PHILIPPINE RURAL DEVELOPMENT PROJECT

INTENSIFIED BUILDING-UP OF INFRASTRUCTURE AND LOGISTICS FOR DEVELOPMENT I-BUILD

April 2021

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Rationale and Purpose

The Philippine Rural Development Project (PRDP) is an offshoot of the second phase of the Mindanao Rural Development Program (MRDP) which is funded largely through a World Bank loan.

This operations manual is specifically prepared for the implementation of the **Intensified Building-Up of Infrastructure and Logistics for Development (I-BUILD)** component. It will aid how subprojects in PRDP 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: (i) improving the links from production areas to markets to enhance the efficiency of transporting agricultural products, (ii) higher productivity as a result of increased cropping intensity and yields, iii) food security and improved health from readily available potable water, (iv) lower post-harvest losses resulting in higher volume of outputs and more efficient support facilities and (v) improving flow, distribution and prepositioning of agri-fishery foods, products and services in times of calamity and epidemic/pandemic.

This manual will serve as a source book of information and procedures that can be used by the DA and the LGUs along the project development cycle.

1.1 Structure of the Manual

The manual is divided into nine parts. **Part 1** is about the I-BUILD operation's manual, **Part 2** is about PRDP 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 Rural Roads and Bridges, **Part 4** is Communal Irrigation, **Part 5** is Potable Water Supply, **Part 6** is "Other Rural Infrastructure", **Part 7** is the General Procurement Guidelines, **Part 8** is the Grievance Redress Mechanism and **Part 9** is the Glossary.

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 governance and monitoring and evaluation.

There are four appendices of the manual. Appendix A contains the Guidelines for Social Safeguards. Appendix B contains the Guidelines for Environmental Safeguards. Appendix C contains the Philippine Bidding Documents (as harmonized with Asian Development Bank,

Japan Bank for International Cooperation and World Bank), Appendix D contains the Operation and Maintenance Audit Framework, Appendix E contains the Operation and Maintenance Audit Rating System, Appendix F contains the Prioritization Scheme for the Additional Financing and Appendix G contains the Road Safety Guidelines.

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 environmental and social management plan (ESMP) templates.

1.2 Scope of the Manual

The manual applies to rural infrastructure subprojects that are proposed for implementation under PRDP. 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 subject for scrutiny using this manual are farm-to-market roads and bridges, irrigation, potable water supply, post-harvest facilities, production facilities, market facilities, fish landings and facilities, fish sanctuaries/marine protected areas, tram lines, cold storage facilities, trading posts, green houses, solar driers, watch towers, nursery watch towers and slope stabilization works.

1.3 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 participating POs and NGOs.

2 The Philippine Rural Development Project (PRDP)

2.1 Background

The Philippine Rural Development Project (PRDP) evolved from the experiences and gains of the Mindanao Rural Development Program (MRDP). The operational strategies and policies of MRDP are largely adapted for PRDP with a slight differentiation in the bottom line objectives: MRDP is mainly a poverty-reduction program while PRDP aims to increase rural incomes and enhance farm and fishery productivity in the targeted project areas. The Project design recognizes decentralization of public goods and services to partner LGUs and communities. This is also in accordance with the provisions of the Local Government Code and the Agriculture and Fisheries Modernization Act (AFMA) or RA 8435. PRDP shall progress from the interplay of a subsistence rural agriculture to an entreprenureal and market oriented agriculture. Study shows that the best way to link the subsistence farmers to the market in the agricultural sector is through the value chain analysis (VCA) approach. This approach works best by considering a few but promising commodities where it gives the highest benefit in terms of income, employment and overall development of the Project areas. As such, the Project will focus its investments to infrastructure development based on the priority commodity to be supported by the Department of Agriculture as exemplified in the Regional AFMP and the Local Government Units through its agri-fishery sector plan exemplified in the PCIP.

Scientific based tools other than VCA like vulnerability and suitability assessment (VSA), expanded vulnerability and suitability assessment (e-VSA), rapid marketing analysis (RMA), geo-tagging and climate change resiliency concepts and studies will be adopted in the selection of commodities, preparation of Provincial Commodity Investment Plans, identification and prioritization of areas and subprojects to be funded by the Project. Specific infrastructure support to be identified and prioritized in the Provincial Commodity Investment Plan must solve most of the many constraints identified in the value chain segment analysis. The value chain analysis per commodity varies from the different value chain segments and more often than not the infrastructure investment should support the weakest link from input supply, production, processing and marketing aspect of the specific enterprise to be supported by IREAP and the overall local infrastructure development of the commodity areas. The core planning team (NCPT,RCPT,PCPT) at the national, regional and provincial level shall ensure that the VCAs, RAFMPs and PCIPs are closely knitted as these are the sources of investments under the IBUILD component.

Rural infrastructure plays a significant role in providing the connectivity of the agri-fishery production sites to the processing and market centers. Investments in the I-BUILD component and the rural infrastructure requirements of I-REAP component will ensure that there is value added to the business functions of the value chain. Hence, directly enhancing agricultural productivity and thus contribute to the food security and food self-sufficiency programs of the department. Further focus on the value adding interventions to the

marketable agri-fishery product surplus will also boost increased incomes for farmers and fishers in the Project areas.

The agricultural development have been hampered by the acute lack of rural infrastructure such as roads and bridges, communal irrigation and potable water supply as shown in the following level of infrastructure development in the Project areas:

a. Access Roads and Bridges

The level of development of roads and bridges (Table 2-1) vary widely among the country's 16 regions, based on road density which is the ratio of the total road length against land area.

ARMM now BARMM is lowest in road development level at 0.27 km per sq. km of land area against a national average road density of 0.62 km. per sq.km of land area. Region 1, on the other hand, has the highest road density at 1.13 km/sq. km of land area which exceeds 1.0 as the ideal road density. It is also worth noting as shown in the table that out of the total road length nationwide of 196,686 km, about 121,442.0 km or 62% are classified as barangay roads and in terms of surface types, gravel roads consist of 102,768.0 km or 52% of the total.

b. Irrigation Systems

The total potential area for irrigation nationwide is 3,126,340.0 hectares while the actual irrigated area is 1,542,668.0 hectares or 49% of the total.

There are disparities as well among the country's regions in terms of irrigation development: ARMM significantly lags behind with 15 per cent while CAR is highest at 81 per cent (Table 2-2). There is not sufficient irrigation systems in regions with large expanses of agricultural land with very high productivity potential. There is no irrigation for about 432,000 hectares of agriculturally productive land in ARMM, Region 12 and 13; thus almost one-third of the national total remaining potential area for agricultural development is situated in the lowest three regions in terms of level of irrigation development.

c. Potable Water Systems

The total number of households nationwide is 16,272,950 of which close to 3 million households or 18% are still without adequate access to potable water.

The water supply sub-sector in Table 2-3 shows that the level of development is at 82 percent. The Millennium Development Goal (MDG) target is 86% at the end of 2015. Ensuring sufficient water supply is basic to national food security, health and sanitation.

Table 2-1. Road Level of Development by Region in PRDP Project Areas, 1999

Region	Land Area (sq. km) a/	Total Road Length	Road Length in km By Classification				Road Density (km/sq. km)	Road Length in km by Surface Type				
			National	Prov'l.	Mun./City	Brgy.		Concrete	Asphalt	Gravel	Earth	Total (km.)
CAR	18,290.00	9,064.66	1,846.12	1,241.15	649.37	5,328.02	0.5	775.05	189.67	3,700.43	4,399.51	9,064.66
1	13,055.00	14,771.13	1,604.79	1,656.87	2,102.60	9,406.86	1.13	3,022.40	1,496.68	8,418.84	1,833.22	14,771.13
2	26,837.58	14,877.47	1,816.61	1,704.14	1,189.23	10,167.49	0.55	1,359.17	412.04	8,658.08	4,448.18	14,877.47
3	22,014.63	15,200.62	1,704.89	1,534.95	2,022.27	9,938.50	0.69	3,863.64	1,440.62	7,285.29	2,611.06	15,200.62
4A	16,272.44	13,066.18	2,545.94	1,848.61	1,863.45	6,808.19	0.8	3,808.33	1,478.55	4,207.44	3,571.86	13,066.18
4B	27,400.00	9,544.59	2,033.07	1,842.34	1,010.60	4,658.58	0.35	628.85	555.68	5,842.51	2,517.56	9,544.59
5	17,591.70	8,878.37	2,223.74	1,381.65	1,009.05	4,263.93	0.5	1,765.16	840.73	3,637.98	2,634.50	8,878.37
6	20,978.57	17,774.70	2,916.76	2,183.90	1,849.19	10,824.85	0.85	2,191.49	1,176.13	10,261.37	4,145.71	17,774.70
7	15,885.97	15,444.29	1,870.81	2,406.96	1,115.22	10,051.31	0.97	1,551.88	1,410.07	7,813.09	4,669.25	15,444.29
8	21,433.00	9,607.27	2,317.99	1,530.06	655.5	5,103.73	0.45	1,895.70	258.23	5,083.92	2,369.42	9,607.27
9	14,137.54	10,770.42	1,149.50	1,439.33	1,034.89	7,146.70	0.76	793.55	412.57	6,104.22	3,460.08	10,770.42
10	20,186.17	15,058.91	1,365.71	1,711.06	1,215.91	10,766.23	0.75	973.52	495.49	5,960.49	7,629.42	15,058.91
11	19,671.83	17,745.13	1,939.90	3,232.25	1,606.46	10,966.52	0.9	1,051.97	1,046.09	10,059.44	5,587.63	17,745.13
12	19,165.87	9,912.11	1,010.56	1,201.99	956.88	6,742.68	0.52	716.02	136.67	4,389.30	4,670.13	9,912.11
13	19,138.42	7,657.96	1,292.12	1,124.04	909.76	4,332.04	0.4	958.82	28	5,103.52	1,567.62	7,657.96
ARMM	26,749.90	7,313.09	724.22	1,184.48	467.19	4,937.21	0.27	316.95	73.64	6,242.63	679.88	7,313.09
PRDP	**318,808.62**	**196,686.89**	**28,362.71**	**27,223.80**	**19,657.55**	**121,442.83**	**0.62**	**25,672.50**	**11,450.85**	**102,768.54**	**56,795.01**	**196,686.89**
Percentage (%)			14%	14%	10%	62%		13%	6%	52%	29%	

Source: Road classification and surface type data from DPWH ATLAS; a/-data from PDP, RPFP and DENR Website accessed 26 July 2012

Table 2-2. Irrigation Level of Development by Region in PRDP Project Areas, 2010

Irrigated Area by Type of Irrigation System and by Region

Region	Estimated Total Irrigable Area	National Irrigation System	Communal Irrigation System	Private Irrigation System	Total Irrigated Area	Remaining Potential Area to be Developed	Level of Irrigation Development
CAR	99,650.00	22,622.00	35,486.00	22,912.00	81,020.00	18,630.00	81%
1	277,180.00	57,567.00	96,722.00	27,329.00	181,618.00	95,562.00	66%
2	472,640.00	142,674.00	42,088.00	23,095.00	207,857.00	264,783.00	44%
3	498,860.00	202,897.00	78,228.00	20,555.00	301,680.00	197,180.00	60%
4 (A&B)	246,960.00	53,146.00	53,246.00	17,962.00	124,354.00	122,606.00	50%
5	239,660.00	22,573.00	68,554.00	29,484.00	120,611.00	119,049.00	50%
6	197,250.00	52,216.00	20,433.00	5,499.00	78,148.00	119,102.00	40%
7	50,740.00	10,040.00	22,651.00	2,539.00	35,230.00	15,510.00	69%
8	84,380.00	19,144.00	30,158.00	4,466.00	53,768.00	30,612.00	64%
9	76,080.00	15,162.00	19,760.00	1,972.00	36,894.00	39,186.00	48%
10	120,700.00	26,419.00	24,053.00	14,764.00	65,236.00	55,464.00	54%
11	149,610.00	33,971.00	15,639.00	25,915.00	75,525.00	74,085.00	50%
12	293,610.00	62,736.00	22,471.00	17,296.00	102,503.00	191,107.00	35%
13	162,300.00	29,319.00	21,719.00	3,316.00	54,354.00	107,946.00	33%
ARMM	156,720.00	16,520.00	7,125.00	225	23,870.00	132,850.00	15%
Total PRDP	3,126,340.00	767,006.00	558,333.00	217,329.00	1,542,668.00	1,583,672.00	49%
Percentage		49.72%	36.19%	14.09%	100%	50.66%	

Source: 2010 NIA annual report

Table 2-3. Household Served by Water Supply by Region in PRDP Project Areas, 2008

Region	Number of Households (Estimated 2008)	Total		Unserved HH
		No. of HH Served	% of HH served 2008[b/]	
CAR	305,688	255,555	84%	50,133
1	986,085	916,073	93%	70,012
2	662,968	617,887	93%	45,082
3	1,971,185	1,884,453	96%	86,732
4 (A&B)	3,258,005	2,705,773	83%	552,232
5	1,038,935	778,163	75%	260,773
6	1,405,969	1,123,369	80%	282,600
7	734,658	593,604	81%	141,054
8	1,424,679	1,191,032	84%	233,647
9	814,049	575,533	71%	238,516
10	653,504	526,724	81%	126,780
11	1,274,444	927,795	73%	346,649
12	612,674	486,463	79%	126,211
13	476,942	385,369	81%	91,573
ARMM	653,164	317,438	49%	335,726
Total	**16,272,950**	**13,285,230**	**82%**	**2,987,720**

Source: 2008 APIS,NSO : b/ from Reg. 7 PDP

The level of infrastructure development in the PRDP project areas reveals an enormous remaining balance needing investment. The Department of Agriculture through PRDP will contribute in reducing the gap in the agricultural sector.

2.2 Salient Features of PRDP

The following are some of the enhancements from MRDP to PRDP.

a. More geographical areas covered from 6 regions in MRDP to 16 regions in PRDP. It will cover 81 PLGUs and independent component cities in 16 regions. The PLGU is the focal point of PRDP investment planning and implementation as opposed to the MLGU in MRDP.

b. The DA-RFUs are given more responsibility for overseeing the implementation of PRDP 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 while the NPCO will facilitate coordination with the different oversight agencies and World Bank.

c. More capability building interventions – The planning and implementation capacities of the participating agencies and implementing units of PRDP will be strengthened especially in the planning approach using i) science-based tools in the subproject identification and prioritization stage to include the vulberability 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.

d. 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.

e. 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.

2.3 Goals, Objectives and Expected Outcomes

a. The Intensified Building-Up of Infrastructure and Logistics for Development (I- BUILD) component aims to develop a strategic network of climate-resilient rural infrastructure and facilities supportive of the value chain in the Project areas.

b. Consultations made with various groups during Project preparation revealed that the types of rural infrastructure implemented in MRDP are clearly still the most needed during PRDP such as farm-to-market roads, bridges, communal irrigation, potable water supply, post-harvest facilities, production facilities, marketing facilities, fish landings and facilities, fish sanctuaries, tram lines, cold storage facilities, trading posts, green houses, solar driers, watch towers, nursery watch towers and slope stabilization works are eligible for funding.

c. At the end of PRDP, the I-BUILD component envisions to attain the following of which some are stated in the Project's logical framework:

- At least 40% reduction in average travel time from farm to markets in subproject areas by the end of Project;
- At least 30% reduction in transport cost from farm to markets in subproject areas by the end of Project;
- At least 60% increase in traffic count in subproject areas by the end of Project;
- At least 150% cropping intensity and 100% yield increase for new CIPs and 180% cropping intensity and 50% yield increase for rehabilitation of CISs in subproject areas by the end of Project;
- At least 65% of water-fetching time reduced in subproject areas by the end of Project;
- At least 70% decrease in household affected by water-borne diseases by end of Project;
- At least 50% producers satisfaction on the use of the "other infrastructure" facilities.

Table 2-4 below outlines the scope of the original loan, in physical terms, unit cost and target disbursement of the I-BUILD component. Table 2-4a shows the indicative physical target and cost of the Original Loan, AF1 and AF2-EU Co-financing while Table 2-4b shows the adjustments in the Results Framework from OL to AF1 to AF2-EU Co-financing. Institutional strengthening and capacity building of local institutions including LGUs and DA involved in implementing rural infrastructure shall be supported in different stages of the project development cycle.

Table 2-4 Original Loan Physical Target, Unit Cost and Annual Disbursement

I-Build Component	Physical Target		Total Cost	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
	Qty	Unit	in million pesos	2.92%	13%	25%	31%	22%	6%	100%
A. Access Roads (FMR)	**2,210**	**km**	**12,413.80**	**361.9**	**1,603.70**	**3,137.60**	**3,847.90**	**2,707.40**	**755.3**	**12,413.80**
Road Concreting from Existing FMR	1,080	km	5,344.40	155.8	690.4	1,350.80	1,656.60	1,165.60	325.2	5,344.40
Road Concreting from new FMR	1,130	km	7,069.50	206.1	913.3	1,786.80	2,191.30	1,541.80	430.1	7,069.50
B. Single/Double Lane Bridge	**775**	**lm**	**273**	**8**	**35.3**	**69**	**84.6**	**59.5**	**16.6**	273
C. Water System (Level 1 and Level 2)	**58,710**	**HH**	**789.1**	**23**	**101.9**	**199.5**	**244.6**	**172.1**	**48**	**789.1**
• Rehabilitation	37,553	HH	450.6	13.1	58.2	113.9	139.7	98.3	27.4	450.6
• Construction	21,157	HH	338.5	9.9	43.7	85.6	104.9	73.8	20.6	338.5
D. Irrigation System (CIS,CIP,SWIP,SSIP (STW,SRIP))	**30,206**	**ha**	**3,421.30**	**99.8**	**442**	**864.7**	**1,060.50**	**746.2**	**208.2**	**3,421.30**
Rehabilitation	22,191	ha	2,219.20	64.7	286.7	560.9	687.9	484	135	2,219.20
Construction	8,015	ha	1,202.10	35	155.3	303.8	372.6	262.2	73.1	1,202.10
E. Other Infrastructure (fishery infra, PHF) and Training Cost	**Lump sum**	**ls**	**1,640.20**	47.8	211.9	414.6	508.4	357.7	99.8	1,640.20
Total			**18,537.50**	**540.5**	**2,394.80**	**4,685.40**	**5,746.10**	**4,042.90**	**1,127.80**	**18,537.50**
Cumulative Total				**540.5**	**2,935.30**	**7,620.70**	**13,366.80**	**17,409.70**	**18,537.50**	
% Cumulative				3%	16%	41%	72%	94%	100%	

Note: The number of units of PWS is about 294 units covering approximately 200 household per unit. The cost of training is 226 million pesos. The unit cost (2012 price level) is safe to be used as basis for planning and estimating the capital investment per subproject type.

Table 2-4a Physical Targets and Indicative Costs by Type of Rural Infrastructure Subproject Covering Original Loan and the Additional Financing 1 & 2

Subproject Type	Unit of Measure	Work Category	Under The Original Loan (OL)		Additional Financing (AF) -- Under the US$ 450M Loan Proceeds				Total Project Targets Under the OL and AF 1 & AF 2	
			Under the US$ 170M 1st AF				Under the US$ 280M 2nd AF with EU Co-financing			
			Physical Target (As Indicated in the Project Appraisal Document)	Cost (Php)	Physical Target (As Indicated in the Project Appraisal Document)	Cost (Php)	Indicative Physical Target	Cost (Php)	Physical Target	Cost (Php)
Farm to Market Road (FMR)	Kilometer	New (Construction)	1,265	7,554,337,511.20	66.90	₱735,900,000.00	259.06	4,410,508,561.76	1,591.03	12,700,746,072.96
		Rehabilitation	1,080	5,712,835,966.40	601.70	₱6,618,700,000.00	242.93	4,494,811,998.23	1,925.01	16,826,347,964.63
		Total Target	**2,345**	**13,267,173,477.61**	**668.60**	**7,354,600,000.00**	**501.99**	**8,905,320,559.99**	**3,516.04**	**29,527,094,037.60**
Bridge	Linear Meter	New (Construction)	775	289,502,908.91			165.00	157,675,610.71	940.00	447,178,519.62
		Rehabilitation								
		Total Target	**775**	**289,502,908.91**			**165.00**	**157,675,610.71**	**940.00**	**447,178,519.62**
Communal Irrigation System (CIS)	Hectare	New (Construction)	8,014	1,284,176,464.63	714.40	₱157,168,000.00			8,728.66	1,441,344,464.63
		Rehabilitation	22,192	2,370,652,145.49	4,385.00	₱526,200,000.00	1,570.00	283,037,240.66	28,147.07	3,179,889,386.15
		Total Target	**30,206**	**3,654,828,610.12**	**5,099.40**	**683,368,000.00**	**1,570.00**	**283,037,240.66**	**36,875.73**	**4,621,233,850.78**
Potable Water Supply (PWS)	Household	New (Construction)	21,157	361,600,225.33	4,525	₱81,442,800.00	12,040	368,462,034.27	37,722	811,505,059.60
		Rehabilitation	37,553	481,350,255.64	7,186	₱122,163,700.00			44,739	603,513,955.64
		Total Target	**58,710**	**842,950,480.96**	**11,711**	**203,606,500.00**	**12,040**	**368,462,034.27**	**82,461**	**1,415,019,015.23**
Other Types of Rural Infrastructures	Number of Subprojects	Construction / Rehabilitation		1,752,132,022.40	42,977.53 square meters	₱360,925,500.00	145	3,692,324,554.37		5,805,382,076.77
TOTAL COST				**19,806,587,500.00**		**8,602,500,000.00**		**13,406,820,000.00**		**41,815,907,500.00**

Table 2-4b Adjustments in the Results Framework from OL to AF1 to AF2-EU Co-financing

Subproject Type	Unit Measure	Work Category	Under The Original Loan (OL)	Additional Financing (AF) -- Under		ADJUSTMENTS IN THE RESULTS FRAMEWORK FROM OL TO AF1 TO AF2						
				Under the US $170M 1st AF	Under the US $280M 2nd AF with EU Co-financing							
			Physical Target (As Indicated in the Project Appraisal Document)	Physical Target (As Indicated in the Project Appraisal Document)	Indicative Physical Target	OL+AF1 Results Framework (a)	OL Approved SPs (b)	AF1 Approved SPs (c)	OL+AF1 Total Approved SPs d=(b+c)	AF2 Targets (e)	(OL+AF1)+AF2 Targets (f=d+e)	AF2 Results Framework (g)
Farm to Market Road (FMR)	Kilometer	New (Construction)	1,265	66.90	259.06							
		Rehabilitation	1,080	601.70	242.93							
		Total Target	**2,345**	**668.60**	**501.99**	**2,300.00**	**1,629.00**	**485.00**	**2,114.00**	**501.99**	**2,615.99**	**2,600.00**
Bridge	Linear Meter	New (Construction)	775		165.00							
		Rehabilitation										
		Total Target	**775**		**165.00**	**775**	**1,486.00**	**409.00**	**1,895.00**	**165.00**	**2,060.00**	**2,000.00**
Communal Irrigation System (CIS)	Hectare	New (Construction)	8,014	714.40								
		Rehabilitation	22,192	4,385.00	1,570.00							
		Total Target	**30,206**	**5,099.40**	**1,570.00**	**2600**	**1,867.00**	**950.00**	**2,817.00**	**1,570.00**	**4,387.00**	**4,300.00**
Potable Water Supply (PWS)	Household	New (Construction)	21,157	4,525	12,040							
		Rehabilitation	37,553	7,186								
		Total Target	**58,710**	**11,711**	**12,040**	**58,710.00**	**17,857.00**	**4,392.00**	**22,249.00**	**12,040**	**34,289.00**	**34,200.00**
Other Types of Rural Infrastructures	Number of Subprojects	Construction / Rehabilitation		42,977.5 square meters	145	**1.7 billion**	**99.00**	**14.00**	**113 (1.1 billion)**	**145**	**258.00**	**250.00**

2.4 Eligible Infrastructure Subprojects under PRDP

The types of rural infrastructure that MRDP covered will continue to be the focus of PRDP. These infrastructure subprojects are rehabilitation, construction, repair, retro-fitting and completion of: (a) Farm-to-market roads and bridges; (b) Irrigation; (c) Potable water supply; and (d) "Other types of rural infrastructures" needed in the value chains to enhance the productivity and give value-added qualities to products in agri-fishery industries and in response to restoring the food supply chain disruption due to pandemic e.g. i) production facilities, post-harvest facilities, marketing facilities, fish landings and facilities, fish hatcheries/sanctuaries/marine protected areas, tram lines, green houses, solar driers, watch towers, nursery watch towers and slope stabilization works; and ii) municipal/city/provincial roads, cold storage facilities and trading post. Those sample interventions listed in item (ii) are relatively costly and unless these are elaborately proven to be the only viable options in the value chain study, greater priority shall be given to FMR and smaller scale production, processing and marketing facilities.

The I-BUILD component will fund the above facilities either identified under I-BUILD or I-REAP components' procedures and processes. Infrastructure types categorized as public infrastructure are those included in the I-BUILD identification and prioritization processes while those to be operated by private entities are included in the I-REAP identification and prioritization processes. These I-REAP support infrastructures will be identified, prioritized and to be operated under the I-REAP component. 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 areas are many and varied. There is therefore a need to set a selection and prioritization criteria that shall guide the IBUILD 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.

a. General Selection Criteria

- *Relevance* – The subproject must be relevant to the PRDP's 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.

b. Specific Selection Criteria

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

First Tier Criteria:

- The proponent LGU must be willing and capable to contribute the required equity.
- The proponent LGU must have the technical capability to plan and implement the subproject.
- The proponent LGU must be a recipient of the Seal of Good Housekeeping
- LGUs that participated in DA Projects (eg. 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" at any given assessment period and any two consecutive O&M rating of "bad" which connotes failure of maintenance by the proponent.

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 DA regional AFMP.

c. Prioritization Criteria

Even after the number of proposed subprojects were screened on the basis of the above criteria, it is safe to assume that there will still be more sub-projects needed 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.
- Benefit-Cost Ratio – at least 1.0; the higher the B-C ratio, 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 procedure to be done is simply ranking the list of SPs per prioritization criteria from 1…n number where n refers to the number of SPs. Get the total score per SP and re-rank for the final prioritization.

The above prioritization criteria was used during the dispensation of the original loan. However, for the PRDP Additional Financing 1 & 2, the revised IBUILD Prioritization Scheme in Appendix F of this manual shall apply thereafter.

2.6 Schedule of Implementation

The schedule of implementation is shown in Table 2-5 (Original loan), Table 2-5a (AF1) & Table 2-5b (AF2-EU Co-financing).

Table 2-5. I-BUILD Component: Original Loan Projected Phasing of Interventions.

(Costs in Million Pesos)

Project Area Clusters		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Luzon A (PSO) (Regions CAR,1,2,3)	Projected No. of PLGUs engaged		**3**	**12**	**22**			
	Subproject Cost By Year	-	317.88	1,048.56	1,550.77			2,917.21
	Projected Disbursements By Year		**95.36**	**473.51**	**1,053.09**	**985.10**	**310.15**	**2,917.21**
Luzon B (NPCO) (Regions 4A,4B,5)	Projected No. of PLGUs engaged	**3**	**9**	**16**	**16**			
	Subproject Cost	168.90	953.64	1,398.08	1,127.83			3,648.46
	Projected Disbursements By Year	**50.67**	**370.54**	**930.03**	**1,228.12**	**843.53**	**225.57**	**3,648.46**
Visayas (PSO) (Regions 6,7,8)	Projected No. of PLGUs engaged	**3**	**9**	**16**	**16**			
	Subproject Cost	168.90	953.64	1,398.08	1,127.83			3,648.46
	Projected Disbursements By Year	**50.67**	**370.54**	**930.03**	**1,228.12**	**843.53**	**225.57**	**3,648.46**
Mindanao (PSO) (Regions 9,10,11,12,13,ARMM)	Projected No. of PLGUs engaged	**26**	**27**	**27**	**27**			
	Subproject Cost	1,463.80	2,754.96	2,271.89	1,832.72			8,323.38
	Projected Disbursements By Year	**439.14**	**1,558.39**	**2,351.81**	**2,236.75**	**1,370.74**	**366.54**	**8,323.38**
TOTAL	**Projected No. of PLGUs engaged**	**32**	**48**	**71**	**81**			
	Subproject Cost	1,801.61	4,980.12	6,116.62	5,639.15	-	-	18,537.50
	Projected Disbursements By Year	**540.48**	**2,394.84**	**4,685.37**	**5,746.08**	**4,042.90**	**1,127.83**	**18,537.50**

Table 2-5. I-BUILD Component: Original Loan Projected Phasing of Interventions.

(Costs in Million Pesos)

Project Area Clusters		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Cost of Subproject Investments (In Million PhP)	**Total**	**1,801.61**	**4,980.12**	**6,116.62**	**5,639.15**			**18,537.50**
	LP (80%)	1,441.28	3,984.10	4,893.30	4,511.32	-	-	**14,830.00**
	GOP (10%)	180.16	498.01	611.66	563.92			**1,853.75**
	LGU Counterpart (10%)	180.16	498.01	611.66	563.92	-	-	**1,853.75**

Note: The Original Loan had an extension of two years to last until CY 2022

Disbursements under the I-BUILD component will begin to rise sharply by Year 3 (4.7 billion pesos) and Year 4 (5.7 billion pesos). It is projected that all 81 PLGUs and independent component/chartered cities will have been engaged by the end of Year 4.

Table 2-5a. I-BUILD Component: AF1 Projected Phasing of Interventions with Two Years Extension

CLUSTER	UNIT OF MEASURE	ANNUAL DISBURSEMENT TARGETS & PHYSICAL COMPLETION OF SUBPROJECTS					TOTAL
		2018	2019	2020	2021	2022	
PSO A	Cost in PhP	27,678,061.56	268,228,783.85	873,954,097.48	548,252,587.62	496,786,390.18	2,214,899,920.69
	No. of SP Completed			6	7	9	22
PSO B	Cost in PhP		95,747,211.16	492,782,772.85	315,141,037.48	211,141,650.81	1,114,812,672.30
	No. of SP Completed			1	8	1	10
PSO Visayas	Cost in PhP	1,923,233.56	181,489,734.82	460,890,764.88	208,766,240.07	395,160,077.96	1,248,230,051.30
	No. of SP Completed			4	3	1	8
PSO Mindanao	Cost in PhP		395,502,707.08	975,704,053.59	993,767,698.24	799,332,896.80	3,164,307,355.71
	No. of SP Completed			8	8	12	28
Total (LP+GOP)	**Cost in PhP**	**29,601,295.12**	**840,968,436.91**	**2,803,331,688.81**	**2,065,927,563.42**	**1,902,421,015.75**	**7,742,250,000.00**
	No. of SP Completed	-	-	23	29	24	76
%tage		**0.4%**	**12%**	**36%**	**27%**	**25%**	**100%**
TEPC		**32,890,327.91**	**1,045,520,485.45**	**3,114,812,987.56**	**2,295,475,070.46**	**2,113,801,128.61**	**8,602,500,000.00**
Cumulative		**32,890,327.91**	**1,078,410,813.36**	**4,193,223,800.93**	**6,488,698,871.39**	**8,602,500,000.00**	
%tage		0%	13%	49%	75%	100%	

Disbursement starts in year one but physical completion of SPs is on the third year which means the SPs have multiyear implementation period.

Table 2-5b. I-BUILD Component: AF2-EU Co-financing Indicative Projected Phasing of Interventions

CLUSTER	UNIT OF MEASURE	ANNUAL DISBURSEMENT TARGETS & PHYSICAL COMPLETION OF SUBPROJECTS				TOTAL
		2021	2022	2023	2024	
PSO A	Cost in PhP (LP+GOP)	42,686,710.82	1,520,612,184.65	1,478,206,785.52	913,283,200.83	3,954,788,881.81
	No. of SP Completed		6	57	17	80.00
PSO B	Cost in PhP (LP+GOP)	38,608,828.25	888,111,439.11	918,421,681.29	397,737,348.90	2,242,879,297.55
	No. of SP Completed			39	12	51.00
PSO Visayas	Cost in PhP (LP+GOP)	42,217,065.00	832,607,046.02	714,876,025.66	404,428,390.25	1,994,128,526.93
	No. of SP Completed			41	7	48.00
PSO Mindanao	Cost in PhP (LP+GOP+EU)	62,164,120.57	1,411,942,447.81	1,478,995,860.02	921,238,865.30	3,874,341,293.70
	No. of SP Completed		2	61	25	88.00
Total (LP+GOP+EU)	Cost in PhP	185,676,724.63	4,653,273,117.60	4,590,500,352.49	2,636,687,805.28	12,066,138,000.00
	No. of SP Completed	0	8	198	61	267
%tage		2%	39%	38%	22%	100%
TEPC		206,307,471.81	5,170,303,464.00	5,100,555,947.22	2,929,653,116.98	13,406,820,000.00
Cumulative		206,307,471.81	5,376,610,935.81	10,477,166,883.02	13,406,820,000.00	
%tage		2%	40%	78%	100%	

Disbursement starts in year one but physical completion of SPs is on the 2nd year which means the SPs have multiyear implementation period.

Disclaimer: the above physical and financial figures in Table 2-5, 2-51 & 2-5b are used for estimating and planning purposes only and shall not be misconstrued as allocations or quota for the regions. The Project will allocate the funds on a first come 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:

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

b. Survey of displaced persons;

c. Conduct of free and prior inform consultation in IP areas and secure the necessary ***free and prior inform consent*** (FPIC) clearances from NCIP;

d. The mobilization of partner agencies and institutions;

e. The execution of an information, education and communication (IEC) campaign to harness public support for PRDP; and

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

The implementation of various capacity building activities will be done 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 sustainabilty. Sanctions for non-compliance of the operation and maintenance requirements, like suspension of further releases or disqualification from further participation in PRDP and future DA projects, shall be imposed.

Likewise, the O&M audit result following the O&M program undertaken in each DA Project like 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. Results of the audit should show an overall satisfactory rating for the LGU to qualify for further PRDP 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 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 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 other infrastructure types, the LGU is responsible in the operation and maintenance and the formation of end users association such as farmers, vendors and operators shall likewise be undertaken to gradually oversee the operation and maintenance of the facilities. Registration of said end user's association must be done prior to subproject turn-over.

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**-6):

Table 2**-6. 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

The subproject development process consists of six (6) phases or stages and applies to all types of rural infrastructure (see Table 2-7).

Table 2-7. 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 a short 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 and PCIP[1]; (b) Geo-tagged proposed sub-projects; and (c) detailed information or subproject profile for the top 3 priority SPs.	LGU
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. **Expected Outputs:** Validation report to contain: (a) initial economic analysis,	RPCO and PSO in coordination with LGU

[1] The VCA and PCIP preparations for year 1 SPs of Yolanda, Bohol Earthquake, Glenda affected areas and MRDP SP excess demand were waived by the Project to fast track rehabilitation efforts by the Government.

Table 2-7. Subproject Processes, Outputs & Responsible Agency

Phases		Process & Expected Outputs	Responsibility
		(b) subproject preliminary screening checklist (social, environmental and vulnerability); (c) technical analysis; and (d) recommendation for detailed FS and DED or not?	
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 climate resilient infrastructure. In the adoption of the best technical options or alternative structures, there maybe 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, Operation and Maintenance Plan, occupational and health safety program, Bid Documents, IMA. (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.	LGU
4	Subproject Appraisal, Review, evaluation and approval	RPCO 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 FS documentation listed in phase 3. The PSO and to a limited extent NPCO will assist the RPCO in the review of critical SPs such as bridges, roads over 5 kilometers, CIS/CIP, all deep well water sources, level 2 water system with target household beneficiaries over 1,000, fish landing and rock causeways aside from the NOL-1 review threshold.	RPAB, RPCO, PSO and to a little extent NPCO

Table 2-7. Subproject Processes, Outputs & Responsible Agency

Phases		Process & Expected Outputs	Responsibility
		For special types of subprojects, the RPCO shall seek technical assistance from agencies like Philmec, BFAR,NMIS,PhilFIDA,NIA,LWUA,DPWH 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	
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. 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	LGU and Contractor
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 users association for FMR and multi-purpose buildings; (ii) an irrigators association, farmers and fisherfolk association for communal irrigation system and other support facilities; and (iii) water users association (BAWASA) and/or any government instrumentalities for water systems. SPs implemented by the PLGU should include the municipal, barangay and or PG in the operation and maintenance organizational structure to ensure proper coordination and accountability. An operation and maintenance audit system will be instituted to monitor O&M compliance of the LGUs for a period of 10 years. The Municipal, Provincial and Regional Project Monitoring Council (MPMC, PPMC, RPMC) will regularly monitor on a quarterly basis the implementation of the operation and maintenance plan	Beneficiary community, LGU

Table 2-7. Subproject Processes, Outputs & Responsible Agency

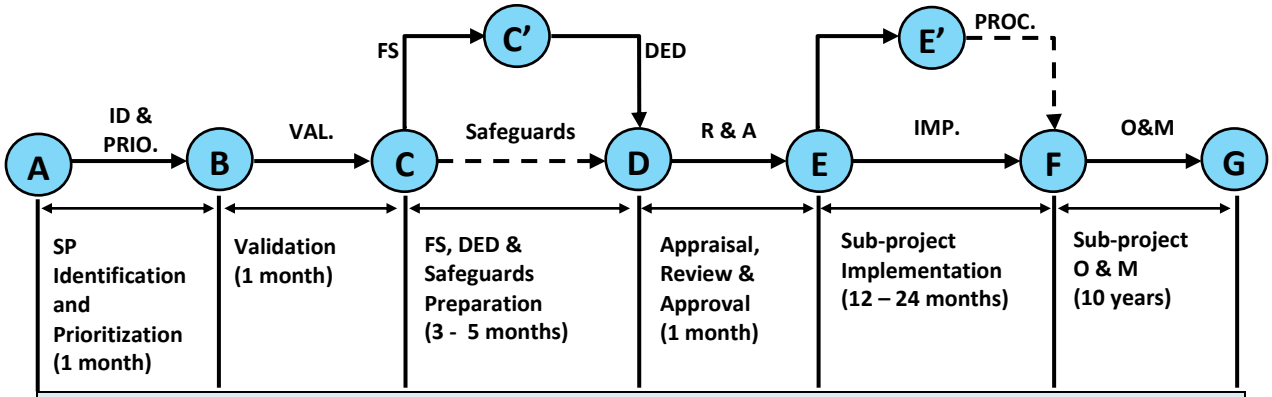
Phases	Process & Expected Outputs	Responsibility
	in each LGU. While the DA-Regional Operation and Maintenance Audit Team (ROMAT) will assess performance of the LGUs twice a year every after 6 months. **Expected Output:** (a) O & M Groups and Regional Operation and Maintenance Audit Team organized and recognized/registered (b) The LGU activated their Local Project Monitoring Councils with the inclusion of PRDP completed subprojects to be monitored for its proper operation and maintenance (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 while the details of the I-BUILD activity flow is as shown in figures 2-1, 2-1A, 2-1B and 2-1C.

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.

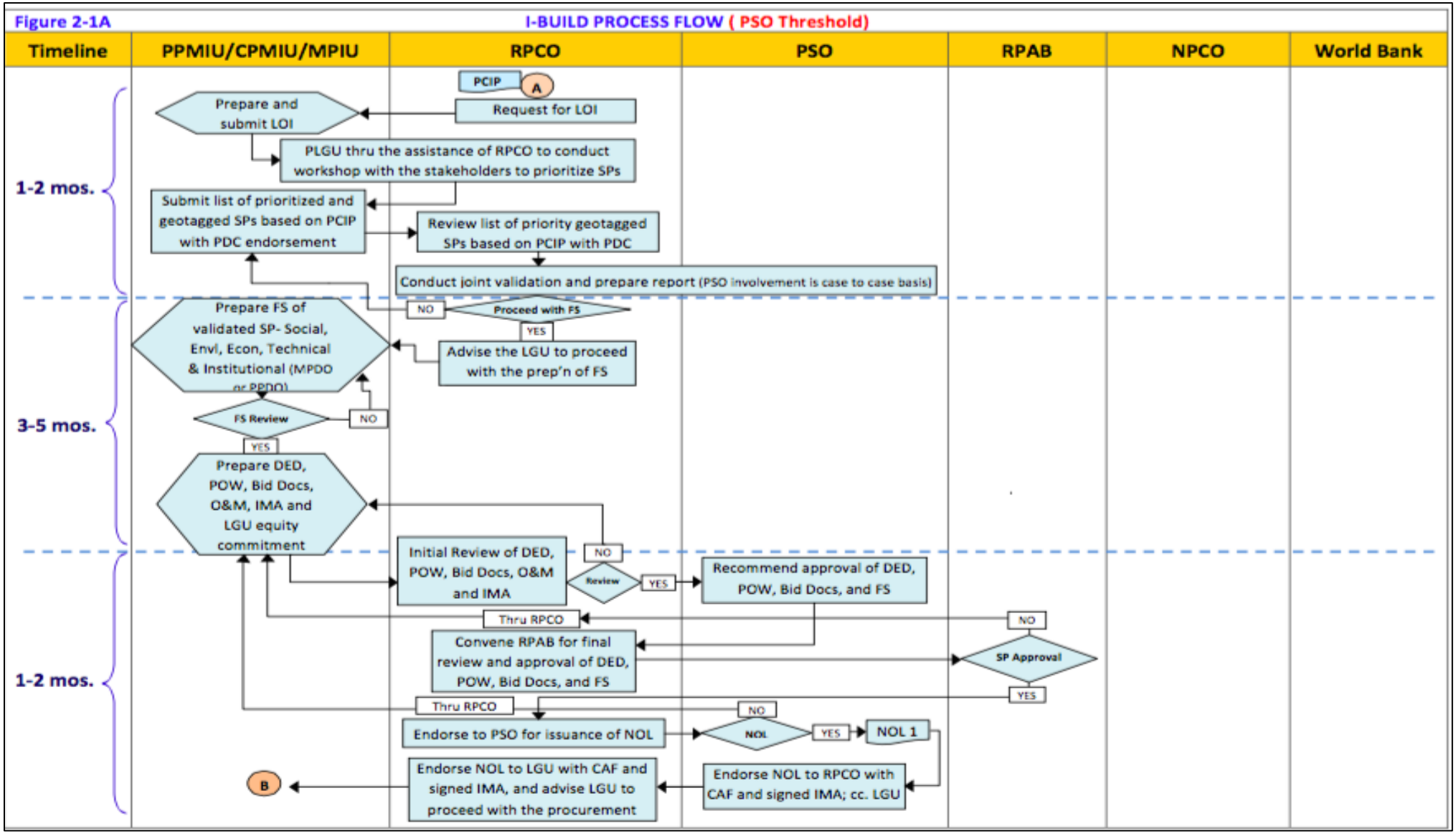
Figure 2-1. I-BUILD Activity Flow

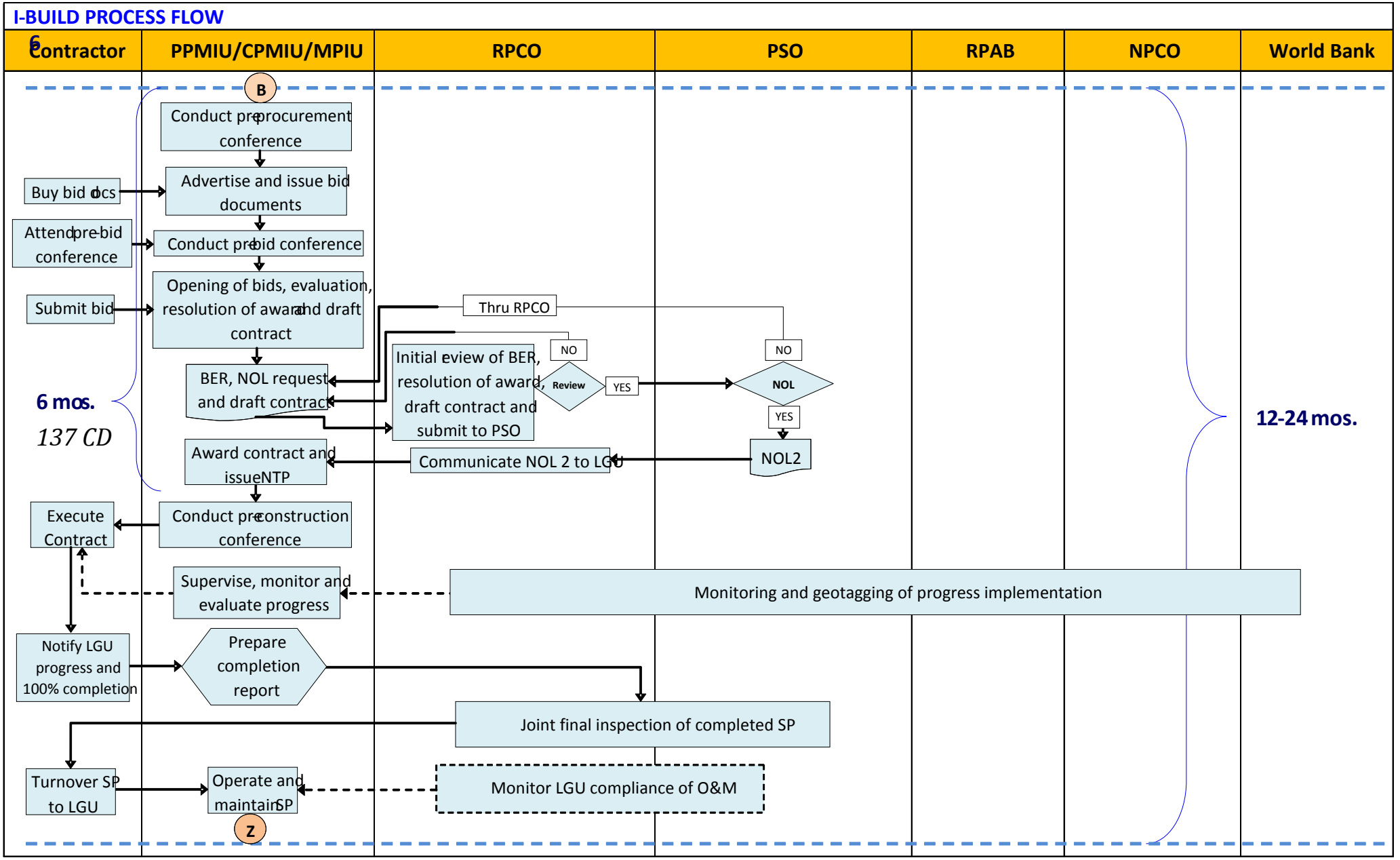


OUTPUT					
Geo-tagged SP List	Initial Economic Analysis	FS Report DED/POW/O&M Plan	Signed IMA	Procurement QA/QC	O&M Audit
	SP Preliminary Screening Checklist	Safeguards Bid Docs	CAF Issued Nol 1	Completion Report Nol 2	Functional Sps
RESPONSIBILITY MATRIX					
LGU	RPCO/PSO	LGU	RPCO/PSO/NPCO	LGU	LGU

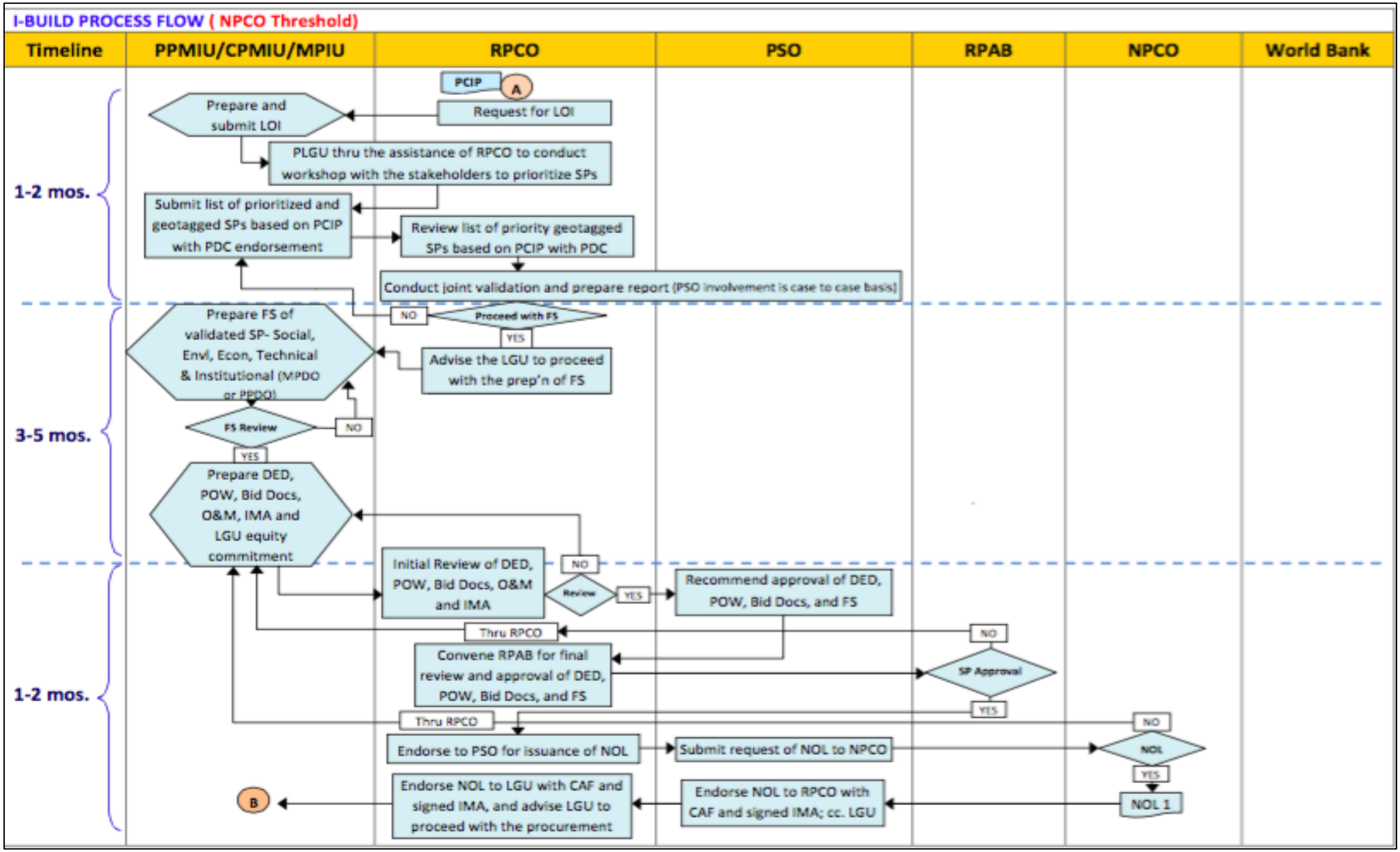
I-BUILD Component

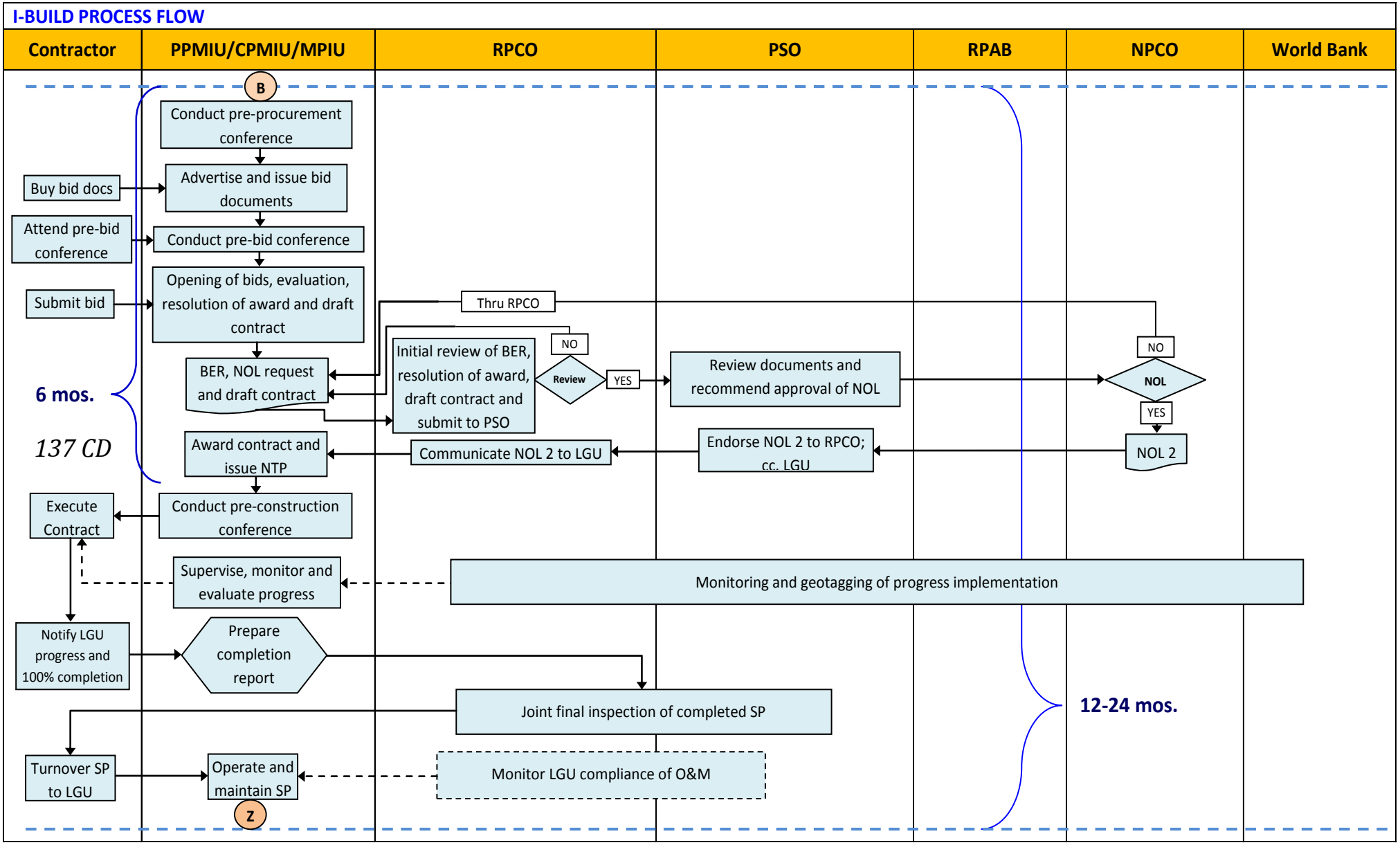
Figure 2-1A I-BUILD PROCESS FLOW (PSO Threshold)



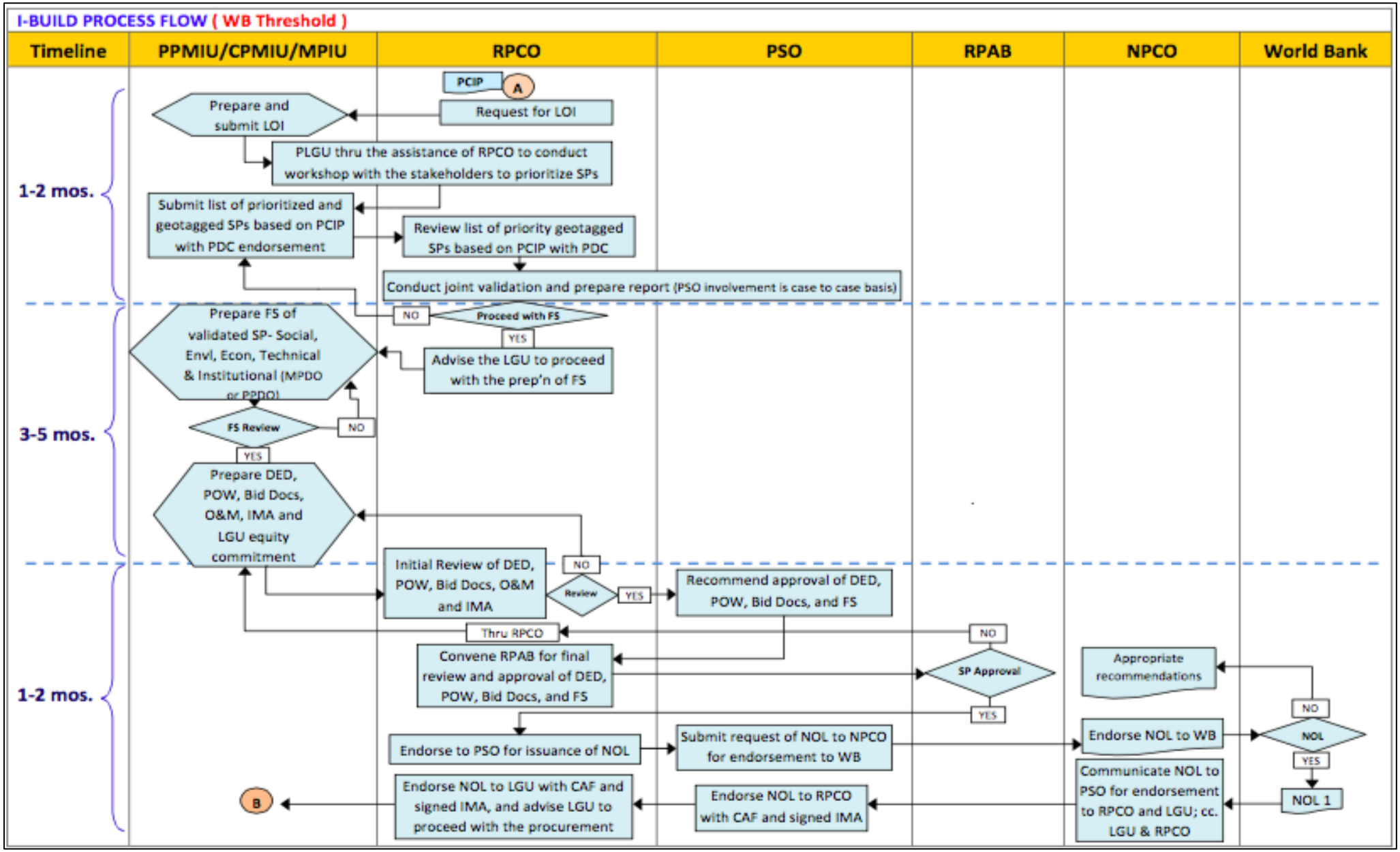

I-BUILD PROCESS FLOW
6
Contractor
PPMIU/CPMIU/MPIU
RPCO
PSO
RPAB
NPCO
World Bank
B
Conduct pre-procurement conference
Buy bid docs
Advertise and issue bid documents
Attend pre-bid conference
Conduct pre-bid conference
Submit bid
Opening of bids, evaluation, resolution of award and draft contract
Thru RPCO
NO
Initial review of BER, resolution of award, draft contract and submit to PSO
Review
YES
NO
NOL
YES
BER, NOL request and draft contract
6 mos.
137 CD
Award contract and issue NTP
Communicate NOL 2 to LGU
NOL2
Execute Contract
Conduct pre-construction conference
Supervise, monitor and evaluate progress
Monitoring and geotagging of progress implementation
Notify LGU progress and 100% completion
Prepare completion report
Joint final inspection of completed SP
Turnover SP to LGU
Operate and maintain SP
Monitor LGU compliance of O&M
Z
12-24 mos.

I-BUILD Component

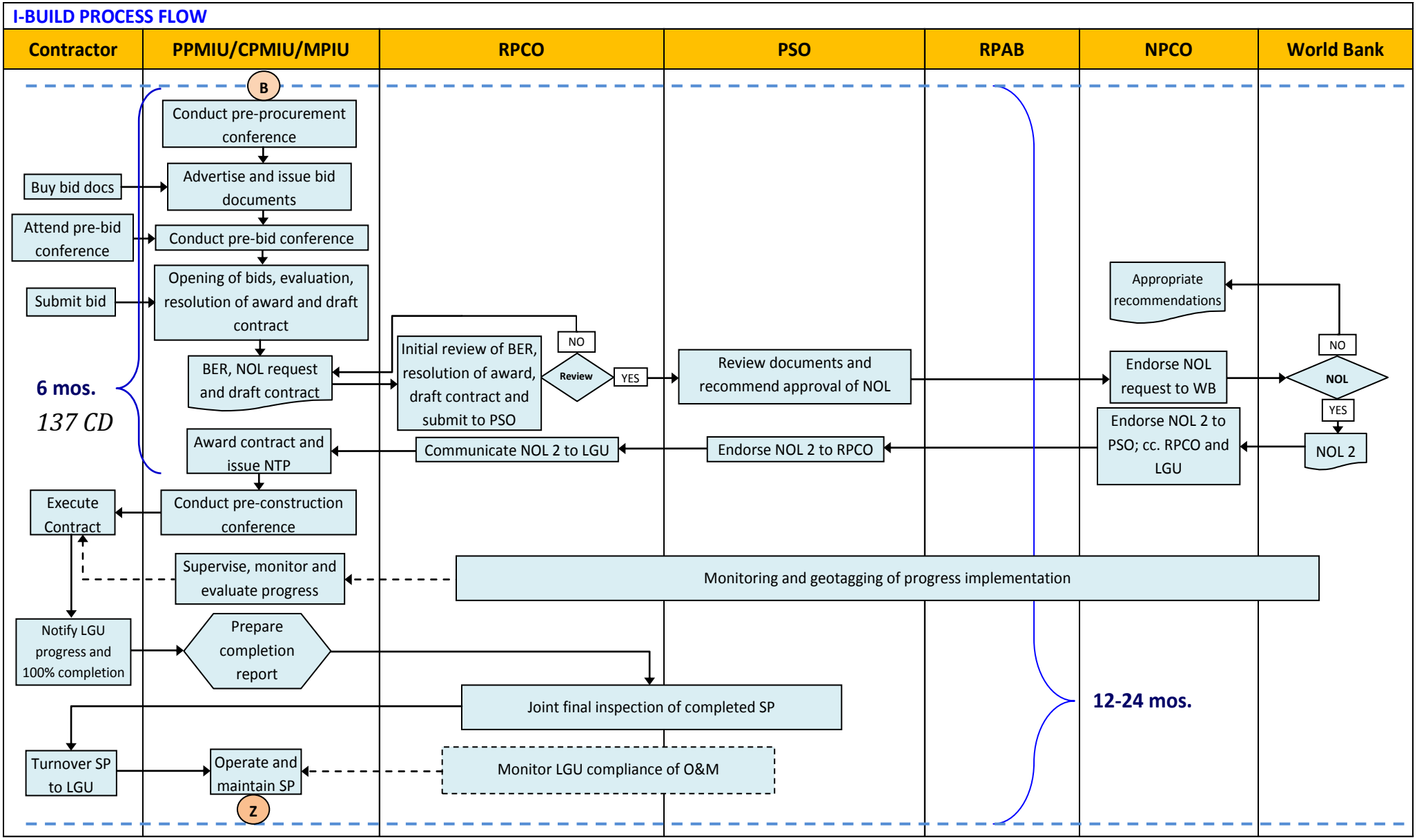



I-BUILD PROCESS FLOW
Contractor
PPMIU/CPMIU/MPIU
RPCO
PSO
RPAB
NPCO
World Bank
B
Conduct pre-procurement conference
Buy bid docs
Advertise and issue bid documents
Attend pre-bid conference
Conduct pre-bid conference
Opening of bids, evaluation, resolution of award and draft contract
Submit bid
Thru RPCO
Initial review of BER, resolution of award, draft contract and submit to PSO
NO
Review
YES
BER, NOL request and draft contract
Review documents and recommend approval of NOL
NO
NOL
YES
6 mos.
137 CD
Award contract and issue NTP
Communicate NOL 2 to LGU
Endorse NOL 2 to RPCO; cc. LGU
NOL 2
Execute Contract
Conduct pre-construction conference
Supervise, monitor and evaluate progress
Monitoring and geotagging of progress implementation
Notify LGU progress and 100% completion
Prepare completion report
Joint final inspection of completed SP
12-24 mos.
Turnover SP to LGU
Operate and maintain SP
Monitor LGU compliance of O&M
Z

I-BUILD Component



I-BUILD Component



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 or I-BUILD Process Flow in Figures 2-1A, 2-1B and 2-1C. The threshhold level for the issuance of NOL-1 and NOL-2 from PSO, NPCO and WB is denominated in US dollar value during RPAB approval and bid opening for NOL-1 and NOL-2 respectively.

a. Request for Proposal (RP) – the RPCO upon establishing that the PCIP preparation is complete shall request the PLGU to submit request for proposal.

b. Prepare Letter of Intent (LOI) – the PLGU upon receipt of the request for proposal shall prepare the letter of intent to participate with the Project. The PLGU 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 funding. Included is a subproject profile containing the details of the top three priority SPs.

c. Submit LOI – the PLGU 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.

d. 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.

e. 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.

f. 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 PPMIU, it shall review and approve the FS report.

g. Conduct Survey and Prepare DED, POW, O&M Plan, Occupational Health and Safety Program, Bid Documents and draft the subproject Implementation Management

Agreement (IMA) – the LGU shall prepare the above requirements while the RPCO provides technical support.

h. 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 by the RPAB members and or its secretariat and prepares the Subproject Appraisal Report (SPAR) as reference for the RPAB deliberation. The SPAR may also be a product of the series of reviews and usually the first level of review will be undertaken by the RPCO and the 2nd level of review by the PSO and to a little extent the NPCO before the RPCO schedules the RPAB approval or return the documents to the proponent LGU for further enhancement.

i. 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 threshhold.

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

Cluster/Office	Prior Review Threshold in US$
World Bank	**>** 10,000,000.00
National Project Coordination Office (NPCO)	>1,000,000.00 to ≤ 10,000,000.00
Project Support Offices (PSOs)	≤ 1,000,000.00
Regional Project Coordination Office	≤ 100,000.00

Note: the threshhold is consistent with the PRDP Procurement Manual

For the first SP per region regardless of amount and procurement methods, the LGU must seek the issuance of NOL-1 from the NPCO for Visayas and Luzon PSOs. Likewise, the first SP per cluster regardless of amount and procurement method, the LGU to seek the issuance of NOL-1 from the WB. The cut-off date upon which the decision whether the threshold is at the RPCO, PSO, NPCO or WB is based on the RPAB approved cost.

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

l. 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.

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

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

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

p. 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.

q. 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.

   For the first SP per region regardless of amount and procurement methods, the LGU must seek the NOL-2 from the NPCO for Visayas and Luzon. Likewise, the first SP per cluster regardless of amount and procurement method, the LGU to seek the issuance of NOL-2 from the WB and those SPs costing more than US$10,000,000.00. The determination of what management/office level to issue NOL-2 will depend on the office level that issued the NOL-1 however for evaluated cost nearing the border line between NPCO or WB NOL-2 issuance, the threshold review level shall be based on the amount in the notice of award.

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

s. 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.

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

u. 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.

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

w. 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.

x. 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.

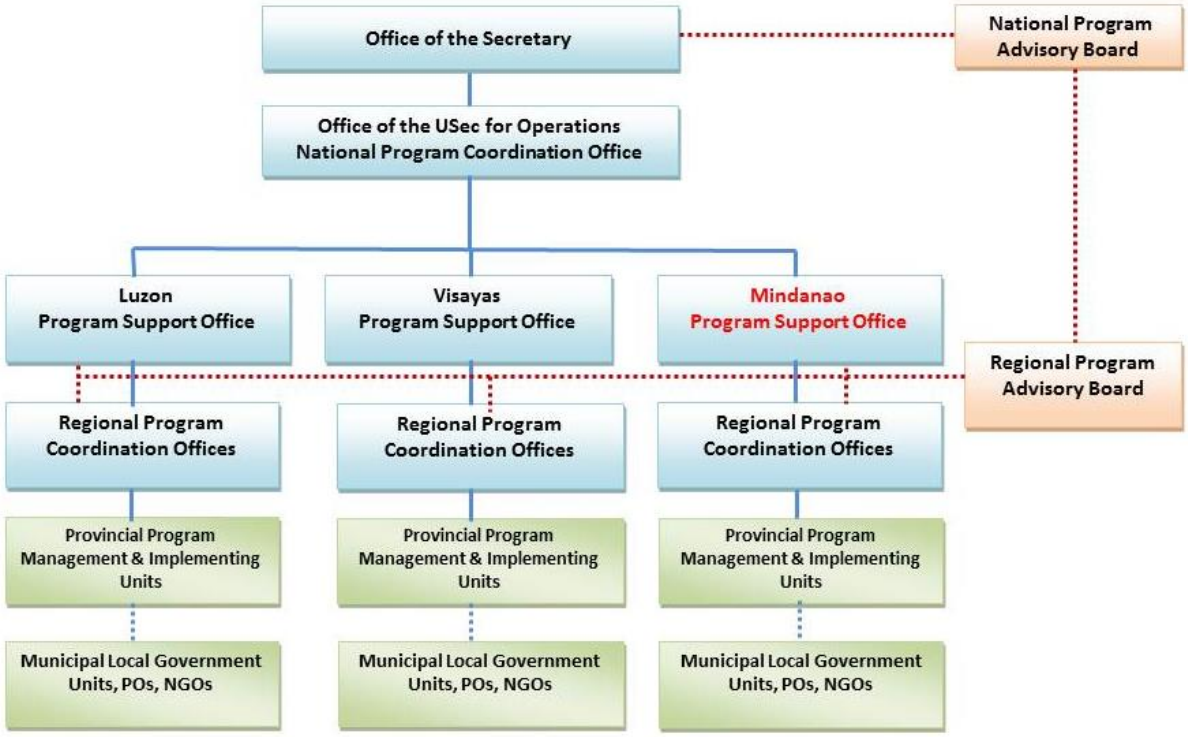
y. Ensure Proper Operation and Maintenance – the LGU together with the O & M groups or end users operate and maintain the completed SP.

2.11 Organizational Structure, Functional Responsibilities and Implementation Arrangements

2.11.1 Organizational Structure

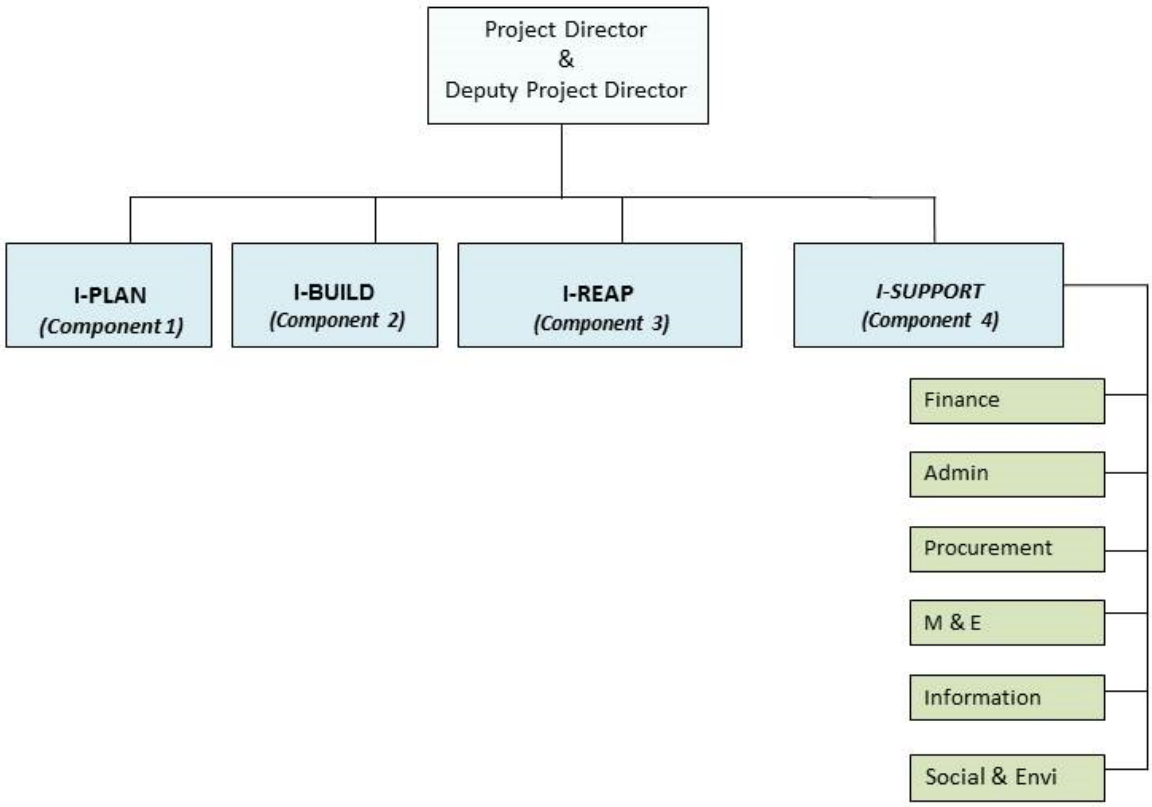
At the project level, the organizational structure is as follows:

Figure 2-2. Organizational Structure at the Project Level



The organizational structure at the PRDP-PSO is as illustrated in Figure 2-3.

Figure 2-3. Organizational Structure at the PSO



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

1 – Chief of Rural Infrastructure component

1 – Farm-to-market Roads & Bridges Specialist

1 – Irrigation Specialist

1 – Water Supply Specialist

1 – Technical Support (Civil Engineer)

The organizational structure of the I-BUILD Unit will be as follows.

Figure 2-4. Organizational Structure of the PSO IBUILD Unit

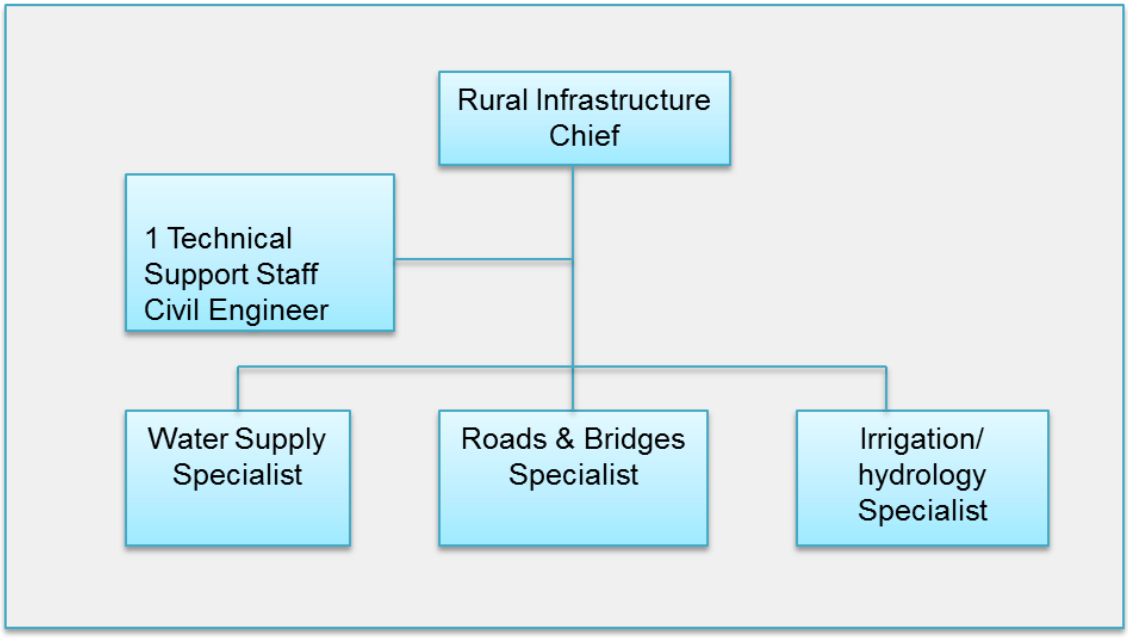
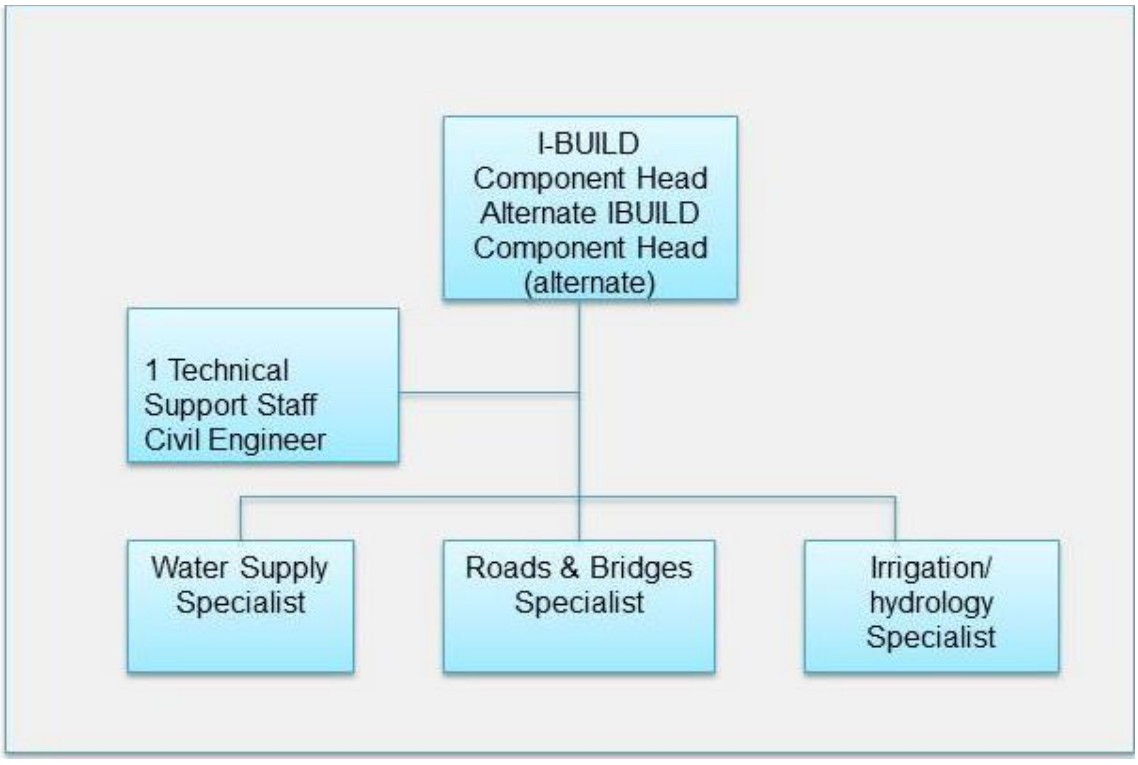
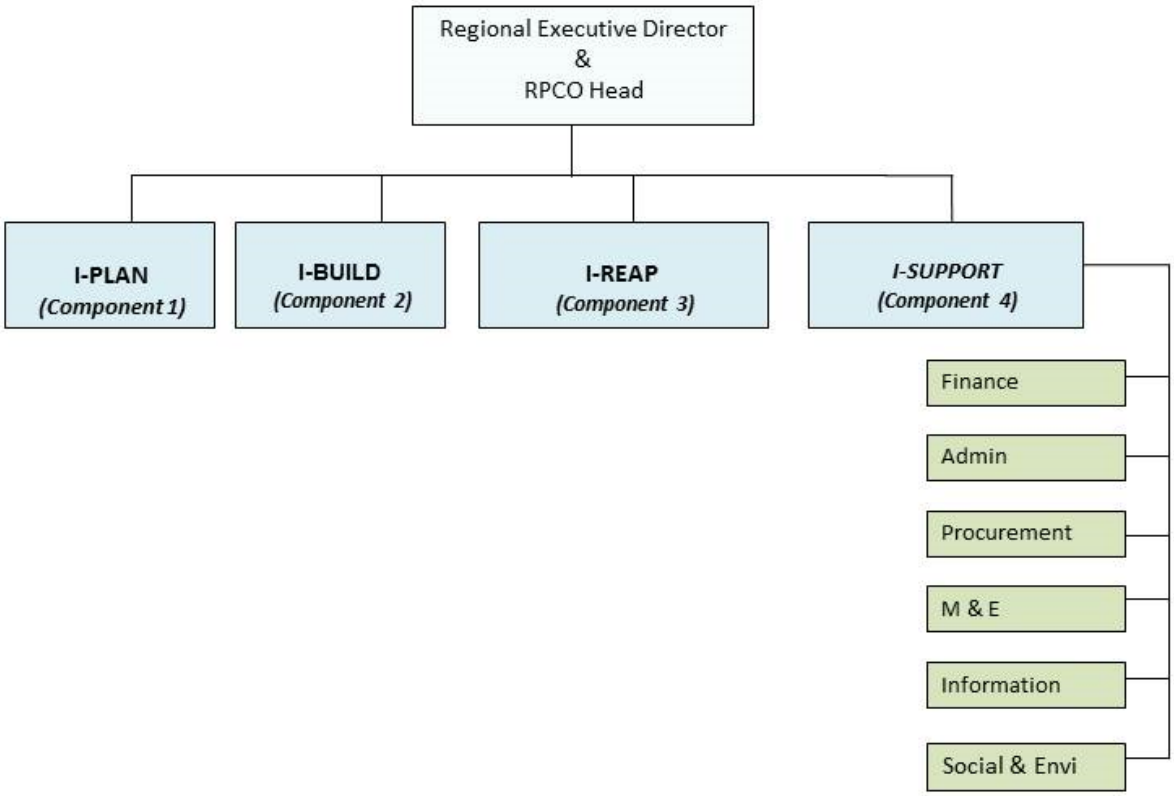


Figure 2-5. Organizational Structure of the NPCO cum Interim LUZON B-PSO IBUILD Unit



The organizational structure at the PRDP-RPCO is illustrated in 2-6.

Figure 2-6. Organizational Structure at the RPCO



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

1 – RPCO IBUILD Chief (should be the head of RAED)

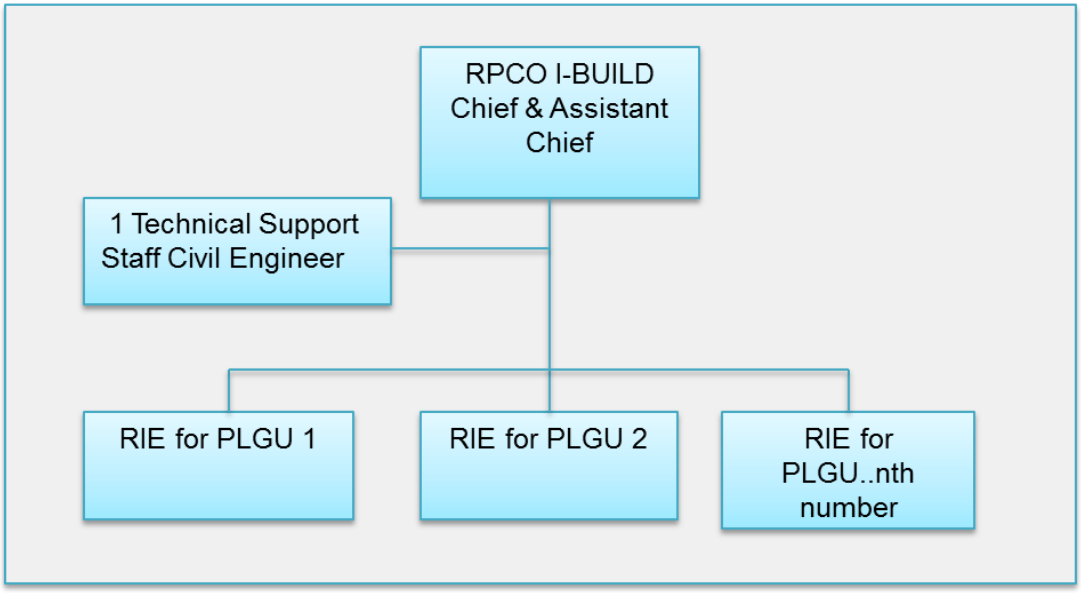
1 – Deputy or Assistant I-BUILD Chief (designated full time or hired full time)

1 – Rural Infrastructure Engineer (RIE) per PLGU (coverage ratio)

1 – Technical Support (Civil Engineer)

The organizational structure of the I-BUILD Unit at the RPCO will be as follows.

Figure 2-7. Organizational Structure of the RPCO I-BUILD Unit



2.11.2 Functional Responsibilities

LGU Level – Municipal/Provincial Project Management and Implementing Unit (M/PPMIU)

In most cases, the provincial local government unit will be the main implementing arm of the PRDP 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 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 (Municipal/City/Provincial Project Management and Implementing Unit) will be established for the purpose.

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

In cases where the PLGU finds it relevant and strategic to partner with MLGUs, BLGUs and the private sector to effectively implement the subprojects, the PLGU may enter into

appropriate covenants which shall form part of the subproject Implementation Management Agreement (IMA) between the DA and the PLGU.

It is recommended that the M/C/PPMIU shall be headed by the Planning and Development Office (M/C/PPDO), and the other members to include the Engineering Office (M/C/PEO), the Office of the Agriculturist (M/C/PAO), and the Environment and Natural Resources Office (M/C/PENRO), Finance Offices and others as the Chief Executive deemed appropriate

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.

For the purpose of appraising proposed subprojects, the RFU Regional Executive Director (RED) shall create a Regional Project Coordination Office (RPCO). In deciding on the composition of the RPCO, the RED shall ensure that the skills mix which will result from the selection should adequately cover the following main areas of appraisal: technical, economic/financial, and social/environmental analyses. The RED should designate the right individuals coming from existing or organic staff who possess the academic preparation and/or practical experience in performing such areas as project appraisal and technical support to implementation. In the absence of qualified staff, engagement of non-organic staff is an option.

The RPCO is headed by the RED and a designated RPCO Head preferably the Regional Technical Director (RTD) for Operations.

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. The Mindanao PSO will provide orientation to the Visayas and Luzon PSOs during Year 1 of Project implementation to shorten the learning curve and pump-prime the early start of sub-project implementation.

It is headed by the Project Director and a Deputy Project Director who will be responsible for the performance of four (4) Operations Units that will look after the four components of PRDP 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 and evaluation 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) acts as interim PSO for Luzon Cluster B; and iv) shall also serve as secretariat to the National Project Advisory Board.

The DA's Undersecretary for Operations has overall responsibility for the successful implementation of PRDP.

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 Advisory Board (NPAB)

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

The NPAB (National Project Advisory Board) 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 ARCs 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 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 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.

In the ARMM, the Secretary of the Department of Agriculture and Fishery or the Minister of the Ministry of Agriculture-Fishery and Agrarian Reform for BARMM shall have similar authorities and responsibilities as the Regional Executive Directors (REDs) of the DA-RFUs.

In most cases, the PLGU being the overall coordinator of rural infrastructure development in the province shall prepare and review all subproject proposals and seek endorsement from the Provincial Development Council (PDC) for those that comply with PRDP guidelines. The PDC endorsement should define the procuring entity and special implementation arrangement among the involved LGUs as the case maybe.

In cases where an MLGU or City is identified as critical in the commodity value chain analysis but not considered in the PCIP, it could still be regarded as an implementing unit upon recommendation of the RPCO. The same prequalification for the PLGU will apply to MLGU/City as implementing unit.

The Provincial LGU shall form the Provincial Project Management and Implementing Unit (PPMIU). The PPMIU 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.

In the event that the SPs are implemented by municipalities or cities, the Municipal/City LGU shall form the Municipal/City Project Management and Implementing Unit (M/C/PMIU) which shall be headed by the Municipal/City Planning and Development Office (M/C/PDO), and the other members to include the Municipal/City Engineer's Office (M/C/EO), the Office of the Municipal/City Agriculturist (M/C/AO), and the Municipal/City Environment and Natural Resources Office (M/C/ENRO), finance offices and others as the Chief Executive deemed necessary.

Where an SP packages cut across more than one municipality, the PLGU becomes the appropriate procuring entity. Counterpart funds from the M/C/LGUs if any will be pooled at the PLGU trust fund account.

Subproject implementation shall be by contract.

Priority shall be given to local people in the hiring of manpower for the subprojects.

Women shall be given equal opportunity to work in subproject implementation.

Quality control tests shall be conducted or witnessed by PEOs or M/C/EOs while the contractor facilitates the tests from DPWH or its accredited laboratory. This does not free the contractors' responsibility and the procuring entity to conduct its own tests and deliver the quality work/output requirements of the Project.

Additional costs arising from variation or change orders above the estimated project cost shall be borne by the proponent LGUs. It maybe be cost shared if savings are available as a result of a lower bid cost compared to the EPC as indicated in the IMA or for change orders initiated by the Project in the implementation of emerging government policies and design adjustments due to current site condition. 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 NOL 1. For variation orders costing more than 10%, the approval of World Bank is required.

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 All-Risk Insurance to take care of unforeseen costs brought about by any *force majeure* .

Liquidated damages deducted from the contractors' contract amount shall be credited to the LGUs' accounts.

LGUs whose completed PRDP-funded subprojects 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.

The subprojects targeted for PRDP retroactive financing from MRDP surplus proposals for 2013 and year 1 will be integrated during the regular process of PCIP preparation. Likewise, those affected by typhoon Yolanda, Glenda and the Bohol Earthquake in 2013 and 2014 shall also be exempted from the VCA and PCIP requirements for CY 2014 and CY 2015. The rationale behind is for the Project to fast track recovery and rehabilitation interventions in affected areas.

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 aquisition, 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.

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 Engineering Offices (PEOs), Provincial Planning and Development Offices (PPDOs) and their counterparts at the MLGU level, the DA-RFU Engineering Offices and other stakeholders.

2.12.1 Technical Capability Building Activities

The following capability building activities or trainings (Table 2-8) emerged during the PRDP FS preparation stage as appropriate intervention to ensure that the implementers are able to deliver the quality output envisioned in PRDP.

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 2-8. Capability Building Activities and Targets

Name of Training	Number of Participants						Duration (days)	No. of Work-shop at 50 pax each	Rate (PhP per Pax)	Cost in million pesos	Cost Projection in million pesos						
	Stakeholders (max. 1250 BRGYs)	MPMIU (625 MLGUs)	PPMIU (80 PLGUs)	RPCO (16 RFUs)	PSOs (3 cluster island)	Total Pax					Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Pre-implementation	1250	625	80	16	3						2013	2014	2015	2016	2017	2018	
1. Participatory project planning (AFMP,PCIP, Geo-tagging, risk assessment)	13750	2500	320	80	18	16,668.0	5	333	1200	100.0	70.0	30.0					100.0
2. Feasibility study/DED preparation training (considering safeguards/climate change/educational exposure)	2500	1250	160	32	18	3,960.0	3	79	1200	14.3	5.7	2.1	2.1	2.1	2.1		14.3
Implementation																	
3. Procurement training	2500	5000	240	32	18	7,790.0	3	156	1200	28.0	0.6	4.2	6.8	8.4	5.3	2.8	28.0
4. Contract Management, Occupational Safety & Health and construction supervision training	2500	625	80	80	18	3,303.0	3	66	1200	11.9	0.2	1.8	2.9	3.6	2.3	1.2	11.9

I-BUILD Component

Name of Training	Number of Participants						Duration (days)	Number of Work-shop at 50 pax each	Rate (PhP per Pax)	Cost in million pesos	Cost Projection in million pesos						
	Stakeholders (max. 1250 BRGYs)	MPMIU (625 MLGUs)	PPMIU (80 PLGUs)	RPCO (16 RFUs)	PSOs (3 cluster island)	Total Pax					Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
5. Quality assurance and quality control training	2500	625	80	80	18	3,303.0	3	66	1200	11.9	0.2	1.8	2.9	3.6	2.3	1.2	11.9
Post-implementation																	
6. Operation and maintenance training	13750	2500	320	80	18	16,668	3	333	1200	60.0		9.0	9.0	12.0	12.0	18.0	60.0
Total	**38,750.0**	**13,125**	**1,280**	**400.0**	**111.0**	**51,692**				**226**	**77**	**49**	**24**	**30**	**24**	**23**	**226**
Percentage	**75.0%**	**25.4%**	**2.5%**	**0.8%**	**0.2%**	**100%**					**33.9%**	**21.6%**	**10.5%**	**13.1%**	**10.6%**	**10.2%**	**100%**

Note: Mindanao has 225 MLGUs, Central Philippines has 300 MLGUs, and Northern Luzon has 100 MLGUs (Northern Luzon to have at least 5MLGUs per Province), 2 brgys per MLGU, 50 pax per workshop

2.12.2 Support Facilities

PRDP shall be provided with the following support facilities:

1. For the DA-RFUs/RPCOs:

a. One (1) vehicle to each region for the exclusive use of the project
b. One (1) computer per key staff and common printer per unit to each region for the exclusive use of the project
c. One geotagging device per Engineer at the RPCO

2. For the PRDP-PSO:

a. Three (3) vehicles per PSO
b. One 1) computer per key staff and a common printer per unit to each PSOs.
c. One geotagging device per Engineer at the PSO

3. For the LGUs: (facilities to be provided by the LGU on top of the required SP equity):

a. An office space exclusive for the M/C/PPMIU.
b. One (1) vehicle and four (4) motorcycles to each LGU for the exclusive use of the Project and under the control of the M/Provincial Project Management and Implementing Unit (M//C/PPMIU). The units shall be shared by the Engineer's Office (M/PEO), Planning and Development Office (M/C/PPDO), Office of the Agriculturist (M/C/PAO), and Finance Offices.
c. One (1) computer and one (1) printer to each LGU for the exclusive use of the Project and under the control of the M/C/PPMIU.
d. Provide an operational materials testing laboratory with apparatus/equipment for concrete slump test, soil test and field density test at the minimum.
e. Each of the key staff to be provided with a geo-tagging device.

2.13 General Financial Management Arrangements

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

2.13.1 Requirements For The Release Of Funds To Local Government Units

a) **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.

b) **Certificate as to Availability of Funds (CAF)** issued by PSO to the concerned LGU.

c) **Release for Advance Payment**– not to exceed fifteen percent (15%) of the contract cost:

1) Letter from the LCE requesting for the release of funds;
2) Notice of Award;
3) Performance Security as indicated in the PBD;
4) Contract Agreement together with certificate that all Annexes of the Contract is with the RPCO;
5) Notice to Proceed with Acceptance/Conforme from the Contractor;
6) Bank certification of LGU Equity deposit equivalent to one hundred per cent (100%) of the required LGU Equity;
7) Bank certification of LP and GOP account opened by LGU in the name of LGU PRDP Trust Fund Account;
8) Bank Guarantee equivalent to mobilization fee or as specified in the bidding documents.
9) Geotagged photos of site mobilization of equipment for the first work activity.

Release for First Progress Payment – the first progress payment is encourage to happen on the first month of the contract without any minimum in physical accomplishment.

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

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

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

a) Letter from LCE requesting for fund release;
b) 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);
c) Certificate of Completion signed by LGU Engineer and Local Chief Executive (LCE);
d) Certificate of Turn Over by Contractor and Accepted by LCE of the LGU;
e) Certificate of Turn Over by LCE to end users;
f) COA Technical Inspection Report or duly received Letter Request for COA inspection ; and

g) Monthly Financial Reports reflecting the payments made utilizing the funds released.

h) 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

a) Letter from contractor requesting for mobilization fee;

b) Approved, signed and notarized Contract Agreement;

c) Performance Security specified in the PBD;

d) 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;

e) Contractors All Risk Insurance (CARI) for the sub-project.

f) Geotagged photos of site mobilization of equipment for the first work activity.

Payment of Progress Billing

a) Letter request from Contractor requesting for payment of progress billing;

b) Statement of Work Accomplished (SWA) – duly validated by the Joint Inspectorate Team (JIT);

c) Certificate of Payment (COP) ;

d) Geotagged photos reflecting the equivalent physical accomplishment

Payment of Final Billing

a) Letter request from Contractor requesting for payment of physical accomplishment;
b) 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);
c) Certificate of Payment;
d) COA Technical Inspection Report or duly received Letter Request for COA inspection;
e) Certificate of Completion;
f) Certificate of Turn Over by the Contractor to the LCE;
g) Certificate of Turn Over by LCE to the end –user;
h) 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 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 2-9 shows a summary of these submissions. Refer to the FMS manual for the comprehensive financial management system of the I-BUILD component.

Table 2-9. 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
2	Consolidated SRE	x	x	x		of the
3	Trial Balance	x	x		x	following
4	Bank Reconciliation Statement (BRS)	x	x	x	x	month
Quarterly Report						
1	Quarterly Consolidated SRE	x	x	x		
2	Balance Sheet	x	x		x	10th day
3	Cash Flow Statement	x	x		x	of the
4	Withdrawal Application (WA)	x	x			following
5	Interim Financial Report (IFR)					quarter
	- 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
	Funds (SSAF)					than
2	Consolidated Financial Report (CFR)	x				31-Dec
3	Trial Balance	x	x		x	of the
4	Balance Sheet	x	x		x	following
5	Statement of Income and Expense (SIE)	x	x			year
6	Statement of Government Equity	x	x			

2.14 Monitoring and Evaluating the Rural Infrastructure Component of PRDP

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 "other 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 Municipal/Provincial 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 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 turn-over 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.

The progress M&E (feedback mechanism), results M&E (impact assessment) and details of the monitoring and evaluation of the I-BUILD component are in the M&E Operation's Manual.

2.15 Social and Environmental Safeguards

The menu of eligible infrastructure interventions for I-BUILD will be the same as that of MRDP, but with a nationwide geographical reach and augmented with fisheries-related support infrastructure and facilities such as fish landings. As demonstrated by MRDP implementation, most of the above-mentioned activities are small-scale with negligible and temporary environmental impacts, and are not covered by the existing Philippine Environmental Impact Statement System (PEISS). However, some subprojects, while non-environmentally-critical, might be located in environmentally critical areas.

As safety net, the MRDP Environmental Framework and Guidelines provided environmental safeguards for its subprojects. The same framework and its corresponding guidelines developed and refined under the MRDP Project was enhanced into an Integrated Environmental and Social Safeguards Framework (IESSF) for adoption of PRDP subprojects under the I-BUILD component. The difference in scale and scope between MRDP and PRDP subprojects does not alter the degree of localized environmental impact brought about by the subprojects, whether covered or not covered by the PEISS.

To ensure safety and health of the public, communities, workers and personnel amidst COVID-19, the PRDP prepared a set of 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. The IESSF was recently revised to include Supplemental Guidelines on COVID-19.

Social and environmental safeguard tools such as: i) Entitlement Survey of Project Affected Persons (annex 5); ii) Inventory and Entitlement of Project Affected Persons (annex 5a); and iii) Environmental and Social Management Plans per subproject are attached in annexes 38-41.

The environmental and social safeguards for I-BUILD subprojects may be referred to in more details in the Environmental Framework and Guidelines as well as the Indigenous Peoples Development Framework, and the Land/ROW Acquisition and Resettlement Policy Framework of the WB. The details of the social and environmental safeguards are in Appendices A , A1 and B.

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 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 endeavour 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 facilities, the LGU endeavors to strengthen the group organizationally and financially in providing the O and M services.

An operation and maintenance audit system will be instituted to monitor O&M compliance of the LGUs for a period of 10 years. The details are in appendices D and E. A subproject Operation and Maintenance Manual will be developed to integrate this O & M Audit System.

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

Applied Geotagging Technology (AGT) or simply geotagging is the latest innovative tool for subproject identification, validation, monitoring and supervision. The technology is utilized as a web-based mapping system that is Google Earth-based tracking of infrastructure, livelihood and agri-fishery facilities. This has paved for virtual monitoring of the real condition of the subproject sites without really conducting actual site visits, hence promoting greater transparency and total public disclosure of project implementation. This section of the manual will provide background on the use of geotagging, a separate and more detailed user's guide is included in the GGU Operations Manual for all types of users of the technology.

What is geotagging?

Geotagging, also called geolocation, is the practice of associating a digital resource (e.g. photos, videos, website, SMS) with a physical location. Location information is typically given in terms of latitude and longitude coordinates which can pinpoint any place on earth with a high degree of precision.

The AGT is a web-based or internet application compiled to digitally complement subproject implementation monitoring on the ground. It combines engineering review tools and supervision experiences with location based on digital technologies (i.e. GIS, GPS, geotagging) resulting in a subproject that can be viewed in its actual location and its physical progress, and seeing the total developmental impact of the subproject as a whole in relation to its access, links, and influence areas.

What are the basic requirements for geotagging?

A. Software

- Google Earth Pro- desktop application for Windows or Macintosh that can be downloaded at the google.com/earth.html. The google earth is global representation of the Earth, that can be used as tool for planning, surveillance, monitoring and other application.

- PRDP Geo-tagging Android Camera Application (.apk) – is android based application developed by in-house programmer of the DA-PRDP and freely available for download at www.daprdp.net. The application can be installed to geotagging device both tablet or phone.

B. Internet Connection

PRDP MIS Geotagging Dashboard is an online portal for the storing, managing, uploading and publication of geotagged photos that were taken at the field. To view the MIS dashboard at www.daprdp.net , an internet connection is needed and an access account to upload geotagged photos.

C. Geotagging Device

It requires cellular phone or tablet with camera and build-in GPS/GLONASS embedded chipsets running android OS with a minimum camera resolution of 3 megapixel. Geo-tagging does not need TELCOS signal to function.

How to conduct geotagging?

Geotagging does not require specialized technical skills to enable users to operate the tool. Users should be physically fit to do geotagging on the ground.

- **Field Viewing/Data Gathering**. Using the geotagging device, users make a recording of GPS tracks and taking geotag photos at critical sections or points of the project site. Geotagging of subproject shall obtain GPS tracks and geotag photos from a particular starting reference point (e.g. the municipal office and/or its vicinity) going to the exact location/position of the subproject.

- **Exporting Tracks and Geotag Photos.** From the geotagging device, GPS tracks and geotag photos are exported to the PC. Exported tracks and geotag photos are saved in folders and organized according to names of subprojects.

- **Uploading Geotag Photos using the PRDP MIS**. By logging in on the user's account, geotag photos are then uploaded to the MIS. Once uploaded, user can create a file that launches Google Earth and displays photo thumbnails in the designated locations, along with the GPS tracks showing track profile (e.g. elevation, distance). The MIS also allow geotag photos timeline comparison for on-going sub-projects

How frequent geotagging is conducted?

A geotag schedule is designed to determine the frequency of geotagging activities throughout the implementation depending on the subproject type as outlined below:

Table 2-10. Geotagging Activities Throughout the Subproject Cycle

Subproject	Level of Implementation			
	Proposed (Executed by the proponent)	**Ongoing** (Executed by the contractor and proponent- monthly based on SWA)	**Completed** (Executed by contractor, proponent & RPCO, JIT)	**Operations & Maintenance** (Executed by proponent)
Farm to Market Road (FMR)	• GPS track or digitized polyline	• Geotag photos of committed equipment "on-site"	• GPS track or digitized polyline	• Update (every O&M audit) Geotag

	from municipal office to start of FMR, and geotag photos of municipal hall and surroundings • GPS track of FMR or digitized polyline • Geotag photos of FMR at 50 meters interval and special structures (e.g. cross drains, PCCP, box culverts, line canal, slope protection structures, etc.) • GPS track or digitized polyline/polygon and geotag photos of Commodity Locations and production	- Equipment :Full View :Close-up view on serial number - Transport :Full View :Close-up view on Plate Number and/or Body/Chassis Number • Progress Monitoring -Quarry Sites -Quality testing activities (FDT sampling, cylindrical and flexural moldings conducted) -Construction activities (spreading, compaction, pouring, etc.) -Geotagged photos every 50 meters interval of reported progress -Geotagged photos of intermediate structures (cross drains, line canal, etc.) -Contractor shall submit the above in digital format to proponent together with the corresponding statement of work accomplished (SWA)	from municipal office to start of FMR, and geotag photos of municipal hall and surroundings (360°) • GPS track of FMR or digitized polyline • Geotag photos of FMR at 50 meters interval and special structures (e.g. cross drains, PCCP, box culverts, line canal, slope protection structures, etc.)	photos of FMR at 100 meters interval, special structures (e.g. cross drains, PCCP, box culverts, line canal, slope protection structures, etc.) and OMAS Concern (e.g. Physical Status of Facilities & Structures) • Or any repairs/ improvement conducted
Bridge	• GPS track or digitized polyline from municipal office to start of bridge, and geotag photos of municipal hall and surroundings • Geotag photos of location of the following: • Beginning approaches • Beginning pier • End pier • End approaches • GPS track or digitized polyline/polygon and geotag photos of Commodity Locations and production areas.	• Geotag photos of committed equipment "on-site" - Equipment :Full View :Close-up view on serial number - Transport :Full View :Close-up view on Plate Number and/or Body/Chassis Number • Progress Monitoring -Quarry Sites -Quality testing activities (FDT sampling, cylindrical and flexural moldings conducted) • Construction activities (spreading, compaction, pouring, etc.) • Geotagged photos of on-going construction of structures including upstream and downstream at least 200 meters and bridge signage. • Contractor shall submit the above in digital format to proponent together with the	• GPS track or digitized polyline from municipal office to start of bridge, and geotag photos of municipal hall and surroundings (360°) • Geotag photos of location of the following: - Beginning approaches - Beginning pier - End pier - End approaches - Upstream and downstream at least 200 meters and bridge signage.	• Geotag photos of location of the following: - Beginning approaches - Beginning pier - End pier - End approaches - Upstream and downstream at least 200 meters and bridge signage. - other OMAS Concern (e.g. Physical Status of Facilities & Structures)

		corresponding statement of work accomplished (SWA)		
Irrigation	• GPS track or digitized polyline from municipal office to DAM site, and geotag photos of municipal hall and surroundings • Geotag photos of the DAM and its structures • GPS track or digitized polyline and geotag photos of location of the following: - Main diversion canal, laterals, sub-laterals, special structures for rehabilitation/construcion - Geotag photos of service areas • Polygons showing service areas (construction, expansions, rehab. etc.) • GPS track and geotag photos of Commodity Locations and production areas at least a sample of two hectares	• Geotag photos of committed equipment "on-site" - Equipment :Full View :Close-up view on serial number - Transport :Full View :Close-up view on Plate Number and/or Body/Chassis Number • Progress Monitoring -Quary Sites -Quality testing activities (FDT sampling, cylindrical and flexural moldings conducted) • Construction activities (spreading, compaction, pouring, etc.) • Geotagged photos of on-going construction of structures (lined canal, diversion works and DAM, or structures found on the program of works). • Contractor shall submit the above in digital format to proponent together with the corresponding statement of work accomplished (SWA)	• GPS track or digitized polyline from municipal office to DAM site, and geotag photos of municipal hall and surroundings (360°) • Geotag photos of the DAM and its structures • GPS track or digitized polyline geotag photos of location of the following: - Main diversion canal - Geotag photos of service areas	• GPS track and update (every O&M audit) geotag photos of location of the following : - Main diversion canal, laterals, sub-laterals, special structures - other OMAS Concern (e.g. Physical Status of Facilities & Structures)
Potable Water Systems (PWS)	• GPS track or digitized polyline from municipal office to service area, and geotag photos of municipal hall and surroundings • GPS track or digitized polyline with waypoints and geotag photos of location of the following: - Main source,	• Geotag photos of committed equipment "on-site" - Equipment :Full View :Close-up view on serial number - Transport :Full View :Close-up view on Plate Number and/or Body/Chassis Number • Progress Monitoring -Quary Sites -Quality testing activities (FDT sampling, cylindrical and	• GPS track or digitized polyline from municipal office to service area, and geotag photos of municipal hall • GPS track or digitized polyline with waypoints and geotag photos of location of the following: - Main source (360°), spring	• GPS track with waypoints and update (every O&M audit) geotag photos of location of the following: - Main source (360°), spring box, intake box - Main reservoir - Every tapstand - other OMAS Concern (e.g. Physical Status of Facilities &

	spring box, intake box - Main reservoir - Main and secondary transmission line/pipe • GPS track or digitized polyline and geotag photos of Commodity Locations and production areas	flexural moldings conducted) -Construction activities (spreading, compaction, pouring, etc.). -Geotagged photos of on-going construction of structures (catch basin, intake box, -Delivered supplies and equipment • Contractor shall submit the above in digital format to proponent together with the corresponding statement of work accomplished (SWA)	box, intake box - Main reservoir - Every tapstand	Structures)
Other Infrastructure Subprojects	• GPS track or digitized polyline from municipal office to project site, and geotag photos of municipal hall and surroundings • Project site geotag photos • Geotag photos of existing references • GPS track or digitized polyline and geotag photos of Commodity Locations and production areas	• Geotag photos of committed equipment "on-site" - Equipment :Full View :Close-up view on serial number - Transport :Full View :Close-up view on Plate Number and/or Body/Chassis Number • Progress Monitoring • Quality testing activities (FDT sampling, cylindrical and flexural moldings conducted) • Construction activities (spreading, compaction, pouring, etc.). • Project site progress geotag photos • Contractor shall submit the above in digital format to proponent together with the corresponding statement of work accomplished (SWA)	• GPS track or digitized polyline from municipal office to project site, and geotag photos of municipal hall and surroundings • Project site geotag photos (outside, every side and inside) • Geotag photos of existing references	• GPS track from municipal office to project site, and geotag photos of municipal hall and surroundings • Project site geotag photos (outside 360°, every side and inside 360°) • Geotag photos update (every O&M audit) of existing references and other OMAS Concern (e.g. Physical Status of Facilities & Structures)

How is geotagging integrated in the project cycle?

Geotagging has become an integral requirement in all the phases of the project cycle from subproject identification, validation, procurement, supervision and operations and maintenance. Geotagged photos are required as part of subproject proposal preparation, procurement activities, and request for issuance of No Objection Letter (NOL).

During implementation, the geotag schedule is enforced with regular submission of geotagged photos and Google Earth placemark files to the administrator to visually monitor and validate online the physical progress of project implementation. Compilation of the submitted geotagged photos will create before-during-after scenarios of the subproject, hence resulting in a web-based mapping system.

3 Rural Roads

3.1 Scope

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

1. Concreting of existing farm-to-market roads which include application of sub-base or base course and concreting as surface finishing, roadside canals and mitre drains (earth, masonry or concrete) and applied with dissipators if applicable, cross-drainage structures with cut-off wall, wingwall, catch-water basin, 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 0.1% 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. Concreting of new construction of farm to market roads; (*n.b.* since new road openings are necessarily more expensive than those for rehabilitation only and since these may have more significant environmental impact, the screening requirements for these shall be more stringent). The road gradient requirements for road rehabilitation as describe in item 3.1.1 above also apply to new construction.

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

4. Construction of 2-lane bridges .

3.2 Financing Scheme

3.2.1 The cost sharing between the National Government (NG) and the LGUs shall be as follows in non-EU covered areas:

- 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);

- 10% - equity contribution of the LGU in cash based on the Estimated Project Cost (EPC)

3.2.2 The cost sharing between the National Government (NG), European Union (EU) and the LGUs shall be as follows in EU covered areas:

- 70 % - to be financed by the National Government in the form of grant (60% WB Loan Proceeds and 10% GOP) based on the Estimated Project Cost (EPC);
- 20% - to be financed by the European Union (EU) in the form of grant based on the Estimated Project Cost (EPC);
- 10% - equity contribution of the LGU in cash based on the Estimated Project Cost (EPC)

The estimated project cost (EPC) for PRDP 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 still at 12% of (DC+OCM+CP).**

- All item of work to be used in preparing the EPC shall conform to the Standard Specifications for Highways and Bridges, revised 2012 and approved Special Specifications for the Project.

- 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 Project shall adopt the Revised Construction Safety Guidelines as provided for under DPWH D.O. No. 39 and future amendments thereto to prevent the spread of Covid-19.

- 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 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 allowed the test from LGU owned DPWH accredited laboratory to do testing for PRDP for the purpose of augmenting the limited third party test especially during this epidemic/pandemic, 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.

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):

1. 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)*]
2. Labor Cost (salaries and wages, as authorized by DOLE regional wage board or locally legislated rates)
3. 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
    1) Overhead Expenses , *7-11%* [engineering and administrative supervision, transportation allowances, office expenses, CARI,

and financing cost (*bid security, performance security and warranty*)]

2) 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*)]

3) 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 3-1. Indirect Cost Factors for FMR

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:

1. Mobilization and Demobilization
2. Provision of Service Vehicle

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

1. Field /Laboratory Office & Living Quarters (*Rental Basis)*
2. Furnishing of Furniture, Laboratory Equipment, Survey Equipment and Consumables
3. Assistance to Engineers
4. Photographs
5. Health and Safety
6. Traffic Management
7. Environmental Compliance
8. 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 52 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. 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.

At the provincial level in most cases, 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 within their respective jurisdictions. The PPMIU is preferably headed by the PPDO, and includes the PEO, the Office of the Provincial Agriculture (PAO), Finance Offices, PENRO and other offices the Chief Executive deemed necessary.

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 (SP). The additional members shall be co-opted from accredited private agricultural sectors.

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;

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 marketting) of target municipalities;

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 concreting is php 19,000,000/km.The unit cost includes structures such as RCPC/RCBC cross drainages, side drains, slope stabilization/protection structures and signages. 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 (4.6m) bridges, the indicative unit cost is php 800,000.00 per linear meter while two lanes (5.6) bridges, the indicative unit cost is php 1,200,000.00 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 Social and Environmental Safeguards

Social safeguards as described in Appendix A 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 also be taken so that environmental safeguards as described in Appendix B (WB's Environmental Guidelines for Rural Infrastructure Subprojects) will be considered in the detailed design and observed prior to, during and after construction. In particular, an Environment and Social Management Plan (ESMP) shall be prepared by the LGU prior approval – and this will be monitored during and after construction. Annex 38 contains an ESMP template for rural roads.

The ESMP, CNC and ECC as the case may be (i.e., for new road openings), and the various Displaced Persons (DP) Forms (annexes 5 and 5a) enumerated in Appendix A shall be part of the Feasibility Study (FS) submissions.

3.5 Subproject Appraisal and Approval System

3.5.1 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 rural roads in their respective provinces and municipalities. The LOI and list of priority subprojects shall be accompanied by the following documents:

A. Color-coded national, provincial, municipal, barangay/farm to market road network plan in google earth including the geo-tagged proposed sps and road influence area;

B. 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;

C. Provincial sangguniang panlalawigan and municipal 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.;

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

E. 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 Governance/Housekeeping and Operation and Maintenance commitment of previously implemented special projects of DA like InFRES, MRDP and CHARMP must be favourable.

3.5.2 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 maybe sought for complex subprojects. A final validation report shall be prepared by the RPCO. Attached to the validation report is a subproject pre-screening checklist such as information on the unit cost parameters, EIRR, B/C ratio, IP and subprojet environmental categorization concerns and validation of LGU capacity.

Sample and pro-forma documents are attached as Annexes 3,35,36 and 37.

3.5.3 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.

3.5.3.1 Feasibility Study

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

a. subproject location on the provincial/municipal road network plan;

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

c. FS level engineering design;

d. traffic counts along roads and bridge locations;

e. benefits to be derived;

f. cost estimates based on updated and acceptable unit cost parameters;

g. implementation schedule including periods for detailed engineering preparation, advertising and bidding;

i. current road and bridge conditions;

j. financial and economic analysis; and

k. other data and analysis as may reasonably be required by the RPCO and/or PSO.

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

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

m. Environmental and Social Management Plan (ESMP);

n. primary survey on Displaced Persons and on IPs;

o. clearance certificate on right-of-way and damages; and

p. 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 PPMIU.

A detailed outline and pro-forma documents for this purpose are attached as Annexes 42,43 and 44.

3.5.4 Subproject Detailed Engineering Preparation

3.5.4.1 Field Surveys

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

a. 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;

b. cross-section survey follows using the adjusted centerline stations at every 20 meters 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;

c. topographic survey of bridge/spillway/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;

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

e. Geo-technical survey consist 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.

f. 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.

3.5.4.2 Design, Drawings, Specifications and Program of Work (POW)

The M/PEO 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 3-2. 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)
Width	Below 200 Average Daily Traffic (ADT): Minimum of 4-meters for two lanes 200 ADT and Above: Minimum of 5-meters for two lanes
Thickness	Minimum of 150mm (6inches). Higher thickness is allowed but shall be verified from pavement design analysis using AASHTO method. The sub-base is 200 mm in thickness.
Shoulder	Minimum of 1.5 meters[2] both sides and gravel surfacing. However, in road sections with steep slopes prone to water run-off erosion and or prone to flood water overtapping, the shoulder shall be concrete sealed with sufficient miter drains as a climate proofing measure.
Cross Slope	1.5% for PCCP and 3% for gravel surfacing
Radius of Horizontal Curve	Minimum of 30 meters. Existing road 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.
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% on cut section and maximum of 12% on fill/cut section. The **maximum grade**[3] maybe relaxed in mountainous terrain up to 15% for short distances below 100 meters and up to 18% for short distances below 50 meters.

[2] The shoulder at the backslope 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.

[3] Exemptions sought for mountainous terrain.

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	• Surface Drainage – design for 2 years flood • Side Drainage and miter drains– design for 5 years 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 cradle in unstable subgrade or sub-base. • Curve and Gutter directly connected to the PCCP shall have a gutter width not less than 0.5 meters.
Slope Protection	• As needed like bio-engineering technology, hydroseeding, sprigging, sodding, tree planting, dry riprap, grouted riprap, stone masonry, rubble masonry, gabions, reinforced concrete, crib wall, piles, rock net, shotcrete, under drain pipes, spurdikes etc. • Needed for common earth and unclassified side cut slopes greater than 3 meters height. • Needed for road embankment more than 1 meter and where agricultural plowing will eat up the road width. • Needed for flood prone road sections to fully seal/protect the road section from flood water overtapping including concrete sealing of road shoulders.
Road Safety Devises including Pavement Markings	• Refer to DPWH Highway Safety Design Standards, Part 1 and 2, May 2012. • 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 layby with access path/road for animal and farm implements from road to the farm. ○ Provision of a safe layby 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.
Accessibility Requirements for Persons with Disability	• As needed
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 he 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.
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.
Carriageway Width	• Use 4.6 meters (for 4.0 meter roadway width) under footnote 3. • Use 5.6 meters (for 5.0 meter roadway width)

Typical road drawings are attached as Annex 6 and 6a.

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

a. Cover page to include the logo of PRDP and the LGU, project tile and identification number;

b. Drawing register/table of content/general notes;

c. Location map showing the Philippine map, provincial map and the sub-project location;

d. Vicinity map indicating a color-coded provincial, municipal, barangay and FMR Rationalized Road Network Plan indicating the following:

   a.1. overall existing and proposed rural roads;

   a.2. geotag tracks of the proposed subprojects; and

   a.3. road influence area of the proposed SP.

e. Road alignment (plan and profile) on a 50 cm x 100 cm half-roll cross-section paper or tracing paper for autocad generated plans indicating at least two reference points at sta 0+000, bench marks every 500 meters, distance, azimuth, elements of curve (horizontal and vertical), existing and designed road gradient, location of bodies of water and direction of water flow and type of existing and proposed structures. The scale to accommodate not more than 1 km per sheet. The scale for traverse plan is 1:1000, profile is 1:100 for the vertical and 1:1000 for the horizontal;

f. Cross-sections 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. 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. It should show the original cross-section gradeline and design road section, computed cut and fill end areas, existing and design elevations, the centreline indicator and superimposed structures with their invert elevations. The scale is 1:100;

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

h. Individual and specific plans and details of proposed structures indicating exact stationing (e.g., road crossings; box culverts, cross drainage, grouted

riprap, earth and concrete lined canals at appropriate locations, etc. With a scale of 1:10 or 1:20)

Engineering drawings and POW of proposed overflow and bridge subprojects shall include the following details in addition to requirements (a to d) for roads:

a. Topographic survey 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 countour interval of 0.5 meter to 1 meter;
b. Longitudinal river profile extended 200 meters upstream and downstream;
c. 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;
d. Bridge plan and elevation 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 borelog data using the same bridge elevation reference; and
e. Plan and elevation of bridge structures including spot details with scale of 1:10 or 1:20.

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

a. General and technical specifications, and other construction details;
b. Summary of volumes and quantities;
c. Earthwork and structure quantity computation sheets;
d. Overall pow and current pow for multi-year implementation if any;
e. Derivation of work item unit costs;
f. Manpower and equipment utilization schedule;
g. PERT/CPM or Gantt chart;
h. Quality Plan, Inspection and Test Plan and Minimum Materials Testing Requirement;
i. Overall cash flow and current year monthly cash flow and S-curve (for subprojects of more than 1 year duration); and
j. Operation and maintenance plan.

Reference shall be made to DPWH Standard Specifications for Highways, Bridges and Airports (Vol. II) 2013 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.

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

I. 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, EU)

   g. 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. As a guide, please refer to annex 53 (Equipment Combination Analysis in Range of Kilometers for Access Road) to check whether the estimates for the minimum equipment is within range.

II. 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, LGU and EU.

III. Approval Sheet – the POW will be prepared by the Provincial Engineer, Recommending Approval by the PPMIU Head and Approved by the Local Chief Executive.

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

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

II. 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.

III. Derivation of Number of Equipment and Cost – use the PRDP 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.

IV. Derivation of Labor Cost – use the PRDP 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.

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

Note: 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 or bar chart and S-Curve and adjusted to include the accumulated Sundays, holidays and target unworkable days due to inclement weather condition.

POW format is attached as Annex 11.

3.5.5 Review, Evaluation and Approval

The detailed FS, DED, POW, O&M plan, Bid Documents and IMA 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 with inputs from the PSO and conducts field visits if needed for verification purposes within a four (4) weeks period. A Subproject Appraisal Report (SPAR) will be prepared by them upon completion of field visit and evaluation. The subprojects are then scheduled by the RPCO for deliberation and approval by the RPAB.

Upon approval, the RPCO endorses to PSO for issuance of NOL-1 and CAF beyond its threshold limit. The PSO to submit to NPCO those SPs needing NPCO and WB objection (OL) or no objection letter (NOL). If the decision is favorable, instructs the LGU to proceed with the procurement preparation for subprojects approved by the RPAB and duly issued with NOL-1.

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. See attached Subproject Appraisal Report and RPAB Review and Approval Guide in annexes 50 and 51 respectively.

3.5.6 Conditions for Fund Release

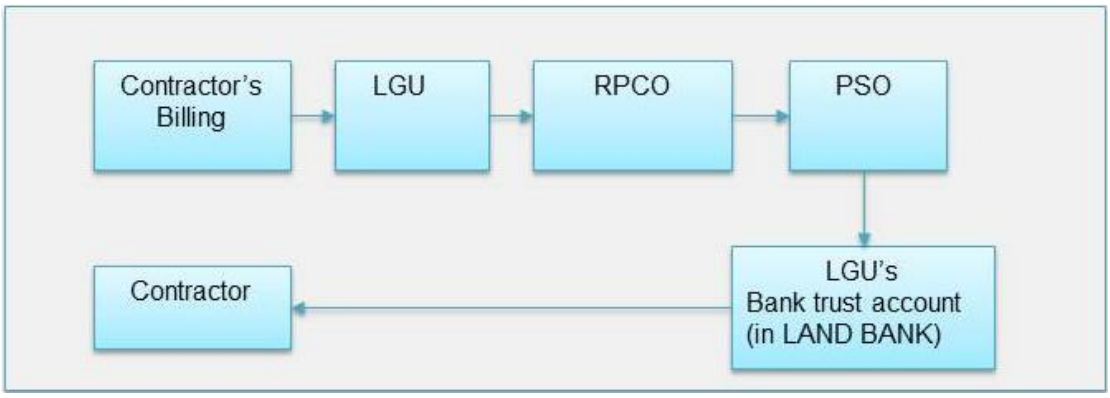
The processing of fund releases will happen after the SPs had been bid-out with favorable review of the bid evaluation reports by the RPCO, PSO, NPCO and WB for those needing NOL.

The required documents are detailed in section 14 (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



3.6 Subproject Execution, Completion and Turnover

3.6.1 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 Project Management and Implementing Unit (PPMIU) and the Municipal/City Project Management and Implementing Unit (M/CPMIU).

3.6.2 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.

3.6.3 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). Refer also to Part VII- Procurement Guidelines of this manual and the Philippine bidding documents in Appendix D.

The time-lining for Procurement of Works for NCB is shown on annex 49.

3.6.4 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 or the MEO where the SP is located, as may be agreed upon in writing by the Provincial and Municipal LGUs. 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 (see Annex 14).

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

3.6.4.1 Quality Assurance and Control

The Infrastructure Quality Monitoring and Durability System is inplace 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, PPMIU, 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 3-3. Minimum Test Requirements for Rural Roads and Bridges for some Selected Items

Items of Work	Minimum Test Requirements
I. Earthwork	
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.

Items of Work	Minimum Test Requirements
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. Sub-base 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

Items of Work	Minimum Test Requirements
Item 310: Bituminous Concrete surface course, hot-laid	drums 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.

Items of Work	Minimum Test Requirements
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. Fine Aggregate Quantity: i) 0.50 m3/m3 concrete (if rounded coarse aggregate is used) ii) 0.54 m3/m 3concrete (if regular coarse aggregate is used) For every 1500m3 or fraction thereof: a. 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 . b. 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: 1. 0.77 cu.m./cu.m. concrete (if rounded coarse aggregate is used) 2. 0.68 cu.m/cu.m. concrete (if angular coarse aggregate is used) For every 1500 cu.m. or fraction thereof: A. 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 B. For a source previously tested and passed quality test: 1-Q. Quality Test for: Grading, Bulk Specific Gravity, Absorption and Abrasion

Items of Work	Minimum Test Requirements
	For every 75 cu.m. or fraction therof: 1-G, Grading Test D. Water 1-Certificate from Project Engineer or 1-Q, Quality Test if source is questionable. E. Joint Filler 1. Poured Joint Filler 1-Q, Quality Test on each type of ingredient for each shipment. 2. Premolded 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 Item 405: Structural concrete (for major structures only: concrete pave-ment, bridge super-	Certification from supplier will suffice 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

Items of Work	Minimum Test Requirements
structure and sub-structure)	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 in Annexes 19,20, 21 and 22 with geotag photos confirming the actual test.

3.6.5 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 PPMIU 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 PPMIU will be reminded that PRDP 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 PPMIU will be advised that the process of withdrawal of PRDP 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.

3.6.6 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.

The project will identify variations of works based on the instructions given by the project and variations support initiated by the LGU. Work variations identified by the LGU should be 100% financed by the LGU. Work variations as instructed by the project should be co-shared. Any change in scope or cost, it will be subject for concurrence or issuance of no objection letter by the RPCO/PSO/NPCO/WB 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 at the RPCO with PSO. 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% and above and fully shouldered by the LGU shall be jointly reviewed at the RPCO with PSO and NPCO. The no objection letter shall be issued by the RPCO after a favorable joint review clearance had been issued by the review team.

Case 4: 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 order costing 10% and below and the World Bank to issue the NOL for variation orders more than 10%.

3.6.7 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:

a. Narrative report;

b. Subproject site inspection report;

c. Monthly physical progress report (S-curve);

d. Monthly financial status report;

e. Monthly weather report;

f. Institutional development report;

g. Subproject status report.

Monitoring, evaluation and reporting forms are attached as Annexes 23 – 28.

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 Momoire which will be forwarded to the DA.

3.6.8 Progress Billing, Completion and Turnover

The contractor shall be allowed to do monthly progress billings in the course of the construction.

His request for payment shall include:

a. 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

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

c. 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 MEO/CEO/PEO 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:

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

b. 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.

c. 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:

a. Contractor notifies the M/C/PEO of contract completion;

b. M/C/PEO conducts field inspection, evaluates completed subproject and prepares a completion report with recommendations to the Inspectorate team;

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

Note: The final completion report shall include a certificate of completion from the M/PEO, concurred by the Local Chief Executive, that the subproject has been completed in accordance with approved 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 "AS-BUILT" markings.

d. 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 turn over 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, turn-over 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.

e. The defects liability period takes effect upon issuance of the certicate 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.

Pro-forma documents for construction punchlist, final inspection report, subproject completion, certificate of sub-prpject completion, turnover certificates and certificate of final acceptance are found in Annexes 25,29, 57, 44, 31 and 57 respectively.

3.7 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 until it properly maintains such road.

Compliance with the O&M plan shall be regularly checked through a semi-annual O&M audit to be conducted by the RPCO/PSO. 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.

3.8 "RASIX" for Rural Roads

As a quick reference called "RASIX" (Annex 45) 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 Irrigation System

4.1 Scope

The irrigation sub-component shall support the following:

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

2. Construction of communal irrigation projects (CIP);

3. Rehabilitation and construction of small water impounding project <SWIP> and small scale irrigation project <SSIP> such as shallow tube wells, small river impounding project and drip irrigation;

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 "Other Rural Infrastructure," Part VI of this manual.

5. Institutional development activities.

4.2 Financing Scheme

4.2.1 The cost sharing between the National Government (NG) and the LGUs shall be as follows in non-EU covered areas:

- 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);

- 10% - equity contribution of the LGU in cash based on the Estimated Project Cost (EPC)

4.2.2 The cost sharing between the National Government (NG), EU and the LGUs shall be as follows in EU covered areas:

- 70 % - to be financed by the National Government in the form of grant (60% WB Loan Proceeds and 10% GOP) based on the Estimated Project Cost (EPC);
- 20% - to be financed by the European Union (EU) in the form of grant based on the Estimated Project Cost (EPC);
- 10% - equity contribution of the LGU in cash based on the Estimated Project Cost (EPC)

The estimate for project cost (EPC) for PRDP 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)**

- *All item of work to be used in preparing the EPC shall conform to the Standard Specifications for Highways and Bridges, revised 2012, Standard Specifications for Public Works Vol 3, 1995, and approved Special Specifications for the project adopted from NIA Technical Specifications.*

- The Project shall adopt the Revised Construction Safety Guidelines as provided for under DPWH D.O. No. 39 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):

1. 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)*]
2. Labor Cost (salaries and wages, as authorized by DOLE regional wage board or locally legislated rates)

3. 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
  1. Overhead Expenses , *7-11%* [engineering and administrative supervision, transportation allowances, office expenses, CARI, and financing cost (*bid security, performance security and warranty*)]
  2. 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*)]
  3. 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 4-1. Indirect Cost Factors for Irrigation

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:

1. Mobilization and Demobilization
2. Provision of Service Vehicle

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

1. Field /Laboratory Office & Living Quarters (*Rental Basis)*
2. Furnishing of Furniture, Laboratory Equipment, Survey Equipment and Consumables
3. Assistance to Engineers

4. Photographs
5. Health and Safety
6. Traffic Management
7. Environmental Compliance
8. 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 52 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 (IA) have concurred with the funding of irrigation subproject under PRDP.

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 re-distribution 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 150 percent for CIP construction and 180 percent for CIS rehabilitation.

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. For CIP, there is no ongoing quarrying of gravel from the source stream within at least 500 meters upstream and at least 1 km downstream of the diversion points.

11. The indicative unit cost of CIS rehabilitation shall be PhP 150,000/ha

12. The indicative unit Cost of CIP construction shall be PhP 250,000/ha.

13. 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

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

15. 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.

16. 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.

4.4 Social and Environmental Safeguards

Social safeguards as described in Appendix A 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 also be taken so that environmental safeguards as described in Appendix B (WB's Environmental Guidelines for Rural Infrastructure Subprojects) 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. Annex 39 contains an ESMP template for communal irrigation subprojects.

The ESMP and the various Displaced Persons (DP) Forms (annexes 5 and 5a) enumerated in Appendix A shall be part of the Feasibility Study (FS) submissions.

4.5 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.

4.6 Subproject Appraisal and Approval

4.6.1 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 (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:

a. 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.

b. A brief description of each proposed scheme using NIA CIP Forms 1-3 and 1-3a;

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

d. Provincial Sangguniang Panlalawigan or municipal 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;

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

f. 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 Governance and Operation and Maintenance commitment of previously implemented special projects of DA like InFRES, MRDP and CHARMP must be favourable.

4.6.2 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 maybe sought for complex subprojects. A final validation report shall be prepared by the RPCO. Attached to the validation report is a subproject pre-screening checklist such as information on the unit cost parameters, EIRR, B/C ratio, IP and subproject environmental category concerns and LGU capacity.

Sample and pro-forma document is attached as Annex 36.

4.6.3 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 10% equity to the subproject.

4.6.3.1 Feasibility Study Preparation

The FS shall cover, among others, the following:

a. brief profile of the subproject area including land slopes, soils and land holdings;

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

c. 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.

d. feasibility-level engineering design plans;

e. quantities of work items and cost estimates;

f. implementation schedules;

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

h. financial and economic analysis;

i. proposed implementation arrangement and work packaging by contract;

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

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

A detailed FS outline for Communal Irrigation subproject is attached as Annex 43.

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 PMIU.

4.6.4 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 10% equity to the subproject.

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

4.6.4.1 Field Surveys

The field surveys to be conducted shall cover the following:

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

b. 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;

c. Cross-sections at 20-meter interval along the proposed canals for construction or rehabilitation;

d. 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;

e. 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.

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

4.6.4.2 Detailed Design, Specifications and Program of Work (POW)

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

Table 4-2. Geometrical and Design Specifications for CIS/CIP Schemes

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.

Component	Geometrical and Design Specifications and Schemes

	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	 1 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

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

a. ***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); and

-Existing and proposed road, if any.

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

b. **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.

c. 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; and

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

d. 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); and

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

e. Other details:

-General specifications and other construction details;

-Summary of volumes and quantities;

-Earthworks and structure quantities computation sheets;

-Overall POW and current year POW if multi-year SP;

-Derivation of work item unit costs

Reference shall be made to NIA and DPWH Standard Specifications for Public Works Structures, 2004 edition or the latest 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.

The Program of Work (POW) presentation generally follows the outline in Part III Rural Roads, section 3.5.5.

Likewise, the detailed estimate presentation format will also follow the outline per item of work as detailed in Part III Rural Roads, section 3.5.5.

POW sample format shall be similar to Part III "Rural Roads".

4.6.5 Review, Evaluation and Approval

The FS report and detailed engineering drawings, specifications, POWs, O&M plan, Bid Documents and IMA shall be reviewed and evaluated by RPCO with technical inputs from PSO prior to its presentation to the RPAB for approval.

The subproject review, evaluation and approval must be anchored on the viability indicators set by the Project as to 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.

Standard size of DED drawings and title blocks with indicated signatories is attached as Annex 12.

4.6.6 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, section 3.5.7.

4.7 Subproject Execution, Completion and Turnover

4.7.1 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, section 2.11.3.

4.7.2 Implementation Mode

The implementation scheme will be as follows:

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

b. It used to be that the NIA was responsible for all irrigation projects. This time under the PRDP, 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.

c. 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.

d. 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.

e. 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.

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

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

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

i. 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 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.

j. 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.

k. 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 shall not be added to their repayment obligation

4.7.3 Procurement

Procurement for irrigation 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). Refer also to Part VII- Procurement Guidelines of this manual and the Philippine bidding documents in Appendix D.

The time-lining for Procurement of Works for NCB is shown on annex 49.

4.7.4 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, section 3.6.4 to 3.6.6.

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

4.7.5 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, section 3.6.7.

4.7.6 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.

4.7.7 Progress Billing, Completion and Turnover

The contractor shall be allowed to do monthly progress billings in the course of the construction. The attachments and procedures are the same for rural roads part III.

Pro-forma documents for final inspection, subproject completion and turnover reports are found in Annexes 29,30 and 31.

4.8 Subproject Operation and Maintenance

a. 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.

b. 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. New schemes constructed by the LGU shall be monitored and assisted by the MAO/PAO.

c. 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 shall not be added to their repayment obligation.

d. An inspectorate team composed of RPCO and LGU staff shall conduct a semi-annual inspection of completed irrigation subprojects and shall rate the efficiency of O&M activities for the system.

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

f. 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.

4.9 "RASIX" for Irrigation Subprojects

As a quick reference called "RASIX" (Annex 46) 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 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.

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[4] 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

[4] 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.

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

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.

For the retro-fitted AF2-EU co-financing primarily as covid-19 response, the repair and source augmentation of existing level III systems shall be allowed to ensure hand washing and proper sanitation at the household and community level.

For new construction, allow limited level 3 connections [5]at the expense of the household in combination to the overall level 2 connections. This is in areas where no appropriate location of tapstand can be identified and or level 3 connection is existing.

5.3 Financing Scheme

5.3.1 The cost sharing between the National Government (NG) and the LGUs shall be as follows in non-EU covered areas:

[5] Limited Level 3 Connection of not more than 30% of the total covered household is proposed to maximize beneficiary coverage in this time of pandemic and for the system's operation to be inclusive in areas where no appropriate location of tapstand is available rather a common connection or tapping point is provided where the supposed tapstand end users can connect their individual pipeline to their houses at their own cost. Another case for Limited Level 3 Connection applies to a purok within a community with an existing level 3 water system but no longer efficient (in terms of water quality, quantity and expensive tariff) and these are usually from underground water sources or pump operated systems where the end users wishes to abandon the pump system and connects to the PRDP proposed level 2 system. In this case the existing household pipe connection shall be utilized and connected to the PRDP proposed water system maintaining it at level 3 service level. In which case, the water source and design must satisfy the required per capita water consumption of a combined level 2 and 3 system.

- 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);

- 10% - equity contribution of the LGU in cash based on the Estimated Project Cost (EPC)

5.3.2 The cost sharing between the National Government (NG), EU and the LGUs shall be as follows in EU covered areas:

- 70 % - to be financed by the National Government in the form of grant (60% WB Loan Proceeds and 10% GOP) based on the Estimated Project Cost (EPC);

- 20% - to be financed by the European Union (EU) in the form of grant based on the Estimated Project Cost (EPC);

- 10% - equity contribution of the LGU in cash based on the Estimated Project Cost (EPC)

The estimate for project cost (EPC) for PRDP 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)**

- *All item of work to be used in preparing the EPC shall conform to the Standard Specifications for Highways and Bridges, revised 2012, Standard Specifications for Public Works Vol 3, 1995, and approved Special Specifications for the Project from NWRB and from the Local Water Works Utilities Administration.*

- The Project shall adopt the Revised Construction Safety Guidelines as provided for under DPWH D.O. No. 39 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):

1. 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)*]
2. Labor Cost (salaries and wages, as authorized by DOLE regional wage board or locally legislated rates)
3. 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
  1. Overhead Expenses *, 7-11%* [engineering and administrative supervision, transportation allowances, office expenses, CARI, and financing cost (*bid security, performance security and warranty*)]
  2. 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*)]
  3. 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 5-2. Indirect Cost Factors for PWS

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:

1. Mobilization and Demobilization
2. Provision of Service Vehicle

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

1. Field /Laboratory Office & Living Quarters (*Rental Basis)*
2. Furnishing of Furniture, Laboratory Equipment, Survey Equipment and Consumables
3. Assistance to Engineers
4. Photographs
5. Health and Safety
6. Traffic Management
7. Environmental Compliance
8. 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 52 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:

a. 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;

b. 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;

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

d. 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;

e. 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.

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

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

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

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

j. The farthest user shall not be more than 25 meters from the tapstand.

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

l. 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.).

m. 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:

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

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

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

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

e. 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:

a. 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;

b. 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.

c. PSOs should ensure that no province would receive support for more than 10 PWS, unless designed as multi- purpose facilities providing supplemental irrigation;

d. Sub-project proposals for potable water supply within the threshhold 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 as described in Appendix A 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 pro-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 as described in Appendix B (WB's Environmental Guidelines for Rural Infrastructure Subprojects) 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. Annex 40 contains a template for potable water system.

The ESMP and the various Displaced Persons (DP) Forms (annexes 5 and 5a) enumerated in Appendix A shall be part of the Feasibility Study (FS) submissions.

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:

a. 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;

b. 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;

c. 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;

d. 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 Governance and Operation and Maintenance commitment of previously implemented special projects of DA like InFRES, MRDP and CHARMP must be favourable.

e. A certification from the PPDC/MPDC that the subproject's water source(s) are reliable, adequate and certified potable by DOH or health officers;

f. A certification from the provincial/municipal treasurer on the availability of funds for the LGU equity contribution; and

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 maybe sought for complex subprojects. A final validation report shall be prepared by the RPCO. Attached to the validation report is a subproject pre-screening checklist such as information on the unit cost parameters, EIRR, B/C ratio, IP and subprojet environmental category concerns and LGU capacity.

Sample and a pro-forma document is attached as Annex 35.

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.

5.6.3.1 Feasibility Study Preparation

The FS report shall cover the following:

a. subproject location on the provincial/municipal maps;

b. brief subproject profile;

c. 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.

d. cost-estimates based on updated and acceptable unit cost parameters;

e. financial and economic analysis;

f. implementation arrangement and schedule; and

g. 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 44.

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

h. Environmental and Social Management Plan (ESMP);

i. 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.);

j. laboratory sampling certificate of potability from DOH or Local Health Officer;

k. other clearances and permits as required by concerned regulatory agencies; and

l. 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 10% LGU equity share for the subproject.

The FS report shall be internally reviewed and approved by the PMIU.

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:

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;

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;

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 and Program of Work (POW)

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	Adopt minimum of 150 mm diameter of casing with 50 mm diameter suction pipe and 10 mm diameter of gravel packing materials.
Rainwater harvester (supplemental water source)	Cisterns/reservoir could be made of concrete or food grade plastic containers, stainless steel or as maybe appropriate. The

Scheme	Geometrical and Design Specifications
	roof paint for catchment facilities are of food grade materials.
B. Level II, spring development	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 heavy-duty brass type provided with concrete apron.

Detailed drawings and POW of proposed potable water supply systems shall include the following:

A. 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;

B. Detailed plans, sections, and elevations of structures (i.e., intake box, ground/elevated reservoirs, communal tap-stands, joints, etc.), other construction details;

C. Summary of volumes and quantities;

D. Volume computation of earthwork, structure and pipeline quantification;

E. General and technical specifications;

F. Program of work (POW);

G. Derivation of work item unit costs;

H. Implementation schedule; and

k. O&M plan.

Reference shall be made to the DPWH Standard Specifications for Public Works Structures, 2004 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 10% LGU equity to the subproject.

The Program of Work (POW) presentation generally follows the outline in Part III Rural Roads, section 3.5.5.

Likewise, the detailed estimate presentation format will also follow the outline per item of work as detailed in Part III Rural Roads, section 3.5.5.

POW cover page format will be made similar to Annex 11.

5.6.4. Review, Evaluation and Approval

The FS report and detailed engineering drawings, specifications, POWs, O&M plan, Bid Documents and IMA shall be reviewed and evaluated by RPCO with technical inputs from PSO and concurrence by the Local Chief Executive prior its presentation to the RPAB for approval.

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.

Standard size of DED drawings and title blocks with indicated signatories is attached as Annex 12.

5.6.4.1. 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

c. Technical quality shall be maintained.

d. Beneficiaries within the community shall be the first priority in the selection of labor force.

5.6.5.3 Procurement

Procurement for potable water supply subprojects shall conform to Republic Act 9184 (the Government Procurement Reform Act) and WB guidelines 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). Refer also to Part VII- Procurement Guidelines of this manual.

The time-lining for Procurement of Works for NCB is shown on annex 49.

5.6.5.4 Subproject Supervision

The procedures for the supervision of potable water supply subprojects are the same as those for Rural Roads in Part III 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 inplaced 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, PPMIU, RPCO, PSO and NPCO.

Quality control procedures shall be done according to the following schedule of minimum test requirements:

Table 5-4. 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 hydrotesting to determine failure in terms of pipe joint leakages and pipe bursting.

Periodic reports on materials quality control shall be accomplished and submitted according to the forms provided in Annexes 19-22.

5.6.5.6 Time Control

The procedures for the time control of water system subprojects shall be the same as those of Rural Roads part III, section 3.6.5.

5.6.5.7 Cost Control

The procedures for the cost control of water system subprojects shall be the same as those of Rural Roads part III, section 3.6.6.

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, section 3.6.7.

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 in rural roads part III,section 3.6.8.

Pro-forma documents for final inspection, subproject completion and turnover are found in Annexes 29,30 and 31.

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 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 RPCO and LGU staff shall conduct a semi-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 semi-annual O&M report of all completed potable water supply subprojects funded by PRDP.

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 Province 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 47) 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 Other Rural Infrastructure

6.1 Scope

Rural infrastructure other than rural roads, irrigation and water supply, have been identified to also support the attainment of goals and objectives of PRDP rather than being implemented by the private sector, they are considered for funding under PRDP because of their nature as contributing to the public good. These "other" infrastructure are: production facilities, post-harvest facilities, fish landings and facilities, fish sanctuaries, fish hatcheries, tram lines, green houses, solar driers, watch towers, nursery watch towers and slope stabilization works. Municipal/provincial roads, cold storage facilities and trading posts requiring large investments but justified as the sole alternative in the value chain could be supported under the Project with prior concurrence of the NPCO and WB based on thresholds.

It includes the rehabilitation, construction and repair of these pre and post harvest facilities especially for Covid-19 response to restore the food supply chain.

6.2 Financing Scheme

6.2.1 The cost sharing between the National Government (NG) and the LGUs shall be as follows in non-EU covered areas:

- 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);

- 10% - equity contribution of the LGU in cash based on the Estimated Project Cost (EPC)

6.2.2 The cost sharing between the National Government (NG), EU and the LGUs shall be as follows in EU covered areas:

- 70 % - to be financed by the National Government in the form of grant (60% WB Loan Proceeds and 10% GOP) based on the Estimated Project Cost (EPC);

- 20% - to be financed by the European Union (EU) in the form of grant based on the Estimated Project Cost (EPC);

- 10% - equity contribution of the LGU in cash based on the Estimated Project Cost (EPC)

The estimate for project cost (EPC) for PRDP 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)**

- *All item of work to be used in preparing the EPC shall conform to the Standard Specifications for Highways and Bridges, revised 2012, Standard Specifications for Public Works Vol 3, 1995, and approved Special Specifications for the Project*

- The Project shall adopt the Revised Construction Safety Guidelines as provided for under DPWH D.O. No. 39 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):

1. 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)*]
2. Labor Cost (salaries and wages, as authorized by DOLE regional wage board or locally legislated rates)
3. Equipment Expenses (rental of equipment based on prevailing 2014 ACEL rates or locally legislated rental rates).

c. Indirect Cost (IDC):

- Overhead, Contingencies and Miscellaneous (OCM): 8-15% of DC

1. Overhead Expenses , *7-11%* [engineering and administrative supervision, transportation allowances, office expenses, CARI, and financing cost (*bid security, performance security and warranty*)]
2. 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*)]
3. 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 6-1. Indirect Cost Factors for "Other Infrastructure"

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:

1. Mobilization and Demobilization
2. Provision of Service Vehicle

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

1. Field /Laboratory Office & Living Quarters (*Rental Basis)*
2. Furnishing of Furniture, Laboratory Equipment, Survey Equipment and Consumables
3. Assistance to Engineers
4. Photographs
5. Health and Safety
6. Traffic Management
7. Environmental Compliance
8. 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 52 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:

a. 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;

b. The choice shall be based mainly on expected benefits;

c. The LGU understands its roles and responsibilities such as contribution of counterpart and post-construction operation and maintenance; and

d. 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

Social safeguards as described in Appendix A 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 pro-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 as described in Appendix B (WB's Environmental Guidelines for Rural Infrastructure Subprojects) 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. Annex 41 contains an ESMP template for timber ports. Using this ESMP template as a pattern, the LGU shall develop ESMPs for the rest of the "other" infrastructure subprojects.

The ESMP and the various Displaced Persons (DP) Forms (annexes 5 and 5a) enumerated in Appendix A shall be part of the Feasibility Study (FS) submissions.

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.

4. *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:

a. brief description of each proposed subproject under the project to include among others, target beneficiaries, target quantities, location, estimated cost.

b. 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;

c. a certification from the provincial/municipal treasurer on the availability of funds for the specified amount of equity contribution and for the operation and maintenance of the facility;

d. a certification from the PPDC/MPDC that the subprojects comply with each of the selection criteria enumerated under Selection and Prioritization Criteria in Part I;

e. 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 Governance and Operation and Maintenance commitment of previously implemented special projects of DA like InFRES, MRDP and CHARMP must be favourable.

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 maybe sought for complex subprojects. A final validation report shall be prepared by the RPCO. Attached to the validation report is a subproject pre-screening checklist such as information on the unit cost parameters, EIRR, B/C ratio, IP and subprojet environmental category concerns and LGU capacity.

Sample and pro-forma documents are attached as Annex 37.

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:

a. Subproject location on the provincial/municipal map;

b. Physical profile of the subproject;

c. Supply and demand study;

d. Technical analysis and engineering design

e. Benefits to be derived

f. Cost estimates

g. Financial and economic analysis

h. Implementation schedule;

i. Current structure conditions for existing facilities;

j. Environmental study;

k. Institutional arrangements;

l. Other data normally required of the kind of structure being proposed;

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

m. Environmental and Social Management Plan (ESMP);

n. Primary survey on Displaced Persons (DP) and IPs;

o. Clearance certificate on right-of-way and damages, and FPIC for IPs; and

p. 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 10% LGU equity share for the subproject.

The FS report shall be internally reviewed and approved by the PMIU.

Pro-forma documents for this purpose are attached as Annexes 42-44.

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 and Program of Work (POW)

The MEO/PEO 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 Agriculture Engineering Standard (PAES), National Building Code of the Philippines, DPWH Standard Specifications for Public Works Structures, 2004 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.

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 10% LGU equity to the subproject.

The Program of Work (POW) presentation generally follows the outline in Part III Rural Roads, section 3.5.5.

Likewise, the detailed estimate presentation format will also follow the outline per item of work as detailed in Part III Rural Roads, section 3.5.5.

POW cover page format will be made similar to Annex 11.

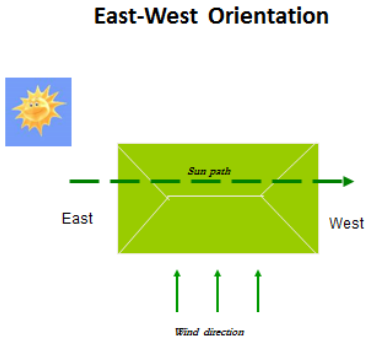
The following Design Specifications and Scheme shall be adopted for the project:

Design Consideration/Criteria for Warehouses

As many serious mistakes are made in the construction of medium-sized and large warehouses, instructions are given here for the basic design of stores which provide optimum conditions for the storage of grains and other foodstuff.

Siting and Orientation

A raised site and good drainage ensure that there is no stagnant water in the vicinity of stores. Setting up the store with its longitudinal side on an **East-West axis** (less sun radiation on the building) or exposed to the main wind direction



creates balanced temperature conditions, thus reducing the danger of condensation.

Firm soil and good road connections enable easy delivery and transportation of produce.

General Constructional Features

Not more than four corners and a simple and effective spatial design without any more angles, pillars, beams, windows or doors than necessary make work and especially cleaning easier and make it more difficult for pests to enter or find a hiding place. Offices and sanitary facilities which are separate from the warehouse enable fumigation and pest control measures to take place without any danger to staff. Pesticides, fertilizers and other material which are stored separately prevent any damaging effect on the stored produce and improve storage hygiene.

Flooring

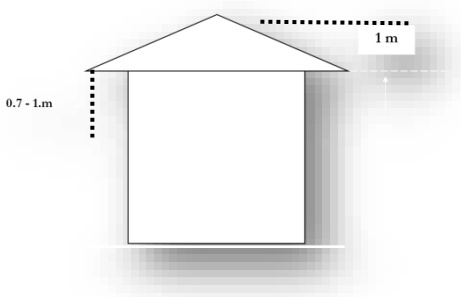
A floor at a height of 1meter above the ground with a ramp prevents ground moisture to penetrate the store, protects the walls and doors from being damaged by vehicles and simplifies loading and unloading of trucks. A vapor barrier stops ground moisture from rising. A suitable method is to insert polyethylene foil of at least 0.2 mm thickness, or a 5 cm layer of bitumen in the floor and in the first 25 cm of the walls. A concrete floor hard enough to bear the load expected prevents cracks. A smooth surface without any cracks or holes is easy to clean and does not afford insects any place to hide.

Walls

Roof - bearing pillars integrated into the walls facilitate storage hygiene. A smooth surface without any cracks either inside or out affords no hiding-places for pests. Even the smallest of holes must be filled in. A white, water-resistant and, if possible, plastifying outer coat of paint reflects the sun radiation and prevents penetration by moisture. Corrugated iron walls are unsuitable due to temperature variations inside the store.

Roofing

Eaves overhanging the walls by at least 1 meter will ensure that the store is kept in the shade and its walls are protected against rain. Eaves overhanging by at least 2-3 meters at the doors enable vehicles to be loaded and unloaded when it is raining. Properly sealed connections from roof to walls prevent any insects or birds from entering. Insulation under the roof in case of corrugated



iron sheets reduces the effect of the sun radiation and creates better storage temperatures. Insulating material does, however, have the danger of being an ideal hiding place for pests and also makes it more difficult to maintain good storage hygiene. Aluminum sheets or fiber concrete roofing do not become as hot as corrugated iron and create better storage temperatures. Gutters linked to a drainage system prevent the outer walls and the foundation from becoming wet in case of rain.

Doors

One door at each gable end is normally sufficient. Tight-sealing hinged doors prevent rodents from entering. Sliding doors always leave a gap between door and wall, A gap of 6 mm is sufficient to enable a mouse to enter. Roll-up doors rust and often become defective when older. Metal doors are most resistant against any damage by rodents. Wooden doors should be fitted at the bottom with a panel of sheet steel of half a meter in height.

Ventilation Openings

Ventilation openings with flaps which can be regulated enable controlled ventilation and the evacuation of heat from the store. Ventilation openings should have a size of: 0.5 m^2/100 m^2 storage area for incoming air (lower ventilation openings) and 1.5 m^2/100 m^2 storage area for outgoing air (upper ventilation openings). The lower ventilation openings should be situated approximately 1/2 meter above the floor, the upper ones approximately 1/2 meter below the roof on both sides of the store. Tightly-sealing ventilation openings permit fogging with insecticides. Wire gauze and grilles in the ventilation openings prevent insects, rodents and birds from entering. Roofing over the ventilation openings prevents any penetration by rainwater.

Illumination

Illumination of the storage facility contributes to the proper management of the facility. Translucent roof sheets inadvisable and likewise spot heating of grains on top layers of stacks. The storage facility should be reasonably well lit by daylight filtering through ventilation gaps. It also helps to leave several doors open to provide adequate illumination.

Estimating Warehouse Dimension:

- ✓ **Transit storage -** grain moved around and out from time to time
- stack low and plenty of working space

✓ **Storage of reserve stocks**

- stack as high as possible and minimal working space

Dimensions estimated from:

- specific volume of grains stored
- maximum tonnage of grains stored
- maximum stack height
- separation of lots

Specific Volume

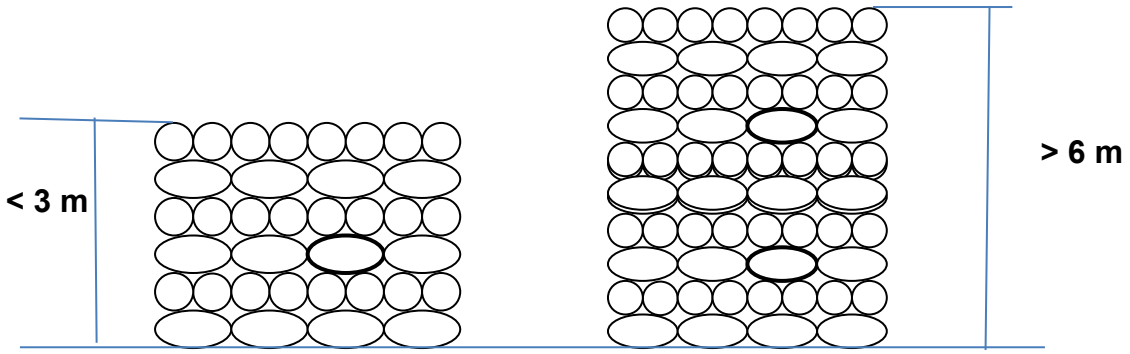
Volume in cubic meters occupied by one ton of bagged grain

Product	Specific Volume (cu. m / ton)	Bags per cu. meter
Paddy	2	10
Milled rice	1.33	15
Corn	1.67	12

Note: 1 bag = 50 kg or 0.05 ton

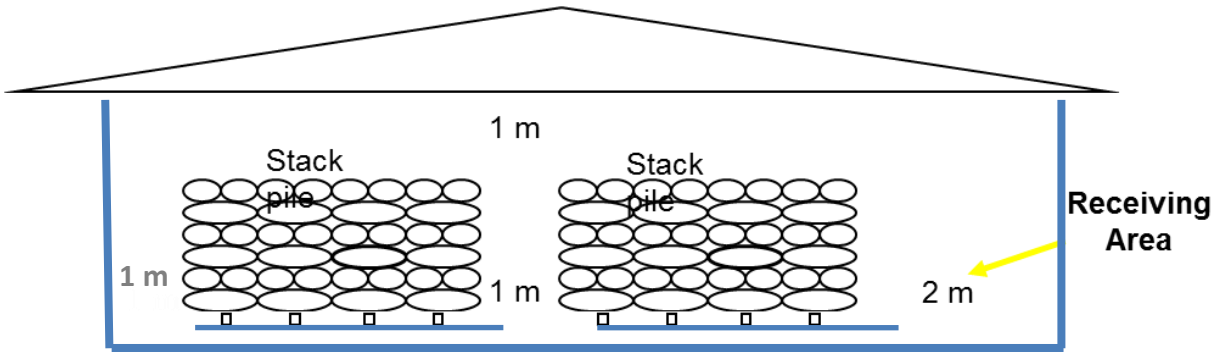
Stack Height

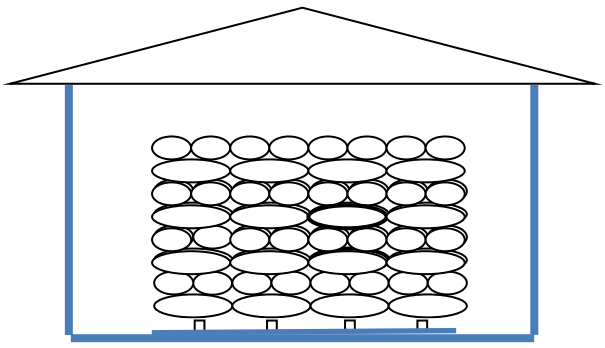
- Depending upon the purpose of the warehouse
  - Transit storage – low stack height
  - Reserve stocks – high stack height
- Not to exceed height of walls
- at least 1 meter below roof frames
- Woven polypropylene sacks tendency to slide on each other
  - ✓ not be more than 3 meters high
- Jute sacks bind together and better
  - ✓ up to 6 meters high



Separation of Lots

- *Maximum capacity gained by one stack*
- *But separation necessary for better stock control*
- *Gangways provided between and around stacks*
- *1 m between stacks and from walls*
- *One or more areas at least 2 m wide to handle incoming or outgoing stocks*

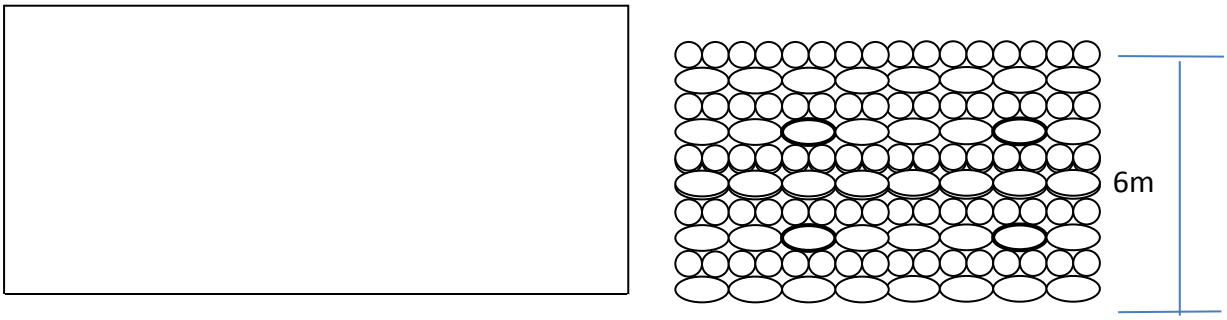




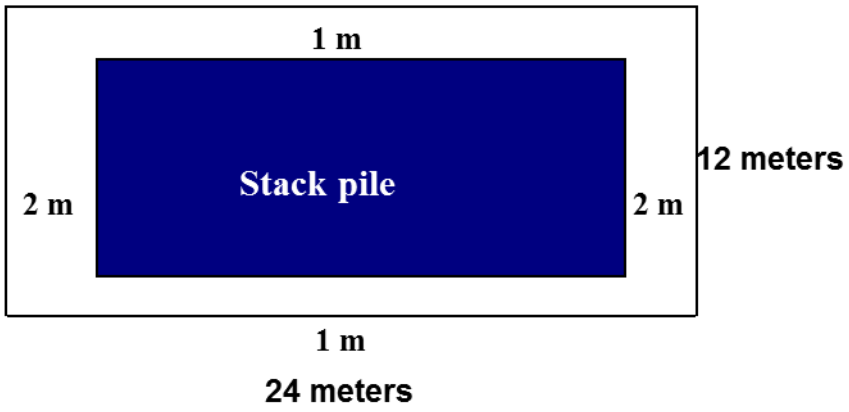
Sample Problems

Problem 1

A warehouse is 24 m long and 12 m wide. If bagged paddy is stored in one pile 6 m high, estimate storage capacity. Assume that doors are located on both ends of warehouse.



Solution



Pile length = 24 m – 2 m from wall – 2 m from other wall = **20 m**

Pile width = 12 m – 1 m from wall – 1 m from other wall = **10m**

Pile volume = 20 m length x 10 m width x 6 m height = **1,200 m^3**

Storage capacity = 1,200 m^3 / 2 m^3 per ton

= 600 tons / 0.05 ton per bag = **12,000 bags**

Problem 2

About 12,000 bags of paddy is stored to 2 square piles 6 m high. Estimate the required length and width of warehouse. Assume that doors are located on both ends of warehouse.

Solution

Tons per pile = 12,000 bags x .05 ton/bag

= 600 tons / 2 piles = **300 tons**

Pile volume = 300 tons x 2 cu.m. per ton specific volume

= **600 cu.m**

Pile floor area = 600 cu.m pile volume / 6 m pile height

= **100 sq.m**

Pile length = Pile width = 10 m (10 m x 10 m)

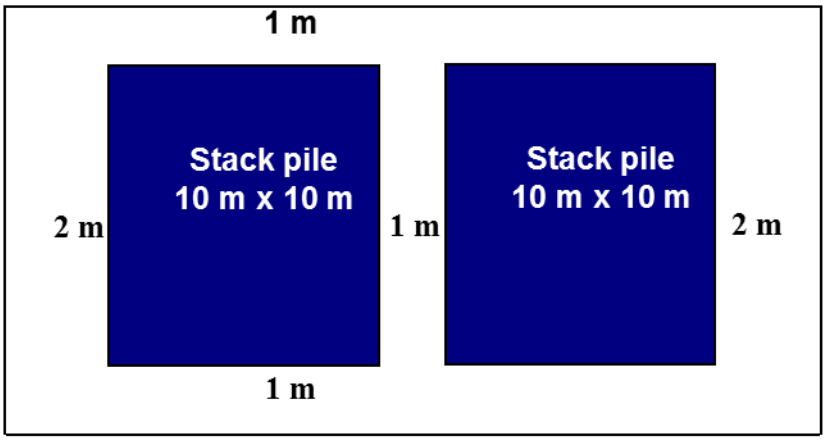
Warehouse width = 10 m pile width + 1 m from wall

+ 1 m from other wall = **12 m**

Warehouse length = 10 m pile length + 10 m pile length

+ 1 m between pile + 2 m from wall

+ 2 m from other wall = **25 m**



Estimating Cost for Warehouse or Building Facilities in General

The cost composition includes direct cost of materials, labor and equipment utilization while the indirect costs are for overhead, contingency, miscellaneous, profit and taxes. The percentage of the indirect cost is the same as the road cost estimation. The indicative unit cost per square meter of floor area is twenty five thousand pesos (PhP 25,000.00/sqm) per square meter. These include furnishing of the basic necessities like light, water, sanitation and drainage.

6.7 Review, Evaluation and Approval

The FS report and Detailed engineering drawings, specifications, POWs, O&M Plans, Bid Documents and IMA shall be reviewed and evaluated by RPCO and PSO and concurred by the Local Chief Executive prior its presentation to the RPAB for final approval.

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.

Standard size of DED drawings and title blocks with indicated signatories is attached as Annex 12.

6.8 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.

6.9 Subproject Execution, Completion and Turnover

6.9.1 Implementation Structure

The implementation set-up shall be as described under Organizational Structure, Functional Responsibilities and Implementation Arrangements in Part II of this manual.

6.9.2 Implementation Mode

The provisions under General Implementation Arrangements in Part II shall be observed in the implementation of the "other" 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:

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

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

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

d. Technical quality shall be maintained.

e. 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.

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

6.9.3 Procurement

Procurement for the "other" rural infrastructure subprojects shall conform to Republic Act 9184 (the Government Procurement Reform Act) and WB guidelines 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).

Procurement and bidding forms are contained in Appendix D. The time-lining for Procurement of Works for NCB is shown on annex 49.

6.9.4 Subproject Supervision

The procedures for the supervision of other rural infrastructure subprojects shall be the same as for Rural Roads part III, section 3.6.4.

6.9.5 Quality Control

Table 6-2. Minimum Test Requirements for "Other" 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	b. 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.
c. Item 404: Reinforcing steel	c. Certification from supplier will suffice or mill certificate
d. Item 405: Structural concrete (for building footings and superstructure, slab-on-ground)	d. 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

Items of Work	Minimum Test Requirements
	three (3) concrete cylinder samples.
2. Timber Port / Rock Causeway a. Timber Port Piles Timber decking b. Rock Causeway Rocks	 a. Timber Port Tambulian or equivalent Yakal or equivalent b. Rock Causeway Rocks weighing _____
Other infrastructure types not mentioned above	Based on standards of relevant agencies and line agencies

*P*eriodic reports on materials quality control shall be accomplished and submitted according to the forms provided in Annexes 19-22.

6.9.6 Time Control

The procedures for the time control of other infrastructure subprojects shall be the same as those of Rural Roads part III, section 3.6.5.

6.9.7 Cost Control

The procedures for the cost control of other infrastructure subprojects shall be the same as those of Rural Roads part III, section 3.6.6.

6.9.8 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, section 3.6.7.

6.9.9 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,section 3.6.8.

Pro-forma documents for final inspection, subproject completion and turnover reports are found in Annexes 29, 30 and 31.

6.10 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.

6.11 "RASIX" for "Other" Rural Infrastructure

As a quick reference called "RASIX" (Annex 48) 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.

7 Procurement Guidelines

7.1 Introduction and rationale

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[6] shall prevail."

Procurement guidelines and procedures in PRDP build on the existing guidelines and experience of MRDP2. It aims to enhance the capacity of DA RFUs and participating LGUs in the delivery of essential public services as well in managing rural development projects. This includes establishing an efficient and effective system for the implementation of subprojects.

It is envisioned that RFUs as the organic institution in the Project implementation will take on larger share of responsibilities and endowed the corresponding authority in terms of coordination, review and oversight of procurement activities. Procurement coordinators/specialists will be designated at the NPCO, PSOs and the RPCOs.

It shall strengthen the capacity of DA-RFUs and participating LGUs in the effective delivery of essential public investments and services; hence, the need to establish an efficient and effective procurement system.

7.2 General principles and Procurement Methods

Procurement of civil works for subprojects shall be carried out in accordance with the World Bank's "Guidelines: Procurement of Goods, Works and Non-consulting

[6] Refers to the "Treaty, International or Executive Agreements e.g. Loan Agreement)

Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers" dated January 2011 ("Procurement Guidelines") and the provisions stipulated in the Loan Agreement.

Procurement of works through ICB is not expected. Contracts estimated to cost more than US$200,000 may be procured following national competitive bidding (NCB) procedures using the Philippine Bidding Document (PBD) for Works as harmonized with the Development partners, 4th edition dated December 2010 or as revised in the latest Procurement Manual. Procurement of very small works costing below US$200,000 may be awarded based on shopping procedures, by comparing price quotations obtained from several contractors, usually at least three, as defined in paragraph 3.5 of the Bank's procurement Guidelines.

Procurement for the subprojects shall be the responsibility of the participating LGU through the Project Management Implementation Unit (PMIU). The existing LGU Bids and Awards Committee (BAC) will be responsible in conducting the bidding process.

All Invitation to Bids regardless of cost shall be advertised in the PhilGEPS. Advertisement of the Invitation to Bid in a newspaper of general nationwide circulation shall be made for contracts amounting to Five Million Pesos (P5,000,000.00) and above.

7.3 Prior review by the World Bank

Procurement of civil works costing US$5,000,000.00 or more subject to WB favorable evaluation of DAs procurement performance.

The Bank shall carry out procurement supervision missions to conduct post review of contracts that are not subject to the above prior review requirements on a frequency of every twelve (12) months. The procurement post-review should cover at least 20 percent of the post-reviewed contracts. PSO should keep copies of procurement documents and made available for post-review.

7.4 Procurement Coordinators and Bids and Awards Committee (BAC)

In view of the mainstreaming and institutionalization objectives of the Project, the existing Bids and Awards Committee (BAC) of the LGUs shall be utilized for PRDP implementation.

The Project to deploy procurement coordinators at the RPCO, PSO and NPCO to oversee that procurement functions of each procuring entity including the LGUs are performed efficiently.

7.5 National Project Coordinating Office (NPCO)

Prepare the annual PRDP Procurement Plan integrating the consolidated annual procurement plans (APP) of PSOs and the consolidated regional annual procurement plans (RAPP) and endorse to World Bank for NOL issuance; it is expected that RAPP included the LGU proposed I-BUILD subprojects and infrastructure requirements of IREAP.

Consolidate and analyze procurement reports of the PSOs; it is expected that procurement reports by the RPCOs were technically reviewed and analyzed by the PSOs;

Check completeness of requirements and responsiveness of NOL requests and endorse to World Bank for NOL;

Responsible in preparing a Project-wide procurement report;

Provide technical assistance on procurement to the PSOs;

Responsible for ensuring consistency in the procurement procedures and sharing of procurement related experiences across PSOs and RPCOs;

7.6 Project Support Office (PSO)

Oversee the implementation of procurement within the PSO and across RPCOs to ensure compliance to Project procurement policies and guidelines;

Consolidate the approved annual RPCOs annual procurement plans (RAPP) of RPCOs together with the PSO annual procurement plan and submit to NPCO;

Consolidate and analyze procurement reports of the RPCOs; provide feedback to RPCOs for actions to be undertaken;

Provide technical assistance to RPCOs in all areas of procurement to ensure that the procurement conditions defined in the Loan Agreement and guidelines are complied with;

Check completeness and responsiveness of requirements of requests for no objection letters (NOLs) and endorsement to World Bank;

Provide timely advice and assistance to the RPCOs for ensuring efficient procurement activities at the LGUs;

Conduct prior-review of procurement transactions by the LGUs as endorsed by the RPCOs;

Conduct regular joint pre- and post-procurement reviews with RPCOs and LGUs and recommend appropriate measures based on the findings;

7.7 Regional Project Coordinating Office (RPCO)

Oversee the implementation of procurement within the RPCO and participating LGUs within the RFU to ensure compliance to Project procurement policies and guidelines;

Consolidate and review procurement plans of participating LGUs and ensure that subprojects proposed for procurement are geo-tagged;

Prepare the Regional Annual Procurement Plan (RAPP) integrating the consolidated procurement plans of LGUs.;

Submit to the PSO the consolidated RAPP;

The RPCOs will be mainly responsible for providing oversight and technical assistance to LGUs, and shall review LGU procurement actions;

Consolidate and analyze procurement reports of the LGUs; provide feedback to concerned LGUs for actions to be undertaken;

Contribute to the updating of the Annual Work and Financial Plan for the Project through review and updating of procurement plans and consolidation of procurement reports;

Conduct regular joint pre- and post-procurement reviews with PSO and LGUs and recommend appropriate measures based on the findings;

7.8 Local Government Units (LGUs)

Oversee the implementation of procurement within the LGU to ensure compliance to Project procurement policies and guidelines;

Prepare a procurement plan based on the their **geo-tagged** proposed subprojects;

Manage the procurement of proposed subproject from annual procurement planning, pre-procurement conference, posting and invitation to bid, pre-bidding conference, opening and evaluation of bids, request of NOL, award of contracts, contract administration, monitoring, and other activities relevant to the successful completion of subproject procurement.

The concerned LGU will be the procuring entity and function as the fund manager of the I-BUILD subprojects. In agreement with their respective PLGUs, MLGUs can serve as Procuring Entities for any proposed subprojects within their respective municipality. However, the arrangements shall form part of the subproject implementation management agreement (IMA).

7.9 Use of Community Force Account (CFA) for Civil Works

Guidelines in the Use of Community Force Account (by administration for Works):

a. contracts costing less than US$ 50,000.00 for the construction of small support infrastructure or provisions of services, where the PG will be the one to construct the facility or provide the needed services indicated in the Enterprise Investment Agreement, and consistent with the Enterprise Subproject Procurement Plan;

b. if the PG does not have the capability and resources to take the entire work, part of the work items maybe contracted;

c. the LGU particularly its I-BUILD Provincial Project Management and Implementing Unit (PPMIU) shall provide technical assistance in design preparation and project supervision;

d. financing scheme, the cost sharing between the National Government (NG) and the LGUs shall be as follows:

IREAP Civil Works Charge to IBUILD Fund (OL and AF1):

- 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);10% - equity contribution of the LGU in cash based on the Estimated Project Cost (EPC)

IREAP Civil Works Charge to IREAP Fund (OL):

- 80 % - to be financed by the National Government in the form of grant (60% WB Loan Proceeds and 20% GOP) based on the Estimated Project Cost (EPC);20% - equity contribution of the LGU in cash based on the Estimated Project Cost (EPC)

e. the Estimated Project Cost for IREAP Civil Works SPs issued with NOL 1 that includes estimates for contractor's profit is not eligible for payment under community force account mode of implementation. The contractor's profit becomes part of Project savings unless used for eligible variation orders;

f. for IREAP Civil Works sub-projects yet to be approved where CFA mode of implementation is the most appropriate method as agreed during procurement planning and preparation of the program of work, the cost for contractor's profit shall not be included in the indirect cost estimates;

g. contracting, community force account mode of implementation is adopted if the LGU and the PG is in agreement that the sub-project could be implemented within the approved budget and the PG agrees that any minimal additional materials, labor days and equipment days incurred are considered subsidiary to the completion of the particular items of works;

h. sub-project supervision and monitoring is the responsibility of the PG with technical assistance from the LGU. The indirect cost includes cost for Overhead Expenses where the PG could use to hire an experienced project engineer, materials engineer and foreman in case the PG do need further technical backstopping;

i. quality assurance and control in the implementation of sub-projects by community force account shall generally follow the provisions of the Infrastructure Quality Monitoring and Durability System (IQMDS) since the quality plan (QP), inspection and test plan (ITP) and the minimum materials testing requirement (MMTR) are already included in the approval of the SPs. However, since the PG is directly engage as the contractor and at the same time the end user, quality control as envisioned in the IQMDS especially the required minimum test could be adjusted as deemed necessary by the LGU. These quality control as envisioned for regular contractors are compensated through community or end user's participation thus laboratory test that could be replaced through an Engineers Inpection Report from the LGU Engineer or lowering the minimum number of test could be done. Any adjustments made in the minimum test requirement shall be clearly reflected through an approved MMTR;

j. progress billing shall apply in the implementation of community force account with the PG preparing the statement of work accomplishment (SWA), the LGU inspecting the works and the JIT validating the SWA for the fund release.

The PG request for payment shall include:

a. 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

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

c. 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 M/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 MEO/CEO/PEO immediately upon receipt of notice from the PG/contractor that the work has been fully completed. Aside from the other standard documents, the notice shall have the following attachments:

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

b. 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.

c. 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;

k. for time control, the rules on suspension and resumption of works, approval of time extensions and application of liquidated damages shall follow the same guidelines in NCB or Shopping mode of contracting and the IBUILD operations manual;

l. for cost control, the approval of variation orders shall follow the guidelines of the IBUILD operations manual;

m. completion of works and turn-over, the guidelines in the IBUILD operations manual shall be followed except that there will be no turnover of the possession of site from PG to LGU but shall remain to the PG;

n. provisions for warranty and defects liability period shall follow the guidelines in NCB or Shopping mode of contracting;

o. operation and maintenance, at completion the possession of site remains at the PG and subsequently starts the proper operation and maintenance of the facility by the PG with backstopping of the LGU in compliance to its commitment in the IMA;

p. the provisions on contract termination shall follow the guidelines in NCB or Shopping mode of contracting.

For more details, refer to the procurement manual attached in appendix C and D.

8 Grievance Redress Mechanism

The grievance redress mechanism (GRM) is an integral project management procedure that intends to seek feedback from beneficiaries and resolution of complaints on project activities and performance. Each I-BUILD and I-REAP subproject shall have a system for airing and resolving grievances at the community levels that shall generally conform to this framework. The objective of Grievance Mechanism is to provide stakeholders with mechanism to voice out complaints at the subproject level and to provide the project management a means to hear and resolve complaints on the subproject.

The mechanism will ensure that (i) the public within the project influence are aware of their rights to access, and shall have access to, the mechanism free of administrative and legal charges; (ii) that these rights and interests are protected from poor project performance, especially of beneficiaries and/or affected persons (AP); and (iii) concerns arising from project performance in all phases are addressed effectively.

8.1 Type of Grievance

Any AP will be able to submit a grievance using the GRM if they believe a practice or activity is having detrimental impact on the environment, community, or on their quality of life.

Grievances could include:

1. Negative impacts on the community or a person (e.g. financial loss such as from loss of roadside trees, health and safety issues, noise from construction, nuisances, etc.)
2. Dangers to health and safety or the environment
3. Failure to comply with standards or legal obligations
4. Harassment of any nature
5. Criminal activity
6. Improper conduct or unethical behavior
7. Financial malpractice or impropriety or fraud
8. Attempts to conceal any of the above

8.2 Access

The NPCO, PSOs, RPCOs, and the relevant local government units (LGUs) will make the public aware of the GRM through public awareness campaigns, training and capacity building in I-SUPPORT. Any person who has feedback or complaints regarding the performance or activities of the project and its subprojects during pre-implementation, implementation and operation phases, shall have access to the GRM mechanism.

Contact details in support of the mechanism will be publicly disclosed and posted in the offices of concerned communities and in strategic places of the project's area of influence. These will also be incorporated in PRDP information materials, such as Project brochures, flyers and posters.

8.3 Grievance Point Person

The NPCO, PSOs, the RPCOs, and the LGU Governors/Mayor's Offices will each nominate and train one of their officers to be a Grievance Point Person (GPP) for project-related issues. The GPPs will be responsible for the initial screening of feedbacks and complaints, as well as, the organization of preliminary meetings with concerned parties to establish the critical path to resolution. For the M/PPMIU, the GPP will be joined by two other representatives from civil society (e.g. leaders of local church/religious community and civil society organization) to be appointed by the Mayor/Governor to constitute a Grievance Committee.

The GPP of the M/PPMIU shall serve as the secretariat of the Grievance Committee. A registry of feedback or grievances received will be maintained by the GPPs for reporting to the NPCO and the World Bank, specifically for monitor of status, associated follow-up, resolution or non-resolution of issues. A semi-annual report on the grievances shall be prepared and submitted to their RPCOs. Feedback/grievance registries will be consolidated by the NPCO for discussions on how to further enhance PRDP systems based on the feedback and complaints.

Each M/PPMIU shall, optionally and if technically possible, maintain an email address account for complaints. The email address shall be registered at the RPCO, PSO and NPCO and can be accessed when needed. The email address name shall be descriptive of the purpose of the address and easy to recall, for example: prdp-cv.grievance@yahoo.com.

Email Inboxes should be cleaned of spam and invalid messages every week and a printout of each valid email message shall be compiled by the GPP acting as secretariat to the Grievance Committee.

8.4 Grievance Investigation and Resolution Process

Households or groups of households wishing to provide feedback and/or complain about the effects of PRDP activities on their property, production system, economic well-being, spiritual life, environmental quality, or any other assets of their lives shall make their complaint using the standard complaints form provided by the GPPs.

Complaints shall be written down either in the form of a handwritten or typewritten letter or in a form of an email message. The following minimum information should be provided in the complaint: (a) Name of Subproject; (b) Name of Community; (c) Name of Municipality; (d) Name of Province; (e) Details of the Complaint; (f) Name of the Complainant; (g) Address or Contact Information of Complainant.

Drop Boxes for Complaints. Complaints drop boxes (made of sturdy materials and secured with a lock) shall be installed in strategic and conspicuous places, such at the following: (a) at the municipal hall; (b) at community halls; and/or (d) at the construction sites. The boxes shall be duly labelled and provided with a brief description of its purpose and a simple instruction for submitting complaints, including submission through email if available.

Sending of Complaints. Letter complaints shall be dropped at Drop Boxes for Complaints. The Letter shall be signed by the complainant and shall indicate his/her contact information. Email complaints should be sent from a valid address and should include alternative contact information such as a telephone number (or optionally a home address) that can be verified and validated. All complaints shall be considered strictly confidential.

Collection of Drop Boxes Contents and Initial Screening. The contents of the Complaint Drop Boxes shall be collected at least on a monthly basis by the GPP acting as secretariat to the Grievance Committee.

The Grievance Investigation and Resolution process is outlined below:

Step 1: Feedback/Complaint Form will be accomplished by beneficiaries, affected persons (APs), households (AHs) or groups of households and sent to the GPP of the relevant body (NPCO, PSOs, RPCOs or LGUs).

Step 2: Feedbacks and complaints will be recorded in the registry. In cases of complaints, the Grievance Committee shall be convened when needed or at least once a month and presented with the compiled complaints for the period. The Grievance Committee shall first determine the validity of each

complaint. Anonymous complaint or complaints using aliases may be accepted as long as adequate contact information and/or evidence are provided that can be verified or validated by the Committee. For complaints ruled not valid or not relevant, the Grievance Committee may choose to send a reply to the complainant explaining why the complaints/issues raised is not valid.

If complaints are evaluated as valid, within 10 days from the date the complaint is received, the relevant LGU's GPP/Grievance Committee should send a reply to the complainant informing him/her of the actions being undertaken on the complaint if any, and/or providing him/her of an explanation or clarification of the issues, if necessary. The Grievance Committee will determine the appropriate actions to be undertaken on the complaints. It is possible that the GPP/Grievance Committee will organize meetings with the relevant agencies/contractors to discuss how to resolve the matter. All meetings will be recorded and copies of the minutes of meetings will be provided to beneficiaries or APs/AHs.

Step 3: The relevant LGU Governor/Mayor's Office shall take such mitigation measures as agreed in meetings from step 2 within 10 days, or some other period acceptable to the parties referred to in step 2.

Step 4: When the complaint is resolved, the Complaint Form shall be signed by complainant/head of household, the relevant LGU Governor/Mayor's Office and annotated at each stage of process by the relevant LGU with copies to be sent to the concerned RPCO.

Step 5: If no understanding or amicable solution is reached, or if no response is received from the relevant LGU Governor/Mayor's Office within 15 days after the registration of complaint, the APs/AHs can appeal to the relevant LGU Council (Sangguniang Bayan, Panglungsod or Panlalawigan). The relevant local council will decide and take mitigation measures within one month of receiving the appeal.

Step 6: If no understanding or amicable solution is reached, or if no decision or mitigation measure is received from the relevant LGU Council within 15 days after the registration of complaint, the APs/ AHs can appeal to the relevant RPCO GPP. The concerned RPCO will decide and take mitigation measures within one month of receiving the appeal.

Step 7: When the complaint is resolved, the Complaint Form shall be signed by complainant/head of household, the relevant LGU, the RPCO, and annotated at each stage of process by the GPP of the PSO.

Step 8: If no understanding or amicable solution is reached, or if no response is received from the relevant RPCO within 15 days after the registration of complaint, the APs/ AHs can appeal to the PSO GPP. The PSO will provide a

decision and take mitigation measures within one month of receiving the appeal.

Step 9: When the complaint is resolved, the Complaint Form shall be signed by complainant/ head of household, the relevant LGU, the PSO and annotated at each stage of process by the GPP of the NPCO.

Step 10: If no understanding or amicable solution is reached, or if no response is received from the relevant PSO within 15 days after the registration of complaint, the APs/ AHs can appeal to the NPCO GPP. The NPCO will provide a decision and take mitigation measures within one month of receiving the appeal.

Step 11: When the complaint is resolved, the Complaint Form shall be signed by complainant/ head of household, the relevant LGU, and the NPCO with copies to be sent to WB.

Step 12: If the AP/AH is still not satisfied with the decision of the NPCO in the absence of any response within the stipulated time, the AP/AH as a last resort may submit his/her case to the court, in which decision is final.

9 Glossary

Bridges – single/double lane bridge along the access road that provides link from the production areas to the processing centers and/or market centers as defined in the value chain analysis of priority commodities.

Irrigation Subprojects – are those schemes not classified as National Irrigation Schemes. PRDP covered schemes are communal irrigation schemes in nature but are of different construction types like rehabilitation of communal irrigation systems (CIS), construction of irrigation projects (CIP), construction of Small Water Impounding Projects (SWIP), Small Scale Irrigation Project (SSIP) such as Shallow Tube Wells (STW), Small River Irrigation Project (SRIP) and Drip Irrigation Project.

Local Government Unit (LGU) – may refer to the municipal, provincial or city local government unit when not specifically specified in this manual.

Farm to Market Roads (FMR) – refers to the access road that provides link from the production areas to the processing centers and/or market centers as defined in the value chain analysis of priority commodities.

> *Since 62% of the Philippine road network are classified as barangay roads and also 52% are earth to gravel roads, it is expected that these are the priority proposals for PRDP except when the value chain dictates that doing municipal and provincial roads which are the only route and most viable and key to increasing value adding to agri-fishery products is expected.*
>
> *Likewise, the average road density in PRDP covered areas is only 62% and therefore a balance of low cost but climate resilient designs must be pursued*.