-provincial investment areas as output of regional perspective planning based on PCIPs, commodity roadmaps and Cluster Development Plans b) Geo-tagged proposed sub-projects; c) Detailed information or subproject profile for the top 3 priority SPs.	I-PLAN, I-BUILD, Econ, GGU, , SES, LGUs
2.	Subproject Validation	Gathering of relevant data needed in the development of the top 3 proposed SPs. The data per SP is subjected to analysis in order to establish its technical, economic, institutional, social and environmental viability. In this phase, it hopes to subject the identified hazard and vulnerability to a more technical consideration. The level of vulnerability of the population and assets exposed to hazards will be established.	I-PLAN, I-BUILD, Econ, GGU, SES LGU Includes I-REAP when the proposed SP is VCRI and has an overlap on the eligible SPs for I-

		Members of the validation team are from IBUILD, SES, Econ, GGU. For IREAP civil works, IREAP shall be a member of the validation team. **Expected Outputs:** Validation report to contain: a) initial economic analysis, b) subproject preliminary screening checklist (social, environmental and vulnerability); c) technical analysis; and d) recommendation for detailed FS and DED or not?	BUILD and I-REAP
3.	Subproject Preparation and Packaging of Feasibility Study and Detailed Engineering Design	The feasibility study precedes the preparation of the detailed engineering design, program of work, operation and maintenance plan, occupational and health safety program, Bid documents and subproject Implementation Management Agreement (IMA). The preliminary screening checklist shall be considered in the design options for a safe and climate resilient infrastructure. In the adoption of the best technical options or alternative structures, there may be instances that it has negative impacts to the environment and its social acceptability by the community specially in Indigenous People's (IP) Area. In which case, the Project has to undergo the process of coming-up with an acceptable alternative design through the Context Sensitive Solutions (CSS) prescribed in the DPWH Design Guidelines, Criteria & Standards as of 2015. CSS is a collaborative, interdisciplinary approach that involves all stakeholders to develop infrastructure that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility. CSS is an approach that considers the total context within which an infrastructure project will exist. CSS principles include the employment of early, continuous and meaningful involvement of the public and all stakeholders throughout the subproject development. **Expected Outputs:** a) FS Report, DED, Plan, POW, O & M Plan, occupational and health safety program, Bid Documents, IMA.	LGU with the assistance of PRDP

		b) Social and environmental safeguards secured, e.g. FPIC, CNC and ECC when appropriate) c) LGU equity commitment both for subproject implementation and O&M.	
4.	Subproject Appraisal, Review, evaluation and approval	RPCO/PSO/NPCO to ensure preparation of Subproject Appraisal Report (SPAR), ensure completeness, consistency and correctness of all documents prior approval. The RPAB will only approve subprojects with complete clearance from components and units. (IPLAN, IBUILD, SES, Econ, GGU, MEL, Compliance, Finance, Procurement) Conduct of NPCO-PSO-RPCO and LGU Joint Technical Review of SPs to facilitate compliance of technical requirements, RPAB approval and the eventual issuance of NOL-1. On the technical review, Lower office may seek assistance to higher office in the review of critical projects such as bridges, FMRs over 5 kilometers, irrigations subprojects, PWS with more than 1000 households target beneficiaries, feeder ports, fish landings aside from the NOL-1 review threshold. For special types of subprojects, the RPCO shall seek technical assistance from agencies like RFO-RAED, Philmec, BSWM, BFAR, NMIS, PhilFIDA, NIA, LWUA, DPWH, BAFE etc. **Expected Output:** a) Appraisal Report. b) RPAB Resolution c) Signed subproject Implementation Management Agreement (IMA) between DA-PSO and LGU d) NOL-1 and CAF issuance	RPAB, RPCO, PSO, NPCO, LGUs
5.	Subproject Implementation (procurement and contract implementation)	LGU procurement will follow the provisions of RA 9184 and World Bank Procurement Guidelines. Contract management and supervision is the primary role of the LGU. Quality assurance and control mechanisms will be set-up anchored on (a) defining the minimum required implementation structure; (b) the need for contract review; (c) inspection and testing; (d) document control and (e) setting-up of sustainability mechanism.	PRDP, LGU and Contractor

		Refer to the Infrastructure Quality Monitoring and Durability System (IQMDS) sub-manual of PRDP I-BUILD. **Expected Output:** a) Bid Evaluation Review (BER) b) Issuance of NOL 2 c) Perfected Contract d) Completion report/Sub-project Turn-over	
6.	Subproject Operation and Maintenance	To ensure continuous use of facilities, end users will be formed into groups/associations and registered for the proper operation and maintenance of completed facilities/structures. It may be a (i) government entity or road user association for FMR and multi-purpose buildings; (ii) an irrigators association, farmers and fisher folk association for communal irrigation system and other support facilities; and (iii) water user association (BAWASA) and/or any government instrumentalities for water systems. SPs implemented by the LGU should include the municipal, barangay and or FCA in the operation and maintenance organizational structure to ensure proper coordination and accountability. An operation and maintenance audit team will be instituted to monitor O&M compliance of the LGUs for a period of 10 years. The City, Municipal, Provincial and Regional Project Monitoring Council (CPMC, MPMC, PPMC, RPMC) will regularly monitor on a quarterly basis the implementation of the operation and maintenance plan in each LGU. While the DA-Regional Operation and Maintenance Audit Team (ROMAT) will assess performance of the LGUs ones a year. **Expected Output:** a) O & M Groups and Regional Operation and Maintenance Audit Team organized/expanded and recognized/registered b) The LGU activated their Local Project Monitoring Councils with the inclusion of PRDP SU completed subprojects to be monitored for its proper operation and maintenance	ROMAT, Beneficiary community, LGU

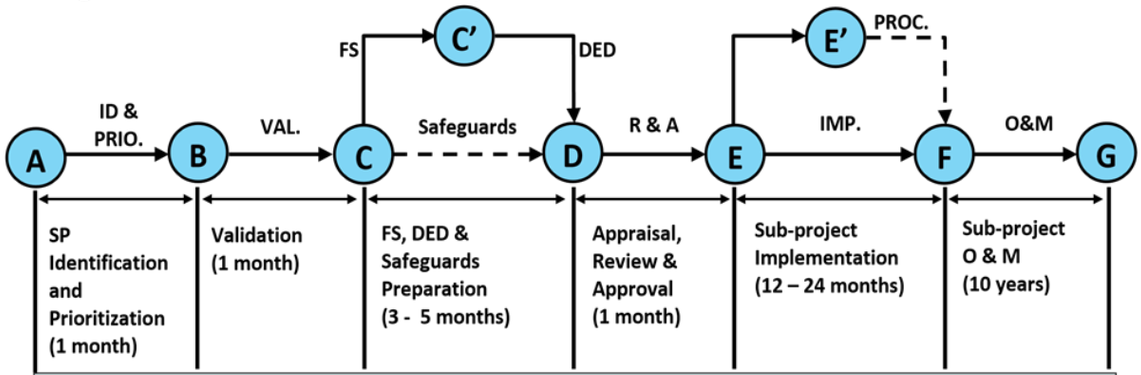
		c) O & M budget appropriated. d) Fully functional and well maintained facilities	

Note: For wider participation, the CSOs must be invited to participate in all the six (6) subproject development processes.

More detailed description of the responsibilities of the above-named implementers are discussed in the implementation arrangement.

Figure 2-1 also shows the activity flow, output, responsibility matrix and timeframe from: A-B) Project Identification and Prioritization; B-C) Validation; C-D) Feasibility Study and DED Preparation; D-E) Review and Approval; E-F) Procurement and Contract Implementation and F-G) Operation and Maintenance. The shortest duration from SP identification to SP completion takes 1.5 years and 2.5 years for the longest duration.

Figure 2-1 I-BUILD Activity Flow



OUTPUT					
Geo-tagged SP List	Initial Economic Analysis	FS Report DED/POW/O&M Plan	Signed IMA	Procurement QA/QC	O&M Audit
	SP Preliminary Screening Checklist	Safeguards Bid Docs	CAF Issued NOI 1	Completion Report NOI 2	Functional SPs
RESPONSIBILITY MATRIX					
LGU	RPCO/PSO	LGU	RPCO/PSO/NPCO	LGU	LGU

2.10 Detailed I-BUILD Activity Flow

The following activities are arranged in sequence as an explanatory note of the I-BUILD Activity Flow Chart. The thresh hold level for the issuance of NOL-1 and NOL-2 from RPCO, PSO, NPCO and WB is denominated in US dollar value during RPAB approval and bid opening for NOL-1 and NOL-2 respectively.

1. Request for Proposal – the RPCO upon establishing that the PCIP preparation is complete shall request the LGU to submit request for proposal.

2. Prepare Letter of Intent (LOI) – the LGU upon receipt of the request for proposal shall prepare the letter of intent to participate with the Project.

3. The LGU through the assistance of RPCO conducts workshop with stakeholders to prioritize SPs. The geo-tagged list of priority SPs shall be endorsed by the Provincial Development Council (PDC) for PRDP Scale Up funding. Included is a subproject profile containing the details of the top three priority SPs.

4. Submit LOI – the LGU to submit the LOI with the geo-tagged list of SPs with the subproject profile for the first three priority SPs duly endorsed by the PDC to the RPCO.

5. Review of LOI and Lists of SPs – the RPCO upon receipt of the LOI and SP list shall review if the list of SPs is within the PCIP priority commodity value chain. If it conforms, the RPCO and PSO to conduct field validation together with the LGU. NPCO may join the validation for critical subprojects and upon the request of RPCO/PSO.

6. Conduct Joint Validation – the conduct of this activity will be done for SPs with geatag KMZ file and subproject profile. The SP lists will be validated by the RPCO and PSO to check the validity of the sets of information provided by the proponent LGU. Initial costing and economic analysis will be prepared by the validation team to include appreciation of the institutional, vulnerability, social and environmental safeguards. The validation report to be provided to the proponent LGU and an advisory to proceed or not to proceed with the preparation of the FS. Members of the validation team are from IBUILD, SES, Econ, GGU. For IREAP civil works, IREAP shall be a member of the validation team.

7. Prepare Feasibility Study (FS) – the proponent LGU will proceed with the FS preparation only upon the advice of the validating team through the RPCO. The LGU to prepare the FS and internally within the P/M/CPMIU, it shall review and approve the FS report.

8. Conduct Survey and Prepare DED, POW, O&M Plan, Occupational Health and Safety Program (OHSP), Bid Documents and draft the subproject Implementation Management Agreement (IMA) – the LGU shall prepare the above requirements while the RPCO provides technical support.

9. Review of FS, DED, POW, O&M Plan, OHSP, bid documents and IMA – part of the review process is the conduct of a field appraisal and the preparation of the Subproject Appraisal Report (SPAR) as reference for the RPAB deliberation. All clearances shall be secured from components and units before the RPCO schedules the RPAB deliberation and approval of the subproject.

10. Approve SP – the RPAB shall deliberate on the merits of the SP proposal and if found compliant then issue resolution of approval or disapproval. For SPs needing PSO, NPCO or WB NOL, the approved SP shall be endorsed to the appropriate management level depending on the thresh hold.

11. Issuance of NOL-1 – the issuance of No Objection Letter 1 is in accordance to the delegated Prior Review Threshold:

Table 2-9 IBUILD Prior Review Threshold

Cluster/Office	Prior Review Threshold in US$
World Bank	
National Project Coordination Office (NPCO)	>2,000,000.00 and Above
Project Support Offices (PSOs)	>1,000,000.00 ≤ 2,000,000.00
Regional Project Coordination Office	≤ 1,000,000.00

12. Issue Notice to Proceed to Procure – the RPCO shall notify the LGU to proceed with the procurement upon receipt of NOL-1.

13. Conduct Pre-Procurement Conference – the BAC convenes to check the requirements of the SP for bidding. The presence of RPCO/PSO representative/s is required.

14. Publish or Post Advertisement and Issue Bid Documents– the proponent LGU shall cause the advertisement/publication and issuance of bid documents to bidders.

15. Conduct Pre-Bid Conference – the BAC convenes with the prospective bidders to discuss the requirements of the bidding process (technical, financial and legal).

16. Submit and Open Bid Proposals – the BAC convenes to receive, open and evaluate bid proposals.

17. Prepare Bid Evaluation Report– the BAC through the technical working group shall review, evaluate and rank bidders from the lowest calculated and responsive bidder and prepare the BER.

18. Review of BER– the RPCO reviews the BER and submits review result for objection or no objection at the appropriate management level (PSO, NPCO, WB) for issuance of NOL-2.

19. Concur BER– the PSO/NPCO/WB concurs review result and issues NOL-2 following the set review thresh-hold.

20. Award and Contract perfection to the Lowest Calculated and Responsive bidder– the BAC recommends awards and LGU execute the contract once the BER is issued NOL-2.

21. Issue Notice to Proceed – the LGU issue NTP and the contractor starts materials delivery, manpower and equipment mobilization and actual work construction.

22. Supervise, Monitor, Evaluate Contract Progress Billing – the key responsibility of supervising and paying work accomplishment are the proponent LGUs while the key to a successful monitoring and evaluation rest upon the executing and oversight agencies. The progress billing documents will be supported with geotagged photos equivalent to the quantity billed to be submitted by the contractor. A joint field inspection from the LGU, CSOs, RPCO and PSO representatives is required for every billing.

23. Report 100% Completion – the contractor reports to the LGU 100% completion and LGU prepares completion report prior to the final inspection.

24. Conduct Final Inspection – the RPCO, PSO and LGU conduct final inspection. It is advised that the COA technical auditor and CSO representatives are invited to join the final inspection.

25. Turn-over of Site Possession to LGU – the contractor turns-over the site possession to the LGU. The LGU accepts the site possession and likewise initiates the turn-overs from DA to LGU and LGU to the appropriate associations or entities for proper operation and maintenance of the facilities. The turn-over to the end-users for proper operation and maintenance does not in any way relieve the LGU of its responsibility over the maintenance of the completed subproject for 10 years.

26. Ensure Proper Operation and Maintenance – the LGU together with the O & M groups or end users operate and maintain the completed SP.

2.11 Organizational Structure, Functional Responsibilities and Implementation Arrangements

2.11.1 Organizational Structure

Figure 2-2 Organizational Structure at the Project Level

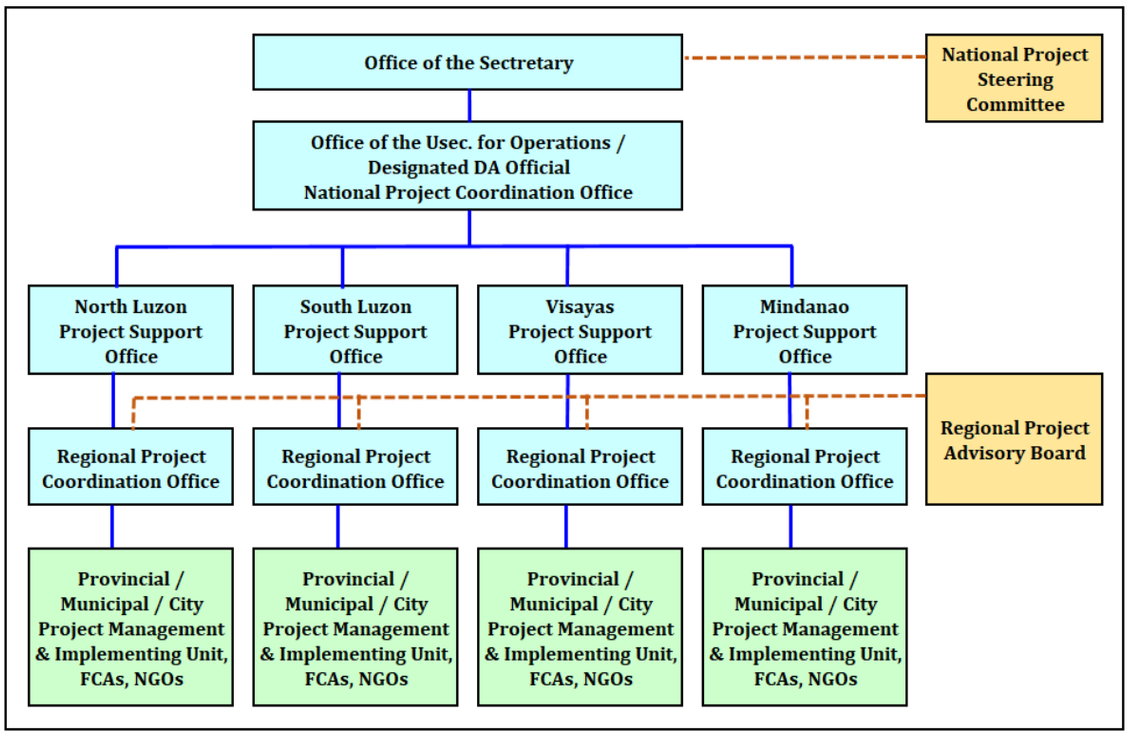


Figure 2-3 Organizational Structure at the NPCO

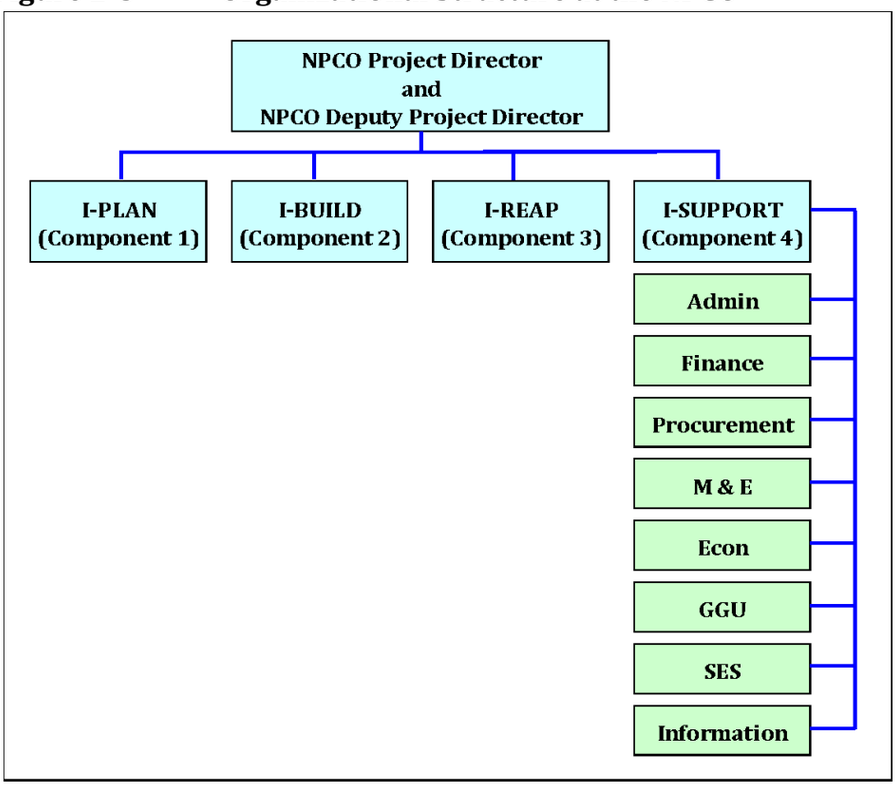
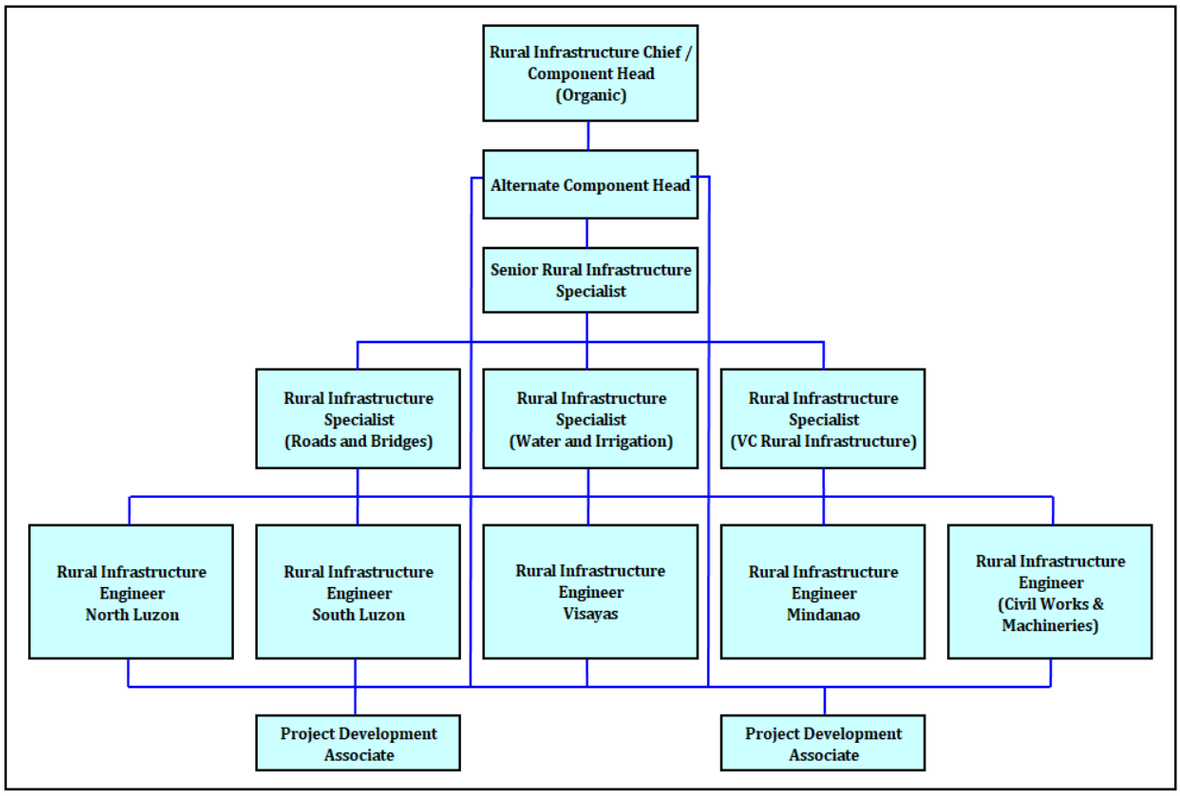


Figure 2-4 Organizational Structure at NPCO-IBUILD



The following constitutes the minimum staff requirement for the efficient implementation of the activities at the NPCO-IBUILD component:

1 – Chief of Rural Infrastructure component (IBUILD Component Head)

- ✓ Regular DA employee designated by the National Project Director

Full time staff (Hired)

1 – Alternate Component Head

1 – Senior Rural Infrastructure Specialist

1 – Farm-to-market Roads & Bridges Specialist

1 – Water and Irrigation Specialist

1 – Value Chain Rural Infrastructure Specialist

4 – Rural Infrastructure Engineer (1 RIE per cluster)

1 – Rural Infrastructure Engineer (RIE for IREAP Civil Works)

1 – Project Development Associate (Preferably an Engineer / Engineering Graduate)

Figure 2-5 Organizational Structure at PSO

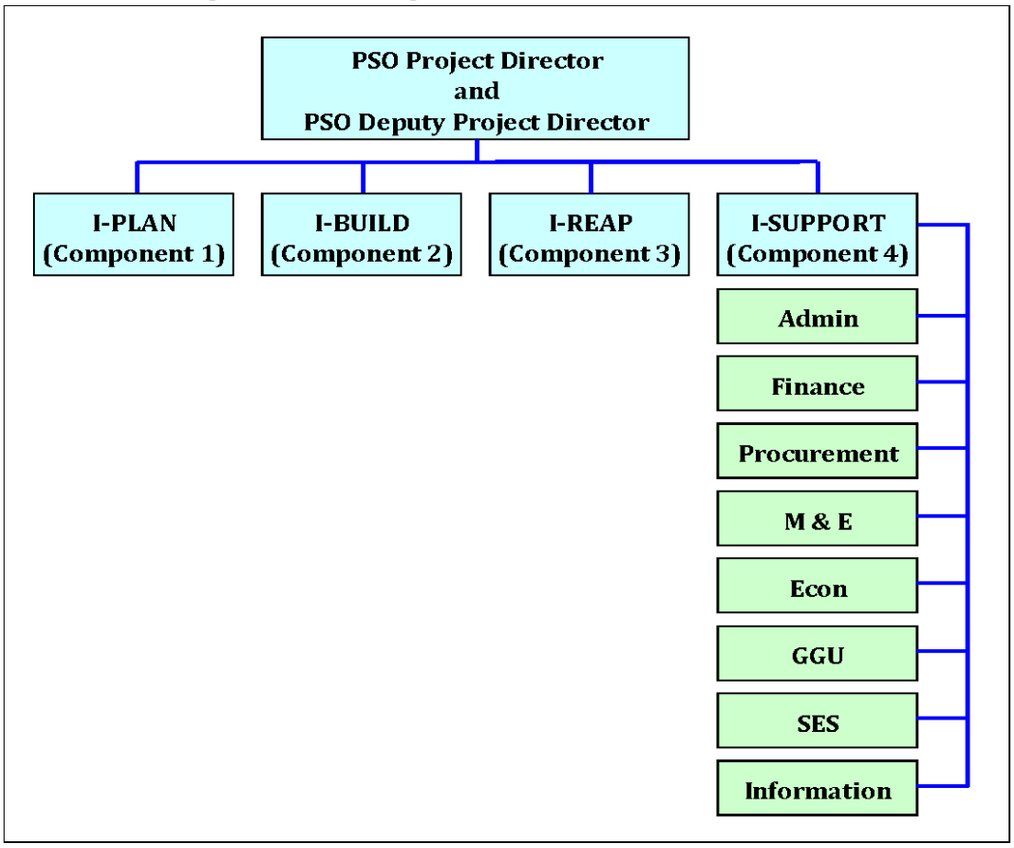
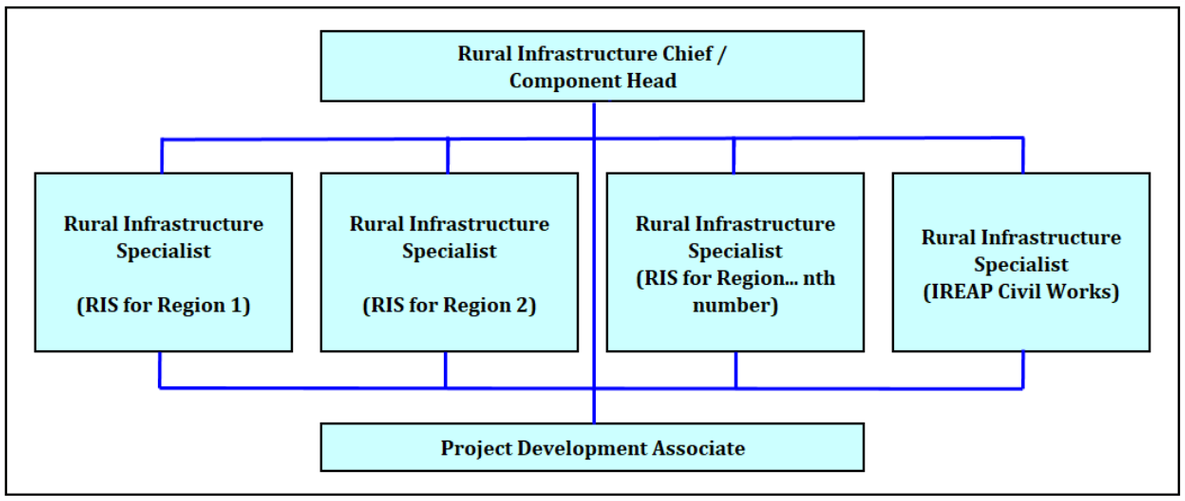


Figure 2-6 Organizational Structure at PSO IBUILD



The following constitutes the minimum staff requirement for the efficient implementation of the activities at the PSO-IBUILD component:

Full time staff (Hired)

1 - Chief of Rural Infrastructure component (IBUILD Component Head)
1 - Rural Infrastructure Specialist per Region
1 - Rural Infrastructure Specialist for IREAP Civil Works
1 - Project Development Associate
- ✓ (Civil Engineer / Agriculture and Bio-system Engineer)

Figure 2-7 Organizational Structure at RPCO

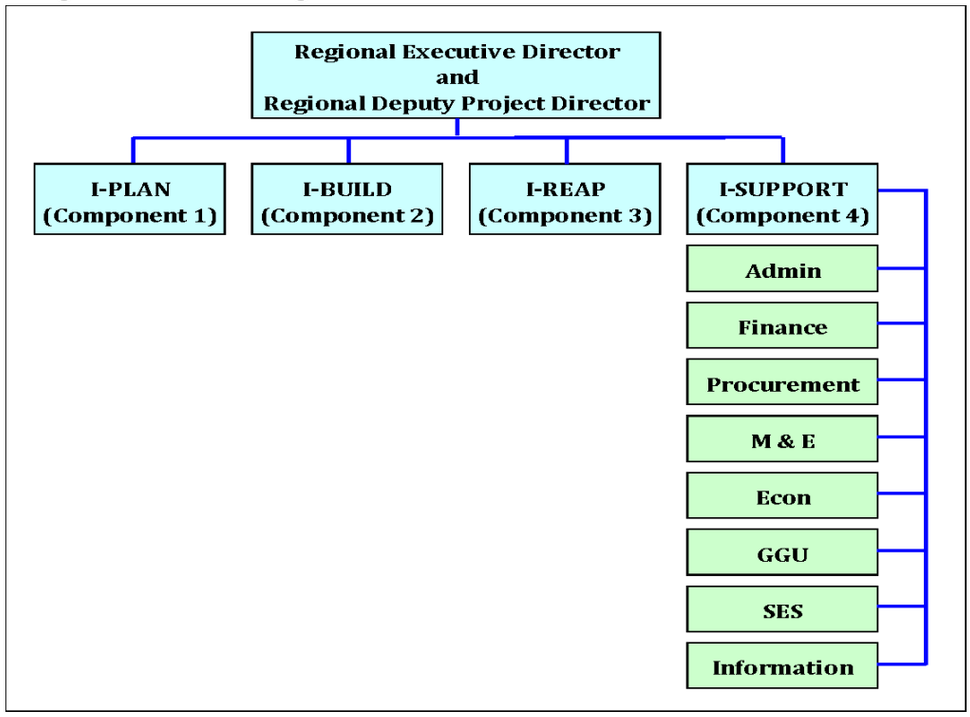
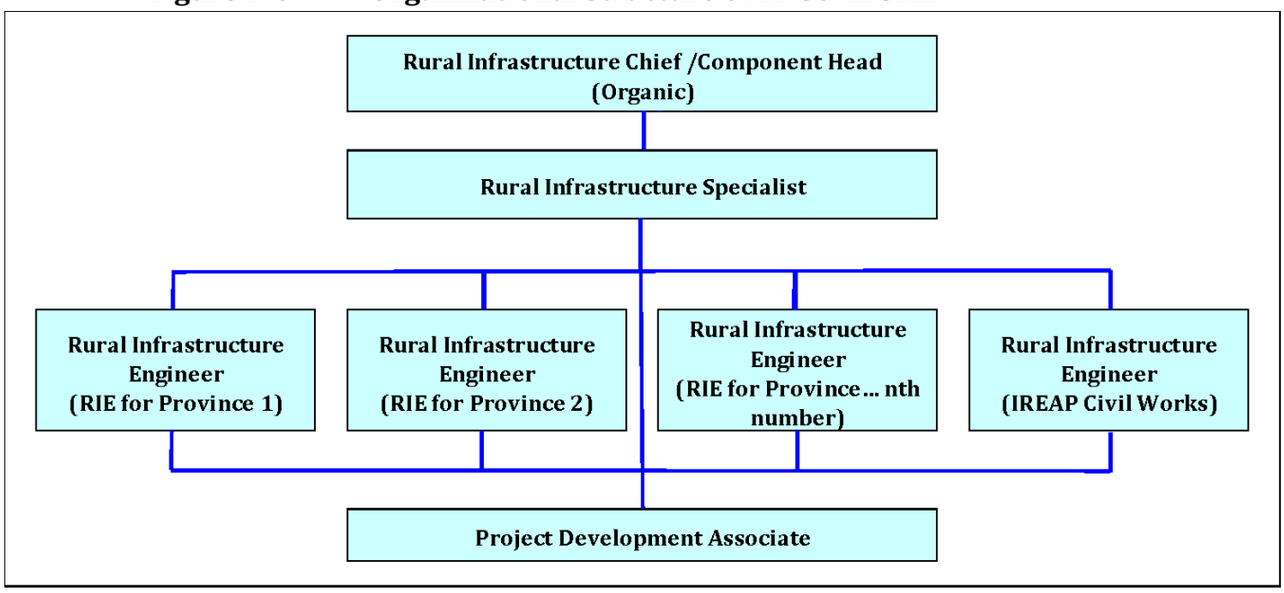


Figure 2-8 Organizational Structure of RPCO-IBUILD



The following constitutes the minimum staff requirement for the efficient implementation of the activities at the RPCO-IBUILD component:

1 – Chief of Rural Infrastructure component (IBUILD Component Head)

- ✓ should be the head of RAED or assigned by the Regional Project Director

Full time staff (Hired)

1 – Rural Infrastructure Specialist
1 – Rural Infrastructure Engineer (RIE) per Province
1 – Rural Infrastructure Engineer (RIE) for IREAP Civil Works
1 – Project Development Associate

- ✓ (Civil Engineer / Agriculture and Bio-system Engineer)

2.11.2 Functional Responsibilities

LGU Level –Provincial / Municipal / City Project Management and Implementing Unit (P/M/C PMIU)

The Provincial, Municipal and City local government unit will be the implementing arm of the PRDP Scale taking into consideration value chain integration and economies of scale. The PLGU shall localize the regional AFMP and with its own agri-fishery sector plans through a process of an updated and enhanced expanded Vulnerability and Suitability Assessment and Value Chain Analysis to come up with its provincial commodity investment plan (PCIP). To be able to implement the investments identified in the plan, an implementing unit (Provincial / Municipal / City Project Management and Implementing Unit) will be established for the purpose.

The P/M/C PMIU will be responsible for the overall planning, budgeting, procurement and implementation of PRDP Scale Up I-BUILD activities and infrastructure subprojects as appropriate at the LGU level.

In cases where the implementing LGUs finds it relevant and strategic to partner with other LGUs (PLGU, MLGUs, CLGUs BLGUs) and the private sector to effectively implement the subprojects, the implementing LGU may enter into appropriate covenants which shall form part of the subproject Implementation Management Agreement (IMA) between the DA and the implementing LGU.

At the provincial level, a committee shall be constituted from the existing Infrastructure Committee of the Provincial Development Council (PDC) to review and endorse the PCIP. The committee composition includes the PPDC, PEO, PA, PAFC Chairman, Chairman of the agriculture committee of the Sanguniang Panlalawigan. The additional members shall be co-opted from accredited private agricultural sectors.

At the Provincial level, a Provincial Project Management and Implementation Unit (PPMIU) will be organized which will be responsible, among other functions, in coordinating the Project activities implemented by participating municipalities and cities within their respective jurisdictions. The PCIP will be prepared in coordination with the Provincial Planning and Development Office (PPDO), Provincial Agriculture Office (PAO) and the Provincial Engineer's Office (PEO) in consultation with all the agri-fisheries stakeholders. Road network planning shall be undertaken by the LGUs on the year prior to the projected implementation of their rural infrastructure component. The PPMIU is preferably headed by the Provincial Planning and Development Office (PPDO), and includes the Provincial Engineering Office (PEO), the Office of the Provincial Agriculture (PAO), Finance Offices, PENRO and other offices the Chief Executive deemed necessary.

At the Municipal/City level, a Municipal/City Project Management and Implementation Unit (M/CPMIU) will be organized which will be responsible, among other functions, in coordinating the Project activities implemented by participating municipalities and cities within their respective jurisdictions. The M/C PMIU is

preferably headed by the Provincial Planning and Development Office (M/C PDO), and includes the Municipal/City Engineering Office (M/CEO), the Office of the Municipal/City Agriculture (M/CAO), Finance Offices, Environment and Natural Resources Office (M/CENRO) and other offices the Chief Executive deemed necessary.

Regional Project Coordinating Office (RPCO)

The RPCO will (i) serve as the technical arm and secretariat to the Regional Project Advisory Board (RPAB); (ii) review and endorse I-BUILD subprojects for funding to RPAB; (iii) review and endorse I-BUILD subprojects to PSO for issuance of NOL; (iv) coordinate the execution of rural infrastructure development processes at the regional level; and (v) serve as the regional operations arm of the Project.

The RPCO is headed by the RED and a designated RPCO Head preferably the Regional Technical Director (RTD) for Operations who will be responsible for the performance of the four (4) Operations Units that will look after the four components of PRDP Scale Up namely IPLAN, IBUILD, IREAP and ISUPPORT.

Project Support Office (PSO)

The PSO will (i) provide technical support and capability building to the RPCOs and LGUs; (ii) review and endorse documents of I-BUILD subprojects that require objection or no objection letter from NPCO and World Bank; and (iii) review requirements for issuance of NOL 1, NOL 2, CAF and release of funds to LGU.

It is headed by the Project Director (PD) and a Deputy Project Director (DPD) who will be responsible for the performance of four (4) Operations Units that will look after the four components of PRDP Scale Up namely IPLAN, IBUILD, IREAP and ISUPPORT.

National Project Coordination Office (NPCO)

The NPCO will serve as clearinghouse for policy issues and coordination between the donor, other line agencies and the implementers. It shall maintain a centralized monitoring, evaluation and learning unit, finance unit, IEC unit and administrative unit. The NPCO will i) review and endorse documents of I-BUILD subprojects that require objection or no objection letter from WB and ii) review requirements of SPs within its threshold; iii) shall also serve as secretariat to the National Project Steering Committee.

The NPCO shall be headed by the DA Undersecretary for Operations, as PRDP National Project Director, or any DA official designated as PRDP National Project Director.

A Project Director at the NPCO takes care of the day to day management of operations of the Project.

Creation of Special Bodies for SP Approval and Policy Direction:

National Project Steering Committee (NPSC)

The NPSC will provide overall policy direction and management guidance in the implementation of PRDP Scale Up. It will be chaired by the DA Secretary with membership from DA attached agencies and bureaus.

The NPSC will convene at least twice a year to provide policy direction and approval of the annual work and financial plan of the Project.

Regional Project Advisory Board (RPAB)

The RPAB (Regional Project Advisory Board) is composed of representatives of the DA (Regional Executive Director as Chairman), Department of the Interior and Local Government (DILG Regional Director), Department of Environmental and Natural Resources (DENR Regional Director), Department of Agrarian Reform (DAR Regional Director), Department of Trade and Industry (DTI Regional Director), and Department of Public Works and Highways (DPWH Regional Director) as members and it convene as frequently as needed to approve SP packages.

Linkages and complementation with other agencies:

The contribution of partner agencies having oversight functions will also ensure financial, technical, and legal consistency of national policies and in particular-guidance in the execution of the social and environmental safeguards of the Project. For instance i) DILG will help the project in its advocacy for transparency and good governance, monitoring LGU performance and provision of capability building; ii) DENR and NCIP help in the monitoring of ESMP and issuance of permits like CNC and FPIC; iii) DAR helps the Project where Agrarian Reform Community (ARC) are covered by the PCIP, the DAR bridge project and other Agrarian Reform Communities (ARC) support infrastructures will be considered during the planning stage to avoid overlapping of inputs; iv) DPWH will provide technical support in the design of bridges, materials testing and spatial integration of the Project's FMR into the national road network; v) DTI and Department of Science and Technology (DOST) will help ensure the use of quality materials in the construction industry and occupational safety and health programs at the work stations, and vi) DSWD helps integrate the 4Ps beneficiaries and mostly are the targeted poor farmers/fishers in the PRDP Scale Up Inclusive Agriculture Modernization & Rural Development.

2.11.3 General Implementation Arrangements

The Department of Agriculture and the Department of Public Works and Highways jointly issued Memorandum Order Number 01 series of 2013 dated July 18,2013 to strengthen the implementation of the construction of Farm to Market Roads and all infrastructure related subprojects under the Philippine Rural Development Project. The implementation of the infrastructure subprojects will be closely coordinated

with the DPWH in terms of design standards, road network rationalization and quality assurance.

The Implementation of Irrigation subprojects will be closely coordinated to NIA and the implementation of the value chain rural infrastructure will be closely coordinated with the Department's attached and bureaus such as BAFE, NMIS, Philippine Fiber Industry Development Authority (PhilFIDA) and VC rural infrastructure shall comply with the requirements of the National Building Code of the Philippines.

In the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), the Minister of the Ministry of Agriculture-Fishery and Agrarian Reform (MAFAR) for BARMM shall have similar authorities and responsibilities as the Regional Executive Directors (REDs) of the DA-RFUs.

The implementing LGUs (PLGU/MLGU/CLGU) shall prepare and review all subproject proposals and seek endorsement from the Provincial Development Council (PDC) for those that comply with PRDP Scale Up guidelines. The subproject proposals should be within the rural infrastructure development in the LGUs.

The implementing LGU shall form the Provincial/Municipal/City Project Management and Implementing Unit (P/M/CPMIU). The P/M/CPMIU shall be responsible for implementing its rural infrastructure subprojects. Such responsibility shall include, but not limited to, the preparation of subproject proposals, feasibility studies, detailed engineering designs, conduct of bidding and award, contract administration and proper operation and maintenance.

Where the subproject packages cut across more than one Province/Municipality/City, the proponent LGU may seek clearance to the affected Province/Municipality/City for the approval and implementation of the subproject. The PLGU may become the procuring entity where subprojects cut across more than one Municipality.

Liquidated damages deducted from the contractors' contract amount shall be credited to the LGUs' accounts. The liquidated damage amount shall be used for the maintenance of completed subproject.

LGUs whose completed subprojects funded under the original PRDP which were poorly maintained as per maintenance standards and specifications established by PRDP shall be sanctioned through temporary suspension of further investments until they show definite plans and actions towards improving the same.

Each subproject proposal shall include an operation and maintenance plan by the LGU and certified as acceptable to the DA-RPCO/PSO/NPCO.

The subprojects issued with clearances from the Additional Financing 2 shall be revisited and shall comply with the requirements of PRDP Scale Up.

In order to promote transparency, public disclosure and accountability, the NPCO shall establish and maintain a PRDP website where all subprojects are listed with

geotag status at different stages (proposed, ongoing, completed) with their locations. Other information to be published are: ROW acquisition, ESMP, name of contractors, date started, date completed, actual costs, length of roads, work items, length of bridge, and other pertinent information.

The same website as in the foregoing shall likewise be used for posting the Invitation to Bid and uploading the bidding documents for subprojects and the list of PRDP/DA-blacklisted contractors, if any.

A. Pre-determined unworkable days and its treatment to time extension

The project duration is based on the number of days accrued or as derived based on the number of equipment to do the work for equipment operated items of works and from the duration as derived from labor based-equipment supported items of works. The project duration is the total number of days defined by the critical path in the PERT-CPM / PDM or bar chart and S-Curve and adjusted to include the accumulated Sundays, holidays and target / pre-determined unworkable days due to inclement weather condition.

Pre-determined unworkable days due to inclement weather condition is the number of days projected to be unworkable due to inclement weather condition based on monthly historical experiences of the Proponent LGUs on the frequency of typhoons and other local weather disturbances within the planned implementation period. This means that the exposure of its SP from inclement weather condition varies from LGU to LGU and region to region and this has to be determined monthly.
Treatment of the pre-determined unworkable days in the approval of contract time extension as compared to the other reasons stated in the General Conditions of Contract on Extension of Contract Time.

1. Identify the pre-determined unworkable days per month as derived during the program of work preparation to be reflected in the approved bar chart/S-curve duly signed by the contracting parties;

2. Extension of contract time shall be granted for rainy/unworkable days considered unfavorable for the prosecution of the works at the site, based on the actual conditions obtained at the site, in excess of the number of rainy/unworkable days pre-determined by the Procuring Entity in relation to the original contract time during the conduct of detailed engineering and in the preparation of the contract documents as agreed upon by the parties before contract perfection. The provision means that, if contract time extension is applied at any given months of the contract implementation period, the time extension allowed is the total days computed based on the suspension and resumption in excess of the pre-determined unworkable days due to bad weather for that period (covered months of the request for time extension). The above process of applying the pre-determined unworkable days on a monthly basis is fair enough so that the subproject will not incur huge negative slippage at the onset of implementation in contrast if time extensions are only approved until the total allotted predetermined unworkable days is fully consumed;

3. Extension of contract time shall be granted for equivalent period of delay due to major calamities such as exceptionally destructive typhoons, floods and earthquakes, and epidemics, and for causes such as non-delivery on time of materials, working drawings, or written information to be furnished by the Procuring Entity, non-acquisition of permit to enter private properties or non-execution of deed of sale or donation within the right-of-way resulting in complete paralyzation of construction activities, and other meritorious causes as determined by the Procuring Entity's Representative and approved by the HoPE. Shortage of construction materials, general labor strikes, and peace and order problems that disrupt construction operations through no fault of the Contractor may be considered as additional grounds for extension of contract time provided they are publicly felt and certified by appropriate government agencies such as DTI, DOLE, DILG, and DND, among others.

4. Extension of contract time may be granted only when the affected activities fall within the critical path of the PERT/CPM or PDM

B. Joint Technical Review (JTR)

It should be clear that the conduct of the JTR doesn't free up the RPCOs from the requirement of conducting due diligence in dealing with the Provincial / Municipal / City Project Management Implementing Unit (P/M/CPMIU), particularly on acting on their request, queries and request for technical assistance.

Guidelines on the Conduct of JTR

Composition of the Joint Technical Review Team (JTR Team) from the NPCO, PSO and RPCO

IBUILD Subproject - IPLAN, IBUILD, GGU, SES Unit, Procurement Unit, Economics Unit,

IREAP Subprojects - IPLAN, IREAP, IBUILD, GGU, SES Unit, Procurement Unit, Economics Unit.

Guidelines:

1. Only subproject that had been screened by the Regional Project Coordination Offices (RPCO) shall be subjected to the Joint Technical Review. By having screened, it is understood that the technical documents are complete and have been initially checked by RPCO for appropriateness and correctness.
2. One week (7 working days) before the actual conduct of the Joint Technical Review, the RPCO shall ensure that electronic copy of the submitted documents is made available to their NPCO and PSO counterpart.
3. Concerned RPCO personnel are expected to have read through the technical documents and have prepared initial findings and recommendations prior to the JTR for discussion with the PSO and NPCO during the JTR.

4. RPCO personnel shall present their initial findings and recommendations during the JTR, subject to the concurrence and/or additional findings of the PSO and NPCO.
5. The RPCO should ensure that concerned P/M/CPMIU and FCA representative is present during the conduct of the technical review to expedite the process of amendment and compliance to findings and recommendations.
6. Only sub projects that has been cleared by the JTR shall be subjected for presentation to the Regional Project Advisory Board (RPAB).
7. It is understood that RPAB approval does not secure funding allocation from the Project. Rather, RPAB approved sub projects are qualified for endorsement to the RPCO, PSO, NPCO and WB for issuance of No Objection Letter -1 (NOL-1).

C. Subproject Appraisal

To minimize variation orders and second generation issues on social and environmental safeguards, the conduct of subproject appraisal prior to RPAB approval shall be conducted. The conduct of NPCO/PSO/RPCO subproject appraisal should depend on the review thresholds. Subproject appraisal should be conducted when the feasibility study and technical drawing plans are finalized. The subproject appraisal to proceed by conducting the following:

1. Farm to Market Roads:

a. Walkthrough of the whole road length to match the final plan (Technical and ESMP) against the actual site condition. The Stakeholders to confirm critical sites and location and design for cross-drainages, side drainage, slope protection structures, dumping sites, potential land use conversions and diverted traffic and others that will have bearing on the road design;
b. Checking the locations of crossing lanes and railings at school zones and residential areas
c. Checking the location of road safety signage if located at proper location.
d. Checking the road transition designs as per actual site conditions such as:
   - ✓ road junction/intersection design at every point of road intersections,
   - ✓ widening and concreting of at least one span of the transition approaches of the road connected to the subproject
   - ✓ smooth transition from PCCP roads connected to the proposed FMR. Concreting of three (3) spans may be permitted.
   - ✓ construction and widening of the approaches of carabao sledge trails / farm machineries connected to the subproject for unloading of farm products
   - ✓ ramps as access to adjacent houses that will be affected by the FMR if incorporated at the plans.
   - ✓ road crossing structures for animal and farm machineries or implements as access to the farm lots
e. Checking of location of lay by areas
f. Checking if covered canal is incorporated at the design along congested residential areas, schools and others where the shoulder is limited due to permanent structures.

g. Checking of the drainage structures which includes lined canals, earth ditch, mitre drains, cross drainages, storm drainages.
h. Checking the design of slope protection if consistent as per actual site condition. Checking if needed slope protections at residential areas are incorporated at the design. checking if the design of slope protection is as per actual site conditions and soil classifications.
i. LGU to stake the boundaries of the road width and formation width to show to the Project Affected Persons (PAPs) boundaries of the Road Right of Way (ROW) and the land area of the of the PAPs to be donated/given to the road.
j. Included in the appraisal is the verification of the information whether the cut section is rock, unclassified and common earth excavation.
k. Critical road sections needing additional structures which were not considered in the original plan should assessed and included at the plans.
l. Stakeholders forum to present the final plan and elicit further comments and finally confirm or introduce adjustments in the technical plan, economic analysis and ESMP.

2. ***Bridges:***
   a.

3. ***Irrigation System:***
   a.

4. ***Potable Water Supply:***
   a.

5. ***Value Chain Rural Infrastructure:***
   a.

The RPCO / PSO / NPCO are enjoined to conduct the subproject appraisal using the Appraisal Report Form in Annex 45 of the I-BUILD Operations Manual. The Appraisal Report will form part of the documents to be submitted prior RPAB clearance of Components and Units.

D. Conduct of RPAB Deliberation and Approval

When all clearances for RPAB deliberation are provided by the review team (IBUILD, IPLAN, SES, Econ, GGU, Finance, MEL, Compliance and Procurement), the RPCO shall convince the RPAB members to deliberate and approval of the subproject. The minimum requirement for the RPAB deliberation should be the subproject briefer, Detailed Engineering Design (Technical drawing plans and POW), Feasibility Study and SES documents. Electronic file of the required documents should be given to the RPAB members one (1) week before prior to the scheduled RPAB deliberation. At least one (1) Hard copy of the documents should be provided to RPAB members during the actual conduct of the RPAB deliberation.

E. Issuance of No Objection for Subprojects

All issuance of No Objection namely NOL 1, NOL 2, NOL for rebidding and NOL for variation orders for the PRDP SU subprojects shall be the responsibility of the Procurement Unit.
Similarly, request for No Objection from the PSOs / RPCOs shall emanate from their respective Procurement Unit. These request shall be complemented with the clearances from their respective components and units. Those request without these clearances shall not be processed.

Upon the approval of the subproject by the RPAB, the RPCO shall endorse the RPAB resolution to NPCO through the PSO for issuance of NOL 1. Issuance of NOL 1 shall be given by the Project depending on the threshold.

NOL for Rebidding

- ✓ At the repackaging of subprojects, structures needed by the subproject that are not included at the original plan may be incorporated at the updated repackaged documents.

NOL for Variation Order

- ✓ Signatories for the clearance for NOL of variation order shall be IBUILD, SES, GGU and Econ.
- ✓ For cost shared variation orders, the instruction from the project RPCO/PSO/NPCO/WB should be attached.
- ✓ Failure to include the project instruction / report at the VO documents, the NPCO will process the VO but the cost shall be charged to the LGU.
- ✓ Revised Program of Works (POW) summary specifying the cost sharing arrangement whether cost shared or fully charged to the LGU.

F. Pre-Construction Conference

Guidelines in the conduct of the Pre-Construction Conference:

- ✓ Pre-Construction Conference is being conducted before the start of the actual construction.
- ✓ Guidelines of IBUILD, SES, GGU on the implementation of the subproject are being discussed.
- ✓ The contractor to submit it construction methodology and present it during the pre-construction conference.
- ✓ The construction methodology of the contractor is also to be discussed by the contractor.
- ✓ The project to review the submitted construction methodology of contractors. Initial discussions on proposed methodology should be made and agreed upon during the conduct of pre-construction conferences. This process is to ensure that proposed construction methodology complies with the standard engineering practices of construction and technical specifications.
- ✓ The conduct of the pre-construction conference in every sub-project should be two (2) days. Highlight of the discussions should the proposed detailed construction methodology of the contractor. The PSO and or the RPCO

representative to provide inputs on the acceptance level of each item of works based on the technical specifications as attached in the bidding documents.

G. Change in pledge equipment

✓ Change of pledge equipment shall be approved by the implementing LGU

H. Change in Technical Personnel

✓ Change of pledge technical personnel shall be approved by the implementing LGU

I. Full time Assignment of the Required Construction Supervision Team

✓ For a good project implementation, good quality, good workmanship, and on time implementation the required full time Construction Supervision Team from the LGU as the implementing unit.

✓ In the issuance of NOL 1, the letter will include a condition that the LGU must commence hiring of full time members of the Construction Supervision Team (A Resident Engineer for LGU with more than one SP, Site Engineer per SP, Materials Engineer per LGU, Document Officer per SP) if no qualified organic staff could be detailed on a full time basis and submit the curriculum vitae of each member of the construction supervision team to NPCO I-BUILD, prior to the issuance of NOL 2.

✓ On the other hand, the NOL 2 issuance will include a condition that the LGU must ensure that the Construction Supervision Team is engage upon issuance of NTP.

J. Roles and Functions of the LGUs Technical Supervision Team

Qualifications of Staff for the LGU Supervision Team

1. PPMIU Head – the Governor's Alternate in managing PRDP implementation with at least 8 years working experience.
2. Engineer for the Contract (PPMIU Engineer/Project Engineer) – a licensed civil engineer and has the signing/approval authority with at least 5 years working experience.
3. Engineer's Representative (Resident Engineer) – licensed civil engineer and should know how to read and interpret drawings, plans with at least 3 years working experience.
4. Materials Engineer – DPWH accredited Materials Engineer with at least 2 years working experience.
5. Site Engineer/Inspector – should know how to read and understand plans and preferably with working experience.
6. Engineering Aide – should know how to identify Project and contract documents and preferably with working experience.

Roles and Functions

P/M/C PMIU Head

1. Checks and recommends payments endorsed to the Local Chief Executive.
2. Checks and recommends Variation Orders for approval by the Local Chief Executive.
3. Checks and recommends Time Extension for approval by the Local Chief Executive.
4. Reviews, checks and provides notations, approvals of technical reports and regular monitoring reports relative to the contract as called for in the different implementation forms.

P/M/C PMIU Engineer/Project Engineer/Provincial/Municipal/City Engineer

1. Checks plans and program of works relative to the contract.
2. Checks payments relative to the contract
3. Checks Variation Orders (VO) relative to the contract
4. Checks Time Extension relative to the contract
5. Reviews, checks and provides notations, approvals of technical reports and regular monitoring reports relative to the contract as called for in the different implementation forms.
6. All other functions delegated to the Resident Engineer

The Resident Engineer (RE)

1. Familiarize herself/himself with the contract documents, drawings and specifications pertinent to the Contract to be supervised
2. Familiarize herself/himself with the content of the delegation issued by the Engineer.
3. Always address written communication to the Engineer, with copies as deemed necessary.
4. Control the day-to-day supervision of the Work and, other than in exceptional circumstances, be the route of all formal communications regarding the Contract and the Contractor's activities.
5. Liaise with the Contractor's representative. All communication with the Contractor must be through the Project Engineer.
6. Advise the Contractor on the correct routes for communication to the Employer, i.e., all communication should be addressed to the Engineer but through the Resident Engineer.
7. When writing to the contractor, the RE should sign as "Resident Engineer". In his absence, the Engineer will designate a replacement as and he/she should sign as such.
8. Administer the Project Supervision staff to:
    a. Deal with staff problems, discipline and time keeping; certify claims for expenses, overtime, weekend working, leave, etc.
    b. Ensure that the staff understands their obligations regarding health and safety at work.

c. Arrange staff rotation to cover working outside normal hours as needed.
d. Make necessary arrangements to see that all the Contractor's activities during the week are fully covered by the supervision at the correct level.

9. Promote a team spirit within the Site Organization including the Contractor's staff with:
    - the goal of completion of the work to the required quality, time and cost
10. Exchange lists of staff with the Contractor including designation of the duties of each and quickly informs each other of the changes.
    - This will help to avoid confusion on site, e.g. when unknown or new personnel issue instructions to the Contractor's staff. Regular and authorized communication is important.
11. Monitor the Contractor's liaison with the Local Authorities who should be consulted well in advance of any intended traffic diversions or disturbances.
12. Arrange meetings with interested parties
    - e.g. public utility authorities and the public works department concerning traffic and service diversions, programming and agreement on details of traffic management plans and temporary road signs
13. Advises staff about the way instructions to the Contractor should be issued, who is authorized to sign, and how to deal with confirmation of verbal instructions to the Contractor.
14. Maintain a register of all contract drawings issued, including amendments identification of each amendment, so that at later date it will be possible to establish the operative version of each drawing at any particular time. Drawings will, however, be issued by the Engineer.
15. Ensure that a full set of all Drawings is maintained at site.
16. Monitor safety procedures to ensure that:
    a. All site personnel are familiar with safety procedures.
    b. Safe-working procedures are adopted by the Contractor, all road signs are to international standards and that all plant and temporary works comply with the appropriate regulations.
    c. Site personnel are familiar with action required in emergencies – e.g. service vehicle, Doctors, "First Aid", etc. and the need for Contractor's reports of all accidents.
17. Monitor safety procedures to ensure that:
    a. All First-Aid boxes are fully stocked and available at suitable locations.
    b. That proper precautions are taken at all times. Precautions include:
        1) Wearing of protective clothing and safety helmets.
        2) Using safety equipment at appropriate times.
        3) Displaying warning signs.
        4) Fencing off danger areas.
18. Check on the proper use and protection of the site.
19. Ensure proper quality control procedures are followed in sampling and testing materials.

20. Organize and supervise his/her team of Materials Engineer and Site Inspector to cover all aspects of supervision of their respective work activities.
21. Instruct his/her staff on the methods to be adopted for all aspects of supervision and record keeping. In the early stages of construction, PEs should read their staff's diaries at least once a week and ensure that everyone is recording all potentially useful information without undue repetition
22. Arrange for the design of minor modifications and corrections to all design details where needed.
23. Only modifications and corrections, which are necessary for the satisfactory functioning of the works, should be covered.
    - Note that the Contractor will request additional payment for variations which are not necessary for the satisfactory functioning of the Works and to restrict such additional cost, RE should take a very circumspect view of proposed changes;
24. Advise the Employer on progress and difficulties encountered during construction
25. Attend any site management meetings.
26. Issue Site Instructions to the Contractor when necessary.
27. Approve materials upon advice from the Materials Engineer.
28. Check the Contractor's detailed work program for errors and discrepancies.
29. Countersign Site Inspector's daily reports. Ensure the Site Inspector is informed regarding details of the works program.
30. Check and approve any drawings and details from the Contractor regarding temporary works, details of traffic diversions, health and safety at work, etc.
31. Remind the Contractor of his legal requirements with respect to responsibilities of third parties, traffic diversions, health and safety at work, etc.
32. Check and verify the Contractor's monthly progress billings, valuation of variations and assist in checking his final Statement.
33. Keep the Daily Accomplishment Report.

Materials Engineer (ME)

1. Maintain liaison with the PE, the Resident Engineer (RE) and the Contractor's representatives as to:
   - ✓ the construction program
   - ✓ the approved method of materials distribution, placing, compaction, protection and
   - ✓ general compliance with the tests described in the Specifications.
2. Check inventory and calibration of the site laboratory against the equipment required by the Contractor to carry out all the tests required to meet Specification compliance.
3. Instruct and supervise the Contractor's laboratory staff.
4. Visit the sources of materials supply and manufacturing plants proposed by the contractor to check that they can provide materials of the required

quality, quantity and rates of delivery throughout the estimated period of construction.

5. Oversee initial and subsequent periodic tests on all aggregates, cement, reinforced steel, bitumen, base materials etc., to confirm that they comply with the Specifications.
6. Immediately notify the Contractor, the Engineer and the Engineer's Representative of any materials which have failed or are considered likely to fail to comply with the Specifications. A decision will then be made by the Engineer as to whether the suspect material is to be replaced.
7. Select and oversee tests on asphalt and P.C. concrete mixes, which the Contractor proposes to use including Job Mix Formulae. Subject to these being satisfactory, submit details to the Engineer's Representative with recommendations for approval.
8. Carry out initial and periodic checks of all concrete batching, mixing and transporting equipment including calibration.
9. Select and mark, in accordance with the Specification, concrete test specimens and subsequently witness all site tests carried out on them.
10. Compile and maintain comprehensive records of all concrete placed.
11. Advise the Resident Engineer on approval of admixtures, curing agents etc.
12. Establish, where required by the Specifications, the in-situ properties of ground beneath existing pavement layers.
13. Establish in laboratory trials the properties of soil being used in road base construction, backfilling, etc. (in conjunction with the Contractor and the Site Engineer)
14. Ensure the proper execution by Contractor's technicians of in-situ density testing of soils and pavement materials.
15. Supervise whatever other in-situ testing of soils is required by the Specifications.
16. Supervise the Contractor's testing trials to establish the design of asphalt and concrete mixes and submit recommendations to the Engineer.
17. Attend to the initial and subsequent periodic checks of all mixing and transporting equipment for asphalt materials.

Site Engineer (SE)/Inspector (SI)

1. Ensure he /she understands the Drawings and Specifications.
2. Ensure that the Contractor's work is properly supervised at all times and that it is carried out in accordance with the Drawings and Specification.
3. Maintain records of construction activity.
4. Maintain shop drawings and records of the Works.
5. Assist in measurement of the Works and to keep all necessary records.
6. Contact the PE or RE when faulty work occurs or where a variation is required.
7. Ensure that the records for plant and labour are kept accurately and that any removal of plant from the site by the Contractor is reported immediately to the PE / RE.
8. When hot bituminous mixes are being produced and laid
   - ✓ check temperature and thickness at site, also temperature and batch weight calibration at the plant.

9. Inspect and approve re-prepared road formations and subsequent pavement construction.
    - ✓ Attention is drawn to the requirements of Specifications Clause 307.3.1 with regard to weather limitations when laying hot mix bitumen materials.
10. For Days Work, agree with the Contractor records of plant, labour and materials involved. (These should be signed and endorsed "for record purpose only".) Keep daily site diaries and complete daily reports.
11. Ensure the inspections requested by the Contractor are carried out promptly and that the prescribed forms are used.
    - ✓ It should be noted that the Contractor is required under the contract to give specific prior notice of inspections required.
12. When working outside normal office hours
    - ✓ ensure communication with RE to report any exceptional events such as a bad accident or construction breakdown.
13. Liaise with the RE when checking work.
14. Liaise with the ME and the laboratory technicians on the results of materials testing
15. Give special attention to matters concerning public safety e.g. mud on roads, road signs and lighting of works.
16. Give special attention to matters concerning the protection of the environment and adjacent land and property.

Engineering Aide

1. Ensure he /she can identify field documents like drawings and specifications, site construction and monitoring forms.
2. Ensure that all documents are properly filed.
3. Maintain records of construction activity.
4. Maintain shop drawings and records of the Works.
5. Maintains cleanliness and orderliness in the field office.
6. Receive, log, route and file internal and external correspondences.
7. Do administrative work as may be required.

K. Conduct of Regular Contract Management Meeting.

In order to further strengthen the scheme to include the contractors in the feed backing mechanism, the RPCOs to institutionalize the conduct of regular contract management meetings amongst the RPCO, PPMIU and the Contractors. The presence of the Regional Executive Director (RED), the Local Chief Executive (LCEs) and the Manager/Owner of the Construction Company is key to the said Regular Contract Management Meetings in resolving various issues relative to sub-project implementation.

L. As-stake Survey and As-stake Plan

As Stake Survey or the site layout survey, is the process of verifying the actual field condition and staking out the alignment, location of the proposed and existing

facilities and structures vis-a-vis the approved detailed engineering plan prior to the construction activity.

General guidelines in the conduct of the As-stake Survey and preparation of the as-stake plan:

1. The as-stake survey should be conducted after issuance of the Notice to Proceed and a day after the conduct of the pre-construction conference. The procuring entity through it survey team should supervise the contractor in the conduct of the as-stake survey.

2. The conduct of as-take survey should take a limit of 15 calendar days to be completed by the contractor and LGU Resident Engineer /survey team and subsequent approval of change in quantities if any and as stake plan should be within 30 calendar days.

3. The timeline from the start of the as-stake survey to the approval of the as-stake plan shall be 45 calendar days.

4. When there is no inconsistency at the as-stake survey from the original plan, the as-stake plan shall not be prepared by the contractor and proceed with the construction using the original plan. The original plan shall be marked as the construction plan.

5. If there are minimal inconsistency at the as-stake survey from the original plan and based from the contractor's assessment that he can implement the original plan, the contractor may not prepare the as stake plan and use the original plan during the implementation.

6. If there are only sections with inconsistency at the as-stake survey from the original plan, the contractor should proceed on the works at sections with no inconsistency and prepare the as stake plan at sections with inconsistency.

7. Any increase in cost due to the result of the as stake survey shall be shouldered by the LGU.

8. Variation orders due to the result of the as-stake survey shall be approved by the LGU and concurred by PRDP depending on the threshold.

9. In case where the As-stake survey and as stake plan is not finished and approved at the given time line (45 days), by default the contractor shall implement the approved original plan.

Specific guidelines

1. ***Farm to Market Roads:***

a. Locating the exact coordinates of station 0+000 through the reference points indicated in the plan.

b. Set the existing elevation of station 0+000 as assumed in the approved plan.

c. Check the cross-section plan of station 0+000 and superimpose in the original cross section plan any observed difference.

d. After successfully locating station 0+000 then re-run the surveys to get the actual elevations and cross-sections of the succeeding stations and superimpose it in the original plan.

e. The as-stake survey activity should also check if indeed the location of bench marks, structures, landmarks and other details are correct.

f. Included in the as-stake cross-section plan is the information whether the cut section is rock, unclassified and common earth excavation.

g. The horizontal and vertical survey data shall be superimposed or plotted against the original plan, dimensions and end areas taken as an input in the volume computation. As a result of the volume/quantity computation, any changes in quantity as a result of the as-stake survey shall be approved through a variation order.

M. Variation Orders

1. Additional costs arising from variation or change orders above the contract project cost shall be borne by the proponent LGUs.
2. Any variation order that emanates from the conduct of the as-stake survey with exceptions as a result of natural calamities and evolving government policies shall be borne by the proponent LGUs.
3. Variation cost may be cost shared if the variation order is initiated by the Project due to the implementation of emerging government policies and design adjustments due to current site conditions but will be dependent on the availability of funds from the project.
4. Any additional cost as a result of the bidding will also be cost shared.
5. The approval of variation orders rests at the procuring entity but with prior no objection from the Project.
6. The approval of the variation order is within the contracting Parties and the NOL procedure is a review tool or control mechanism binding between the LGU and the Project.
7. The No Objection Letter issued by the Project states that the Project finds the variation order documents in order and interposes no objection to the approved or approval of the Variation order or in most cases the Project issues its findings through memorandum stating the findings and recommendations if there are questionable items/entries not fully supported, justified or simply

not needed and the LGU now do the adjustment and process again the request' approval and conformed of the contracting parties.

8. The processing of the variation orders should only by 15 days at its approval and 15 days for the NOL of the project.
9. Any change in scope or cost, it will be subject for concurrence or issuance of no objection letter by the RPCO/PSO/NPCO based on the review threshold of each office in the issuance of No Objection Letter (NOL).
10. Concurrence or issuance of no objection letter by the RPCO/PSO/NPCO/WB will be based on the following threshold or cases:

    Case 1: Variation Orders with no increase in cost shall be reviewed and issued no objection letter (NOL) at the RPCO level;

    Case 2: Variation Orders with increase in cost of 10% and below and fully shouldered by the LGU shall be jointly reviewed by the LGU, RPCO and PSO. PSO to provide technical inputs in the review process. The no objection shall be issued by the RPCO after a favorable joint review clearance had been issued by the review team.

    Case 3: Variation Orders with increase in cost more than 10% but less than 15% and fully shouldered by the LGU shall be jointly reviewed by the LGU, RPCO, PSO and NPCO. NPCO to provide technical inputs in the review process. Part of the review process is the economic viability considering the additional cost involve. The no objection letter shall be issued by the PSO after a favorable joint review clearance has been issued by the review team.

    Case 4: For variation orders costing more than 15%, proposal would be deferred until completion and turn-over of the sub-project if the works are considered separable from the original contract. The LGU could then enter into a separate contract with the contractor to implement the proposed VO. The VO shall be jointly reviewed by the LGU, RPCO, PSO and NPCO. The No Objection Letter shall be issued by NPCO. Part of the review process is the economic viability considering the additional cost involve.

    Case 5: For variation orders costing more than 15%, but the works are considered not separable from the original contract, The VO shall be jointly reviewed by the LGU, RPCO, PSO and NPCO. The No Objection Letter shall be issued by NPCO. Part of the review process is the economic viability considering the additional cost involve.

    Case 6: For proposed VO that would involve the increase or reduction of LP funds, The VO shall be jointly reviewed by the LGU, RPCO, PSO and NPCO. The No Objection Letter shall be issued by NPCO.

    Case 7: Variation Orders with increase in cost and cost shared shall follow the regular review process at the RPCO, PSO, NPCO and WB. The NPCO will issue the no objection letter (NOL) for variation orders costing 10% and below and the World Bank to issue the NOL for variation orders more than 10%.

For any cost over-run from the estimated project cost (EPC) subject for cost sharing, it will be cost shared following the cost sharing arrangement stipulated in the IMA. Addendum to the RPAB approval, IMA and issuance of additional CAF to reflect the cost adjustment is necessary.

Contractors will be required to get a comprehensive Contractor's All-Risk Insurance(CARI) to take care of unforeseen costs brought about by any force majeure.

N. Materials Testing

- ✓ Allowing the materials testing and quality control section of the PLGU to conduct materials and quality tests.
- ✓ Allowing laboratory building and equipment to be included in one of the proposed subproject of PLGU. The said building and equipment shall be turned over to the province for use of in subsequent subprojects.

Adoption of DPWH DO No. 5 series of 2017 to be used for PRDP IBUILD subprojects.

- ✓ Item A.1.1(4) Construction of Field Office for the Engineer
- ✓ Item A.1.1 (12) Provision of Furniture/Fixtures, Equipment and Appliances for Laboratory Building for the Engineer;
- ✓ Item A.1.1 (14) Provision of Laboratory Testing Equipment, Apparatus and Publication for the Engineer;
- ✓ Item A. 1.1 (17) Operation and Maintenance of Laboratory Building for the Engineer.
- ✓ It remains the responsibility of the Contractor to find ways to comply with the minimum materials testing requirement of the Project as costs associated with the required quality tests are already incorporated in the sub-project's contract costs.

Testing of materials to be conducted by the PLGU

- ✓ Testing laboratory facility and materials engineer should be accredited by DPWH
- ✓ RPCO and PSO RIEs to witness the conduct of the first test, subsequent witness of either RPCO or PSO RIE of test sufficiency
- ✓ Test results to be signed by RPCO and PSO RIEs, Head of PEO material division/section head, materials engineer of the LGU assigned to the subproject and the contractor.

O. Field Density Test

The inspection and testing procedures as called for in the Infrastructure Quality Monitoring and Durability System (IQMDS) of the Project prescribes that whoever conducts the test must prepare and attest to the veracity of the test report. This Operations Manual stipulates the conduct of all tests by a third party. The conduct of Field Density Test shall be carried under the following options:

1. Option 1 - The default option is to follow the intent of this Operations Manual that all tests will be conducted by DPWH.
2. Option 2 – The conduct of FDT to be conducted by a DPWH accredited laboratories in regions.

3. Option 3 – The 3rd option is the conduct of FDT from colleges and universities with testing laboratories with competent Materials Engineer and accredited by DPWH. The selection of colleges and universities to conduct the FDT must be supported with proof that indeed the laboratory technicians have conducted the same test within the last three years. Records of FDT reports taken from similar subprojects filed by the laboratory administrator will suffice as proof of capacity to engage the said college or university.
4. Option 4 - The 4th option is the conduct of the FDT by the accredited Materials Engineer and laboratory of the Provincial or City LGU.

Field tests shall be in accordance with ASTM D1556-07 "Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method".

The contracting parties are the signatory witnesses in the conduct of the FDT in all options. The first FDT should be witnessed by RPCO.

The test reports from the four options equally serve the same purpose as basis for work acceptance and clearance for billing.

P. Inspection and Billing

The lists below include what are the items/activities to be inspected and what are the pre-conditions of its approval.

a. **Clearing and Grubbing** - any request for inspection of its completion and or billing must include the establishment of Technical Bench Marks (TBM) and staking (''blue topping'') every full station and station markings of structures.
b. **Mobilization and Demobilization -** any request for inspection of its completion and or billing must include…
c. **Facilities for the Engineers** - any request for inspection of its completion and or billing should include the establishment of a filing system such as maintaining a well secured filing cabinet
d. Monthly submission of progress reports - As per GCC sub-clause 31.3, the Contractor to submit updated program to the Procuring Entity's Representative at interval of 30 days. late submission of an updated Program of Work {bar chart/5-curve), deductions will be made at 1% of the progress billing. The general conditions of the contract sub-clause 32 calls also for the conduct of management meeting or conference and It is recommended at regular interval (fix day/s monthly) and the minutes of the meeting will form part of the monthly submission of progress reports.
e. Shop Drawing Preparation - any shop drawings prepared by the contractor shall have prior approval of the procuring entity and marked "Good for Construction" prior its use.
f. In all Requests for Inspection - the contractor must attach the measurement sheet or volume computation sheet of the requested work to be inspected as basis for approval.
g. Conduct of actual measurement verification for billing - the LGU Local Inspectorate Team must be assisted by the Measurement Team formed for the

Project before it is certified for payment by the Procuring Entity's representative /Project Engineer in pursuance of the GCC sub clause 41.1.

It is hoped that the issuance of these guidelines will provide guidance in determining some pre-conditions in the issuance of approval by the Procuring Entity of Request for Inspection. These are additional details of what is in the inspection and test plan in the "Hold Points" column.

Q. Corrective Action Request

The IQMDS provides the issuance of three Non Compliance Reports (NCR) for similar quality issues shall trigger the Request for Corrective Action through the Corrective Action Request form. The issuance of three NCRs or Site Instructions by the LGU / RPCO / PSO / NPCO to implement the enforcement of the required rectification works by the contractor when not acted upon will also be a reminder to the LGU that non-compliance with the quality requirement of the subproject may be grounds for the cancellation of PRDP SU funding support. The Corrective Action Request shall be issued by the Project to the LGU after three NCRs have not been closed out, the P/M/CPMIU shall endeavor to implement the proposed corrective action and if not properly closed out after the dead line as agreed on the Corrective Action Request, the PSO through the endorsement of the RPCO shall officially communicate to the P/M/CPMIU the withdrawal of funding support for the subproject.

R. Joint Inspectorate Team

Members of the Joint Inspectorate Team (JIT) are IBUILD, SES, GGU and Finance

The JIT will conduct the inspection and review of contractor's billing.

Joint Site Inspection should be conducted not later than 3 days upon the receipt of the contractor's request for validation of the Statement of Work Accomplished.

The process of reviewing the documents and subsequent payment should not exceed 14 calendar days upon receipt of request for billing.

The P/M/CPMIU should conduct the pre-final inspection once the physical accomplishment of the subproject reaches 95% and should not wait for the contractor to request for the inspection. The P/M/CPMIU to inform the PSO/RPCO on the date of inspection so that one-time joint pre-final inspection will be conducted.

Henceforth, the JIT are enjoined to conduct pre-final Inspection of all sub-projects reaching an accomplishment of 95% in physical progress which is considered as substantially completed. The punch list form shall be filled-out with the following details:

a. list of all contracted items of works;
b. quantification of the remaining works as well as identification of the deficiencies per item of works to be noted in the punch list as a result of actual measurements and inspections done;

c. inclusion of the contractor's approved disposition on how to complete the remaining works and correct the deficiencies per items of work;
d. inclusion of the timeframe of each activity so that the final inspection date of the sub-project shall be set.

The deadline to be set for the final inspection and will be the benchmark in dealing with penalties on liquidated damages and other alternative measures such as when the LGU shall engage a third party for the uncorrected defects to be charged to the performance bond and or remaining money / retention fund due to the contractor.

The same process should be followed in the conduct of final inspection once the contractor has fully complied with the pre-final inspection report (punch list). The contractor should be given a fixed number of calendar days to make the necessary rectification works indicated in the punch list.

Duties and responsibilities of the Joint Inspectorate Team

Listed below are the duties and responsibilities of the JIT in addition to their current functions.

IBUILD:

a. Closely monitor and supervise subprojects implemented on their respected areas of assignment.
b. Inspect and validate the correctness of the items being claimed for billing.
c. Validate the Statement of Work Accomplished.
d. Review of copied of the materials and field test results as basis of acceptance of items of works that are subject for billing.
e. Provide technical support to the LGU and contractors in the review and processing of billing documents.
f. Monthly review of test results submitted by the contractors and LGUs.
g. Ensure that all SPs have proper documentation.

SES:

a. Oversee and ensure that the subprojects will not adversely affect the environment and the community with in the project area.
b. Ensure that all SES concerns are addressed in coordination with the LGUs.

GGU:

a. Check, review and ensure that the billed items in the accomplishment reports have geotag photos.
b. Provide Applied Geotagging Technology (AGT) certificate ones billed items conforms with the accomplishment report.

Finance:

a. Review and ensure that all financial requirements for billing are complete.
b. Provide technical assistance to the LGUs and contractors in the processing of billing documents when necessary.

To strengthen the supervision and monitoring of all PRDP SU subprojects and ensure the compliance to social and environmental safeguards, the LGU shall fully engage the

LGU-SES focal persons in the conduct of supervision and monitoring of all PRDP SU subprojects.
Furthermore, the LGU-SES focal should be added as member of the Joint Inspectorate Team and should be one of the signatories to the SWA.

S. Proceeds from Liquidated Damages.

The LGU is encourage to utilize the proceeds of the liquidated damages to fund any improvement of the subproject to enhance its use/function and Road safety like provisions of road signs, lane markings, railings, pedestrian lanes/walkway, street lighting, access ramps and improvement of roadside drainage and slope protection.
The LGU to determine the amount of liquidated damages in accordance with the bidding documents and the Sanggunian may appropriate this funds to effectively implement the said enhancement of the subproject.

T. Suspension of Subproject due to Peace and Order

U. Cancellation of subprojects

Listed are the guidance on the proper process of cancelling sub projects under the Philippine Rural Development Project Scale Up(PRDP-SU).

1. The Project Support Office (PSO) should prepare the case history, including the determined grounds for the decision to cancel the sub project.
2. The PSO should write to the concerned Local Government Unit (LGU) that the identified sub project will be cancelled if the determined grounds for cancellation will not be appropriately acted upon by the LGU. The LGU is given seven (7) working days from the receipt of the letter to respond to the PSO on their concurrence to the cancellation.
3. Upon concurrence or non-response from the LGU, the concerned Regional Project Coordination Office (RPCO) shall convene the Regional Project Advisory Board (RPAB) to present the sub project for cancellation for their approval. (Section 8.03 of the Implementation Management Agreement which states that "Upon recommendation of the NPCO or PSO, the concerned Regional Project Advisory Board shall cancel the IMA……. ")
4. When the RPAB had issued their resolution to cancel the sub project, the RPCO shall immediately transmit the resolution to the Project Support Office for cancellation of the sub project.
5. The PSO, upon receipt of the RPAB resolution shall cancel/de-obligate the funds allocated to the sub project.

V. Deletion of cancelled proposed Subprojects at the MIS

- ✓ For subprojects not yet approved by the RPAB but had already been reviewed, the LGU to write a letter to the RPCO cancelling the proposed subproject indicating the reasons for cancellation.
- ✓ For subprojects approved by RPAB, the LGU to write a letter to RPCO cancelling the proposed subproject indicating the reasons for cancellation. The

RPCO to inform the RPAB of the intention of the LGU to cancel the proposed subproject.

✓ Proposed subprojects that were cancelled will then be deleted in the MIS

2.12 Capability-Building of Implementers

An effective infrastructure development project entails more than just building physical assets. To achieve longer-term benefits, it must build the capacity of the beneficiaries to sustain the gains derived from the infrastructure investments.

The main players in the implementation of rural infrastructure subprojects are the Provincial/Municipal/City Engineering Offices (P/M/CEOs), Provincial/Municipal/City Planning and Development Offices (P/M/CPDOs), Municipal/City Agricultural and Biosystems Engineering Offices (M/CABEOs) created by Section 29 of RA No. 10601, DA-DBM-CSC-DILG Joint Memorandum Circular No. 2, series of 2020 and now mandatory positions pursuant to RA No. 10915 and CSC MC No. 12, series of 2022, the DA-RFO Regional Agricultural Engineering Division (RAED), (and their counterparts at the DA-RFU Engineering Offices) and other stakeholders. The delineation of functions are shown below.

Figure 2-10 Duties and Functions of the Municipal/City Engineering Office

OFFICE	Duties and Functions
1. Municipal/City Engineering Office	Pursuant to Section 477 of RA 7160 of the Local Government Code, the Municipal/City Engineering Office shall: (1) Initiate, review and recommend changes in policies and objectives, plans and programs, techniques, procedures and practices in infrastructure development and public works in general of the local government unit concerned; (2) Advise the governor or mayor, as the case may be, on infrastructure, public works, and other engineering matters; (3) Administer, coordinate, supervise, and control the construction, maintenance, improvement, and repair of roads (provincial, city and municipal roads), bridges, and other engineering and public works projects of the local government unit concerned; (4) Provide engineering services to the local government unit concerned, including investigation and survey, engineering designs, feasibility studies, and project management;

	(5) In the case of the provincial engineer, exercise technical supervision over all engineering offices of component cities and municipalities XXX

Figure 2-11 Duties and Functions of the Municipal/City Planning and Development Office

OFFICE	Duties and Functions
2. Municipal/City Planning and Development Office	Pursuant to Section 476 of RA 7160 or the Local Government Code, the Municipal/City Planning and Development Coordinator shall take charge of the planning and development office and shall: (1) Formulate integrated economic, social, physical, and other development plans and policies for consideration of the local government development council; (2) Conduct continuing studies, researches, and training programs necessary to evolve plans and programs for implementation studies, researches, and training programs necessary to evolve plans and programs for implementation; (3) Integrate and coordinate all sectoral plans and studies undertaken by the different functional groups or agencies; (4) Monitor and evaluate the implementation of the different development programs, projects, and activities in the local government unit concerned in accordance with the approved development plan; (5) Prepare comprehensive plans and other development planning documents for the consideration of the local development council; (6) Analyze the income and expenditure patterns, and formulate and recommend fiscal plans and policies for consideration of the Finance committee of the local government unit concerned;

	(7) Promote people participation in development planning within the local government unit concerned; (8) Exercise supervision and control over the secretariat of the local development council; XXX

Figure 2-12 Duties and Functions of the Municipal/City Agricultural and Biosystems Engineering Office

OFFICE	Duties and Functions
3. Municipal/City Agricultural and Biosystems Engineering Office	Pursuant to Sec. 29, RA No. 10601 and DA-DBM-CSC-DILG JMC No. 2, series of 2020 in relation to RA No. 10915, the Municipal/City Agricultural and Biosystems Engineering Office shall: 1) Provide agricultural engineering services which include engineering survey, preparation and evaluation of plans, designs, technical specifications, feasibility studies and cost estimates/programs of work, and administer, supervise and coordinate the construction, operation, maintenance, improvement and management of irrigation, small water impounding, soil conservation and management, farm machinery, slaughterhouses, poultry dressing plants, postharvest facilities, auction markets, farm-to-market roads and other agricultural and fisheries infrastructure projects of the LGUs; 2) Undertake the registration of agri-fishery machinery and facilities, enforcement of the PAES and other agricultural and fishery engineering regulatory activities in coordination and collaboration with the concerned national government agencies; 3) Coordinate with the concerned national government agencies with regard to the implementation of national government programs and projects on irrigation, farm mechanization, postharvest facilities, farm-to-market roads and agricultural and fisheries infrastructure; 4) Be in the frontline of the delivery of basic agricultural engineering services;

	5) Provide training and extension activities to farmers and fisher folk particularly in the installation, operation and maintenance of their irrigation, postharvest facilities, agricultural and fishery machinery projects in coordination with the agriculture and fisheries extension workers; 6) Undertake and/or coordinate the pilot testing and commercialization of matured agricultural and fisheries engineering technologies; and XXX

2.12.1 Technical Capability Building Activities

The following capability building activities or trainings (Table 2- 13) emerged during the PRDP Scale Up Feasibility Study preparation stage as appropriate intervention to ensure that the implementers are able to deliver the quality output envisioned in PRDP Scale Up.

The capabilities of the partner LGUs (and the beneficiary stakeholders to some extent) need to be developed in order for the subprojects to be completed according to plan in terms of quality, time and budget, and finally sustainable.

Table 2-13 Technical Capability Building Activities

Approaches in Improving Effectiveness and Sustainability of Infrastructure Investments	
A	***Preparation Stage:***
	Training on Computer/Software Aided Design Analysis: STAAD, Civil 3D, EPANET, or equivalent
	Computer/Software Aided Drawing: Auto Cad, Revit, Sketch up
	DED and POW preparation trainings
	Joint Technical Reviews
B	***Implementation Stage:***
	Project Supervision and Management Trainings
	Contract Management and Supervision Skills Training
	COSH
	Citizens Monitoring Team (CMT) Capacitation

	Materials Testing and Quality Control Training
	Construction Methods
C	***Post Implementation Stage:***
	Subproject Operations and Maintenance Training
	OMAS Audit
D	***Regular Coordination Meetings and Conference:***
	IBUILD Coordination
	PSO-RPCO IBUILD Coordination
	RPCO Coordination
	RIE Summit
	Technical Conference for continuing professional development
E	***Mainstreaming Activities***
	IBUILD Operations Manual:
	Feasibility Study Preparation, SP Validation, and Prioritization
	DED/POW Preparation, SP Appraisal and Review
	Contract Management, Citizen monitoring
	Infrastructure Quality and Durability Monitoring System
	Materials Testing and Quality Control
	Operation & Maintenance Audit System and O&M
	Climate Proofed Design of Agriculture Vertical Structures and Road Safety Design
	Geo-tagging, FMR Network Plan Preparation, Data Encoding and Use of IROAD / ABEMIS /GEOAGRI

2.12.2 Support Facilities

For PRDP Scale Up – NPCO – PSO – RPCO, PRDP Scale Up shall continue to use the support facilities provided at the original PRDP such as service vehicle, computers, printers, geotagging device and others.
Service vehicles at that are provided to NPCO/PSO/RPCO during the original PRDP shall be for the exclusive use of the project.
NPCO/PSO/RPCO shall check the conditions of the service vehicles and equipment, provide evaluation on the additional units to be provided for funding under PRDP Scale Up for the proper and on time implementation of IBUILD subprojects.

2.13 General Financial Management Arrangements

The financial management of the I-BUILD component is the main responsibility of the implementers which are the P/M/C LGUs. The bidding and fund management are lodged to the LGUs. However, fiduciary control will be the responsibility of the RPCO, PSO and NPCO aside from the regular World Bank missions that review the physical and financial performance of the Project.

2.13.1.1 Requirements for the Release of Funds to Local Government Units

1. **Approved, signed and notarized Implementation Management Agreement (IMA)** among the PSO, RPCO and the concerned LGU together with the copy of Appropriation Ordinance for the LGU Equity of the Project.
2. **Certificate as to Availability of Funds (CAF)** issued by PSO to the concerned LGU.
3. **Release for Advance Payment**– not to exceed fifteen percent (15%) of the contract cost:
    a. Letter from the LCE requesting for the release of funds;
    b. Notice of Award;
    c. Performance Security as indicated in the PBD;
    d. Contract Agreement together with certificate that all Annexes of the Contract is with the RPCO;
    e. Notice to Proceed with Acceptance / Conforme from the Contractor;
    f. Bank certification of LGU Equity deposit equivalent to one hundred per cent (100%) of the required LGU Equity;
    g. Bank certification of LP and GOP account opened by LGU in the name of LGU PRDP Trust Fund Account;
    h. Bank Guarantee equivalent to mobilization fee or as specified in the bidding documents.
    i. Geotagged photos of site mobilization of equipment for the first work activity.

Release for First Progress Payment – the progress payment must be based on actual physical accomplishment. The first progress payment is encouraged to happen on the first month of the contract without any minimum in physical accomplishment.

1. Statement of Work Accomplished (SWA) with physical accomplishment validated by the Joint Inspectorate Team (JIT);
2. Letter from the LCE requesting for the release of funds;
3. Requirements of advance payment from numbers 2 to 7 to be submitted if Contractor did not avail of advance payment;
4. Monthly Financial Reports reflecting the payments made to contractor utilizing the funds released.
5. Geotagged photos reflecting the equivalent physical accomplishment.

For succeeding progress payments, contractors can bill on a monthly progress billing to improve Project disbursement and cash flow for the contract.

1. Letter from LCE requesting for the release of funds;
2. Statement of Work Accomplished (SWA), the physical accomplishment is duly validated by the Joint Inspectorate Team (JIT).
3. Monthly Financial Reports reflecting the payments made utilizing the funds released.
4. Geotagged photos reflecting the equivalent physical accomplishment.

Release for Final Payment – one hundred percent (100%) of the contract cost cumulative:

1. Letter from LCE requesting for fund release;
2. Statement of Work Accomplished (SWA) with 100% physical accomplishment validated by the Joint Inspectorate Team (JIT) and endorsed by the DA Regional Executive Director (RED);
3. Certificate of Completion signed by LGU Engineer and Local Chief Executive (LCE);
4. Certificate of Turn Over by Contractor and Accepted by LCE of the LGU;
5. Certificate of Turn Over by LCE to end users;
6. COA Technical Inspection Report or duly received Letter Request for COA inspection; and
7. Monthly Financial Reports reflecting the payments made utilizing the funds released.
8. Geotagged photos reflecting the equivalent physical accomplishment.

Note: Copies of materials and field test results form part of the documents to be reviewed by the LGU inspectorate team as well as the Joint Inspectorate Team by the Project as basis for the final acceptance of the items of work subject for billing.

I-BUILD funds for **Trainings, Workshops** and **Consultancy Services** for NPCO, PSO and RPCO is available for technical assistance for the implementation and monitoring of subprojects. Financing mix for this sub component is 80% for LP and 20% for GOP.

Utilization of this fund will follow the DA guidelines and processes in the disbursement of funds and World Bank guidelines of eligible expenditures for PRDP.

2.13.2 Requirements for Payment to Contractor

Release for Advance Payment

1. Letter from contractor requesting for mobilization fee;
2. Approved, signed and notarized Contract Agreement;
3. Performance Security specified in the PBD;
4. Bank Guarantee or as specified in the bidding documents equivalent to the advance payment requested but not to exceed 15% of the contract cost and confirmed by the LGU to the issuing bank;
5. Contractors All Risk Insurance (CARI) for the sub-project.
6. Geotagged photos of site mobilization of equipment for the first work activity.

Payment of Progress Billing

1. Letter request from Contractor requesting for payment of progress billing;
2. Statement of Work Accomplished (SWA) – duly validated by the Joint Inspectorate Team (JIT);
3. Certificate of Payment (COP);
4. Geotagged photos reflecting the equivalent physical accomplishment
5. Contractors All Risk Insurance (CARI) for the sub-project for the first progress billing if the contractor did not avail for the advance payment.

Payment of Final Billing

1. Letter request from Contractor requesting for payment of physical accomplishment;
2. Statement of Work Accomplished (SWA) with 100% physical accomplishment validated by the Joint Inspectorate Team (JIT) and endorsed by the concerned DA Regional Executive Director (RED);
3. Certificate of Payment;
4. COA Technical Inspection Report or duly received Letter Request for COA inspection;
5. Certificate of Completion;
6. Certificate of Turn Over by the Contractor to the LCE;
7. Certificate of Turn Over by LCE to the end –user;
8. Geotagged photos reflecting the equivalent physical accomplishment.

Note: Copies of materials and field test results form part of the documents to be reviewed by the LGU inspectorate team as well as the Joint Inspectorate Team by the Project as basis for the final acceptance of the items of work subject for billing.

2.13.3 Processing of Contractor's Billing

The Project will adopt the following timeline for each activity in the processing of payment to contractors:

1. Ten (10) days will be allotted for the conduct of joint inspection and review of the billing by the JIT, LGU and the Contractor. The output would be the Statement of Work Accomplished (SWA), the Validated SWA and the Certificate of Payment (COP) duly accepted by the contractor.
2. Five (5) days for the LGU to process the payment request/billing. The timeline includes the transmittal of documents to RPCO;
3. Five (5) days for RPCO to process the payment request/billing. The timeline includes the transmittal of documents to PSO;
4. Three (3) days for PSO to process the payment request/billing. The timeline includes, the PSO to notify the LGU that the funds had been downloaded to the LGU account.
5. Three (3) days for the LGU to release payment to the contractor,
6. Two (2) days for the LGU to liquidate the funds released.
7. The total number of days for processing the contractor billing should only be 28 calendar days.

Further, the PSO to inform the Contractor once the PSO had downloaded the funds to the LGU and the Contractor to inform PSO within one week if no payment had been made so that appropriate action would be made.

The billing timeline shall be strictly implemented to avoid implementation delays and on track project disbursement rate

2.13.4 Financial Reports

Periodic financial reports need to be submitted to appropriate offices in a timely manner. Delayed reports could affect the releases of funds.

Table - 13 shows a summary of these submissions. Refer to the FMS manual for the comprehensive financial management system of the I-BUILD component.

Table 2-14 Financial Reports – IBUILD Component

	Monthly Report	NPCO	PSO	RPCO	LGU	Due Date
Monthly Report						
1	Statement of Receipts and Expenditures (SRE)	x	x	x	x	*10th day of the following month*
2	Consolidated SRE	x	x	x		
3	Trial Balance	x	x		x	

4	Bank Reconciliation Statement (BRS)	x	x	x	x	
Quarterly Report						
1	Quarterly Consolidated SRE	x	x	x		10th day of the following quarter
2	Balance Sheet	x	x		x	
3	Cash Flow Statement	x	x		x	
4	Withdrawal Application (WA)	x	x			
5	Interim Financial Report (IFR)					
	- Sources and Uses of Funds (SUF)	x	x			
6	Statement of Expenditures (SOE)	x	x			
Annual Report						
1	Statement of Sources and Application of	x	x	x	x	not later than 31-Dec of the following year
	Funds (SSAF)					
2	Consolidated Financial Report (CFR)	x				
3	Trial Balance	x	x		x	
4	Balance Sheet	x	x		x	
5	Statement of Income and Expense (SIE)	x	x			
6	Statement of Government Equity	x	x			

2.14 Monitoring and Evaluating the Rural Infrastructure Component of PRDP Scale Up

Monitoring and evaluation of the I-BUILD component will be based on the parameters set in the logical framework. Physical targets are set per infrastructure type such as number of kilometers, hectares, households while those categorized as "Value Chain Rural Infrastructure" will be in different units of measure and could be monitored in terms of the budget allotment.

For the daily implementation progress of infrastructure subprojects, it will be monitored by the assigned Project Site Engineer with the following instruments: i) weather chart; and ii) construction logbook.

The monthly implementation progress will be reported by the Provincial / Municipal/ City Engineer with the following instruments: i) monthly physical progress report; ii) suspension orders; iii) resumption orders; iv) variation orders; v) inspection reports and vi) consolidated materials and field test results.

For the weekly updating of the SP progress reports in the DA PRDP / PRDP Scale Up website per implementation stage such as how many SPs are at the project identification and prioritization stage, validation stage, SP preparation stage (FS to approval), procurement stage, ongoing implementation and operation and maintenance stage, the following are the trigger points, delineation or coverage of each stage in the project development cycle. i) project identification and prioritization stage-an SP is counted under this stage if it is contained in the approved PCIP; ii) validation stage – field visits had been made by the RPCO/PSO and a validation report duly prepared; iii) SP preparation and packaging – FS/DED, Finance, SES and GGU documentation had been prepared and appraised, approved by RPAB and issued NOL 1; iv) SP procurement stage – invitation to bid had been published until issuance of notice to proceed; v) SP implementation (contract management) – from effectivity of notice to proceed until acceptance of the SP; vi) SP operation and maintenance – from turnover of possession of site from the contractor to the LGU until the next 10 years.

The quarterly and annual reports will be prepared by the RPCO, PSO and NPCO summarizing the overall progress of the I-BUILD component versus targets as contained in the quarterly and annual work and financial plan of the Project. It includes critical analysis of the slippages and what coping mechanism will be adopted to hasten subproject implementation.

2.15 Social and Environmental Safeguards

The menu of eligible infrastructure interventions for PRDP Scale Up - IBUILD will be the same as that of the original PRDP-IBUILD, but with updated and enhanced parameters on the design of the infrastructures to make it a safer and climate resilient rural infrastructure.

As safety net, the PRDP Scale Up subprojects under the I BUILD component will adopt the new Environmental and Social Framework (ESF) guidelines developed under the Social and environmental Safeguards in the implementation of subprojects.

To ensure safety and health of the public, communities, workers and personnel amidst COVID-19, the PRDP Scale Up will continue to adopt the guidelines and tools adhering to the Safeguards Policies of the World Bank as well as the new policy issuances, protocols and standards of the Philippine Government.

Refer to the Operations Manual of the Social and Environmental Safeguards Unit on the detailed application of the Social and Environmental Framework guidelines in relation to the IBUILD subproject development cycle.

2.16 Sustainability

To ensure continuous use of facilities, end users will be formed into groups or associations for the proper operation and maintenance of completed rural infrastructures / facilities / structures. It may be existing government entity, road users association, farmers and fisher-folks association, irrigators association and water users association. The LGU to endeavor the organization of Operation and Maintenance Groups or Associations of end users and cause its recognition or registration to obtain legal personality and or membership to the LGUs special bodies.

In areas where there are organized groups that could sufficiently handle the operation and maintenance of completed rural infrastructures / facilities / structures, the LGU endeavors to strengthen the group organizationally and financially in providing the O and M services.

PRDP Scale Up will continue the operation and maintenance audit system stablished under the original PRDP. The ROMAT will monitor the compliance of the LGUs on the O & M for a period of 10 years. The details are in appendices. The subproject Operation and Maintenance Manual is attached as appendix C, D, E, F, G and H.

The IBUILD Operation and Maintenance Manual will be enhanced and Updated this August of 2023 and will be reported on the WBISM on October 2023.

The LGUs' track record in maintaining their previous DA financed subprojects will be a basis for continuous engagement. Conversely, further investments in those LGUs that have unsatisfactory performance in the operation and maintenance of their completed subprojects shall cause DA to withhold future projects until such time that the LGU complies with the O&M requirement.

2.17 Applied Geotagging Technology

The IBUILD component will continue to adopt the updated and enhanced Applied Geotagging Technology (AGT) under the GGU on the subproject identification, validation, review and approval procurement, implementation and operations and

maintenance of IBUILD subprojects including the support infrastructure (civil works) under the IREAP component.

Refer to the Operations Manual of the Good Governance Unit (GGU) on the detailed application of the AGT in relation to the IBUILD subproject development cycle.

2.18 Procurement

Procurement implementation arrangement for PRDP is authorized by the World Bank Procurement Guidelines and the Government Procurement Reform Act (GPRA), otherwise known as Republic Act (RA) No. 9184 and its revised Implementing Rules and Regulations (IRR), Article 1, Section 4.2, which states:

"Any Treaty or International or Executive Agreement to which the GOP is a signatory affecting the subject matter of the Act and this IRR shall be observed. In case of conflict between the terms of the Treaty or International or Executive Agreement and this IRR, the former shall prevail."

Refer to the Operations Manual of the Procurement Unit on the detailed application of the procurement guidelines in relation to the IBUILD subproject development cycle.

3.0 Rural Roads

3.1 Scope

Rural roads infrastructure sub-components shall be limited to the following:

1. Concreting / Upgrading / Rehabilitation of existing farm-to-market roads. The design of FMRs should be based on the actual survey as per actual site conditions which include application of subbase or base course and concreting as surface finishing, roadside drainage system such as canals and mitre drains (earth, masonry or concrete) and applied with dissipators if applicable, cross-drainage structures with complete accessory structures such as cut-off wall, wing wall, catch-water basin, aprons, boulder fills, inlet and outlet structures) and side slope protection measures against erosion (bio-engineering and permanent structures).

   The concrete paving will be applicable to all road gradient from 0.5% to 12%. Road gradient up to 15% for short distance until 100 meters but not more than 18% for short distances until 50 meters maybe supported in meritorious cases that are justified in terms of technical (amount of degradation) and economic consideration (cost of mitigating measures) subject to in depth evaluation.

2. Construction / Road Opening of new of farm to market roads. Road gradient of new construction / road opening of FMR should range from 0.5% to 12% if possible. For FMR with road gradient above 12% to 18%, safer and climate resilient structures and design shall be incorporated and shall pass the environmental impact assessment and the EFA.

3. Rehabilitation / Upgrading of existing bridges identified in the value chain.

4. Construction of 2-lane bridges.

3.2 Financing Scheme

Cost sharing scheme for all subproject type:

The cost sharing between the National Government (NG) and the LGUs shall be as follows:

- ✓ 90 % - to be financed by the National Government in the form of grant (80% WB Loan Proceeds and 10% GOP) based on the Estimated Project Cost (EPC) for subproject to be approved (NOL 1) in the year 2023-2024;

- ✓ Calibrated equity contribution to be financed by the National Government in the form of grant based on the Estimated Project Cost (EPC) for subproject to be approved (NOL 1) in the year 2025-2028;

✓ 10% - equity contribution of the LGU in cash based on the Estimated Project Cost (EPC) for subprojects to be approved in the year 2023-2024;

✓ Calibrated equity contribution of the LGU in cash based on the Estimated Project Cost (EPC) for subproject to be approved (NOL 1) in the year 2025-2028. LGUs calibrated equity contribution will be based from the LGUs income classification;

Table 3-1 Cost Sharing scheme for all IBUILD subproject type:

Subprojects to be approve in 2023-2024	**Cost Sharing Scheme**		
	LP	GOP	LGU
	80%	10%	10%
Subprojects to be approve in 2025-2028			
LGU Income Classification	**Calibrated Cost Sharing Scheme**		
	LP	GOP	LGU
5th – 6th class	80%	10%	10%
3rd – 4th class	70%	10%	20%
1st – 2nd class	60%	10%	30%

The cost sharing scheme is the maximum limit LP and GOP. The percentage of LP and GOP will be lowered when the variation order is fully shouldered by the LGU.

The estimated project cost (EPC) for PRDP Scale Up will follow the provisions of DPWH D.O. No. 197 Series of 2016 (Revised Guidelines in the Preparation of Approved Budget for the Contract (ABC) except for the VAT component. The project will use 12% VAT as stated at the Regulations No. 13-2018, the Regulations Implementing the Value-Added Tax Provisions under the Republic Act (RA) No. 10963, or the "Tax Reform for Acceleration and Inclusion (TRAIN)," Further Amending Revenue Regulations (RR) No. 16-2005 (Consolidated Value-Added Tax Regulations of 2005), as Amended.

For FMRs and Bridges, all item of work to be used in preparing the EPC shall conform to the DPWH Standard Specifications for Highways, Bridges and Airports Volume 2

revised 2015 or latest edition of the DPWH Blue Book and approved Special Specifications for the Project.

The Project shall adopt the DPWH DO No. 136 series of 2022 "Revised Construction Safety Guidelines for the Implementation of Infrastructure Projects During the COVID-19 Public Health Crisis, Superseding Department Order Nos. 39 Series of 2020 and 30, Series of 2021 and future amendments thereto to prevent the spread of Covid-19. The cost required for additional PPEs, thermometer, disinfectants, footbath, washing stations, vitamins etc. shall be included in the POW in addition to items not included in DOLE D.O. 13.

The cost for quality control laboratory shall be included in the POW for FMR and bridge proposals of qualified LGUs. For all intent of fully capacitating the LGUs in the implementation of PRDP Scale Up and bigger subprojects during "Mandanas implementation", there is a need in terms of establishing the LGU's quality control laboratory for soils, aggregates, cement, concrete, steel bars and commonly used construction materials to ensure the quality of subprojects to be implemented.

Since the Project will allow the test from LGU owned DPWH accredited laboratory to do testing for PRDP scale Up for the purpose of augmenting the limited third party test, it shall be facilitated through the inclusion of items as provided for in the DPWH D.O. No. 5 series of 2017 in the program of work preparation specifically Item A.1.1(14) Provision of Laboratory Testing Equipment, Apparatus and Publication for the Engineer (See annex 53 for the details).

The grant of the proposed item above shall depend on the assessed need of the LGU and further limited to LGUs with existing locally initiated plans for a complete laboratory equipment, apparatus and machines and those with application for DPWH accreditation of their quality control overall laboratory to maximize investments. It will only be applied in one FMR sub-project of an eligible LGU.

The minimal amount to be availed from the above applicable quality control item should not exceed 5% of the estimated project cost. This is anchored on the premise that the Project is basically augmenting the limited capacity of the LGUs towards the accreditation of existing quality control facilities. The rest of the requirements for accreditation shall be taken cared by the LGU.

EPC Computation includes the following: (EPC = DC + IDC)

a. Direct Cost (DC):

   - ✓ Materials Cost [cost at source (includes local taxes, processing, crushing, stockpiling, loading, royalties, construction and/or maintenance of haul roads), expenses for hauling, handling, storage, and allowances for waste and losses (not to exceed 5% of material requirement)]

   - ✓ Labor Cost (salaries and wages, as authorized by DOLE regional wage board or locally legislated rates).

- ✓ Equipment Expenses (rental of equipment based on prevailing 2014 ACEL rates or locally legislated rental rates).

b. Indirect Cost (IDC):

- ✓ Overhead, Contingencies and Miscellaneous (OCM): 8-15% of DC
  - ✓ Overhead Expenses, 7-11% [engineering and administrative supervision, transportation allowances, office expenses, CARI, and financing cost (bid security, performance security and warranty)].
  - ✓ Contingencies, 0.5-3% [expenses for meetings, coordination with other stake holders, stages during ground breaking, inauguration ceremonies, other unforeseen events and billboards (excluding Project Billboard which is a pay item under the General Requirement)]
  - ✓ Miscellaneous Expenses, 0.5-1% (laboratory tests for quality control and plan preparation)

- ✓ Contractor's Profit (CP): 8-10% of DC

- ✓ VAT Component: 12% of (DC+OCM+CP)

Table 3-2 Indirect Cost Factors for Subprojects

Estimated Direct Cost (EDC) ***Php***	**Indirect Cost % for OCM & Profit**		**Total Indirect Cost % for OCM & Profit**
	OCM (% of EDC)	**Profit (% of EDC)**	
Up to 5M	15	10	25
Above 5M up to 50M	12	8	20
Above 50M up to 150M	10	8	18
Above 150M	8	8	16

The following items shall not be subjected to OCM and profit mark-up:

- ✓ Mobilization and Demobilization
- ✓ Provision of Service Vehicle

The following non-civil work items shall not be subjected to OCM mark-up:

- ✓ Field /Laboratory Office & Living Quarters (Rental Basis)
- ✓ Furnishing of Furniture, Laboratory Equipment, Survey Equipment and Consumables
- ✓ Assistance to Engineers

- ✓ Photographs
- ✓ Health and Safety
- ✓ Traffic Management
- ✓ Environmental Compliance
- ✓ Communication Equipment, etc.

In all cases, estimates for special items of work (SPL) should be accompanied with plans and specifications, methods of construction, measurements and basis of payments duly approved by the head of the implementing office. Annex 46 describes the technical specifications for commonly used SPL items.

3.3 Subproject Identification, Selection and Prioritization

Identification, selection and prioritization of farm-to-market roads and bridges shall be governed by the provincial commodity investment plan (PCIP) in line with the regional agri-fisheries modernization plan and at the National Agriculture and Fisheries Modernization and Industrialization Plan (NAFMIP). The PCIP will be prepared in coordination with the Provincial Planning and Development Office (PPDO), Provincial Agriculture Office (PAO) and the Provincial Engineer's Office (PEO) in consultation with all the agri-fisheries stakeholders. Road network planning shall be undertaken by the LGUs on the year prior to the projected implementation of their rural infrastructure component. The PCIP contains the priority commodity subjected to the value chain analysis and list of prioritized SPs or support infrastructure along the value chain subjected to the prioritization criteria. The PCIP will be treated as a 3 years rolling investment plan being updated as additional commodities are included.

To ensure the proper selection and maximize the benefit of proposed FMRs, the following general guidelines shall be considered:

1. Must link to an existing all-weather road. all weather road is type of a road that is passable in all-weather condition, it may be a well maintained gravel road, asphalt road or concrete road;

2. Must be a vital link to existing or potential key production areas (for agricultural and fishery/marine produce, and *halal*-based food production, processing and marketing) of target provinces, municipalities and cities;

3. An ideal road traffic for existing road rehabilitation shall be 50 vehicles or more per day (VPD);

4. New road construction shall be justified on the basis of the projected volume and value of agricultural production that will be transported over the road section that will allow the SP to pass the 10% EIRR hurdle rate.

5. Indicative unit costs for road Construction / Upgrading / Rehabilitation / concreting is php. 21,000,000/km. The unit cost includes excavations, embankments, base course, PCCP and structures such as RCPC/RCBC cross drainages, side drains, slope stabilization/protection structures, signage and

other activities and structures needed for a safer and more climate resilient FMR. The indicative unit cost parameter is not the ceiling but a reference cost of an average road construction vis a vis economic viability.

For two lanes (5.6m) bridges, the indicative unit cost is php 1,200,000.00 per linear meter and for two lanes (6.7m) bridges, the indicative unit cost is php 1,400,000.00 per linear meter

6. Proposed roads must not be currently covered by any other funding sources.

7. Must be included in the provincial commodity investment plan (PCIP).

8. Right-of-way is not a problem.

9. In the case of new road openings, this should not encroach on environmentally protected areas (e.g., forest ecosystems).

10. The location of new road openings shall be such that the cutting of big trees will be avoided; or if this cannot be avoided, any such cutting of big trees shall be done only with prior coordination and clearance with the DENR.

11. Where new road openings encroach on areas with IPs or lands with ancestral domain claims, the free and prior informed consultation and free and prior informed consent (FPIC) respectively of the IPs must be obtained through the NCIP.

3.4 Subproject Appraisal and Approval System

3.4.1 Eligibility Criteria

One pre-requisite for LGUs to be eligible for participation under the project shall be a completed overall provincial commodity investment plan (PCIP).

Based on the above document, the RPCO issues an invitation to the eligible LGUs to submit their list of priority subprojects for project assistance. The Local Chief Executive shall prepare a Letter of Intent (LOI) for financing for rural roads in their respective Provinces, Municipalities and Cities. The LOI and list of priority subprojects shall be accompanied by the following documents:

1. Color-coded National road, Provincial road, Municipal road, Barangay road and farm to market road network plan in google earth including the geo-tagged proposed SPs and Road Influence Area (RIA);

2. Brief description of each proposed subproject under the project to include among others, the length in km of FMRs and linear meters for bridges, the location, kinds of agricultural products and estimated areas to be served, estimated cost, and current and projected traffic counts;

3. Provincial Sangguniang Panlalawigan and Municipal/City Sangguniang Bayan resolution expressing intent to participate in the project and commitment to finance the required equity contribution (indicating the amount) in cash and to provide a specified cost of maintenance and repair after completion of the SP;

4. A certification from the Provincial/Municipal/City treasurer on the availability of funds for the specified amount of equity contribution and routine maintenance. Certificate of Availability of Funds (CAF) must be certified and issued by the proper accounting officials before contracts / agreements and all other documents are approved and notarized.

5. Compliance checklist of LGU eligibility and selection criteria;

The first tier LGU eligibility assessment as regards to technical capacity, financial capacity and Operation and Maintenance commitment of previously implemented special projects of DA like the original PRDP, InFRES, MRDP and CHARMP must be favorable.

3.4.2 Subproject Validation

Upon receipt of the above documents, the RPCO shall review and evaluate the merits of the proposed subprojects and conduct field validation. Technical assistance from the PSO/NPCO may be sought for complex subprojects. A final validation report shall be prepared by the RPCO. Attached to the validation report is a subproject prescreening checklist such as information on the unit cost parameters, EIRR, B/C ratio, IP and subproject environmental categorization concerns and validation of LGU capacity.

3.4.3 Feasibility Study (FS)

Proposed subprojects that have been validated are those to be subjected to Feasibility Study (FS) analysis. Upon receipt of the letter of approval of application issued by the RPCO, the LGU shall immediately prepare the subproject feasibility study.

The FS report shall, among others, cover the following:

1. Subproject location on the Provincial / Municipal / City road network plan;

2. Subproject location on the FMR road network plan;

3. Length of road in kilometers and bridges in linear meters and road influence area in sq.km or hectare;

4. FS level engineering design;

5. Traffic counts along roads and bridge locations;
   - ✓ Traffic count shall be conducted in three (3) consecutive days. (1-regular day, 1-market day and 1-Sunday)
   - ✓ For road openings, projected traffic count should be used.

6. Benefits to be derived;

7. Cost estimates based on updated and acceptable unit cost parameters;

8. Implementation schedule including periods for detailed engineering preparation, advertising and bidding;

9. Current road and bridge conditions;

10. Financial and economic analysis and other data and analysis as may reasonably be required by the RPCO and/or PSO/NPCO.

11. Environment Compliance Certificate (ECC) or Certificate of None Coverage (CNC) from DENR whichever is applicable;

12. Environmental and Social Management Plan (ESMP);

13. Primary survey on Displaced Persons and on IPs;

14. Clearance certificate on right-of-way and damages and other clearances and permits as required by concerned regulatory agencies.

In the event that an LGU cannot prepare the FS due to lack of in-house capability or lack of staff, it may contract out such work to service providers. The cost of such shall be to the account of the LGU but shall not be counted as part of the LGU cash equity for the subproject.

The FS report will be reviewed and approved internally within the P/M/CPMIU.

Feasibility outline is attached as annex 2

3.4.4 Subproject Detailed Engineering Preparation

3.4.4.1 Field Surveys

After the approval of the FS, the LGU shall immediately conduct field survey of farm to market roads to cover the following:

1. Traverse and profile surveys are done simultaneously. The exact location/stationing of existing and proposed structures, natural waterways and other physical features like location of quarry site or source of locally available materials are recorded. Establish at least two reference points at

station 0+000 and benchmarks every 500 meters or at location of permanent structures;

2. Cross-section survey follows using the adjusted centerline stations at every 20 meter full stations and cross sections in between full stations for excessive side cut or fill sections. The cross-section line to extend at least 1 meter beyond the roadway limit at locations of natural waterways which are possible sites for cross-drainages. The NGL and design back slope/fore slope should be extended in the cross section drawings until the two line intersects.

3. Topographic survey of bridge/RCBC sites showing creek, river or waterway alignment. Topographic survey shall extend 200 meters upstream and downstream of bridge site and at least 100 meters to the left and right of the river banks;

4. Longitudinal river profile defined by the elevations taken at bridge centerline, 100 meters and 200 meters upstream and downstream. Cross-section of river, creek or waterway at bridge centerline, 100 meters and 200 meters upstream and downstream of bridge site indicating the ordinary water level and maximum flood levels.

5. Geo-technical survey consists of determining the sub-surface soil characteristics. The nature of the soil and its bearing capacity is determined to establish the foundation stability. This is necessary since the structure foundation failures are almost permanent. For instance, the road subgrade CBR values taken from test pits are inputs in the PCCP thickness design. The soil classification of proposed cut sections of the road should be determined during the survey works whether common earth, unclassified soil or solid rock. For bridges, boreholes (SPT) at abutments and location of piers and for spillways and box culverts when field investigation of solid anchors of cut-off walls cannot be physically verified.

6. Hydrologic/hydraulic survey consist of gathering local climatic data such as rainfall, flood marks, catchment area and type of cover, natural and man-made water channels or tributaries which would aid in the determination of the design water velocity, design river discharge, scouring or rate of siltation. It is important to capture the rainfall data over which the effect of climate change has impact on the flood projection.

7. Consideration during field survey should include the following:
    a. Soil classification
    b. Existing and proposed structures.
    c. Existing and design gradients, cut and embankment slopes for FMRs
    d. Issues arising from beneficiary consultations that should have an effect on the design,
    e. Right of way acquisition,
    f. Damage to properties, crops and effect of the subproject to the environment.

g. Location of drainage structures and slope protection structure based from the consultations.

3.4.4.2 Design, Drawings, Specifications

The P/M/C Engineering Office/Agricultural Engineering Office shall proceed with the preparation of detailed design, drawings, specifications, POW and O&M plan once field survey works have been completed.

In the case of new road openings where there are unstable or disturbed slopes, the design shall include appropriate erosion control, slope stabilization and protection measures, as well as the provision of sediment traps on side canals during construction. The design shall also include proper side and cross drainage and mitre drains to prevent flood overflow and soil erosion.

The following Geometrical and Design Specifications and Scheme shall be adopted for the project:

Table 3-3 Geometrical & Design specifications and Scheme for Roads & Bridges

Road Classification (Farm to Market Road)	Geometrical and Design Specifications and Scheme
Pavement Type	Portland Cement Concrete Pavement (PCCP)
Pavement Width	*DPWH DO 112 series of 2019* Minimum of 5-meters for two lanes ✓ Average Daily Traffic (ADT) less than 200: *DPWH DO 15 series of 2020* Minimum of 6.1-meters for two lanes ✓ Average Daily Traffic (ADT) of 200 and above: Note: 200 and above ADT shall be validated by the Project (RPCO/PSO/NPCO) Refer to Annex 12 for the traffic count form and instruction on the conduct of traffic count. DPWH DO 112 series of 2019 and DPWH DO 15 series of 2020 is attached as Appendix M and N.
	Minimum of 200mm (8 inches) (Higher Thickness of pavement may be adopted but shall be verified from pavement design

Pavement Thickness	analysis using AASHTO method as contained in the DPWH Design Guidelines Criteria and Standards considering the latest Annual Average Daily Traffic and Axle Loading).
Distance of weakened plain / contraction joint	4.5 meters
Shoulders	✓ Minimum width of 1.5 meters both sides. ✓ Minimum gravel / base course surfacing. ✓ In road sections with steep slopes prone to water run-off erosion and or prone to flood water over tapping, the shoulder shall be concrete sealed with sufficient miter drains as a climate proofing measure. ✓ Mandatory concreting of shoulders with road gradient above 10%. Limits of the concrete shoulders shall be designed to prevent scouring at shoulders. ✓ The shoulder at the back slope maybe utilized as canal in critical section in mountainous areas with limited space due to massive mountain side/through cutting and as covered canal in sections along fully developed residential areas with permanent structures. ✓ The width of road shoulders may be relaxed to 1.0 meters at critical sections in mountainous areas and in flat terrain areas where the design of the road is elevated due to flooding and in areas where the 1.50 meter shoulder is not possible.
Carriageway Cross Slope	1.5% for PCCP
Shoulder Cross Slope	3% for gravel / base course surfacing
Radius of Horizontal Curve	✓ Minimum of 30 meters. ✓ Existing roads with curve radius less than 30 meters constrained by permanent structures and re-routing is not possible must be treated with PCCP curve widening and appropriate warning signs and barriers.
Length of Tangent between Reverse Curve	Minimum length of 30 meters
Length of vertical curve	Minimum length of 60 meters
Design Speed	30 km/hour for all terrain
Longitudinal Grade	✓ Minimum of 0.5% and maximum of 12% on fill/cut section.

	✓ The maximum grade maybe relaxed in mountainous terrain above 12% to 15% for short distances below 100 meters and above 15% to 18% for short distances below 50 meters.
Side Slope Ratio (H:V)	✓ Cut slope of 1.5:1 to 1:1 for common materials ✓ Cut slope of 0.5:1 to 1:1 for rippable rock ✓ Cut slope of 0.25:1 to 0.5:1 for hard/solid rock ✓ Minimum fill slope of 1.5:1 ✓ Construction of berm for side cuts more than 5 meters height in common and unclassified soil.
Road Drainage	✓ The Drainage Design includes provision of lined canals, earth canals, mitre drains, cross drainages such as RCPC, RCBC, spillway and bridges and storm drainages away from the subproject. ✓ Surface Drainage – design for 2-year flood ✓ Side Drainage and miter drains – design for 5-year flood ✓ Box Culvert – design for 25 - year flood with sufficient freeboard to contain 50-year flood ✓ Pipe Culvert – design for 15-year flood with sufficient freeboard to contain 25-year flood. ✓ Minimum pipe size of 910mm in diameter. ✓ Sufficient cut-off wall depth anchored on solid river bed for the RCBC barrel box and apron for stability. ✓ Use of RCPC concrete cradles at the RCPC connections. ✓ Curve and Gutter directly connected to the PCCP shall have a gutter width not less than 0.5 meters. ✓ Mandatory lining of side drain canals with road gradient above 10% regardless of soil classification. ✓ Geotechnical investigation for box culverts – minimum of 1-meter test pit excavation at river bed. ✓ The option for earth canal is justified if the soil type can resist water scouring. Provide hydraulic analysis to substantiate the designed sizes of drainage structures and this should be validated by way of superimposing at the site location and rule of thumb dictates that there should be no constriction of the natural drainage channels to be safe.
	✓ As Needed ✓ Where the required slope ***is NOT attained*** at cut sections / back slope: ● Side cuts greater than 3 meters in common and unclassified soil shall be provided with slope protection structures designed as retaining wall such

Slope Protection	as grouted riprap, stone masonry, reinforced concrete, crib walls, piles, rock net, shotcrete, gabions, rubble masonry and the like. ● For sides cuts less than 3 meters, it will be the engineer's judgement when to provide slope protection, and it will depend on actual site conditions, design cut, slope stability. soil classification and recovery of sufficient road right of way. ✓ Where the required slope ***is attained*** at cut sections / back slope: ● Sides cuts greater than 3 meters in common and unclassified soil shall be provided with slope protection structure designed as slope stabilization through bio engineering technology such as use of coco-geonets and vertiver grass, hydro-seeding, sprigging, sodding, tree planting and the like. ● Sides cuts less than 3 meters may not be provided with slope protection provided that the required design slope will be attained. ✓ Needed for road embankment more than 1 meter. ✓ In embankment areas below 1 meter in height along rice, corn and sugar areas where agricultural plowing slowly erodes the road shoulder, mandatory provision for slope protection shall be provided. ✓ Needed for flood prone road sections to fully seal/protect the road section from flood water over-tapping including concrete sealing of road shoulders. ✓ All slope protection designed as retaining wall shall be provided with structural design analysis. (Sliding and Overturning).
Road Safety	Refer to DPWH Highway Safety Design Standards, Part 1 and 2, May 2012. Refer to Appendix O and P. Refer to PRDP Road Safety Guidelines. ✓ All road intersections must be developed with at least 1 span applied with PCCP and intersection drainage as needed. Provision of pathway of affected persons due to road widening or restoration of damage access to the household. ✓ Provisions of covered canal cum elevated walkway in highly populated section of the road ✓ Provision of lay by with access path/road for animal and farm implements from road to the farm. (structures for animal and farm machineries or implements as access to

	the farm lots, provide "lay-by" for queuing or stations of threshing equipment). ✓ Provision of a safe lay by or loading and unloading in public zones (e.g. for school children in schools without parking). ✓ Provision of road railings in hazard prone section of the road, wheel guards, inclusion of road junction / intersection design at every point of road intersection (e.g. widening and concreting of at least one span of the transition approaches of the road connected to the subproject and likewise widening of the approaches of carabao sledge trails connected to the subproject for unloading of farm products), provide concrete ramp as access to adjacent houses to the subproject, provide road crossing ✓ provision of road signs, road pavement markings (e.g. crossing lanes along schools) ✓ Covered canal is also required along congested residential areas, schools and others where the shoulder is limited due to permanent structures. ✓ Provisions for road junction and road transition safety designs.
Accessibility Requirements for Persons with Disability	As needed

Table 3-4 Geometrical & Design specifications and Scheme for Bridges

Bridge Structure	Geometrical and Design Specifications and Scheme
Bridges	✓ Permanent structure must be concrete or steel ✓ DPWH DO No. 30 Series of 2011 prescribing concrete structures for short bridges in the following schedule: use flat slab bridge for span length of 6-12 meters; RCDG for span length of 13-20 meters; and PSCG for span length of 21-30 meters. ✓ DPWH DO No. 179 series of 2015 re: DPWH Design Guidelines, Criteria and Standards (DGCS), 2015 Edition (Volume 5 – Bridge Design)
	✓ Structural design based on AASHTO HS15-44, using 0.4g ground acceleration coefficient for seismic analysis and 50-year flood frequency for hydraulic analysis.

Bridge Design	✓ Structural design based on AASHTO HS20-44 / HL 93 live load criteria may be used in the design depending on the current and projected traffic load. ✓ Free board from the maximum flood level to the bottom of the bridge girder shall be 1.50 meters. ✓ The bridge shall be designed by DPWH or structural engineer. ✓ Bridge design of the substructure shall be based on the geotechnical and hydraulic analysis. ✓ The design of the bridge superstructure may be adopted at the DPWH standard design. ✓ The structural analysis shall be signed by DPWH or structural engineer. ✓ Signed geotechnical analysis, hydraulic analysis and structural analysis shall be submitted.
Bridge Carriageway Width	✓ Use 4.6 meters (for 4.0meter PCCP Carriageway width) ✓ Use 5.6 meters (for 5.0 meter PCCP Carriageway width) ✓ Use 6.7 meters (for 6.1 meter PCCP Carriageway width)
Bridge Revetment	✓ Revetment shall be provided at bridge abutments with a maximum length of 50 meters upstream and downstream of the bridge. The length and design of the revetment shall be based as per actual site condition, soil classification of river banks and hydraulic analysis to prevent scouring at bridge abutments and river banks adjacent to the bridge abutments..
Geo-technical Analysis (bridge and overflow structure foundation)	✓ Geo-technical survey consists of determining the sub-surface soil characteristics. The nature of the soil and its bearing capacity is determined to establish the foundation stability. ✓ Soil exploration/soil analysis conducted by third party, the name of company is indicated in the Soil Exploration Report.
Hydraulic Analysis	✓ Hydrologic/hydraulic survey consist of gathering local climatic data such as rainfall, flood marks, catchment area and type of cover, natural and man-made water channels or tributaries which would aid in the determination of the design water velocity, design river discharge, scouring or rate of siltation. ✓ That the design of Bridges shall be 50-year flood with sufficient freeboard of 100-year flood.

Bridge Technical drawing plans.	✓ Shall be signed by DPWH certifying that the plans are in accordance with the minimum requirements of the department or DPWH to provide certification of correctness and consistency of the plans with the hydraulic analysis and structural analysis.

Qualifications of Contractor's Bridge Engineers.

Qualifications of technical personnel for multi-span Bridge Subproject:

- ✓ Project Manager - Licensed Engineer with at least five (5) year managerial experience out of the minimum 15 years of relevant work experience on construction.

- ✓ Project Engineer - Licensed Engineer with at least 10 years of relevant experience in construction works with at least two (2) bridge construction supervised.

- ✓ Materials Engineer - Civil Engineer with at least 5 years of relevant work experience in materials and quality control duly accredited by DPWH.

Qualifications of technical personnel for single span Bridge Subproject:

- ✓ Project Manager – Licensed Engineer with at least 10 years of relevant work experience.

- ✓ Project Engineer – Licensed Engineer with at least 5 years of relevant experience in road and/or bridge construction.

- ✓ Materials Engineer - Civil Engineer with at least 3 years of relevant work in materials and quality control duly accredited by DPWH

Detailed Engineering Design - Technical Drawing Plans of proposed FMR subprojects shall include the following details:

1. Cover page with logo of PRDP SU and LGU, Subproject Name and ID Number (No title blocks and signatories at the cover page);

2. Title blocks – PRDP SU format.

3. Drawing register or table of content;

4. Summary of quantities

5. Location map showing the Philippine map, Provincial map, Municipal/City map and the subproject location;

6. Vicinity map indicating a color-coded Provincial, Municipal, City Barangay and FMR Rationalized Road Network Plan indicating the following:

a. overall existing and proposed rural roads;
b. geotag tracks of the proposed subprojects;
c. road influence area of the proposed SP

7. Parcellary map

8. Straight line diagram

9. General notes;
   a. General and technical specifications, and other construction details
   b. Indicated the Design Specifications, Design Loadings.
   c. Indicated the Construction Notes such as Construction Specifications, Setting Out, Construction Limits, Concrete Mix and Placing, Bar Bending and Cutting, hooks, splices, embedment and concrete covers and notes on the earth works.
   d. Indicated the Legends used and Civil Abbreviations.
   e. Provide notes for the bench marks.

10. Plan and Profile Drawing Plans showing / indication the following;
    a. On a 50 cm x 100 cm half-roll cross-section paper or tracing paper for AutoCAD generated plans;
    b. The scale to accommodate not more than 1 km per sheet.

    Plan Drawings:
    c. North arrow indication
    d. At least two reference points / bench marks at sta. 0+000;
    e. Bench marks at every 500 meters;
    f. Distance, azimuth, elements of curve (horizontal and vertical);
    g. Location of bodies of water and direction of water flow;
    h. Type of existing and proposed drainage structures indicating the direction of water flow.
    i. Type of existing and proposed structures drawn at their station limits.
    j. Connection of the proposed road to the existing road labeling the type and classification of the road.
    k. Road junctions including transition designs.
    l. Labels of all proposed and existing structures.
    m. The scale for traverse plan is 1:1000

    Profile Drawings:
    n. Existing and designed road gradient;
    o. Drainage structures drawn at their invert elevations.
    p. The scale for profile plan is 1:100 for the vertical and 1:1000 for the horizontal;

11. Cross-sections drawings showing / indication the following:
    a. Drawn at full station (20-meter interval) and in between stations for excessive excavation and fill in a 50 cm x 100 cm full cross-section paper or tracing paper for AutoCAD generated plans.

b. The cross section drawings should be drawn starting from the lower left corner of the drawing sheet going up until the sheet column is full and re-start again at the lower bottom going up and so forth.
c. It should show the original cross-section grade line and design road section, computed cut and fill end areas, existing and design elevations, the centerline indicator and superimposed structures with their invert elevations.
d. The NGL and design back slope/fore slope should be extended in the cross section drawings until the two line intersects.
e. All existing and proposed structures to be drawn at their station limits (start and end station).
f. Slope of the back slope and fore slope
g. Soil classifications at cut sections
h. The scale is 1:100;

12. Typical road cross sections on cut and fill and existing PCCP to fresh concrete section;

13. Individual and specific plans and details of proposed structures indicating exact stations with a scale of 1:10 or 1:20;
    a. PCCP, widening blocks
    b. road crossings / junctions and transition designs;
    c. Cross drainage structures (box culverts, pipe culverts, other cross drainage structures);
    d. Side drain structures (earth and lined canals, ditches)
    e. Slope protection structures
    f. Warning Signs, Regulatory Signs, Information signs
    g. Metal Guard Rails
    h. Project Billboard
    i. Other proposed structures.

14. Summary of volumes and quantities
15. Earthwork and structure quantity computation sheets
16. Quantity Table indicating station, area and volume of cut and fill
17. Quantity Table indicating station, Dimension and volume of slope protection structures.
18. Summary of quantities of structures showing area, volume etc of structures. (Drainage schedule, Schedule of RCPC, Bar Schedule (Box culvert), Road Signage Schedule, Others)

Detailed Engineering Design - Technical Drawing Plans of proposed Bridge subprojects shall include the following:

1. Cover page with logo of PRDP SU and LGU, Subproject Name and ID Number (No title blocks and signatories at the cover page)

2. Title blocks – PRDP SU format.

3. Location map showing the Philippine map, Provincial map, Municipal/City map and the subproject location;

4. Vicinity map indicating a color-coded Provincial, Municipal, City Barangay and FMR Rationalized Road Network Plan indicating the following:
   a. overall existing and proposed rural roads;
   b. geotag tracks of the proposed subprojects; and
   c. road influence area of the proposed SP.

5. Topographic map of bridge site showing creek or waterway alignment and location of proposed bridge. Topographic survey shall extend 200 meters upstream and downstream of bridge and at least 100 meters to the left and right river banks. The scale is 1:50,000 with contour interval of 0.5 meter to 1 meter;

6. Longitudinal river profile extended 200 meters upstream and downstream;

7. River cross-section at 100 meters and 200 meters from upstream and downstream indicating the ordinary and high flood levels and cross-section lines extended 100 meters from left and right side of the river banks;

8. General notes
   a. General and technical specifications, and other construction details
   b. Indicated the Design Specifications, Design Loadings.
   c. Indicated the Construction Notes such as Construction Specifications, Setting Out, Construction Limits, Concrete Mix and Placing, Bar Bending and Cutting, hooks, splices, embedment and concrete covers and notes on the earth works.
   d. Indicated the Legends used and Civil Abbreviations
   e. Concrete pouring sequence
   f. Notes on the bench marks for both abutments.

9. Bridge plan and elevation (longitudinal and transverse) superimposed over the river cross-section with the ordinary and high flood elevations. It shows the details of the abutment, protection works, type of footing and its elevations, superimposed bore log data using the same bridge elevation reference;

10. Plan and elevation of bridge structures including spot details with scale of 1:10 or 1:20.
    a. Deck Slab - Indicating the carriageway, Longitudinal and transverse cross section showing the reinforcements of slab and tabulated reinforcement schedule.
    b. Girders - Girder detail at support and middle span showing reinforcement and tendons, Cross section showing the end diaphragm and intermediate diaphragm with blow up section and tabulated reinforcement schedule.
    c. Side walk - Sidewalk detail showing the reinforcements and the storm drain pipe and tabulated reinforcement schedule.

d. Bearing Pads
e. Expansion Joints
f. Approach Slab
g. Piles
h. Abutment plan with half of it showing dimensions and the other half showing the reinforcements at support and middle span with complete bar bending diagram and tabulated reinforcement schedule.
i. Wing wall
j. Back Wall
k. Slope Protection
l. Other bridge structures

11. Summary of volumes and quantities

12. Earthwork and structure quantity schedule sheets

13. Quantity Table indicating station, area and volume of cut and fill

14. Quantity Table indicating station / Location, Dimension and volume of slope protection structures.

15. Summary of quantities: Tabulated summary of quantities showing volume and dimensions of bridge structures

16. Reinforcement Schedule and Estimated Quantities of Sub- Structure (Abutment)

17. Reinforcement Schedule and Estimated Quantities of Super Structure (Deck Slab, Diaphragm and Girder, Railings, Approach Slab)

3.4.4.3 Program of Works (POW)

The Program of Work (POW) presentation generally follows the following outline:

1. General Information
   a. Name of Subproject – usually named relative to the location (eg. barangay name at start and end stations)
   b. Location of Subproject – sitio, barangay, municipal, provincial
   c. Subproject Category – rehabilitation (for existing) or construction (for new opening)
   d. Project Duration – in calendar days as computed and adjusted to include Sundays and holidays and estimates for unworkable days due to inclement weather condition
   e. Implementation Mode – by contract
   f. Subproject Appropriation per funding source (WB-LP, GOP, LGU)
   g. Physical Targets
   h. List of Minimum Equipment and Manpower Needed for the Contract (refer to manpower and equipment utilization schedule). Specify the minimum

number and equipment specifications to include information whether owned or leased on a 30%-70% allocation, wherein for each equipment classification, i.e. heavy equipment (e.g. batching plant, road grader, road roller, pay loader, back hoe, stake truck) and secondary equipment (e.g. transit mixer, dump trucks, water truck), a minimum of 30% should be owned and 70% could be leased.

i. Technical Personnel:
Technical personnel requirement for the contractor during project implementation.
   1) Project Manager
      - ✓ Project Manager is required for subprojects with an EPC of 50 million and above.
      - ✓ Project Manager is also required for highly technical subprojects such as Bridge, Cold Storage Facilities and the like.
   2) Project Engineer
      - ✓ Project Engineer is a must requirement for all types of subproject
      - ✓ Two Project Engineer is required for FMR with a length of 10 kms.
      - ✓ For FMR with bridge subprojects, one (1) Project Engineer shall be required for the FMR and one (1) Project Engineer for the Bridge.
   3) Geodetic Engineer / Surveyor
      - ✓ Geodetic Engineer / Surveyor shall be required in all FMR and Bridge subprojects
   4) Specialized Engineers
      - ✓ For highly technical Value Chain Rural Infrastructures like cold storage building / facility, specialized engineers shall be required to the contractor. (Electrical, Mechanical, Sanitary)
   5) Safety Officer
      - ✓ The safety officer shall be mandatory in all subproject as required by Department of Labor and Employment (DOLE).

2. Summary of Cost
   a. Summary of Item Cost or Direct Cost– summary cost of materials, skilled and unskilled labor and equipment rental cost
   b. Summary of Estimated Project Cost – direct cost plus indirect cost showing the charging or cost sharing among WB-LP, GOP and LGU.

3. Approval Sheet – the POW will be prepared by the Provincial / Municipal / City Engineering office, Check and Reviewed by the Provincial / Municipal / City Engineer, Recommending Approval by the P/M/CPMIU Head and Approved by the Local Chief Executive.

The detailed estimate presentation format will also follow the following outline per item of work:

1. Volume Computation – in excel format, tabulate the dimensions with labels and indicate formula used in the volume or quantity computation.

2. Derivation of Materials Quantity and Cost– specify specifications and factors used or direct counting based on the plan. The normal cost for materials include hardware price or pick-up price and the cost of delivery or hauling to the project site. Derivation of hauling cost is required using time spotting in the absence of established delivery/hauling rates.

3. Derivation of Number of Equipment and Cost – use the PRDP Scale Up provided productivity rates and rental rates. Rental rates will be based on ACEL 2014 in combination with its Edition 26 Equipment Guide Book or use locally legislated rental rates if restricted. To be presented are: the bare or operated rental rates to include cost for fuel, oil and lubricants, operators and maintenance.

4. Derivation of Labor Cost – use the PRDP Scale Up labor productivity rates (individual or gang output) and adopt the regional labor wage board rates in the locality or locally legislated labor rates when restricted.

5. Summary of Item Cost – materials, skilled and unskilled labor, equipment rental cost. Shown in the summary sheet is the item unit cost.

6. Project Duration:
   - ✓ The project duration is based on the number of days accrued or as derived based on the number of equipment to do the work for equipment operated items of works and from the duration as derived from labor based-equipment supported items of works. The project duration is the total number of days defined by the critical path in the PERT-CPM / PDM or bar chart and S-Curve and adjusted to include the accumulated Sundays, holidays and target / pre-determined unworkable days due to inclement weather condition.
   - ✓ Pre-determined unworkable days due to inclement weather condition is the number of days projected to be unworkable due to inclement weather condition based on monthly historical experiences of the Proponent LGUs on the frequency of typhoons and other local weather disturbances within the planned implementation period. This means that the exposure of its SP from inclement weather condition varies from LGU to LGU and region to region and this has to be determined monthly.

POW of proposed bridge and FMR subprojects shall include the following details:

1. POW Summary. POW Format.
2. Derivation of work item unit costs / Detailed Unit Price Analysis (DUPA); PRDP SU Format.
3. Manpower and equipment utilization schedule;
4. PERT/CPM, Gantt chart or Precedence Diagram Method (PDM);

5. Quality Plan, Inspection and Test Plan and Minimum Materials Testing Requirement;
6. Overall cash flow and current year monthly cash flow and S-curve (for subprojects of more than 1-year duration); and
7. Operation and maintenance plan.

Refer to appendix L for the PDM Principles and Application Handbook

Reference shall be made to DPWH Standard Specifications for Highways, Bridges and Airports (Vol. II) 2015 edition when the general and/or technical specifications do not expressly provide guidance. In both detailed design and construction, sound engineering practices shall be observed.

3.4.5 Review, Evaluation and Approval

The detailed FS, DED, POW, O&M plan, Bid Documents and safeguards documents prepared by the LGU shall be submitted to the DA RPCO for review.

The RPCO then reviews or evaluates the FS report submitted by the LGU. RPCO, PSO and NPCO through the JTR reviews the submitted documents as per review threshold with inputs from the conduct field visits or subproject appraisal. A Subproject Appraisal Report (SPAR) will be prepared by upon completion of field visit and evaluation. The subprojects are then scheduled by the RPCO for deliberation and approval by the RPAB when all clearances are provided by the review team.

Upon approval by the RPAB, the RPCO, PSO and NPCO will issue the NOL-1 depending on the threshold. RPCO to instructs the LGU to proceed with the procurement preparation for subprojects approved by the RPAB and duly issued with NOL-1.

For subprojects that needs WB review, All clearances from the review team shall be provided to the subproject prior to the WB review

The subproject review, evaluation and approval must be anchored on the viability indicators set by the Project in the market study, technical study, economic study, institutional/organizational study, social and environmental study. Details of the viability indicators are also listed in the eligibility and selection criteria.

3.4.6 Conditions for Fund Release

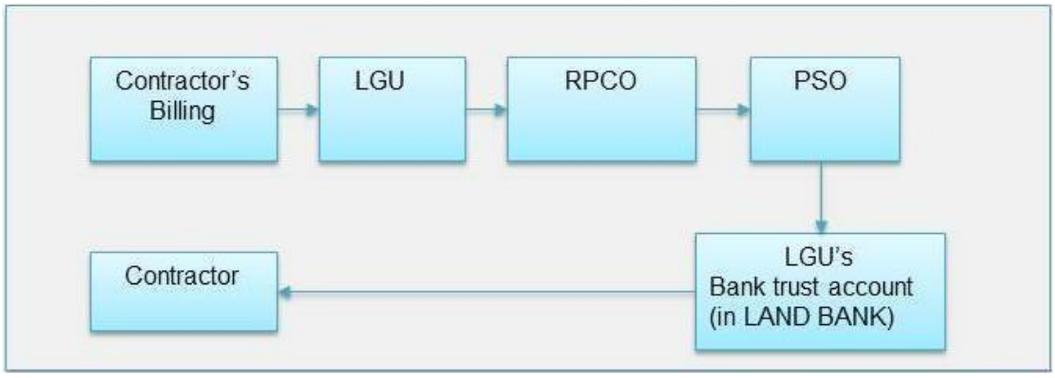
The processing of fund releases will happen after the SPs had been bid-out with favorable review of the bid evaluation reports by the RPCO, PSO, NPCO and WB for those needing NOL.

The required documents are detailed in the General Financial Management Arrangement for mobilization and progress payment.

All claims with supporting documents shall be prepared by the LGU, signed by the authorized LGU Officials. The RPCO shall then forward a recommendation to PSO to allow the Land Bank of the Philippines (LBP) to release payments accordingly.

Release of funds/payments to the contractor will generally be as follows (Fig 3-1):

Figure 3-1 Overview – Release of Funds/Payment to Contractor



3.5 Subproject Execution, Completion and Turnover

3.5.1 Implementation Structure

The implementation set-up shall be as described under Organizational Structure, Functional Responsibilities and Implementation Arrangements in Part II. The LGU shall make use of its existing manpower while additional support staff may be hired and the cost of which shall be fully charge to the account of the LGU.

Overall coordination of the implementation of FMR subprojects shall be the responsibility of the NPCO at the national level, PSO at the island cluster-wide project level and the RPCO at the regional level. Overall management at the LGU level shall be the responsibility of the Provincial/Municipal/City Project Management and Implementing Unit (P/M/CPMIU).

3.5.2 Implementation Mode

The provisions under General Implementation Arrangement in Part II shall be observed in the implementation of FMR subprojects.

In support of the national government's employment generation project, Labor Based Equipment Supported (LB/ES) methods of construction and maintenance of rural infrastructure shall be adopted whenever possible. Adoption of such method shall satisfy the following conditions:

a. LB/ES cost shall not be higher by more than ten per cent (10%) of the Equipment Based (EB) cost;

b. LB/ES project duration shall not be longer by more than fifty (50) percent of the EB duration.

c. Employment of local workers shall not unduly impair agricultural production;

d. Technical quality shall be maintained;

e. As far as practicable, eighty (80) percent of the labor force shall be taken from the partner-community. Hence, beneficiaries within the community shall be given first priority in the selection of labor force;

f. Women shall be given equal opportunity to join the labor force.

Ten (10) days prior to the actual recruitment date, the contractor shall inform the LGU of its plan to conduct the recruitment of labor force. The PEO, through the assigned Project Engineer, shall disseminate the information to the community five (5) days prior to the recruitment date. The PEO Project Engineer shall be included in the contractor's recruitment unit. The existing implementing guidelines on LB/ES method of construction of MRDP shall continue to be enforced.

3.5.3 Procurement

Procurement for rural road and bridge subprojects shall conform to Republic Act 9184 (the Government Procurement Reform Act) in general. Bidding procedures in particular shall be in accordance with the Philippine Bidding Documents (as harmonized with Asian Development Bank, Japan Bank for International Cooperation, and World Bank).

During the bidding process, the technical drawing plans to be issued to bidders shall be the hard bound copies of the duly approved and signed plans with No Objection from the Project (NPCO/PSO/RPCO) depending on the threshold. Sell of electronic copy of the plan should not be permitted.

Refer to the Operations Manual of the Procurement Unit on the detailed application of the procurement guidelines in relation to the IBUILD subproject development cycle.

3.5.4 Supervision and Monitoring

Daily supervision of subproject implementation shall be the responsibility of the Project Engineer (PE) of the contractor. Second level of project supervision and monitoring comes from the PEO, MEO or the CEO where the SP is located. He shall see to it that during the mobilization of the contractor at the project site, the contractor shall install a subproject signboard indicating the project title, the name of the implementing and executing agencies, subproject title, physical target, contract

amount, duration of construction, name of contractor and other pertinent contract details based on COA circular no 2013-004 dated 30 January 2013

The contractor's PE shall also ensure that all works are done according to approved plans/drawings and specifications and timelines.

3.5.5 Quality Assurance and Control

The Infrastructure Quality Monitoring and Durability System is in place to guide the Project how to ensure quality assurance and control for all subprojects. A Quality Plan (QP), Inspection and Test Plan (ITP) and Minimum Materials Testing Requirement (MMTR) Plan will be prepared per subproject as the blue print in undertaking quality assurance and control by the contractor, P/M/CPMIU, RPCO, PSO and NPCO.

The quality control procedures shall be done according to the schedule of minimum test requirements as adopted by the DPWH.

Table 3-5. Minimum Test Requirements for Rural Roads and Bridges for some Selected Items

Items of Work		**Minimum Test Requirements**
Item No.	**Description**	
I. EARTHWORKS		
Item 100	Clearing and grubbing	None
Item 101	Removal of structures and obstructions	None
Item 102	Excavation	✓ Same tests as for items 103, 104 and 105 whichever is applicable.
Item 103	Structure excavation if excavation materials are incorporated into the work.	✓ For every 1,500 cu.m. or fraction thereof: ● 1-G, Grading test ● 1-P, Plasticity test (LL, PL, PI) ● 1-C, Laboratory Compaction test ● For every 150 mm layer in uncompacted depth: ● 1-D, Field Density Test.

Item 104	Embankment	✓ For every 1,500 cu.m. or fraction thereof: ✓ Same as in item 103. ✓ For every 500 sq.m. of each layer compacted fill or fraction thereof, at least one group of three (3) in-situ tests. Layers shall be placed not exceeding 200 mm in loose measurement.
Item 105	Subgrade preparation	✓ Same in-situ tests as in item 104.
II. SUBBASE and BASE COURSE		
Item 200	Aggregate sub-base course	✓ For every 300 cu.m. or fraction thereof: ● 1-G, Grading test ● 1-P, Plasticity test (LL,PL, PI) ✓ For every 1,500 cu.m. or fraction thereof: ● 1-C, Laboratory Compaction test For every layer of 150 mm of compacted depth, at least one group of three (3) in-situ density tests for each 500 sq.m. or fraction thereof.
Item 201	Aggregate base course	✓ Same tests as for item 200, plus ● 1-Q, Quality test for grading, plasticity and abrasion for every 1,500 cu.m. or fraction thereof.
III. SURFACE COURSE		
Item 301	Bituminous Prime Coat	✓ Quantity: 1-2 liters/sq.m. ● 1-Q, Quality test for every 40 tons or 200 drums
Item 310	Bituminous Concrete surface course, hot-laid	A. Aggregates ✓ For every 75 cu.m. or fraction thereof: ● 1-G, Grading test ● 1-P, Plasticity test (LL, PL, PI) For every 1,500 cu.m.

		● 1-Q, Quality test for grading, plasticity, abrasion, stripping and bulk specific gravity ● 1-F, Fractured surface B. Bituminous Materials ✓ Quantity: 5 to 8 mass % of total dry Aggregates ● 1-Q, Quality test for each 40 tons or fraction thereof. C. Mix ✓ For every 75 cu.m. or fraction thereof: ● 1-G, Grading test 1-Ext., Extraction ● 1-Sty., Stability test ● 1-C, Laboratory Compaction test D. Hydrated Lime ✓ For every 100 tons or fraction thereof: 1-Q, Quality test E. Mineral filter ✓ For every 75 cu.m. or fraction thereof: ● 1-G, Grading test ● 1-P Plasticity test (LL, PL, PI) F. Compacted pavement ✓ For each full day's operation: ● D and T (Density and Thickness tests), at least one (1) but not more than three (3) samples shall be taken.
Item 311	PCCP - Portland Cement Concrete Pavement	A. Cement ✓ Quality, 9.00 bags m3 (40 kg/bag) For every 2000 bags of fraction thereof: ● 1-Q, Quality Test B. B. Fine Aggregate

		Quantity: ✓ 0.50 m3/m3 concrete (if rounded coarse aggregate is used) ✓ 0.54 m3/m 3concrete (if regular coarse aggregate is used) ✓ For every 1500m3 or fraction thereof: ✓ For a source not yet tested, or failed in previous quality test: ● 1-Q, Quality Test for; Grading, Elutriation(Wash), bulk Specific Gravity, Absorption Mortar Strength, Soundness, Organic Impurities, Unit Weight, % Clay Dumps and Shale. ✓ For a source previously tested and passed quality test: ● 1-Q. Quality Test for: Grading ✓ Elutriation (wash), Bulk specific Gravity, Absorption Mortar Strength. ✓ For every 75 cu.m. or fraction thereof: 1-G, Grading Test. C. Coarse Aggregate Quantity: ✓ 0.77 cu.m./cu.m. concrete (if rounded coarse aggregate is used) ✓ 0.68 cu.m/cu.m. concrete (if angular coarse aggregate is used) ✓ For every 1500 cu.m. or fraction thereof: ✓ For a source previously tested and passed quality Test (s): ● 1-Q, Quality Test for: Grading, Bulk, Specific Gravity, Absorption, Abrasion, Soundness and Unit Weight ✓ For a source previously tested and passed quality test: ● 1-Q. Quality Test for: Grading, Bulk Specific Gravity, Absorption and Abrasion ✓ For every 75 cu.m. or fraction thereof: ● 1-G, Grading Test

		D. Water ✓ 1-Certificate from Project Engineer or 1-Q, Quality Test if source is questionable. E. Joint Filler ✓ Poured Joint Filler ● 1-Q, Quality Test on each type of ingredient for each shipment. ✓ Pre-molded Joint Filler ● 1-Q, Quality Test on each thickness of filler for each shipment F. Special Curing Agents ● 1-Q, Quality Test for each shipment G. Steel Bars ✓ For every 10,000 kg. or fraction thereof for each size ● 1-Q, Quality Test for Bending, tension and Chemical Analysis H. Concrete ✓ Flexural Strength Test on Concrete Beam Sample 1 set consisting of 3 beam samples shall represent a 330 sq.m of pavement, 230 mm depth of fraction thereof placed each day. Volume of concrete not more than 75 cu.m. I. Completed Pavement ✓ Thickness determination by concrete core drilling a lot basis Five (5) holes per km. per lane five (5) holes per 500 m when 2 lanes are poured concurrently.
IV. STRUCTURES		
Item 404	Reinforcing steel	Certification from supplier will suffice

Item 405	Structural concrete (for major structures only: concrete pavement, bridge super-structure and sub- structure)	✓ For every 75 cu.m. or fraction thereof of fine coarse aggregates: ● 1-G, Grading test ✓ For every 75 cu.m. or fraction thereof of concrete mix: ✓ Compressive strength test on 1-set of three (3) concrete cylinder samples.

Monthly reports on materials quality control shall be accomplished and submitted according to the forms provided with geotag photos confirming the actual test.

3.5.6 Time Control

The project duration stated in the contract is understood to be in calendar days. To determine whether the contract is incurring liquidated damages is simply deducting the target completion date or revised completion date (from approved suspension orders) from the official start date and the result should be equal or lesser than the approved contract duration to be on track else the delay in days are subjected to liquidated damages. Therefore, at any given point, the PE must be able to manage the work by instituting catch-up plans by way of manpower and equipment augmentation, overtime, simultaneous work items scheduling and revisions of construction methodology.

However, during the implementation within the contract period, a negative slippage beyond 15% is ground for contract termination which is simply deducting the actual physical percentage accomplishment from the plan physical percentage accomplishment. A negative sign connotes negative slippage.

A "Three Strike" rule for unsatisfactory performance under the project should be strictly implemented. The first warning should be given by the P/M/CPMIU when there is a 5% negative slippage, and this should require the submission of a catch up plan (there should be only one catch up plan, unless there are uncontrolled circumstances) to ensure completion of the subproject on time. Subsequent warnings will be issued if the contractor fails to comply with the catch up plan. If a 10% slippage occurs, the P/M/CPMIU will be reminded that PRDP SU funding support will be withdrawn if slippage exceeds 15%. If three warnings have been issued (regardless of percentage between 5 and 15) and 15% slippage occurs, the P/M/CPMIU will be advised that the process of withdrawal of PRDP SU funding for the subproject has been triggered.

Monthly physical progress report shall be accomplished by the M/C/Provincial Engineer and submitted for evaluation and basis of actions to be undertaken by the Project.

3.5.7 Cost Control

The premise of the budget estimate as attached to the final FS is an outcome of detailed engineering survey and detailed engineering design and therefore the estimated project cost for the contract is deemed not largely affected by variation orders.

Additional costs arising from variation or change orders above the contract project cost shall be borne by the proponent LGUs. It may be cost shared if the variation order is initiated by the Project due to the implementation of emerging government policies and design adjustments due to current site conditions and will be dependent on the availability of funds from the project. Any additional cost as a result of the bidding will also be cost shared. Any change in scope or cost, it will be subject for concurrence or issuance of no objection letter by the RPCO/PSO/NPCO based on the review threshold of each office in the issuance of No Objection Letter (NOL).

3.5.8 Monitoring, Evaluation and Reporting

Monitoring, evaluation and reporting of the progress of rural roads and bridges construction will be the main responsibility of the respective LGU.

Periodic reports shall include but not limited to the following:

1. Narrative report;
2. Subproject site inspection report;
3. Monthly physical progress report (S-curve);
4. Monthly financial status report;
5. Monthly weather report;
6. Institutional development report;
7. Subproject status report.

The LGU shall furnish copies of reports to the RPCO, who shall conduct site visits from time to time.

In addition, the DA and DOF (together with World Bank representatives) shall at any time send supervision missions to the municipality/city/province to monitor and evaluate the progress and status of the implementation and management of the subproject. The findings of these supervision missions shall be contained in an Aide Memoire which will be forwarded to the DA.

3.5.9 Progress Billing, Completion and Turnover

The contractor shall be allowed to do monthly progress billings in the course of the construction without a ceiling on the percentage of accomplishment.

His request for payment shall include:

1. the Statement of Work Accomplishment (SWA) – i.e., indicated are the itemized activities together with the corresponding percentage of work accomplished for each and the equivalent amount in Philippine pesos. The SWA shall be supported by the detailed volume computation, and quality control test results. The JIT shall validate the correct accomplishment duly covered with materials and field test results; and

2. geo-tagged progress pictures taken before, during and after construction of specific segments of civil works representing the billed quantity.

3. other financial documents detailed in the FMS manual.

For Progress Billing:

The Joint Inspectorate Team (JIT) shall inspect and validate to the correctness of the portions of work being claimed to have been accomplished in the progress billing. The JIT is composed of the LGU Engineer, Head of the PPMIU, RPCO Engineers, GGU and Safeguard Officer or Specialist. CSO representatives are invited to join the inspection.

For Final Billing at 100% Completion:

A completion report shall be prepared by the PEO/MEO/CEO immediately upon receipt of notice from the contractor that the work has been fully completed. Aside from the other standard documents, the notice shall have the following attachments:

1. a brief description of the components and specifications of the completed subproject;

2. geo-tagged pictures taken before, during and after construction of specific segments of civil works. The pictures shall include permanent landmarks in the background of the subproject such as houses, buildings and big trees. The same photo angle for the before, during and after implementation of the portions of the work.

3. The final SWA shall be validated by both the LGU Inspectorate Team as well as the JIT of the Project.

The composition of the LGU Inspectorate Team will follow the existing structure or set-up per LGU.

The general flow of subproject completion and turnover shall be as follows:

1. Contractor notifies the P/M/CEO of contract completion;

2. P/M/CEO conducts field inspection, evaluates completed subproject and prepares a completion report with recommendations to the Inspectorate team;

3. The inspection teams conduct site inspection, prepare the final inspection report;

Note: The final completion report shall include a certificate of completion from the P/M/CEO, concurred by the Local Chief Executive, that the subproject has been completed in accordance with approved plans/drawings and specifications.

Any deviation shall be reflected on the "as-built" drawings which shall be prepared and attached accordingly for submission to RPCO and PSO. If there are no deviations from the approved drawings and specifications, the originals of the approved drawings shall be reproduced and signed by the Contractor and stamped with "ASBUILT" markings.

1. The contractor turn-over possession of site to the LGU and LGU accepts possession of the site and thereafter starts the proper operation maintenance of the road. However, the final acceptance takes effect after the one year defects liability period;

In turn, a subproject turn-over certificate from DA to the LGU will be duly signed by the Local Chief Executive and the DA RFU-RED.

Partial turn-over of completed sections of FMR sub-projects under implementation is allowed as it is advantageous to the contracting parties. The contractor will be relieved earlier of its obligation under the warranty period if possession of site of the completed section of the FMR is turned-over earlier to the LGU. Likewise, the LGU as the contracting party together with the end users will have full access to the turned over section of the FMR thereby accelerating the flow of immediate benefits to all users of the FMR completed segment.
However, partial turnover of completed section of the road is applicable if it can satisfy the following conditions:

1. The length of the FMR is above 15 kilometers. *(FMR with length of less than 15 km. but comprises of road segment/sections A….nth, partial turn-over could be considered subject to justification by the proponent);*
2. The total FMR length is composed of road segments with different entrance and exit;
3. The road segment can be monitored separately in terms of item quantities so that the overall quantities could not be exceeded;
4. The quantification of each segment under item 3 could be sanctioned through a supplemental agreement or approval of the contracting parties of the segment's quantification and with prior consent from the local resident auditor of the scheme to facilitate final inspection and technical audit once completed;

5. The provisions of the general conditions of the contract on completion, turnover and warranty period shall apply to the completed road segment or section;
6. The Project policy on progress payment at final completion of the whole contract remains.
7. The defects liability period takes effect upon issuance of the certificate of completion by the LGU and the certificate of final acceptance to be issued after one year and after rectification of the contractor of any identified and issued defects by the LGU.

3.6 Subproject Operation and Maintenance

It is the responsibility of the LGU to maintain the SP for a period of at least 10 years. The LGUs' track record in maintaining their previous DA financed roads will be a basis for giving them more investments. Conversely, further investments in those LGUs that have unsatisfactory performance in the operation and maintenance of their completed subprojects shall be put on hold until they draw up and implement a satisfactory operation and maintenance plan.

The same policy will hold true for all participating LGUs in the ensuing years. Any LGU that has a previously failed/severe operation and maintenance rating of its rehabilitated or constructed road shall not be eligible for further investments from PRDP SU until it properly maintains such road.

Compliance with the O&M plan shall be regularly checked through annual O&M audit to be conducted by the ROMAT. To assist LGUs comply with this commitment, the project will provide technical training assistance in the routine maintenance of rural roads.

Labor based-equipment supported (LB/ES) method of maintenance shall be recommended for the completed facilities if viable. The LGU shall make use of the community as contractor adopting the "length-man system" where maintenance work is carried out by the people living along the roads to be maintained.

Inspection visits on maintenance work shall be made by the PEO on a regular basis and payments shall be made promptly on the dates specified in the agreement.

Details of the operation, maintenance and ***road safety*** of access road is contained in the IBUILD Operation and Maintenance Manual.

3.7 "RASIX" for Rural Roads

As a quick reference called "RASIX" (Annex 41) defines who does what, or who is RESPONSIBLE, who APPROVES, who SUPPORTS, and who should be INFORMED of actions taken – along the subproject development stages from SP identification, preparation, implementation until operation and maintenance.

4.0 Irrigation System

4.1 Scope

The irrigation sub-component shall support the following:

1. Construction / Rehabilitation / improvement of existing communal irrigation systems (CIS);

2. Construction / Rehabilitation and construction of small water impounding project (SWIP)

3. Small scale irrigation project (SSIP) such as:
    a. shallow tube wells,
    b. small (river) water impounding project
    c. diversion dam
    d. drip irrigation system
    e. Solar powered irrigation system
    f. Ram pump irrigation system
    g. Spring development irrigation system

4. Construction of solar driers, warehouse-cum-irrigators' association office, and access roads to and within the irrigable area, which may be incorporated in the design of (1) and (2) above as the designers see fit. The technical considerations for any appended access roads shall follow those of Rural Roads, Part III of this manual, and for any appended warehouse, those of "Value Chain Rural Infrastructure," Part VI of this manual.

4.2 Financing Scheme

Cost sharing scheme for all subproject type:

The cost sharing between the National Government (NG) and the LGUs shall be as follows:

- ✓ 90 % - to be financed by the National Government in the form of grant (80% WB Loan Proceeds and 10% GOP) based on the Estimated Project Cost (EPC) for subproject to be approved (NOL 1) in the year 2023-2024;

- ✓ Calibrated equity contribution to be financed by the National Government in the form of grant based on the Estimated Project Cost (EPC) for subproject to be approved (NOL 1) in the year 2025-2028;

- ✓ 10% - equity contribution of the LGU in cash based on the Estimated Project Cost (EPC) for subprojects to be approved in the year 2023-2024;

- ✓ Calibrated equity contribution of the LGU in cash based on the Estimated Project Cost (EPC) for subproject to be approved (NOL 1) in the year 2025-

2028. LGUs calibrated equity contribution will be based from the LGUs income classification;

Refer to Table 3-1 for the Cost Sharing scheme for all IBUILD subproject type

The cost sharing scheme is the maximum limit LP and GOP. The percentage of LP and GOP will be lowered when the variation order is fully shouldered by the LGU.

The estimated project cost (EPC) for PRDP Scale Up will follow the provisions of DPWH D.O. No. 197 Series of 2016 (Revised Guidelines in the Preparation of Approved Budget for the Contract (ABC) except for the VAT component. The project will use 12% VAT as stated at the Regulations No. 13-2018, the Regulations Implementing the Value-Added Tax Provisions under the Republic Act (RA) No. 10963, or the "Tax Reform for Acceleration and Inclusion (TRAIN)," Further Amending Revenue Regulations (RR) No. 16-2005 (Consolidated Value-Added Tax Regulations of 2005), as Amended.

For Irrigation, all item of work to be used in preparing the EPC shall conform to the DPWH Standard Specifications for Highways and Bridges, revised 2015, Volume 2, Standard Specifications for Public Works Vol 3, 2019, latest edition of the DPWH Blue Book, NIA Technical Specifications and approved Special Specifications for the Project.

The Project shall adopt the DPWH DO No. 136 series of 2022 "Revised Construction Safety Guidelines for the Implementation of Infrastructure Projects During the COVID-19 Public Health Crisis, Superseding Department Order Nos. 39 Series of 2020 and 30, Series of 2021 and future amendments thereto to prevent the spread of Covid-19. The cost required for additional PPEs, thermometer, disinfectants, footbath, washing stations, vitamins etc. shall be included in the POW in addition to items not included in DOLE D.O. 13.

EPC Computation includes the following: (EPC = DC + IDC)

a. Direct Cost (DC):

   - ✓ Materials Cost [cost at source (includes local taxes, processing, crushing, stockpiling, loading, royalties, construction and/or maintenance of haul roads), expenses for hauling, handling, storage, and allowances for waste and losses (not to exceed 5% of material requirement)]

   - ✓ Labor Cost (salaries and wages, as authorized by DOLE regional wage board or locally legislated rates).

   - ✓ Equipment Expenses (rental of equipment based on prevailing 2014 ACEL rates or locally legislated rental rates).

b. Indirect Cost (IDC):

- ✓ Overhead, Contingencies and Miscellaneous (OCM): 8-15% of DC
  - ✓ Overhead Expenses, 7-11% [engineering and administrative supervision, transportation allowances, office expenses, CARI, and financing cost (bid security, performance security and warranty)].
  - ✓ Contingencies, 0.5-3% [expenses for meetings, coordination with other stake holders, stages during ground breaking, inauguration ceremonies, other unforeseen events and billboards (excluding Project Billboard which is a pay item under the General Requirement)]
  - ✓ Miscellaneous Expenses, 0.5-1% (laboratory tests for quality control and plan preparation)

- ✓ Contractor's Profit (CP): 8-10% of DC

- ✓ VAT Component: 12% of (DC+OCM+CP)

Refer to Table 3-2 for the Indirect Cost Factors for Subprojects

The following items shall not be subjected to OCM and profit mark-up:

- ✓ Mobilization and Demobilization
- ✓ Provision of Service Vehicle

The following non-civil work items shall not be subjected to OCM mark-up:

- ✓ Field /Laboratory Office & Living Quarters (Rental Basis)
- ✓ Furnishing of Furniture, Laboratory Equipment, Survey Equipment and Consumables
- ✓ Assistance to Engineers
- ✓ Photographs
- ✓ Health and Safety
- ✓ Traffic Management
- ✓ Environmental Compliance
- ✓ Communication Equipment, etc.

In all cases, estimates for special items of work (SPL) should be accompanied with plans and specifications, methods of construction, measurements and basis of payments duly approved by the head of the implementing office. Annex 46 describes the technical specifications for commonly used SPL items.

4.3 Selection Criteria

In addition to the selection criteria for all types of subprojects enumerated under Identification and Prioritization Criteria in Part II, all proposed irrigation subprojects shall meet the following selection criteria:

1. The LGU and intended beneficiaries / Irrigators Association (IA) have concurred with the funding of irrigation subproject under PRDP Scale Up.

2. The proposed subproject is not funded by other government agencies or NGOs, etc.

3. If 20% of land covered by the subproject is still eligible for redistribution under the land reform project, the emancipation patents should have been issued.

4. The subproject serves at least 20 farmers.

5. The average farm size in the subproject shall not exceed three (3) hectares.

6. The expected cropping intensity is 180 percent for all types of irrigation services.

7. There are no problems with salinity, mine tailings and other pollutants.

8. The service area has soil and land slopes suitable for the proposed irrigated crops.

9. For existing CIS under NIA, the NIA does not pose any objection to the proposed rehabilitation works.

10. The indicative unit cost of irrigation system is be PhP 300,000/ha

11. Proposed subproject shall generate an Economic Internal Rate of Return (EIRR) of at least 10% with a positive Economic Net Present Value (ENPV) and a Benefit-Cost Ratio (BCR) greater than 1

12. There are no problems with right-of-way (ROW) acquisitions.

13. For new construction: the source of water shall meet the quality standard for irrigation, i.e., minimum silt content and absence of water-borne diseases (schistosomiasis, malaria, etc.); damage/disturbance to ecologically significant flora and fauna shall be minimal; and intake point or diversion shall be outside protected areas or critical watersheds.

14. Where new construction encroaches on areas with IPs/lands with Ancestral Domain Claims, the free and prior informed consultation or free and prior informed consent (FPIC) respectively of the IPs must be obtained through the NCIP.

15. The SSIP description, proposed beneficiary indicative unit cost of SSIP construction and rehabilitation per hectare per type of project:

    a. Spring Development - consist of concrete storage tank or intake structure and polyethylene (PE) pipes or concrete canal for distribution by gravity.
        - ✓ Coverage area – With a minimum of 1.0-hectare production area

- ✓ Qualified beneficiaries /Proponent – Group of 3-5 farmers with a minimum of 3.0-hectare production area
- ✓ Indicative cost: - Development cost of Php. 250,000 per ha of service area

b. Alternative Energy Prime Movers for Pump Irrigation Systems for High Value crops - consist of pumps and prime movers using renewable energy sources, storage tanks and piped distribution systems. In these systems, the water sources area already developed (e.g. river, lake, and wells) that require energy to lift water to the point of use. These systems include hydraulic ram pump and solar pump.

- ✓ Coverage area – With a minimum of 3.0-hectare production area for high value crops and with existing dependable water source with potential water source for development
- ✓ Qualified beneficiaries /Proponent – At least 3 farmers with minimum of 3.0-hectares irrigable area
- ✓ Indicative cost: Development cost of Php 220,000 per hectare for hydraulic ram pump irrigation
- ✓ Indicative cost: Development cost of Php 350,000 per hectare for solar pump irrigation system

4.4 Procedures for Investigation of Viability of Schemes

1. In case of CIS rehabilitation, the IA and NIA submit a resolution to the LGU requesting for rehabilitation assistance under the project; for new scheme, resolution shall be submitted by the beneficiary farmer's group;

2. The LGU makes a reconnaissance of the proposal subproject, then carries out preliminary studies;

3. The LGU informs the IA of the results of investigation and includes the qualified schemes in its list of subprojects under the irrigation sub-component.

4.5 Subproject Appraisal and Approval

4.5.1 Eligibility Criteria

One pre-requisite for the LGUs to be eligible for participation under the project shall be a completed overall PCIP/CCIP.

Based on the above document, the RPCO issues an invitation (request for proposal) to the eligible LGUs to submit their list of priority subprojects for project assistance. The Local Chief Executive shall prepare a Letter of Intent (LOI) for financing for irrigation in their respective provinces and municipalities. The LOI and list of priority subprojects shall be accompanied by the following documents:

1. A color-coded provincial irrigation development map in google earth reflecting the location of all existing, proposed and potential irrigable areas including the geo-tagged proposed work items and the boundary limits of the irrigable area of the SP.

2. A brief description of each proposed scheme using NIA CIP Forms.

3. NIA/IA, farmers' group resolution to the LGU requesting assistance;

4. Provincial Sangguniang Panlalawigan or Municipal/City Sangguniang Bayan resolution expressing intent to participate in the project and commitment to finance the required equity contribution (indicating the amount) in cash and to provide a specified cost of maintenance and repair after completion of the SP;

5. A certification from the provincial/municipal treasurer on the availability of funds for the specified amount of equity contribution and routine maintenance;

6. Compliance checklist of LGU eligibility and selection criteria;
   The first tier LGU eligibility assessment as regards to technical capacity, financial capacity and Operation and Maintenance commitment of previously implemented special projects of DA like PRDP, InFRES, MRDP and CHARMP must be favorable.

4.5.2 Subproject Validation

Upon receipt of the above documents, the RPCO shall review and evaluate the merits of the proposed subprojects and conduct field validation. Technical assistance from the PSO/NPCO may be sought for complex subprojects. A final validation report shall be prepared by the RPCO. Attached to the validation report is a subproject prescreening checklist such as information on the unit cost parameters, EIRR, B/C ratio, IP and subproject environmental categorization concerns and validation of LGU capacity.

4.5.3 Feasibility Study (FS) Preparation

Upon receipt of approval from the RPCO, the LGU prepares feasibility studies according to standards and guidelines currently used by the NIA and BSWM. In the event that the LGU is not capable to prepare the FS, it may contract the NIA to do the same or hire a sufficiently experienced service provider to do the same. The expenses for such FS shall be to the account of the LGU and shall not be counted as part of its cash equity to the subproject.

The FS shall cover, among others, the following:

1. Brief profile of the subproject area including land slopes, soils and land holdings;

2. Hydrologic study, including monthly average discharge at dam site for at least one (1) full year, if available;

3. Color-coded topographic survey and general layout of subproject area reflecting among others the following:

    ✓ contour lines;

    ✓ existing land use for different crops in the service area and extent to which area is currently irrigated from different sources;

    ✓ service area to be restored and expansion area to be generated under the project (in case of existing irrigation);

    ✓ new area to be generated if scheme is new construction;

    ✓ existing and proposed irrigation structures and facilities; and

    ✓ existing and proposed service roads along the canals, if any.

    ✓ Other farm facilities such as solar dryers, IA buildings, warehouses and mills.

4. feasibility-level engineering design plans;

5. quantities of work items and cost estimates;

6. implementation schedules;

7. confirmation by IA and LGU that the farmers losing land from new construction have agreed to voluntarily donate or sell their lands;

8. financial and economic analysis;

9. proposed implementation arrangement and work packaging by contract;

10. IA/farmers' group and LGU's concurrence with the result of the FS; and

11. other data and analyses as may reasonably be required by RPCO and/or PSO/NPCO.

Refer to annex 3 for the Feasibility Study Outline for Irrigation Facilities

Additional attachments to the FS report shall include the following documents:

a. Environmental and Social Management Plan (ESMP);

b. primary survey on Displaced Persons and IPs;

c. clearance certificate on right-of-way and damages, and FPIC if needed; and

d. other clearances and permits as required by concerned regulatory agencies.

The FS report shall be internally reviewed and approved by the P/M/CPMIU.

4.5.4 Subproject Detailed Engineering Design Preparation

The feasibility-level engineering design is part of the attachment to the FS report. In the event that the LGU is not capable to undertake the irrigation design and drawing preparations, it may contract the NIA or hire a sufficiently experienced service provider to do the same.

After the FS has shown that the proposed subproject is feasible then the detailed engineering design shall be prepared. The expenses for such shall be to the account of the LGU but shall not be counted in favor of its cash equity to the subproject.

The preparation of detailed engineering design shall adhere to the current standards, specifications, guidelines and procedures adopted by the NIA. The following discussions are indicative guidelines in the preparation of detailed engineering design.

4.5.4.1 Field Surveys

1. Topographic survey of irrigable area indicating the limits, physical features and main and lateral alignment;

2. Main and lateral canal alignment, plan and profile indicating the exact location/ stationing of existing structures, natural waterways and other physical features traversed by the canal alignment;

3. Cross-sections at 20-meter interval along the proposed canals for construction or rehabilitation; The cross section drawings should be drawn starting from the upper left corner of the drawing sheet going down until the sheet column is full and re-start again at the upper top going down and so forth.

4.

5. Topographic survey of dam site to extend 200 meters upstream and downstream of the dam axis and at least 100 meters to the left and right of the river banks;

6. Longitudinal river profile, cross-section at dam site and cross-section of river, creek or waterway at 200 meters upstream and downstream of dam

site indicating the minimum, and normal water levels and maximum flood levels.

7. For the spring development project, the reconnaissance and assessment survey of the proposed area is to be conducted and shall cover the following:
    a. Estimated plantation water requirement and calculation of storage tank size to be established
    b. Presence of spring with continuous flow of discharge
    c. Amount of flow discharge
    d. Elevation of difference and distance of spring as source of water to the proposed location of tank

8. For the ram pump, the design parameters to be gathered from field surveys are the following:
    a. Proposed location of the ram pump must be closed to free flowing water with sustainable water source all year round
    b. Elevation (Fall vs. Lift), for every one meter drop from the source to the ram pump, the ram pump can pump water up to 30 times
    c. Service area must be located uphill or at least higher than the water source wherein the storage tank will be positioned

9. The data for the proposed site for solar power irrigation project that must be gathered by survey are the following:
    a. Site height allowance from the ground to avoid damage of the solar panel
    b. Location must be an open area away from any obstruction that may shade the panels from sunlight
    c. Location must have solar radiation/irradiance of not less than average of 1,000 W/m2, temperature of not less than 25oC and air mass of not less 1.5 for the solar panel to operate
    d. Proposed site must have stable discharge of water source such as wells, lakes, rivers and spring

10. Other survey data as may be required by the designer.

4.5.4.2 Detailed Design, Specifications

The following Geometrical and Design Specifications and Scheme shall be adopted for the Project:

Table 4-1 Geometrical and Design Specifications for Irrigation Schemes

The field surveys to be conducted shall cover the following:

Component	Geometrical and Design Specifications and Schemes

a. Diversion works	Run-of-river type adopting ogee or trapezoidal sections or check gate or teruvian-type intake or other schemes as may be deemed appropriate by the design engineer.
b. Main canals, laterals and sub-laterals	Trapezoidal section with side slopes (SS) of 1-1/2:1 for most earth canals and 1:1 or 1:0 (rectangular) for lined canals; Earth canals shall have a permissible velocity of not less than 0.30 m/sec. and not more than 1.00 m/sec. Canal freeboard shall be 40% of designed water depth but not less than 0.3 m; Canal top width shall be as follows: ✓ without operating equipment: canal top width = 0.60 m; ✓ with operating equipment: canal top width = 6.00 m (main canal); canal top width = 4.00 m (lateral/sub- lateral) Note: Canal concrete lining shall be justified by measurement of water losses or other justifiable reasons.
c. Structures ✓ Parshall flume ✓ Water level control ✓ Distribution control ✓ Thresher crossing	✓ unit located at 50 meters downstream of diversion works along the main canal ✓ As needed ✓ As needed ✓ 1 unit for every 500 meters in the absence of road crossings along main canals, laterals and sub-laterals
d. Road and drainage crossings	✓ As dictated by actual canal alignment and terrain

Component/Structure	Geometrical and Design Specifications and Schemes
1. Spring development	

- Storage Tank	Reinforced concrete water storage tank, Capacity – 4 cubic meters , Discharge – 1.5 liters per second, 1.7m x 1.7m x 1.5m (inside dimension)
- Spring box	Reinforced concrete spring box - 1m x 1m x 2m
- Delivery pipe from spring box to storage tank	GI pipes 2” diameter, Sched.40 180 lm.
-Distribution pipe from storage tank to service area	PE pipe 1” diameter, SDR 17, 60 lm.
2. Ram Pump	
- Intake Box	Reinforced concrete - 0.87 cu. m.
- Ram Pump Box	Reinforced concrete - 0.87 cu. m.
- Drive pipe and stand pipe	2" dia. GI pipes Sched.40 – 42 lm.
- Ram Pump and fittings for drive pipe	1" Hydraulic Ram pump (fabricated locally)
- Delivery line from pump to tank	GI pipes Sched.40 (3/4") – 250 lm.
- Ferrocement reservoir	9,000 liters
- Distribution line to consumers	300 lm.
- Communal faucets	3 taps
3. Solar Powered Irrigation Project	Refer to BAFE Technical Bulletin DA MO 52, Series of 2020
- Water requirement	Average
- Water source	Subsurface - wells, Surface – pond, stream or spring
- System layout	Elevation and location of water source, pump, solar panels, storage tanks, points of use (farm), and pipeline route
- Water storage or tank	Sized to store at least a three-day water supply, elevated platform or stand is required to provide adequate gravity induced pressure for the water delivery system,
- Solar Insolation and PV Panel Location	Panels should be south facing with no significant shading in their vicinity in order to achieve full sun exposure solar array should be placed as close to the pump as possible to

	minimize the electric wire length (and thus any energy loss), as well as installation costs.
- Design Flow Rate for the Pump	The design flow rate for the pump is calculated by dividing the daily water needs of the operation by the number of peak sun hours per day
- Total Dynamic Head (TDH) for the Pump	The TDH for a pump is the sum of the vertical lift, pressure head, and friction loss
- Pump Selection and Associated Power Requirement	The pump should be selected using pump performance curves to ensure that the pump can deliver the required flow against the known TDH
- PV Array Mounting and Foundation Requirements	Standard details for a PV panel embedded post mount that meets the design criteria.

Engineering drawings and POW of proposed irrigation subprojects shall include the following details:

1. Color-coded topographic survey and general layout of the scheme and area reflecting among others, the following:

   ✓ Irrigable area limits, physical features and main canal, lateral and sub lateral alignment;

   ✓ Irrigation network showing layout of terminal facilities and service areas;

   ✓ Existing service area currently irrigated if subproject is CIS rehabilitation;

   ✓ Additional new area to be generated if subprojects include expansion area;

   ✓ Existing and proposed irrigation facilities (for both new and rehabilitation);

   ✓ Existing and proposed road, if any.

   ✓ Other farm facilities such as solar dryers, warehouses, IA buildings and milling stations.

2. For diversion works:

   ✓ Plan, sections and details of proposed diversion dam;

   ✓ Cross-section of dam site superimposed on diversion works upstream elevation;

   ✓ Details of diversion head works and left and right abutment works;

   ✓ Downstream and upstream protection works;

   ✓ Other construction details.

3. For main canal, lateral and sub-laterals:

   ✓ Canal alignment plan and profile indicating the proposed top berm, water surface and canal bottom gradient and its slope and location and type of existing and proposed structures;

   ✓ Canal hydraulic elements;

   ✓ Cross-section at 20-meter intervals of the proposed canal for construction or rehabilitation, superimposing design canal sections.

4. For canal structures:

   ✓ Individual (where typical drawings would not be sufficient) and specific plans and details of proposed irrigation structures indicating their exact stationing (i.e., road and thresher crossings, flumes, drainage crossings, canal water level control and distribution structures);

   ✓ Upstream and downstream canal hydraulic elements of connecting irrigation structures.

5. For spring development:
   ✓ Technical description of the watershed using GPS and GPS reading of the specific location of the project;

   ✓ Coordination made with the stakeholders;

   ✓ DED including the bills of materials and cost estimates of the project;

   ✓ Geo-tagged pictures and plotted GIS map of the watershed where the project will be established;

6. For ram pump:
   ✓ Difference in height between the water source and pump site (vertical fall),

- ✓ Difference in height between the pump and point of storage or use;
- ✓ Quantity of flow available from the source (Q)
- ✓ Length of pipe from source to pump site (drain pipe)
- ✓ Quantity of water required
- ✓ Length of pipe from storage site to the user (delivery pipe)

7. For solar power irrigation:
   - ✓ Solar generator – solar panel electrical power
   - ✓ Controller and motor- maximum MPPT (multiple point power tracker)
   - ✓ Mounting and solar tracker system fixed tilt angle with north and south and east and west orientation and solar tracker
   - ✓ Water pump- centrifugal and helical motor pump,
   - ✓ Water pump installation – submersible or surface
   - ✓ Water storage tank - simple open dug reservoir, concrete tank, plastic tank, elevated metal tank
   - ✓ Monitoring- water flow meter, pressure gauge at the filter outlet, pressure gauge at the filter inlet
8. Other details:
   - ✓ General specifications and other construction details;
   - ✓ Summary of volumes and quantities;
   - ✓ Earthworks and structure quantities computation sheets;
   - ✓ Summary POW;
   - ✓ Derivation of work item unit costs

Reference shall be made to NIA and DPWH Standard Specifications for Public Works Structures, volume 2 - 2015 edition, the latest 2019 edition Volume III, Buildings, Ports and Harbors, Flood Control and Drainage Structures and Water Supply Systems and when the general and/or technical specifications do not expressly provide guidance. In both detailed design and construction, sound engineering practices shall be observed.

During bidding, the technical drawing plans to be sold to bidders shall be the blue print / white print duly signed, approved and issued with no objection from the project (NPCO/PSO/RPCO). Sell of electronic copy of the plan should not be permitted.

4.5.4.3 Program of Works (POW)

The Program of Work (POW) presentation generally follows the following outline:

1. General Information
   a. Name of Subproject – usually named relative to the location (eg. barangay name at start and end stations)
   b. Location of Subproject – sitio, barangay, municipal, provincial
   c. Subproject Category – rehabilitation (for existing) or construction (for new opening)
   d. Project Duration – in calendar days as computed and adjusted to include Sundays and holidays and estimates for unworkable days due to inclement weather condition
   e. Implementation Mode – by contract
   f. Subproject Appropriation per funding source (WB-LP, GOP, LGU)
   g. Physical Targets
   h. List of Minimum Equipment and Manpower Needed for the Contract (refer to manpower and equipment utilization schedule). Specify the minimum number and equipment specifications to include information whether owned or leased on a 30%-70% allocation, wherein for each equipment classification, i.e. heavy equipment (e.g. batching plant, road grader, road roller, pay loader, back hoe, stake truck) and secondary equipment (e.g. transit mixer, dump trucks, water truck), a minimum of 30% should be owned and 70% could be leased.
   i. Technical Personnel:
      Technical personnel requirement for the contractor during project implementation.
      1) Project Manager
         ✓ Project Manager is required for subprojects with an EPC of 50 million and above.
      2) Project Engineer
         ✓ Project Engineer is a must requirement for all types of subproject.
      3) Safety Officer
         ✓ The safety officer shall be mandatory in all subproject as required by Department of Labor and Employment (DOLE).

2. Summary of Cost
   a. Summary of Item Cost or Direct Cost– summary cost of materials, skilled and unskilled labor and equipment rental cost
   b. Summary of Estimated Project Cost – direct cost plus indirect cost showing the charging or cost sharing among WB-LP, GOP and LGU.

3. Approval Sheet – the POW will be prepared by the Provincial / Municipal / City Engineering office, Check and Reviewed by the Provincial / Municipal / City Engineer, Recommending Approval by the P/M/CPMIU Head and Approved by the Local Chief Executive.

The detailed estimate presentation format will also follow the following outline per item of work:

1. Volume Computation – in excel format, tabulate the dimensions with labels and indicate formula used in the volume or quantity computation.

2. Derivation of Materials Quantity and Cost– specify specifications and factors used or direct counting based on the plan. The normal cost for materials include hardware price or pick-up price and the cost of delivery or hauling to the project site. Derivation of hauling cost is required using time spotting in the absence of established delivery/hauling rates.

3. Derivation of Number of Equipment and Cost – use the PRDP Scale Up provided productivity rates and rental rates. Rental rates will be based on ACEL 2014 in combination with its edition 26 equipment guidebook or use locally legislated rental rates if restricted. To be presented are: the bare or operated rental rates to include cost for fuel, oil and lubricants, operators and maintenance.

4. Derivation of Labor Cost – use the PRDP Scale Up labor productivity rates (individual or gang output) and adopt the regional labor wage board rates in the locality or locally legislated labor rates when restricted.

5. Summary of Item Cost – materials, skilled and unskilled labor, equipment rental cost. Shown in the summary sheet is the item unit cost.

6. Project Duration:
   - ✓ The project duration is based on the number of days accrued or as derived based on the number of equipment to do the work for equipment operated items of works and from the duration as derived from labor based-equipment supported items of works. The project duration is the total number of days defined by the critical path in the PERT-CPM / PDM or bar chart and S-Curve and adjusted to include the accumulated Sundays, holidays and target / pre-determined unworkable days due to inclement weather condition.
   - ✓ Pre-determined unworkable days due to inclement weather condition is the number of days projected to be unworkable due to inclement weather condition based on monthly historical experiences of the Proponent LGUs on the frequency of typhoons and other local weather disturbances within the planned implementation period. This means that the exposure of its SP from inclement weather condition varies from LGU to LGU and region to region and this has to be determined monthly.

The Program of Work (POW) presentation generally follows the outline of POW in Part 2 and 3. NIA items of works should be used in the preparation of the DUPA whenever possible.

4.5.5 Review, Evaluation and Approval

The detailed FS, DED, POW, O&M plan, Bid Documents and safeguards documents prepared by the LGU shall be submitted to the DA RPCO for review.

The RPCO then reviews or evaluates the FS report submitted by the LGU. RPCO, PSO and NPCO through the JTR reviews the submitted documents as per review threshold with inputs from the conduct field visits or subproject appraisal. A Subproject Appraisal Report (SPAR) will be prepared by upon completion of field visit and evaluation. The subprojects are then scheduled by the RPCO for deliberation and approval by the RPAB when all clearances are provided by the review team.

Upon approval by the RPAB, the RPCO, PSO and NPCO will issue the NOL-1 depending on the threshold. RPCO to instructs the LGU to proceed with the procurement preparation for subprojects approved by the RPAB and duly issued with NOL-1.

For subprojects that needs WB review, All clearances from the review team shall be provided to the subproject prior to the WB review

The subproject review, evaluation and approval must be anchored on the viability indicators set by the Project in the market study, technical study, economic study, institutional/organizational study, social and environmental study. Details of the viability indicators are also listed in the eligibility and selection criteria.

4.5.6 Conditions for Fund Release

Conditions for the initial release of funds to the LGU, and subsequent releases, and from the LGU to the contractors will be the same as those in Part III, Rural Roads.

4.6 Subproject Execution, Completion and Turnover

4.6.1 Implementation Structure

The implementation set-up shall be as described under the Organizational Structure, Functional Responsibilities and Implementation Arrangements in Part II. Engagement of service providers are the same in Part II.

4.6.2 Implementation Mode

The implementation scheme will be as follows:

1. The provisions under General Implementation Arrangements in Part II shall be observed in the implementation of irrigation subprojects.

2. It used to be that the NIA was responsible for all irrigation projects. This time under the PRDP Scale Up, it must be emphasized that the LGU shall be primarily responsible for the planning, implementation and operation and maintenance of its irrigation subprojects. However, the LGU may negotiate for the assistance of the NIA in the subproject implementation. Any contract or MOA shall make it clear that the NIA deals directly with the LGU and not with DA/WB.

3. The procurement of the civil works shall be the responsibility of the LGU as per guidelines herein, although the NIA or any of its personnel may be requested by the LGU to assist subject to NIA's concurrence to the proposed terms of assistance.

4. Any agreement between the LGU and NIA shall not in any way diminish the LGU's responsibility and authority in the implementation of the subproject.

5. In support of the National Government's employment generation project, Labor-Based Equipment Supported (LB/ES) methods of construction and maintenance of rural infrastructure shall be adopted whenever possible. Adoption of such method shall satisfy the following conditions:

   ✓ LB/ES cost shall not be more than ten (10) percent of the Equipment Based (EB) cost;

   ✓ LB/ES project duration shall not be longer than fifty (50) percent of the EB duration.

   ✓ Employment of local workers shall not unduly impair agricultural production;

   ✓ Technical quality shall be maintained.

   ✓ As far as practicable, eighty (80) percent of the labor force shall be taken from the beneficiary community.

   ✓ Women shall be given equal opportunity to join the labor force.

   ✓ The existing implementing guidelines on LB/ES method of construction of the PRDP developed in MRDP shall continue to be enforced.

6. The NIA's established institutional development and participatory strategies are hereby adopted for PRDP Scale Up. The LGU may negotiate with the NIA- to conduct lecture-trainings on the same.

7. Another alternative is for the LGU to hire a sufficiently trained and experienced Institutional Development Officer (IDO), preferably previously employed by NIA;

8. Since institutional development is closely related to agricultural extension, the support team in the irrigation subprojects shall primarily be the responsibility of the Provincial/Municipal/City Agricultural Offices (PAO/MAO/CAO). Hence, the IDO shall be under the supervision of the PAO/MAO/CAO. However, the IDO shall work closely with the Project Engineer of the irrigation subproject so that construction and institutional activities are properly coordinated.

9. Transfer of technology from the NIA to the LGU shall be made a deliberate effort. The LGU shall assign a point person in the PAO/MAO/CAO who will work closely with the IDO in order to learn. In the medium and long terms, this person shall take over the responsibility from the IDOs.

10. In case a subproject proposed by the LGU is a rehabilitation of a system previously constructed by the NIA, such proposal shall be subject to a written agreement by NIA. The rehabilitation design and construction schemes shall likewise be subject to the NIA's written concurrence. In such a case, the NIA shall continue to be responsible for the institutional development activities therein, the expenses for which may be charged to the LGU subproject funds.

11. In case the Irrigators' Association (IA) has existing repayment obligations to NIA, said IA shall continue to pay the amortization to NIA. However, the cost of rehabilitation under PRDP Scale Up shall not be added to their repayment obligation

4.6.3 Procurement

Procurement for rural road and bridge subprojects shall conform to Republic Act 9184 (the Government Procurement Reform Act) in general. Bidding procedures in particular shall be in accordance with the Philippine Bidding Documents (as harmonized with Asian Development Bank, Japan Bank for International Cooperation, and World Bank).

During the bidding process, the technical drawing plans to be issued to bidders shall be the hard bound copies of the duly approved and signed plans with No Objection from the Project (NPCO/PSO/RPCO) depending on the threshold. Sell of electronic copy of the plan should not be permitted.

Refer to the Operations Manual of the Procurement Unit on the detailed application of the procurement guidelines in relation to the IBUILD subproject development cycle.

4.6.4 Subproject Supervision and Quality, Time and Cost Controls

The procedures for the supervision and quality, time and cost controls of irrigation subprojects shall be the same as those of Rural Roads part III.

Quality control procedures shall be in accordance with DPWH and NIA existing practices and standards.

4.6.5 Monitoring, Evaluation and Reporting

Monitoring, evaluation and reporting of the implementation of irrigation subprojects shall be the main responsibility of the LGU. The procedures are the same as in Part III Rural Road.

4.6.6 Performance Indicators

The performance indicators for implementation shall be evaluated monthly. The performance indicators shall consist of the physical progress (estimated value of work completed as a percentage of total value of work in the approved POW) and the financial progress (expenditure incurred for work as a percentage of the total value in the POW). The impact indicator, which shall be done after completion of the subproject, will be the change in the irrigated area and yields from the pre project conditions. For this purpose, the irrigated area and yields shall be reported for all crop seasons at the start of the project up to the end of the Project in a graphical form which will be interpreted for impact.

4.6.7 Progress Billing, Completion and Turnover

The contractor shall be allowed to do monthly progress billings in the course of the construction without a ceiling on the percentage of accomplishment. The attachments and procedures are the same for rural roads part III.

4.7 Subproject Operation and Maintenance

1. Operation and maintenance of communal irrigation facilities shall be the responsibility of the LGU but endeavors to capacitate the IAs technically and financially to handle the operation and maintenance of the facilities.

2. Communal irrigation systems (CIS) currently under the supervision of the NIA, even if rehabilitated under PRDP Scale Up, shall continue to be monitored and assisted for O&M by the NIA. New schemes constructed by the LGU shall be monitored and assisted by the PAO/MAO/CAO.

3. IAs that have existing repayment obligations with the NIA shall continue to pay their amortization to the NIA. However, the cost of rehabilitation under PRDP Scale Up shall not be added to their repayment obligation.

4. An inspectorate team composed of ROMAT and LGU staff shall conduct annual inspection of completed irrigation subprojects and shall rate the efficiency of O&M activities for the system.

5. The RPCO shall prepare a region-wide annual O&M report of all completed irrigation subprojects funded by PRDP Scale Up.

6. Failure of the LGU to satisfactorily comply with the above stipulations on O&M provisions shall be sufficient cause for the RPCO to suspend further rural infrastructure investments in the LGU, until such time that such deficiency has been satisfactorily addressed.

4.8 "RASIX" for Irrigation Subprojects

As a quick reference called "RASIX" (Annex 42) defines who does what, or who is RESPONSIBLE, who APPROVES, who SUPPORTS, and who should be INFORMED of actions taken – along the subproject development stages from SP identification, preparation, implementation until operation and maintenance.

5.0 Potable Water System

5.1 Definition and Features of Rural Water Supply Systems

The following definitions of service levels and characteristics of water supply systems as contained in the NEDA Board Resolution No. 12 are adopted in PRDP Scale Up.

Table 5-1. Definition and Features of Water Supply Systems

Particulars	Level I	Level II	Level III
1. Definition	Point source facility. Generally suitable for areas where houses are sparsely distributed.	Communal faucet system. More appropriate in areas where houses are clustered	Household faucet system. Appropriate where houses are provided with kitchen sink and closets.
2. Water source	Drilled/driven shallow well. Drilled/driven deep well. Dug well. Spring, rain water harvester.	Drilled shallow / deep well. Spring. Infiltration gallery / open source Rainwater	Drilled shallow/deep well. Spring. Infiltration gallery/open source. Rainwater
3. Water treatment	Generally, none. Disinfection of wells is conducted periodically by local health authorities.	Generally, none except for open water sources to augment spring discharges and in island communities dependent on rainfall and open water sources.	Generally none except for open water sources to augment spring discharges and in island communities dependent on rainfall and open water sources.
4. Distribution	None	Piped systems provided with reservoir(s).	Piped systems provided with reservoir(s).

5. Delivery of water	At point (within 250-meter radius)	Communal faucet (within 25-meter radius)	Faucet within the house
6. Service level	15 Hh/point source; 1 Hh/private we ll.	4 to 6 HH / communal faucet	Household level faucet
7. Consumption	At least 20 lcpd	At least 60 lcpd	At least 100 lcpd

The infiltration gallery/open source refers to water sources like scattered spring eyes that flows a distance before it gets collected, streams and creeks that are located in watershed protected areas where contamination can be controlled and appropriate water treatment facility is viable. Likewise, the systems operation with additional tariff on water treatment is acceptable to the end users.

5.2 Scope

The potable water supply infrastructure type shall consist of the rehabilitation and construction of small (covering a rural barangay) and large scale (covering more than one rural barangay) Level I & II spring development systems and deep well subprojects.

This subproject type is exempted to the Value Chain Analysis (VCA) and PCIP.

5.3 Financing Scheme

Cost sharing scheme for all subproject type:

The cost sharing between the National Government (NG) and the LGUs shall be as follows:

- ✓ 90 % - to be financed by the National Government in the form of grant (80% WB Loan Proceeds and 10% GOP) based on the Estimated Project Cost (EPC) for subproject to be approved (NOL 1) in the year 2023-2024;

- ✓ Calibrated equity contribution to be financed by the National Government in the form of grant based on the Estimated Project Cost (EPC) for subproject to be approved (NOL 1) in the year 2025-2028;

- ✓ 10% - equity contribution of the LGU in cash based on the Estimated Project Cost (EPC) for subprojects to be approved in the year 2023-2024;

- ✓ Calibrated equity contribution of the LGU in cash based on the Estimated Project Cost (EPC) for subproject to be approved (NOL 1) in the year 2025-2028. LGUs calibrated equity contribution will be based from the LGUs income classification;

Refer the table 3-1 for the Cost Sharing scheme for all IBUILD subproject type

The cost sharing scheme is the maximum limit LP and GOP. The percentage of LP and GOP will be lowered when the variation order is fully shouldered by the LGU.

The estimated project cost (EPC) for PRDP Scale Up will follow the provisions of DPWH D.O. No. 197 Series of 2016 (Revised Guidelines in the Preparation of Approved Budget for the Contract (ABC) except for the VAT component. The project will use 12% VAT as stated at the Regulations No. 13-2018, the Regulations Implementing the Value-Added Tax Provisions under the Republic Act (RA) No. 10963, or the "Tax Reform for Acceleration and Inclusion (TRAIN)," Further Amending Revenue Regulations (RR) No. 16-2005 (Consolidated Value-Added Tax Regulations of 2005), as Amended.

For Potable Water System, all item of work to be used in preparing the EPC shall conform to the Standard Specifications for Highways and Bridges, revised 2015, Volume 2, Standard Specifications for Public Works Vol 3, 2019, latest edition of the DPWH Blue Book, approved Special Specifications for the Project from NWRB and from the Local Water Works Utilities Administration and approved Special Specifications for the Project.

The Project shall adopt the DPWH DO No. 136 series of 2022 "Revised Construction Safety Guidelines for the Implementation of Infrastructure Projects During the COVID-19 Public Health Crisis, Superseding Department Order Nos. 39 Series of 2020 and 30, Series of 2021 and future amendments thereto to prevent the spread of Covid-19. The cost required for additional PPEs, thermometer, disinfectants, footbath, washing stations, vitamins etc. shall be included in the POW in addition to items not included in DOLE D.O. 13.

EPC Computation includes the following: (EPC = DC + IDC)

a. Direct Cost (DC):

- ✓ Materials Cost [cost at source (includes local taxes, processing, crushing, stockpiling, loading, royalties, construction and/or maintenance of haul roads), expenses for hauling, handling, storage, and allowances for waste and losses (not to exceed 5% of material requirement)]

- ✓ Labor Cost (salaries and wages, as authorized by DOLE regional wage board or locally legislated rates).

- ✓ Equipment Expenses (rental of equipment based on prevailing 2014 ACEL rates or locally legislated rental rates).

b. Indirect Cost (IDC):

- ✓ Overhead, Contingencies and Miscellaneous (OCM): 8-15% of DC
  - ✓ Overhead Expenses, 7-11% [engineering and administrative supervision, transportation allowances, office expenses, CARI, and financing cost (bid security, performance security and warranty)].
  - ✓ Contingencies, 0.5-3% [expenses for meetings, coordination with other stake holders, stages during ground breaking, inauguration ceremonies, other unforeseen events and billboards (excluding Project Billboard which is a pay item under the General Requirement)]
  - ✓ Miscellaneous Expenses, 0.5-1% (laboratory tests for quality control and plan preparation)

- ✓ Contractor's Profit (CP): 8-10% of DC

- ✓ VAT Component: 12% of (DC+OCM+CP)

Refer to table 3-2 for the Indirect Cost Factors for Subprojects

The following items shall not be subjected to OCM and profit mark-up:

- ✓ Mobilization and Demobilization
- ✓ Provision of Service Vehicle

The following non-civil work items shall not be subjected to OCM mark-up:

- ✓ Field /Laboratory Office & Living Quarters (Rental Basis)
- ✓ Furnishing of Furniture, Laboratory Equipment, Survey Equipment and Consumables
- ✓ Assistance to Engineers
- ✓ Photographs
- ✓ Health and Safety
- ✓ Traffic Management
- ✓ Environmental Compliance
- ✓ Communication Equipment, etc.

In all cases, estimates for special items of work (SPL) should be accompanied with plans and specifications, methods of construction, measurements and basis of payments duly approved by the head of the implementing office. Annex 46 describes the technical specifications for commonly used SPL items.

5.4 Subproject Identification and Prioritization

In addition to the selection criteria for all types of subprojects enumerated under Identification and Prioritization Criteria in Part II, more specific criteria for the identification of potable water supply subprojects are as follows:

1. The proposed subprojects are selected through a consensus based on informed decision-making after serious technical options related to lack of potable water supply have been done;

2. The choice is based mainly on expected benefits, e.g., better health, shorter time for fetching water and adequate water at all times for domestic, agricultural and commercial use;

3. The LGU and end users understand their roles and responsibilities such as contribution of counterpart, and post-construction operation and maintenance;

4. The location of the source and reservoir must have been sold or donated to the LGU or association officially and the necessary permit to enter for the pipe layout in private land and tap-stand locations must have been secured;

5. The proposed subproject must not be currently covered by other government agencies, NGOs or private entities – either in construction stage or in planning stage with definite funding commitment.

6. Proposed sites must have a reliable (quality and quantity) water supply throughout the year;

7. Disturbance of ecosystem must be minimal if natural spring is tapped for development. Also, forest protection measures shall be established at the watershed.

8. The indicative unit cost per household is thirty thousand for rehabilitation and new construction.

9. Water samples from proposed sites must be free from any contamination and certified safe by the Department of Health (DOH) or Local Health Officers otherwise appropriate provision of water treatment facility is required;

10. The farthest user shall not be more than 25 meters from the tap stand.

11. No rehabilitation shall be made on erroneously located wells.

12. The proposed sites must have a water permit issued by the NWRB or a water permit application has been filed and endorsed favorably by NWRB's deputized field offices (NIA, DPWH-DEO, water districts etc.).

13. Where the subproject encroaches on areas with IPs/lands with Ancestral Domain Claims, the ***free and prior informed consent*** (FPIC) of the IPs must be obtained through the NCIP.

In addition to the basic prioritization guidelines enumerated under Identification and Prioritization Criteria in Part II, prioritization will also be governed by the following factors:

1. commitment of the LGU to provide their equity contribution;

2. the social and economic benefits derived from the subproject in terms of cost per household served.

3. technical capability of LGU to prepare the detailed engineering designs, drawings and program of work;

4. technical capability of LGU to manage the implementation of a given number of subprojects simultaneously in a given year.

5. For deep wells: willingness of the LGU to front load funds for the subsurface exploration in determining the presence of sufficient amount of potable underground water. The cost for water exploration shall solely be shouldered by the LGU and not sharable in the equity sharing requirement of the SP.

Rationalization and allocation of potable water supply across provinces shall follow the following screening guidelines at the proposal stage by the RPCO/PSO to wit:

1. The Project do not have a healthy water supply proposals in the pipeline and considering the various level of technical capacities of LGUs in proposing water supply sub-projects, the RPCOs/PSOs shall endeavor to provide equal training opportunities to LGUs with water supply identified needs in the PCIP;

2. Priority shall be given to water supply proposals that will have multipurpose use such as for domestic use and at the same time serving the processing facilities by the Proponent Groups of IREAP and irrigation for backyard vegetable gardening. The design consumption rate to be used in the hydraulic analysis shall be 60 liters per capita per day for domestic use and 80 to 100 liters per capita per day if the system will also cater to industrial/processing consumption and or backyard gardening or based on computation of the projected water consumption of the processing plant and total water duty per area of plants to be irrigated. The economic benefits from the additional water services must outweigh the additional cost due to increase in pipe sizes.

3. Sub-project proposals for potable water supply within the thresh hold of RPCOs and PSOs but without a Water Specialist to review shall be jointly reviewed with NPCO prior issuance of NOL 1 by the RPCO or PSO concern.

5.5 Social and Environmental Safeguards

Social safeguards shall also be complied with. The principal objective is to ensure that displaced persons (DP) will be compensated for their losses and provided assistance to improve, or at least maintain their pre-subproject living standards and earning capacity; and where the subproject encroaches on areas with IPs/lands with Ancestral Domain Claims, that the IPs are among the beneficiaries of the subproject and that their ***free and prior inform consent*** (FPIC) is obtained through the NCIP.

Special care shall be taken so that environmental safeguards will be considered in the detailed design and observed prior to, during and after construction. In particular, an Environmental and Social Management Plan (ESMP) shall be prepared by the LGU before the implementation period – and this will be monitored during and after construction.

Refer to the Operations Manual of the Social and Environmental Safeguards Unit on the detailed application of the Social and Environmental Framework guidelines in relation to the IBUILD subproject development cycle.

5.6 Subproject Appraisal and Approval System

5.6.1 Eligibility Criteria

One pre-requisite for a province to be eligible for participation under the project shall be a completed overall provincial commodity investment plan.

Based on the above document, the RPCO issues an invitation to the eligible LGUs to submit their list of priority subprojects for project assistance. The Local Chief Executive shall prepare a Letter of Intent (LOI) for financing for water supply in their respective provinces and municipalities. The LOI and list of priority subprojects shall be accompanied by the following documents:

1. Color-coded provincial/municipal map indicating the location of the proposed water source(s) and limits of the service area; existing schemes, shall also be reflected on the map in Google Earth;

2. Brief description of each proposed subproject under the project to include among others, the location, number of households to be served, present source(s) of potable water supply and estimated cost;

3. Provincial SP/municipal SB resolution expressing commitment to finance the required LGU equity contribution (indicating amount) in cash and to provide technical assistance to the water users association;

4. Compliance checklist of LGU eligibility and selection criteria;

The first tier LGU eligibility assessment as regards to technical capacity, financial capacity, compliance to the Seal of Good Local housekeeping and Operation and Maintenance commitment of previously implemented special projects of DA like PRDP, InFRES, MRDP and CHARMP must be favorable.

a. A certification from the PPDC/MPDC/CPDC that the subproject's water source(s) are reliable, adequate and certified potable by DOH or health officers;

b. A certification from the Provincial/Municipal/ City treasurer on the availability of funds for the LGU equity contribution;

5.6.2 Subproject Validation

Upon receipt of the above documents, the RPCO shall review and evaluate the merits of the proposed subprojects and conduct field validation. Technical assistance from the PSO/NPCO may be sought for complex subprojects. A final validation report shall be prepared by the RPCO. Attached to the validation report is a subproject prescreening checklist such as information on the unit cost parameters, EIRR, B/C ratio, IP and subproject environmental categorization concerns and validation of LGU capacity.

5.6.3 Feasibility Study (FS) Preparation

Subprojects that qualify for project assistance shall be subjected to Feasibility Study (FS) analysis. Upon receipt of the letter of approval of application from the RPCO, the LGU shall immediately prepare the subproject FS. The PLGU has the option to seek assistance from the MLGU where the SP is located.

The FS report shall cover the following:

1. subproject location on the provincial/municipal maps;

2. brief subproject profile;

3. engineering design and sections; (Specifically for deep well sources, exploratory drillings, well inventory and slug test, and geo-resistivity survey are options to be conducted to confirm the availability in sufficient quantity of potable water underground before the subproject is submitted for consideration). The cost of such exploratory undertakings shall be accounted to the LGU but shall not be counted as part of the LGU equity share required for the subproject.

4. cost-estimates based on updated and acceptable unit cost parameters;

5. financial and economic analysis;

6. implementation arrangement and schedule; and

7. other data and analysis as may reasonably be required by RPCO and PSO such as willingness to connect and pay survey relative to tariff setting.

A detailed FS outline for Potable Water Supply subproject is attached as Annex 4.

Additional attachments to the FS report shall include the following documents:

8. Environmental and Social Management Plan (ESMP);

9. Water permit from NWRB. In case the permit is still in process, documents to show that a water permit application to the NWRB has been made and the same has been favorably endorsed by NWRB's deputized field offices (NIA, DPWH-DEO, water districts etc.);

10. laboratory sampling certificate of potability from DOH or Local Health Officer;

11. other clearances and permits as required by concerned regulatory agencies; and

12. survey of Displaced Persons (DP) and FPIC if needed.

In the event that an LGU cannot prepare the FS due to lack of in-house capability or lack of staff, it may contract out such work to service providers. The cost of such shall be for the account of the LGU but shall not be counted as part of the LGU's cash equity share for the subproject.

The FS report shall be internally reviewed and approved by the P/M/CPMIU.

5.6.4 Subproject Detailed Engineering Preparation

5.6.4.1 Field Survey

The DED and POW is part of the attachment to the FS report covering the following:

1. *In the case of spring development:*

    a. survey of main pipe alignment (layout plan) with spot elevation of water source (intake box), proposed reservoir and communal tap stand showing the clustered household;

    b. survey of ground profile along main pipe alignment from source (intake box) to reservoir to communal tap-stand;

2. *In the case of deep well:*

    a. survey of existing artesian wells still operating in the area;

    b. survey of presence of river or creek that have water running its course;

3. *In the case of atmospheric water source:*

    a. secure local rainfall data from PAGASA and survey the presence of adequate catchment areas usually house roofing.

5.6.4.2 Design, Drawings, Specifications

The LGU shall proceed with the preparation of detailed design, drawings, specifications, POW and O&M plan once field survey works have been completed. The following Geometrical and Design Specifications shall be adopted for the project:

Table 5-3. Geometrical and Design Specifications for Potable Water Supply Systems

Scheme	Geometrical and Design Specifications
a. Level II, deep well Rainwater harvester (supplemental water source)	Adopt minimum of 150 mm diameter of casing with 50 mm diameter suction pipe and 10 mm diameter of gravel packing materials. Cisterns/reservoir could be made of concrete or food grade plastic containers, stainless steel or as maybe appropriate. The
b. Level II, spring development	roof paint for catchment facilities are of food grade materials. Farthest house shall not be more than 25 meters from the nearest communal faucet; Designed to deliver at least 60 lcpd; ✓ Communal faucet to serve an average of 4 to 6 households ✓ Spring intake box made of concrete shall conform to a concrete strength of 3,000 psi (21MPa) with water proofing compound.; ✓ Ground distribution reservoir shall be located on high ground and if made of concrete, it should attain a 3,000 psi (21 MPa) concrete mix strength with water proofing compound; ✓ Main pipeline shall be properly designed to withstand the static pressure and could be GIP or plastic pipe (uPVC and PE) materials. The residual head at tapstand level must not be less than 3 meters or pressure of 4.26 psi. ✓ All pipes shall be rated for use of water at 23 degrees

	Centigrade and at a minimum working pressure of 1.10 MPa. All plastic pipes shall be embedded at a minimum depth of 50 cm below natural ground. Communal faucets shall be of heavyduty brass type provided with concrete apron.

Detailed drawings and POW of proposed potable water supply systems shall include the following:

1. Main pipe alignment (plan) and profile on half roll cross-section paper indicating the length, type and diameter of pipes to be used with spot elevations from source (say, intake box in the case of spring development) to the distribution reservoir and to the proposed communal tap-stand. Additionally, a one-page coupon bond size schematic diagram showing pipe nodes and its elevations, pipe sections and its length, location of tap-stands and the number of household users per tap-stand and its elevation, location of structures and valves and their elevations. These are needed in the hydraulic analysis;

2. Detailed plans, sections, and elevations of structures (i.e., intake box, ground/elevated reservoirs, communal tap-stands, joints, etc.), other construction details;

3. Summary of volumes and quantities;

4. Volume computation of earthwork, structure and pipeline quantification;

5. General and technical specifications;

6. Program of work (POW);

7. Derivation of work item unit costs;

8. Implementation schedule;

9. O&M plan.

Reference shall be made to the DPWH Standard Specifications for Public Works Structures, 2019 edition Volume III, Buildings, Ports and Harbors, Flood Control and Drainage Structures and Water Supply Systems /NWRB/LWUA Specifications when the general and/or technical specifications do not expressly provide guidance. In both detailed design and construction, sound engineering practices shall be observed.

In the event that a LGU cannot prepare the detailed engineering design on its own due to lack of in-house capability or lack of staff, it may contract out such work to service providers. The cost for such shall be to the account of the LGU and shall not be counted as part of the LGU's cash equity to the subproject.

5.6.4.3 Program of Works (POW)

The Program of Work (POW) presentation generally follows the following outline:

1. General Information
   a. Name of Subproject – usually named relative to the location (eg. barangay name at start and end stations)
   b. Location of Subproject – sitio, barangay, municipal, provincial
   c. Subproject Category – rehabilitation (for existing) or construction (for new opening)
   d. Project Duration – in calendar days as computed and adjusted to include Sundays and holidays and estimates for unworkable days due to inclement weather condition
   e. Implementation Mode – by contract
   f. Subproject Appropriation per funding source (WB-LP, GOP, LGU)
   g. Physical Targets
   h. List of Minimum Equipment and Manpower Needed for the Contract (refer to manpower and equipment utilization schedule). Specify the minimum number and equipment specifications to include information whether owned or leased on a 30%-70% allocation, wherein for each equipment classification, i.e. heavy equipment (e.g. batching plant, road grader, road roller, pay loader, back hoe, stake truck) and secondary equipment (e.g. transit mixer, dump trucks, water truck), a minimum of 30% should be owned and 70% could be leased.
   i. Technical Personnel:
      Technical personnel requirement for the contractor during project implementation.
      1) Project Manager
         ✓ Project Manager is required for subprojects with an EPC of 50 million and above.
      2) Project Engineer
         ✓ Project Engineer is a must requirement for all types of subproject.
      3) Safety Officer
         ✓ The safety officer shall be mandatory in all subproject as required by Department of Labor and Employment (DOLE).

2. Summary of Cost
   a. Summary of Item Cost or Direct Cost– summary cost of materials, skilled and unskilled labor and equipment rental cost
   b. Summary of Estimated Project Cost – direct cost plus indirect cost showing the charging or cost sharing among WB-LP, GOP and LGU.

3. Approval Sheet – the POW will be prepared by the Provincial / Municipal / City Engineering office, Check and Reviewed by the Provincial / Municipal / City Engineer, Recommending Approval by the P/M/CPMIU Head and Approved by the Local Chief Executive.

The detailed estimate presentation format will also follow the following outline per item of work:

1. Volume Computation – in excel format, tabulate the dimensions with labels and indicate formula used in the volume or quantity computation.

2. Derivation of Materials Quantity and Cost– specify specifications and factors used or direct counting based on the plan. The normal cost for materials include hardware price or pick-up price and the cost of delivery or hauling to the project site. Derivation of hauling cost is required using time spotting in the absence of established delivery/hauling rates.

3. Derivation of Number of Equipment and Cost – use the PRDP Scale Up provided productivity rates and rental rates. Rental rates will be based on ACEL 2014 or use locally legislated rental rates if restricted. To be presented are: the bare or operated rental rates to include cost for fuel, oil and lubricants, operators and maintenance.

4. Derivation of Labor Cost – use the PRDP Scale Up labor productivity rates (individual or gang output) and adopt the regional labor wage board rates in the locality or locally legislated labor rates when restricted.

5. Summary of Item Cost – materials, skilled and unskilled labor, equipment rental cost. Shown in the summary sheet is the item unit cost.

6. Project Duration:
   - ✓ The project duration is based on the number of days accrued or as derived based on the number of equipment to do the work for equipment operated items of works and from the duration as derived from labor based-equipment supported items of works. The project duration is the total number of days defined by the critical path in the PERT-CPM / PDM or bar chart and S-Curve and adjusted to include the accumulated Sundays, holidays and target / pre-determined unworkable days due to inclement weather condition.
   - ✓ Pre-determined unworkable days due to inclement weather condition is the number of days projected to be unworkable due to inclement weather condition based on monthly historical experiences of the Proponent LGUs on the frequency of typhoons and other local weather disturbances within the planned implementation period. This means that the exposure of its SP from inclement weather condition varies from LGU to LGU and region to region and this has to be determined monthly.

The Program of Work (POW) presentation generally follows the outline in Part III Rural Roads, Likewise, the detailed estimate presentation format will also follow the outline per item of work as detailed in Part 2 Part 3 of this manual.

5.6.4.4 Review, Evaluation and Approval

The detailed FS, DED, POW, O&M plan, Bid Documents and safeguards documents prepared by the LGU shall be submitted to the DA RPCO for review.

The RPCO then reviews or evaluates the FS report submitted by the LGU. RPCO, PSO and NPCO through the JTR reviews the submitted documents as per review threshold with inputs from the conduct field visits or subproject appraisal. A Subproject Appraisal Report (SPAR) will be prepared by upon completion of field visit and evaluation. The subprojects are then scheduled by the RPCO for deliberation and approval by the RPAB when all clearances are provided by the review team.

Upon approval by the RPAB, the RPCO, PSO and NPCO will issue the NOL-1 depending on the threshold. RPCO to instructs the LGU to proceed with the procurement preparation for subprojects approved by the RPAB and duly issued with NOL-1.

For subprojects that needs WB review, All clearances from the review team shall be provided to the subproject prior to the WB review

The subproject review, evaluation and approval must be anchored on the viability indicators set by the Project in the market study, technical study, economic study, institutional/organizational study, social and environmental study. Details of the viability indicators are also listed in the eligibility and selection criteria.

5.6.4.5 Conditions for Fund Release

Conditions for the initial release of funds from the PSO to the LGU, and subsequent releases, and from the LGU to the contractors will be the same as those for Rural Roads in Part III.

5.6.5 Subproject Execution, Completion and Turnover

5.6.5.1 Implementation Structure

The implementation set-up shall be as described under Organizational Structure, Functional Responsibilities and Implementation Arrangements in Part II of this manual. Involvement of the members of the water user association is critical in all phases of the project development cycle.

5.6.5.2 Implementation Mode

The provisions under General Implementation Arrangements in Part II shall be observed in the implementation of potable water supply subprojects.

In support of the National Government's employment generation project, Labor Based Equipment Supported (LB/ES) methods of construction and maintenance of potable water supply and sanitation schemes shall be adopted whenever possible. Adoption of such method shall satisfy the following conditions:

a. LB/ES cost shall not be higher by more than ten (10) percent of the Equipment Based (EB) cost;

b. LB/ES project duration shall not be longer by more than fifty percent (50%) of the EB duration.

c. Employment of local workers shall not unduly impair agricultural production; and

d. Technical quality shall be maintained.

e. Beneficiaries within the community shall be the first priority in the selection of labor force.

5.6.5.3 Procurement

Procurement for rural road and bridge subprojects shall conform to Republic Act 9184 (the Government Procurement Reform Act) in general. Bidding procedures in particular shall be in accordance with the Philippine Bidding Documents (as harmonized with Asian Development Bank, Japan Bank for International Cooperation, and World Bank).

During the bidding process, the technical drawing plans to be issued to bidders shall be the hard bound copies of the duly approved and signed plans with No Objection from the Project (NPCO/PSO/RPCO) depending on the threshold. Sell of electronic copy of the plan should not be permitted.

Refer to the Operations Manual of the Procurement Unit on the detailed application of the procurement guidelines in relation to the IBUILD subproject development cycle.

5.6.5.4 Subproject Supervision

The procedures for the supervision of potable water supply subprojects are the same as those discussed in part 2 and part 3 of this manual in which is the main responsibility of the assigned Project Engineer.

5.6.5.5 Quality Control

An Infrastructure Quality Monitoring and Durability System will be in placed to guide the Project how to ensure quality assurance and control for all subprojects. A Quality

Plan, Inspection and Test Plan and Minimum Materials Testing Requirement Plan will be prepared per subproject as the blue print in undertaking quality assurance and control by the contractor, P/M/CPMIU, RPCO, PSO and NPCO.

Quality control procedures shall be done according to the following schedule of minimum test requirements:

Table 5-2 Minimum Test Requirements for Potable Water Supply Systems for Some Selected Items

Items of Work	Minimum Test Requirements
1. Spring intake boxes and elevated concrete reservoirs	
1.1 Reinforcing steel bars	Certification from the supplier verified for authenticity by the LGU.
1.2 Structural concrete	For every 75 cu.m. or fraction thereof of fine and coarse aggregates: 1-G, grading test. For every 75 cu.m. or fraction thereof of concrete mix, compressive strength test on 1-set of three (3) concrete cylinder samples.
2. Pipelines	Certification from the supplier verified for authenticity by the LGU. Test run or hydro-testing to determine failure in terms of pipe joint leakages and pipe bursting.

5.6.5.6 Time Control

The procedures for the time control of water system subprojects shall be the same as those discussed at part 2 and part 3 of this manual.

5.6.5.7 Cost Control

The procedures for the cost control of water system subprojects shall be the same as those discussed at part 2 and part 3 of this manual.

5.6.5.8 Monitoring, Evaluation and Reporting

The procedures for the monitoring, evaluation and reporting for potable water supply subprojects shall be the same in part III for Rural Roads

5.6.5.9 Progress Billing, Completion and Turnover

The contractor shall be allowed to do monthly progress billings in the course of the construction, the same procedure as those discussed at part 2 and part 3 of this manual.

5.7 Subproject Operation and Maintenance

Under NEDA Board Resolution No. 4 series of 1994 and as recommended by the Infrastructure Committee (INFRACOM) on the reforms in the water supply sector:

"Level I (point source), Level II (communal faucet) and Level III (house connections) water supply projects may be implemented by the concerned LGUs within their jurisdiction. LWUA shall implement only financially viable Level III water supply projects in areas outside the MWSS jurisdiction. DILG's participation will consist of general administration and institution-building, such as assistance to LGUs in the formation of rural and/or barangay waterworks and sanitation associations (RWSAs/ BWSAs) as well as in the identification of water supply systems. MWSS will be responsible for Level III water systems in Metro Manila and adjacent areas. DPWH, together with DILG and DOH, will provide technical assistance (within a period of about two years) to LGUs in the planning, implementation and operation and maintenance of water supply facilities."

Along this line, O&M of Levels I, II and III water supply facilities becomes the main responsibility of the LGUs. This will be through the establishment of water users association, which should be formed and trained before the subproject is turn-over. Procedures for levying water charges will have to be developed to cover the maintenance and operating costs of facilities, the policies of which shall become part of the MOA.

To enhance the sustainability of the water supply facilities, the PEO/MEO/CEO shall conduct periodic inspection of the same to check and guide the water users association in the conduct of operation and maintenance activities. As funds are a central issue in O&M, the LGU shall likewise check on the collection of water charges to ensure that funds are available when needed repairs are required.

In addition, the following requirements for O&M shall be complied with by the LGUs:

a. A formally organized and trained water users association;

b. An inspectorate team composed of the ROMAT and LGU staff shall conduct annual audit of completed potable water supply subprojects and shall rate the efficiency of O&M activities conducted on the same.

c. The RPCO shall prepare a region-wide annual O&M report of all completed potable water supply subprojects funded by PRDP SU.

d. Failure of the LGU to satisfactorily comply with the above shall be sufficient cause for the RPCO to suspend further rural infrastructure investments in the LGU until such time such deficiency has been satisfactorily addressed.

e. Adequate training on water testing procedure shall be ensured where water treatment is necessary.

5.8 "RASIX" for Rural Water Supply

As a quick reference called "RASIX" (Annex 43) defines who does what, or who is RESPONSIBLE, who APPROVES, who SUPPORTS, and who should be INFORMED of actions taken – along the subproject development stages from SP identification, preparation, implementation until operation and maintenance.

6.0 Value Chain Rural Infrastructure

6.1 Scope

Value Chain Rural infrastructure other than rural roads, irrigation and water supply, have been identified to also support the attainment of goals and objectives of PRDP SU rather than being implemented by the private sector, they are considered for funding under PRDP SU because of their nature as contributing to the public good.

Value Chain Rural Infrastructures needed in the value chain to enhance the productivity and give value added quantities to products in agriculture and fishery industries such as production facilities, pre and post-harvest facilities, marketing facilities, consolidation facilities, processing facilities are eligible for funding for PRDP Scale Up.

Specific eligible facilities for Value Chain Rural Infrastructure under IBUILD funds are slaughterhouse / abattoir, poultry dressing plants, fish landing and facilities, feeder ports, tramlines, watch towers, slope stabilization works, silos, warehouses, warehouse with solar driers, multipurpose solar driers, cold storage facilities, agriculture composting facility, livestock auction facility, fish hatcheries and fishponds facilities, trading posts/centers and other infrastructure fully operated and managed by the LGU.

Other Value Chain rural infrastructures such as silos, warehouses, warehouse with solar driers, solar driers, cold storage facilities, fish hatcheries and fishponds facilities, trading posts/centers, food terminals equipped with cold or dry storage facilities, greenhouses, corn drying to milling centers/facilities with warehouses, silos, rice processing centers (for drying, milling, and packaging) with logistics facilities, fish trading centers with pre-processing and cold storage facilities, livestock breeding and grow-out facilities, dairy barns / production facilities, meat processing plants, dairy processing plants / centers with testing facilities, feed mill and other facilities managed by FCAs, co-managed by the LGU and FCAs and co-managed by FCAs and private entities are eligible IREAP funds.

Support structures / facilities that are part of the process flow of the value chain rural infrastructure are included as eligible for the subproject. (parking and maneuvering area, water tank, electrical transformers, water supply, access roads and the like)

6.2 Financing Scheme

Cost sharing scheme for all subproject type:

The cost sharing between the National Government (NG) and the LGUs shall be as follows:

- ✓ 90 % - to be financed by the National Government in the form of grant (80% WB Loan Proceeds and 10% GOP) based on the Estimated Project Cost (EPC) for subproject to be approved (NOL 1) in the year 2023-2024;

- ✓ Calibrated equity contribution to be financed by the National Government in the form of grant based on the Estimated Project Cost (EPC) for subproject to be approved (NOL 1) in the year 2025-2028;

- ✓ 10% - equity contribution of the LGU in cash based on the Estimated Project Cost (EPC) for subprojects to be approved in the year 2023-2024;

- ✓ Calibrated equity contribution of the LGU in cash based on the Estimated Project Cost (EPC) for subproject to be approved (NOL 1) in the year 2025-2028. LGUs calibrated equity contribution will be based from the LGUs income classification;

Refer to Table 3-1 for the Cost Sharing scheme for all IBUILD subproject type

The cost sharing scheme is the maximum limit LP and GOP. The percentage of LP and GOP will be lowered when the variation order is fully shouldered by the LGU.

The estimated project cost (EPC) for PRDP Scale Up will follow the provisions of DPWH D.O. No. 197 Series of 2016 (Revised Guidelines in the Preparation of Approved Budget for the Contract (ABC) except for the VAT component. The project will use 12% VAT as stated at the Regulations No. 13-2018, the Regulations Implementing the Value-Added Tax Provisions under the Republic Act (RA) No. 10963, or the "Tax Reform for Acceleration and Inclusion (TRAIN)," Further Amending Revenue Regulations (RR) No. 16-2005 (Consolidated Value-Added Tax Regulations of 2005), as Amended.

For Value Chain Rural Infrastructures, All item of work to be used in preparing the EPC shall conform to the DPWH Standard Specifications for Highways and Bridges, revised 2015-Volume II, Standard Specifications for Public Works Vol 3, 2019, and approved Special Specifications for the Project

The Project shall adopt the DPWH DO No. 136 series of 2022 "Revised Construction Safety Guidelines for the Implementation of Infrastructure Projects During the COVID-19 Public Health Crisis, Superseding Department Order Nos. 39 Series of 2020 and 30, Series of 2021 and future amendments thereto to prevent the spread of Covid-19. The cost required for additional PPEs, thermometer, disinfectants, footbath, washing stations, vitamins etc. shall be included in the POW in addition to items not included in DOLE D.O. 13.

EPC Computation includes the following: (EPC = DC + IDC)

a. Direct Cost (DC):

- ✓ Materials Cost [cost at source (includes local taxes, processing, crushing, stockpiling, loading, royalties, construction and/or maintenance of haul roads), expenses for hauling, handling, storage, and allowances for waste and losses (not to exceed 5% of material requirement)]

- ✓ Labor Cost (salaries and wages, as authorized by DOLE regional wage board or locally legislated rates).

- ✓ Equipment Expenses (rental of equipment based on prevailing 2014 ACEL rates or locally legislated rental rates).

b. Indirect Cost (IDC):

Overhead, Contingencies and Miscellaneous (OCM): 8-15% of DC

- ✓ Overhead Expenses, 7-11% [engineering and administrative supervision, transportation allowances, office expenses, CARI, and financing cost (bid security, performance security and warranty)].
- ✓ Contingencies, 0.5-3% [expenses for meetings, coordination with other stake holders, stages during ground breaking, inauguration ceremonies, other unforeseen events and billboards (excluding Project Billboard which is a pay item under the General Requirement)]
- ✓ Miscellaneous Expenses, 0.5-1% (laboratory tests for quality control and plan preparation)

Contractor's Profit (CP): 8-10% of DC

VAT Component: 12% of (DC+OCM+CP)

Refer to Table 3-2 for the Indirect Cost Factors for Subprojects

The following items shall not be subjected to OCM and profit mark-up:

- ✓ Mobilization and Demobilization
- ✓ Provision of Service Vehicle

The following non-civil work items shall not be subjected to OCM mark-up:

- ✓ Field /Laboratory Office & Living Quarters (Rental Basis)
- ✓ Furnishing of Furniture, Laboratory Equipment, Survey Equipment and Consumables
- ✓ Assistance to Engineers
- ✓ Photographs
- ✓ Health and Safety
- ✓ Traffic Management
- ✓ Environmental Compliance
- ✓ Communication Equipment, etc.

In all cases, estimates for special items of work (SPL) should be accompanied with plans and specifications, methods of construction, measurements and basis of payments duly approved by the head of the implementing office. Annex 46 describes the technical specifications for commonly used SPL items.

6.3 Subproject Identification and Prioritization

The general principles to be followed in the identification of these other rural infrastructure subprojects aside from those prescribed in Part II shall be as follows:

1. Identification, selection and prioritization of other infrastructure subprojects shall be governed by the provincial commodity investment plan (PCIP) in line with the regional agri-fisheries modernization plan;

2. The choice shall be based mainly on expected benefits;

3. The LGU understands its roles and responsibilities such as contribution of counterpart, management and operation of the facility and post-construction operation and maintenance; and

4. Where the subproject encroaches on areas with IPs/lands with Ancestral Domain Claims, the free and prior informed consent (FPIC) of the IPs must be obtained through the NCIP.

6.4 Social and Environmental Safeguards

Refer to the Operations Manual of the Social and Environmental Safeguards Unit on the detailed application of the Social and Environmental Framework guidelines in relation to the IBUILD subproject development cycle.

6.5 Technical Selection Criteria

In addition to the selection criteria for all types of subprojects enumerated under Selection and Prioritization Criteria in Part II, the following are hereby prescribed:

1. Solar Driers with Warehouses

a. Solar driers and warehouses shall always be lumped together as one subproject, except when one or the other is already present and may support the proposed new project. Another exception is when the type of product intended to be kept in the warehouse does not need drying at all.

b. The design of the warehouse, shall, if needed, incorporate facilities to enhance the marketability of the crops of the beneficiaries. The design shall also be made in such a way that the warehouse may at certain

times serve as a multi-purpose hall for community meetings or social events (from which such uses may be derived users fees to be used for the O&M of the facility). The warehouse shall be provided with a separate office (attached to the warehouse) and comfort rooms for both male and female with water provision.

c. Solar driers should be located away from shady trees;

d. The subproject shall be located where there is an organized farmers' organization; or the prospective beneficiaries are interested to formally organize;

e. The subproject shall be located within the production area to be served, in a location most convenient to reach by all beneficiaries;

f. The right-of-way (ROW) shall be donated or sold to the LGU or a registered farmers' organization. If the ROW is to be bought, no funds of PRDP shall be used for the purchase cost.

g. Production area shall be at least 50 hectares, for crops.

h. Not more than 30% of the benefited area shall be owned by only one family.

i. Off-shore solar driers for seaweeds shall be located in an accessible area nearest the shoreline, at no more than 2.5 meters sea-depth during high tide. Minimum area of a seaweed farm shall be 10 hectares, consisting of many seaweed farmers.

2. ***Timber Ports***

a. Timber ports should not be constructed in open sea with strong currents.

b. The walkway with pier head shall not exceed 150 meters. Therefore, careful tidal observations should be made before a decision to put up a timber port is made so that even at low tide the facility will still be usable. If tidal observations show that a 150-meter length is not sufficient, a longer length may be allowed depending on the evaluation and recommendation of the RPCO and PSO and also on the capacity of the LGU to shoulder a bigger equity contribution.

c. The cutting and use of timber for use in the subproject should be approved by the DENR.

d. Catchment area should have a population of at least 200 households; if less, subproject should be justified by high economic activities in the area benefiting the farmers.

3. ***Rock Causeways***

   a. The total length shall not be more than 50 meters. Careful tidal observations should be made, therefore, before a decision to build a rock causeway is made so that even at low tide the facility will be usable. If tidal observations show that a 50-meter length is not sufficient, a longer length may be allowed depending on the evaluation and recommendation of the RPCO and PSO and also on the capacity of the LGU to shoulder a bigger equity contribution.

   b. Catchment area should have a population of at least 200 households; if less, subproject should be justified by high economic activities in the area benefiting the farmers.

   c. The use of corals shall not be allowed to make up the causeway.

✓ *The technical selection criteria of the other infrastructure types not mention above shall conform to the standards of authorized implementing line agencies such as the NMIS, BAI, PhilFIDA, BFAR and PhilMech etc.*

The subproject must be certified urgent by the proponent LGU and line agencies with current needs and demands of the stakeholders;

   a. The establishment of facilities must be based on existing demands and projected development of new production areas, processing and market centers with approved development funding support;

   b. The subproject site must not be located in hazard prone areas (depression, hillside, water logged/swampy, cultural sites, tidal prone area) and in similar areas where development cost will be high.

6.6 Subproject Appraisal and Approval System

6.6.1 Eligibility Criteria

After the subprojects identification activities are undertaken by the LGU, the Local Chief Executive prepares a Letter of Intent (LOI) for financing of these other rural infrastructure subprojects in their respective provinces. The LOI and list of priority subprojects shall be accompanied by the following documents:

1. brief description of each proposed subproject under the project to include among others, target beneficiaries, target quantities, location, estimated cost.

2. provincial SP/ municipal SB resolution expressing intent to participate in the project and the commitment to finance the required equity contribution (indicating amount) in cash and to provide a specified cost of maintenance and repair after the completion of the subproject;

3. a certification from the Provincial/Municipal/City treasurer on the availability of funds for the specified amount of equity contribution and for the operation and maintenance of the facility;

4. a certification from the PPDC/MPDC/CPDC that the subprojects comply with each of the selection criteria enumerated under Selection and Prioritization Criteria in Part I;

5. Compliance checklist of LGU eligibility and selection criteria;

The first tier LGU eligibility assessment as regards to technical capacity, financial capacity and Operation and Maintenance commitment of previously implemented special projects of DA like PRDP, INFRES, MRDP and CHARMP must be favorable.

6.6.2 Subproject Validation

Upon receipt of the above documents, the RPCO shall review and evaluate the merits of the proposed subprojects and conduct field validation. Technical assistance from the PSO/NPCO may be sought for complex subprojects. A final validation report shall be prepared by the RPCO. Attached to the validation report is a subproject prescreening checklist such as information on the unit cost parameters, EIRR, B/C ratio, IP and subproject environmental categorization concerns and validation of LGU capacity.

6.6.3 Feasibility Study (FS) Preparation

Proposed subprojects that have been validated shall be subjected to Feasibility Study (FS) analysis. The LGU shall immediately prepare the subproject feasibility study and detailed engineering design.

The FS report shall among others, cover the following:

1. Subproject location on the provincial/municipal map;

2. Physical profile of the subproject;

3. Supply and demand study;

4. Technical analysis and engineering design

5. Benefits to be derived

6. Cost estimates
7. Financial and economic analysis
8. Implementation schedule;
9. Current structure conditions for existing facilities;
10. Environmental study;
11. Institutional arrangements;
12. Other data normally required of the kind of structure being proposed;

Additional attachments to the FS report, shall include the following:

13. Environmental and Social Management Plan (ESMP);
14. Primary survey on Displaced Persons (DP) and IPs;
15. Clearance certificate on right-of-way and damages, and FPIC for IPs; and
16. Building permit and other clearances as required by concerned regulatory agencies.

In the event that an LGU cannot prepare the FS due to lack of in-house capability or lack of staff, it may contract out such work to service providers. The cost of such shall be to the account of the LGU but shall not be counted as part of the LGU's cash equity share for the subproject.

The FS report shall be internally reviewed and approved by the proponent LGU.

6.6.4 Subproject Detailed Engineering Preparation

The detailed engineering design forms part of the FS report. The DED activities to be undertaken will depend on the type of subproject.

6.6.4.1 Field Survey

Technical survey shall be undertaken to gather field data for the technical design and cost estimates of the subproject. In the conduct of the same, the stakeholders shall be involved closely. Their local knowledge will be valuable in locating important hazard points, boundaries, landmarks, potential ROW problems and boundary disputes.

The field surveys for vertical structures include field data on the lot survey for the subproject site development, geotechnical survey for the foundation design and hydraulic or drainage assessment.

6.6.4.2 Design, Drawings, Specifications

The PEO/MEO/CEO shall proceed with the preparation of detailed design, drawings, specifications and POW once field survey works have been completed.

The design and drawings must be technically sound and appropriate to the actual field conditions. The technical specifications must be appropriate to the type of subproject and must be in consonance with the specifications of relevant government agencies and line agencies such as the Philippine Agricultural and Bio-systems Engineering Standard (PABES), Philippine Agriculture Engineering Standard (PAES), National Building Code of the Philippines, DPWH Standard Specifications for Public Works Structures, 2019 edition or latest Volume III, Buildings, Ports and Harbors, Flood Control and Drainage Structures and Water Supply Systems, NMIS, PhilFIDA, BAI, BFAR, PhilMEC and others. The design must adjust to the challenges brought about by climate change and the recent effect of typhoon Yolanda which dictated the adjustment in wind load to a minimum of 300 km/hour for permanent structures.

Preparation of the technical drawing plans and signatories of the design professional shall conform with the guidelines of the National Building Codes.

In the event that an LGU cannot prepare the detailed engineering work on its own due to lack of in-house capability or lack of staff, it may contract out such work to service providers. The cost for such shall be to the account of the LGU and shall not be counted as part of the LGU's cash equity to the subproject.

6.6.4.3 Program of Works (POW)

The Program of Work (POW) presentation generally follows the following outline:

1. General Information
    a. Name of Subproject – usually named relative to the location (eg. barangay name at start and end stations)
    b. Location of Subproject – sitio, barangay, municipal, provincial
    c. Subproject Category – rehabilitation (for existing) or construction (for new opening)
    d. Project Duration – in calendar days as computed and adjusted to include Sundays and holidays and estimates for unworkable days due to inclement weather condition
    e. Implementation Mode – by contract
    f. Subproject Appropriation per funding source (WB-LP, GOP, LGU)
    g. Physical Targets
    h. List of Minimum Equipment and Manpower Needed for the Contract (refer to manpower and equipment utilization schedule). Specify the minimum number and equipment specifications to include information whether owned or leased on a 30%-70% allocation, wherein for each equipment classification, i.e. heavy equipment (e.g. batching plant, road grader, road roller, pay loader, back hoe, stake truck) and secondary equipment (e.g. transit mixer, dump trucks, water truck), a minimum of 30% should be owned and 70% could be leased.

i. Technical Personnel:
Technical personnel requirement for the contractor during project implementation.
   1) Project Manager
      - ✓ Project Manager is required for subprojects with an EPC of 50 million and above.
      - ✓ Project Manager is also required for highly technical subprojects such as Bridge, Cold Storage Facilities and the like.
   2) Project Engineer
      - ✓ Project Engineer is a must requirement for all types of subproject.
   3) Specialized Engineers
      - ✓ For highly technical Value Chain Rural Infrastructures like cold storage building / facility, specialized engineers shall be required to the contractor. (Electrical, Mechanical, Sanitary)
   4) Safety Officer
      - ✓ The safety officer shall be mandatory in all subproject as required by Department of Labor and Employment (DOLE).

2. Summary of Cost
   a. Summary of Item Cost or Direct Cost– summary cost of materials, skilled and unskilled labor and equipment rental cost
   b. Summary of Estimated Project Cost – direct cost plus indirect cost showing the charging or cost sharing among WB-LP, GOP and LGU.

3. Approval Sheet – the POW will be prepared by the Provincial / Municipal / City Engineering office, Check and Reviewed by the Provincial / Municipal / City Engineer, Recommending Approval by the P/M/CPMIU Head and Approved by the Local Chief Executive.

The detailed estimate presentation format will also follow the following outline per item of work:

1. Volume Computation – in excel format, tabulate the dimensions with labels and indicate formula used in the volume or quantity computation.

2. Derivation of Materials Quantity and Cost– specify specifications and factors used or direct counting based on the plan. The normal cost for materials include hardware price or pick-up price and the cost of delivery or hauling to the project site. Derivation of hauling cost is required using time spotting in the absence of established delivery/hauling rates.

3. Derivation of Number of Equipment and Cost – use the PRDP Scale Up provided productivity rates and rental rates. Rental rates will be based on ACEL 2014 or use locally legislated rental rates if restricted. To be presented are: the bare or operated rental rates to include cost for fuel, oil and lubricants, operators and maintenance.

4. Derivation of Labor Cost – use the PRDP Scale Up labor productivity rates (individual or gang output) and adopt the regional labor wage board rates in the locality or locally legislated labor rates when restricted.

5. Summary of Item Cost – materials, skilled and unskilled labor, equipment rental cost. Shown in the summary sheet is the item unit cost.

6. Project Duration:
   - ✓ The project duration is based on the number of days accrued or as derived based on the number of equipment to do the work for equipment operated items of works and from the duration as derived from labor based-equipment supported items of works. The project duration is the total number of days defined by the critical path in the PERT-CPM / PDM or bar chart and S-Curve and adjusted to include the accumulated Sundays, holidays and target / pre-determined unworkable days due to inclement weather condition.
   - ✓ Pre-determined unworkable days due to inclement weather condition is the number of days projected to be unworkable due to inclement weather condition based on monthly historical experiences of the Proponent LGUs on the frequency of typhoons and other local weather disturbances within the planned implementation period. This means that the exposure of its SP from inclement weather condition varies from LGU to LGU and region to region and this has to be determined monthly.

The Program of Work (POW) presentation and detailed estimate presentation format generally follows the outline in part 2 and Part 3 discussed in this manual.

6.6.5 Review, Evaluation and Approval

The detailed FS, DED, POW, O&M plan, Bid Documents and safeguards documents prepared by the LGU shall be submitted to the DA RPCO for review.

The RPCO then reviews or evaluates the FS report submitted by the LGU. RPCO, PSO and NPCO through the JTR reviews the submitted documents as per review threshold with inputs from the conduct field visits or subproject appraisal. A Subproject Appraisal Report (SPAR) will be prepared by upon completion of field visit and evaluation. The subprojects are then scheduled by the RPCO for deliberation and approval by the RPAB when all clearances are provided by the review team.

Upon approval by the RPAB, the RPCO, PSO and NPCO will issue the NOL-1 depending on the threshold. RPCO to instructs the LGU to proceed with the procurement preparation for subprojects approved by the RPAB and duly issued with NOL-1.

For subprojects that needs WB review, All clearances from the review team shall be provided to the subproject prior to the WB review

The subproject review, evaluation and approval must be anchored on the viability indicators set by the Project in the market study, technical study, economic study, institutional/organizational study, social and environmental study. Details of the viability indicators are also listed in the eligibility and selection criteria.

6.7 Conditions for Fund Release

Conditions for the release of funds from the Project to the LGU, and subsequent releases, and from the LGU to the contractors will be the same in Part III for Rural Roads.

6.8 Subproject Execution, Completion and Turnover

6.8.1 Implementation Structure

The implementation set-up shall be as described under Organizational Structure, Functional Responsibilities and Implementation Arrangements in Part II of this manual.

6.8.2 Implementation Mode

The provisions under General Implementation Arrangements in Part II shall be observed in the implementation of the Value Chain rural infrastructure subprojects.

In support of the national government's employment generation project, Labor Based Equipment Supported (LB/ES) methods of construction and maintenance of rural infrastructure shall be adopted whenever possible. Adoption of such method shall satisfy the following conditions:

1. LB/ES cost shall not be higher by more than ten (10) per cent of the Equipment Based (EB) cost;

2. LB/ES project duration shall not be longer by more than fifty per cent (50%) of the EB duration.

3. Employment of local workers shall not unduly impair agricultural production; and

4. Technical quality shall be maintained.

5. As far as practicable, eighty (80) per cent of the labor force shall be taken from the beneficiary community. Hence, beneficiaries within the community shall be given first priority in the selection of labor force.

6. Women shall be given equal opportunity to join the labor force.

6.8.3 Procurement

Procurement for rural road and bridge subprojects shall conform to Republic Act 9184 (the Government Procurement Reform Act) in general. Bidding procedures in particular shall be in accordance with the Philippine Bidding Documents (as harmonized with Asian Development Bank, Japan Bank for International Cooperation, and World Bank).

During the bidding process, the technical drawing plans to be issued to bidders shall be the hard bound copies of the duly approved and signed plans with No Objection from the Project (NPCO/PSO/RPCO) depending on the threshold. Sell of electronic copy of the plan should not be permitted.

Refer to the Operations Manual of the Procurement Unit on the detailed application of the procurement guidelines in relation to the IBUILD subproject development cycle.

6.8.4 Subproject Supervision

Daily supervision of subproject implementation shall be the responsibility of the Project Engineer (PE) of the contractor. Second level of project supervision and monitoring comes from the PEO, MEO or the CEO where the SP is located. He shall see to it that during the mobilization of the contractor at the project site, the contractor shall install a subproject signboard indicating the project title, the name of the implementing and executing agencies, subproject title, physical target, contract amount, duration of construction, name of contractor and other pertinent contract details based on COA circular no 2013-004 dated 30 January 2013

The contractor's PE shall also ensure that all works are done according to approved plans/drawings and specifications and timelines.

6.8.5 Quality Control

Table 6-1 Minimum Test Requirements for Value Chain Rural Infrastructure for Some Selected Items

Items of Work	Minimum Test Requirements
1. Solar Drier & Warehouse a. Item 105: Subgrade preparation	a. For every 1,500 cu.m. or fraction thereof: ✓ 1-G, Grading test; ✓ 1-P, Plasticity test (LL, PL, PI); ✓ 1-C, Laboratory Compaction test. For every 150 mm layer in uncompacted depth: ✓ 1-D, Field Density Test. ✓ For every 500 sq.m. of each layer compacted fill or fraction thereof, at least one group of three (3) in-situ tests. Layers shall be placed not exceeding 200 mm in loose measurement.
b. Item 201: Aggregate base course	a. For every 300 cu.m. or fraction thereof: ✓ 1-G, Grading test; ✓ 1-P, Plasticity test (LL,PL, PI). For every 1,500 cu.m. or fraction thereof: ✓ 1-C, Laboratory Compaction test; ✓ 1-Q, Quality test for grading, plasticity and abrasion. For every layer of 150 mm of compacted depth, at least one group of three (3) in-situ density tests for each 500 sq.m. or fraction thereof. ✓ Certification from supplier will suffice or mill certificate
c. Item 404: Reinforcing steel	For every 75 cu.m. or fraction thereof of fine coarse aggregates: ✓ 1-G, Grading test.
d. Item 405: Structural concrete (for building footings and superstructure, slab-on-ground)	For every 75 cu.m. or fraction thereof of concrete mix: ✓ Compressive strength test on 1-set of three (3) concrete cylinder samples.
B. Timber Port / Rock Causeway	

a. Timber Port Piles Timber decking	a. Timber Port ✓ Tambulian or equivalent Yakal or equivalent
b. Rock Causeway	b. Rock Causeway: Rocks weighing _____
Other infrastructure types not mentioned above	Based on standards of relevant agencies and line agencies

6.8.6 Time Control

The procedures for the time control of other infrastructure subprojects shall be the same as those of Rural Roads part III

6.8.7 Cost Control

The procedures for the cost control of other infrastructure subprojects shall be the same as those of Rural Roads part III

6.8.8 Monitoring, Evaluation and Reporting

The procedures for the monitoring, evaluation and reporting for other infrastructure subprojects shall be the same in part III for Rural Roads

6.8.9 Progress Billing, Completion and Turnover

The contractor shall be allowed to do monthly progress billings in the course of the construction, the same procedure in rural roads part III.

6.9 Subproject Operation and Maintenance

The LGU is primarily responsible for the proper operation and maintenance of the subproject and this shall be made clear right from the planning stage.

The LGU shall guarantee that the O&M of the subproject will be carried out in a satisfactory manner as stipulated in the subproject implementation agreement. The LGU shall therefore train the stakeholders on the correct O&M procedures appropriate for the specific rural infrastructure.

6.10 "RASIX" for Value Chain Rural Infrastructure

As a quick reference called "RASIX" (Annex 44) defines who does what, or who is RESPONSIBLE, who APPROVES, who SUPPORTS, and who should be INFORMED of actions taken – along the subproject development stages from SP identification, preparation, implementation until operation and maintenance.

6.11 IREAP Civil Works

IREAP civil works are Value Chain Rural Infrastructure support under the Enterprise component.

Value Chain rural infrastructures such as silos, warehouses, warehouse with solar driers, solar driers, cold storage facilities, fish hatcheries and fishponds facilities, trading posts/centers, food terminals equipped with cold or dry storage facilities, greenhouses, corn drying to milling centers/facilities with warehouses, silos, rice processing centers (for drying, milling, and packaging) with logistics facilities, fish trading centers with pre-processing and cold storage facilities, livestock breeding and grow-out facilities, dairy barns / production facilities, meat processing plants, dairy processing plants / centers with testing facilities, feed mill and other facilities managed by FCAs, co-managed by the LGU and FCAs and co-managed by FCAs and private entities are eligible IREAP funds.

There is an overlap on the value chain rural infrastructure of IBUILD and IREAP. (silos, warehouses, warehouse with solar driers, solar driers, cold storage facilities, fish hatcheries and fishponds facilities, trading posts/centers).

In determining if this VC infrastructure / facility will be funded under IBUILD fund or IREAP fund, the following guidelines should be followed,

- ✓ The RPCO shall create a validation team to determine where the proposed VC Infrastructure will be funded. The validation team shall validate if there is an organized, capable and inline FCA or FCA Clusters particular to the anchor commodity.

- ✓ Members of the validation team will be from IREAP, IBUILD, SES, Econ and GGU.

- ✓ If there is **NO** organized, capable and inline FCAs or FCA Clusters particular to the anchor commodity at the area to manage or co-manage the facility, the subproject should be proposed to IBUILD.

- ✓ If there are organized, capable and inline FCAs, FCA Clusters particular to the anchor commodity at the area to manage or co-manage the facility, the subproject should be proposed to IREAP.

The I-BUILD component will fund the subprojects identified under I-BUILD. This are value chain rural Infrastructure types categorized as public infrastructure and are those included in the I-BUILD identification and prioritization processes. I-REAP component will fund the value chain rural infrastructure support facilities identified under I-REAP procedures and processes to be operated by the LGUs and FCAs under the IREAP guidelines However, the design, review, approval and implementation is under the I-BUILD component.

In the case where the proponent is the FCA, its capability to prepare IBUILD documents during preparation of the detailed engineering design and its capability to provide the construction supervision team should be assessed and will be one of the basis in determining if the FCA is eligible to the proponent.