Republic of the Philippines
Department of Agriculture
PHILIPPINE RURAL DEVELOPMENT PROJECT (PRDP) SCALE UP
National Project Coordination Office
4th Floor, DA New Building, Elliptical Road, Diliman
Quezon City 1100, Philippines

Operations Manual
of the Economics Unit Under the PRDP Scale Up

Introduction

In preparation for the scaling-up of PRDP, the Economics team under the NPCO's Office of the National Deputy Project Director has transitioned into an Economics Unit under the I-SUPPORT component by virtue of National Project Advisory Board (NPAB) Resolution No. 4, series of 2023. The NPCO Economics Unit and the Economists at the PSOs and RPCOs have the main task of supporting the different components and units of PRDP in the delivery of the required outputs, contributing to the achievement of the Project's overall development objectives.

1. Key Tasks and Responsibilities of the Economics Unit

The major tasks and responsibilities of the Economics Unit include the following:

a) Review feasibility study and economic and/or financial analysis of infrastructure and enterprise subprojects (SPs) proposed for funding under the I-BUILD and I-REAP components, respectively, to ensure that these are financially and economically viable and worth funding.
b) Provide technical guidance and assistance to subproject proponents {e.g., Local Government Units (LGUs), Farmers' Cooperatives and Associations (FCAs) or FCA Clusters} in preparing the Economic and Financial Analysis (EFA) of subproject proposals as an integral part of the Feasibility Study (FS) of I-BUILD SPs, and Financial Analysis (FA) as part of the Business Plan (BP) of I-IREAP SPs, in accordance with the technical guidelines of PRDP Scale Up. In this regard, the Economics Unit prepares the necessary economic models, guidelines and templates for EFA/FA preparation, and orients/guides the proponents in complying with the required project documents.
c) Spearhead the conduct of prioritization runs for I-BUILD subproject proposals in close collaboration with the I-BUILD component and other concerned components and units, including updating the prioritization guidelines as may be necessary.
d) Prepare project-level economic and financial analyses, as well as provide the necessary inputs to the preparation of financing proposals and project implementation completion reports for submission to the government oversight agencies, World Bank and other financing institutions.
e) Provide technical inputs to and actively participate in undertaking Rapid Appraisal of Emerging Benefits (RAEB) of specific completed subprojects in close collaboration with the Monitoring, Evaluation, and Learning (MEL) Unit and other concerned PRDP components/units; and in the conduct of Value Chain (VC) assessment in close collaboration with the MEL Unit and the I-PLAN component. The Economists are part of the RAEB and VC assessment teams to be organized and are particularly involved in the conduct of household survey, database preparation and analysis, and preparation of reports.

All Economists shall be guided by the guidelines, policies, subproject approval and review process, including service standards of the I-BUILD and I-REAP components as specified in the respective Operations Manual of the two components.

Appraisal and review of I-BUILD subproject proposals include the following specific activities:

a) Subproject Validation - the Economist is a member of the Subproject Validation Team headed by the I-BUILD component and composed of other concerned project components

and units as specified in I-BUILD Operations Manual. The Economist is tasked to provide in the Team's validation report an initial economic analysis of the proposed subproject based on data provided by the LGU proponent, field interviews and observations.

b) Subproject Appraisal, Review and Evaluation - the Economist is part of the RPCO/PSO/NPCO Team that shall conduct subproject appraisal of the proposed subproject to ensure completeness, consistency and correctness of all documents including FS, EFA, DED, POW. The Team's output is a Subproject Appraisal Report (SPAR).

c) Conduct of NPCO-PSO-RPCO and LGU Joint Technical Review of SPs - this will be done to facilitate compliance of technical requirements, endorsement to the Regional Project Advisory Board (RPAB) for deliberation and approval, and the eventual issuance of No Objection Letter 1 (NOL-1). The RPAB will only approve subprojects with complete clearance from components and units. (I-PLAN, I-BUILD, SES, Econ, GGU, MEL, Compliance, Finance, Procurement).

d) Compliance review of the revised FS and EFA submitted by the LGU proponent and issuance of clearance for RPAB deliberation once the proposed subproject passes the compliance review.

Responsibility of Economists in the Review of I-BUILD Subprojects

a. RPCO Economist
- Shall conduct initial review of the proposed Subproject based on the agreed guidelines for compliance of the LGU proponent prior endorsement for SP prioritization.
- Shall prepare a "Summary of Comments" as part of documentation and reference for SP approval and ensure all comments, especially the "major" ones are complied with by the proponent LGU.
- For SP under RPCO threshold:
  - RPCO shall endorse the SP for RPAB approval once all comments are satisfactorily complied.
  - RPCO shall endorse the RPAB approved SP for NOL 1 Clearance if no further comments are raised.
- For SPs under PSO threshold:
  - RPCO shall conduct initial review and endorse to PSO for review and clearance before seeking approval from RPAB.
  - RPCO shall ensure that all assumptions, reliable data sources and consistency of data across the EFA worksheet and FS write-up are verified before forwarding to PSO Economist.

b. PSO Economist
- Shall conduct review of all proposed SPs endorsed by RPCO Economist based on the agreed guidelines.
- Shall prepare a "Summary of Comments" as part of documentation and reference for SP approval and ensure all comments, especially the "major" ones are complied with by the proponent LGU.
- For SP under PSO threshold:
  - PSO shall endorse the SP for RPAB approval once all comments are satisfactorily complied.

- PSO shall endorse the RPAB approved SP for NOL 1 Clearance if no further comments are raised.

- For SPs under NPCO threshold:
  - PSO shall conduct review and endorse to NPCO for review and clearance before seeking approval from RPAB.
  - PSO shall ensure that all assumptions, reliable data sources and consistency of data across the EFA worksheet and FS write-up are verified before forwarding to NPCO Economist.

c. NPCO Economist

- Shall conduct review of all proposed subprojects based on the agreed guidelines
- Shall prepare a "Summary of Comments" as part of documentation and reference for SP approval and ensure all comments, especially the "major" ones are complied with by the proponent LGU.
- Shall maintain tracking of comments until each subproject will be endorsed for NOL 1 issuance
- For SP under NPCO threshold:
  - NPCO shall endorse the SP for RPAB approval once all comments are satisfactorily complied.
  - NPCO shall endorse the RPAB approved SP for NOL 1 Clearance if no further comments are raised.
- For SPs under WB threshold:
  - NPCO shall conduct review and endorse to WB for review and NOL 1 clearance of SP that are already approved by RPAB.
  - NPCO shall ensure that all assumptions, reliable data sources and consistency of data across the EFA worksheet and FS write-up are verified before forwarding to WB.

Appraisal and review of proposed I-REAP enterprise subprojects include the following activities:

a) Business plan preparation/enhancement - orientation/training of the implementing proponents on the guidelines on preparation of financial analysis for the proposed enterprise
b) Technical review by the RPCO Technical Review Committee (RPCO Economist is a member of the committee)
c) Joint Technical Review (JTR) at the PSO or NPCO depending on the threshold for issuance of clearance for Regional Project Advisory Board (RPAB) approval - PSO/NPCO Economists to prepare and issue Form 2A containing the summary of findings and recommendations on the FA and BP write-up for compliance by the implementing proponent.
d) Compliance review of the revised BP and FA and issuance of clearance for RPAB deliberation once the proposed subproject passes the compliance review.

As part of mainstreaming of PRDP activities, the Economics Unit may provide technical training or serve as resource persons in the conduct of training on economic and financial analysis of agr-fishery infrastructure and enterprise projects for units and regular programs of the Department of Agriculture.

2. Staffing

Under the PRDP Scale Up, the NPCO Economics Unit and the PSO and RPCO Economists, reporting directly to the PSO/RPCO Deputy Project Director are proposed to have the following staffing:

Office	Position	Quantity	Hired/DA Organic
NPCO	Unit Head	1	Organic
	Alternate Unit Head	1	Hired
	Senior Economist	1	Hired
	Economist	3	Hired
PSO North Luzon, South Luzon and Visayas	Economist	1-2 per PSO	Hired
PSO Mindanao	Economist	2-3	Hired
RPCO	Economist	1-2 per RPCO	Hired

Guidelines for Preparation of Economic and Financial Analysis in Feasibility Study of I-BUILD Subprojects and Financial Analysis of I-REAP Subprojects

Economics Unit
I-SUPPORT Component
May 2023

Department of Agriculture
Philippine Rural Development Project Scale Up

These guidelines were prepared for the use of PRDP Scale Up implementers in the National Project Coordination Office (NPCO), Project Support Office (PSO), Regional Project Coordination Office (RPCO), and Implementing Partners including Local Government Units (LGUs) and Farmers' Cooperatives and Associations (FCAs), who are responsible for preparing or reviewing the: a) feasibility study (FS) and economic and financial analysis (EFA) of proposed I-BUILD subprojects; and b) business plans (BP) and financial analysis (FA) of proposed I-REAP subprojects, as required by the Project.

These guidelines present the operational policies, processes and procedures to guide the LGUs in preparing the FS and EFA including the EFA write-up in the FS of proposed I-BUILD subprojects, and for LGUs and FCAs in preparing the financial analysis of proposed enterprise subprojects under I-REAP component.

The guidelines are presented in two (2) parts:

Part I: Guidelines for Preparation of Economic and Financial Analysis in Feasibility Study of I-BUILD Subprojects; and
PartII: Guidelines for Preparation of Financial Analysis of Proposed I-REAP Subprojects

Any proposed modifications to the guidelines as a result of continuous evaluation and from lessons learned to be encountered during implementation will be adopted and incorporated in subsequent versions of the guidelines.

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Part I. Guidelines for Preparation of Economic and Financial Analysis in Feasibility Study of I-BUILD Subprojects

Part II: Guidelines for Preparation of Financial Analysis of Proposed I-REAP Subprojects

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Part I. Guidelines for Preparation of Economic and Financial Analysis in Feasibility Study of I-BUILD Subprojects

Economics Unit
I-SUPPORT Component
May 2023

Acronyms

ACEL	-	Association of Carriers and Equipment Lessors
AGR	-	Annual Growth Rate
BCA	-	Benefit-Cost Analysis
BCR	-	Benefit Cost Ratio
CLUP	-	Comprehensive Land Use Plan
DA	-	Department of Agriculture
DED	-	Detailed Engineering Design
DPWH	-	Department of Public Works and Highways
EFA	-	Economic and Financial Analysis
EIRR	-	Economic Internal Rate of Return
FGD	-	Focus Group Discussion
FMR	-	Farm-to-Market Road
FS	-	Feasibility Study
HH	-	Household
KII	-	Key Informant Interview
LGU	-	Local Government Unit
MAO	-	Municipal Agriculturist Office
MLGU	-	Municipal Government Unit
NEDA	-	National Economic and Development Authority
NOL 1	-	No Objection Letter 1
NOL 2	-	No Objection Letter 2
NPV	-	Net Present Value
O&M	-	Operation and Maintenance Cost
OCM	-	Overhead, Contingencies and Miscellaneous
PAO	-	Provincial Agriculturist Office
PAP	-	Project Affected Person
PCCP	-	Portland Cement Concrete Pavement
PCIP	-	Provincial Commodity Investment Plan
PLGU	-	Provincial Local Government Unit
POW	-	Program of Works
PRDP	-	Philippine Rural Development Project
PSA	-	Philippine Statistics Authority
PWS	-	Potable Water System
RIA	-	Road Influence Area
SES	-	Social and Environmental Safeguards
VCA	-	Value Chain Analysis
VOC	-	Vehicle Operating Cost

Definition of Terms

Economically Active Population -
Beneficiaries
Direct Beneficiaries -
Indirect Beneficiaries

- IBUILD
  * FMR: Persons/household that reside inside the RIA but will not use the FMR due to proximity to existing access roads (i.e. earth roads/trails)
  *Slaughterhouse/Dressing Plant: public consumers within the immediate municipality where the Slaughterhouse/Dressing Plant is located and possibly nearby areas
- IREAP
  Members and non-members of the proponent group that are indirectly involved in the enterprise operation such as enterprise management, sales and marketing, financial management and hired part-time and on-call laborers. Indirect beneficiaries are further categorized based on the types of interventions that they have received or availed:
  * Personnel employed – personnel employed by the enterprise such as permanent or on-call and paid or volunteer either direct or indirect labor.
    - Permanent Employees working for the enterprise on a full time and regular basis and receiving regular compensation benefits.
    - On-call/Part time personnel working for the enterprise on an irregular basis, usually paid every engagement.
  * Management employees who are directly involved in the production and processing of the products.

Feasibility Study - an evaluation or analysis of the potential impact of a proposed program/project with a view of deciding whether or not to proceed with the program/project implementation. *(source NEDA)*

Fisherfolk - People who are directly engaged in catching, culturing, and processing of fisheries and/or aquatic resources. *(Source: BFAR)*

Guidelines for Preparation of Economic and Financial Analysis in Feasibility Study of IBUILD Farm-to-Market Road Subproject

I. Rationale

This guideline aims to provide Local Government Units (LGU) a step-by-step guide in the preparation of the Economic and Financial Analysis (EFA) for the Feasibility Study (FS) of Farm-to-Market Road (FMR) proposals under the Philippine Rural Development Project (PRDP) Scale Up. Economic and financial analyses in PRDP Scale Up are conducted to determine economic viability of proposed subprojects requesting funding from the Project. Any LGU who will prepare Feasibility Studies must be fully aware about the general policies, guidelines, data requirements, acceptable data sources and data gathering methodologies recommended by PRDP in order to accomplish sound economic and financial analyses.

II. General Policies and Guidelines

Below are the general policies and guidelines to be adopted in the preparation of economic and financial analysis in the feasibility study for IBUILD subprojects. The EFA guidelines and methodologies used for each subproject type follow the parameters and standard economic conversion factors prescribed by the National Economic and Development Authority (NEDA). These guidelines are also informed by the experience, learnings and initial gains from the review of subproject proposals as well as implementation of I-BUILD subprojects under PRDP.

a) The enhanced template for EFA will be used in the preparation of Subproject Proposals for possible funding under the PRDP Scale Up.

b) Every subproject must at least pass the 10% sensitivity scenarios (both increase in costs and decrease in benefits) in order to qualify for endorsement of No Objection Letter 1 (NOL1). Qualification requires that under these scenarios the Net Present Value (NPV) must be positive, Economic Internal Rate of Return (EIRR) must be greater than 10% and the Benefit-Cost Ratio (BCR) must be equal or greater than 1.0.

c) Any changes in data in subsequent FS submissions as compared to previous submissions should be documented and adequately justified. Frequent changes in data and assumptions are discouraged. LGUs must be well informed that all data used in the initial projection are assumed to have been validated in the field and referenced from credible data sources.

d) The determination of the effective area to be serviced by the FMR from where the estimation of economic benefits, specifically to local agriculture, must conform to PRDP's methodology for Road Influence Area (RIA) calculation. *(Refer to Annex A for methodology on RIA estimation).*

e) Digitized commodity maps are required for validation of total production area within the RIA as estimated in the FS. A maximum of 10% discrepancy is acceptable between the total agricultural area reported in the FS and the estimated agricultural area in the digitized map.

f) All SPs with bid costs of the recommended award higher by 5% or more than the Estimated Project Cost (EPC) shall be subject to re-run of EFA. EIRR must be 10% or higher in the Sensitivity Analysis of 10% increase in cost or 10% decrease in benefits.

g) Any changes in the project cost due to variation order must be accompanied by a revised FS and economic and financial analysis reflecting the new project cost based on the contract amount. Assuming that there is no change in physical scale that will affect valuation of economic benefits, qualification for No Objection of Variation Orders will no longer require economic feasibility at 10% sensitivity scenarios. Subproject will only need to be feasible at the base scenario.

h) The inclusion of SES-related costs shall be applicable only to I-BUILD subprojects funded under the AF2 and PRDP Scale Up.

i) Revisions to FS must also include re-calculation of RIA and incorporation of commodity maps.

III. Overview of data requirements in the preparation of Economic and Financial Analysis of IBUILD Subprojects

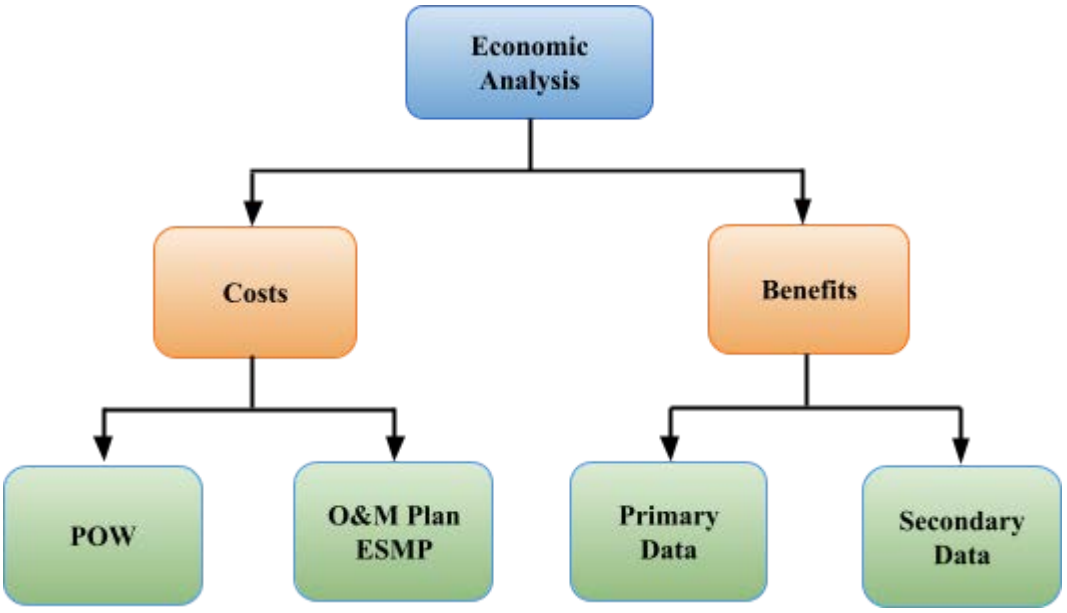


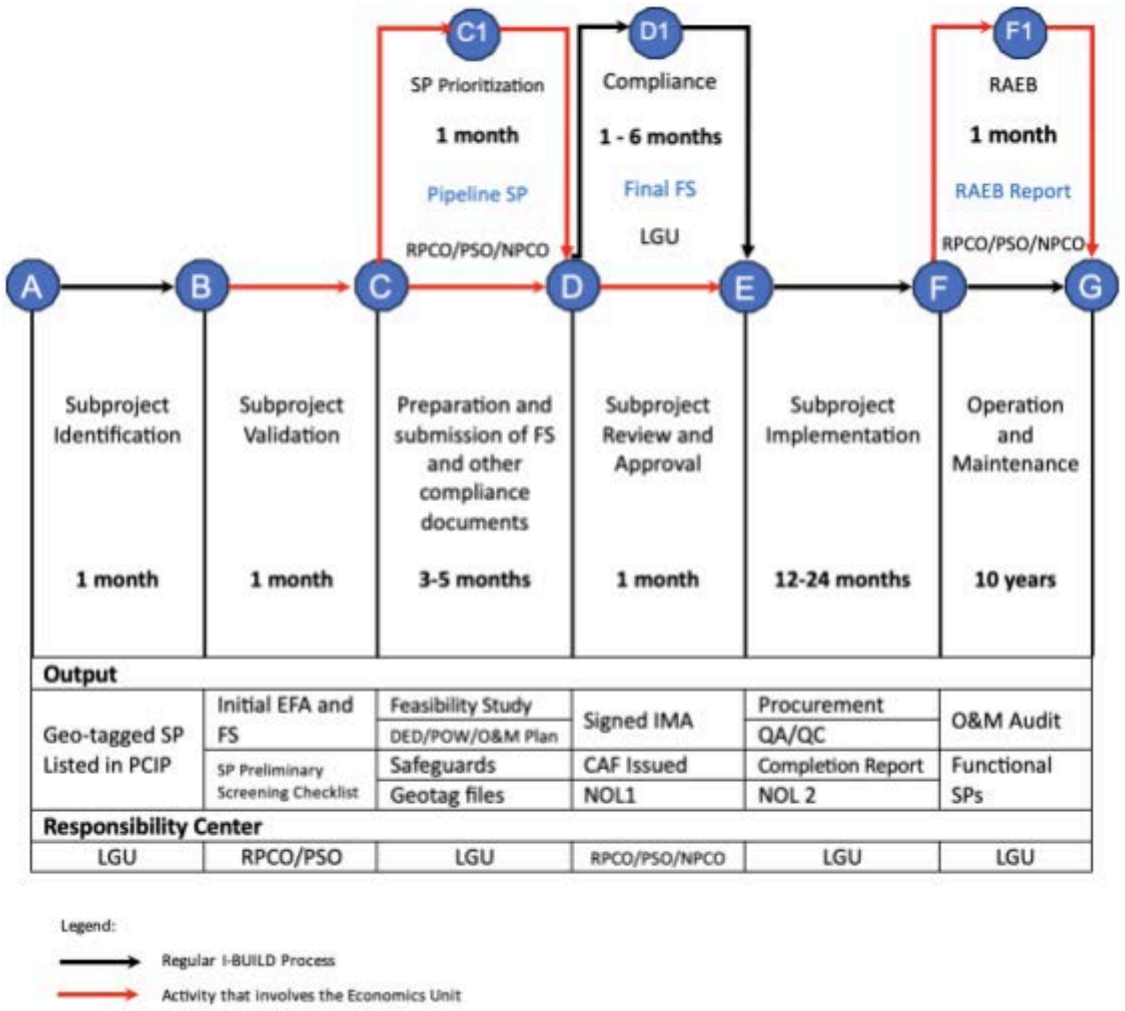
Figure 1. Summary of data requirements and corresponding sources

In the preparation of economic analysis for infrastructure subprojects, all the costs involved and the stream of benefits must be comprehensively identified and valuated in order to come up with sound economic feasibility results.

Cost items including investment and operating and maintenance costs are commonly sourced from the program of works (POW) and from the operation and maintenance (O&M) plan of Detailed Engineering Design (DED). For the benefits, primary data and secondary data are both used. Primary data are gathered through HH surveys and interviews, traffic surveys, key informant interview (KII) and focused group discussion

(FGD). Secondary data, on the other hand, are data coming from relevant agencies and official publications, including but not limited to the following: Philippine Statistics Authority (PSA), National Economic and Development Authority (NEDA), bureaus and attached agencies of the Department of Agriculture (DA) such as the Bureau of Plant and Industry (BPI), Bureau of Animal Industry (BAI), Bureau of Fisheries and Aquatic Resources (BFAR), Philippine Center for Postharvest Development and Mechanization (PhilMech), Fertilizer and Pesticides Authority (FPA), etc., Philippine Statistical Yearbook (PSY), Provincial/Municipal/City Agriculture Office (P/M/CAO), Provincial Development and Physical Framework Plan (PDPFP), Comprehensive Land Use Plan (CLUP), Philippine Rice Research Institute (PhilRice), International Rice Research Institute (IRRI), and other relevant agencies.

IV. Economics Unit Process Flow on the Review and Approval of I-BUILD Subprojects



Activity	Description	Specific Involvement of Economics Unit
1. Subproject	Regional Project Coordination Office (RPCO) and Project Support Office	The PSO and/or RPCO Economist conducts

Activity	Description	Specific Involvement of Economics Unit
Validation	(PSO) conduct Joint Validation of subprojects to determine the Initial costing and economic analysis and assess the institutional, vulnerability, social and environmental safeguards. The purpose of this activity is to advise the LGU proponent whether to proceed or not to proceed with the preparation of the Feasibility Study (FS). Members of the validation team are from IBUILD, SES, Econ, GGU.	training/orientation of proponent LGU on the preparation of the FS most particularly the Economic and Financial Analysis (EFA) aspect and provides the LGU with the guidelines on FS and EFA preparation, including FS outline and EFA templates per SP type.
2. Subproject Prioritization	RPCOs endorse the list of validated SPs with initial FS and EFA prepared by the LGU to PSO and will be further endorsed to the National Project Coordination Office (NPCO). All SPs will undergo a screening process to determine its compliance with the Project's guidelines, i.e. the SP is included in the Provincial/City Investment Commodity Plan (P/CIP) and the proponent has no existing uncompleted or non-operational IREAP enterprise. Proposals of LGUs that are first time proponents of SP proposed for funding under I-BUILD will have one (1) automatic priority SP. Non-first timer LGU must also have NO existing uncompleted IBUILD SP funded under Original Loan (OL), NO outstanding issues with procurement, NO existing grievance or overdue SES compliance and NO existing "bad" or "severe" Operation and Maintenance Audit System (OMAS) Rating for their proposed SP to be eligible for prioritization. LGU proponents who pass the screening will be subjected to a two (2) tier scoring criteria to assess the LGU's performance in implementing SPs under PRDP and SP scoring to determine the proposal's level of benefit in terms of value per peso investment, rank in the expanded Vulnerability and Suitability Assessment (eVSA), density of agricultural production area per kilometer of roads, and number of farming/fishing household beneficiaries. All SPs that pass the screening and scoring criteria will	The NPCO Economics Unit spearheads the conduct of the prioritization run of endorsed SPs and closely coordinates with NPCO components and units (I-PLAN, I-BUILD, I-REAP, I-SUPPORT) for their respective data inputs; consolidates and process data based on the prioritization criteria and scoring system.

Activity	Description	Specific Involvement of Economics Unit
	be included in the list of IBUILD pipeline subprojects that will undergo the technical review process of PRDP.	
3. Preparation of FS and other documents	SPs that passed the prioritization run can now proceed to preparation of the final documents required which will be submitted to PRDP for review and approval. These documents include FS, POW, DED, SES-related documents, and GGU-required geo-maps, geo-tagged photos and kmz files.	RPCO Economist provides technical assistance and guidance to the LGU in preparing the FS and EFA.
4. Subproject Review and Approval	SPs submitted will undergo review process through the conduct of Subproject Appraisal to assess the consistency of submitted documents vis-à-vis the conditions in the project area particularly the POW, DED, assumptions in the Economic and Financial Analysis and maps. Also assessed during the activity is the compliance of the LGU with social and environmental standards imposed by the Project for all SPs. The SPAR Team is composed of IBUILD, SES, Econ and GGU. Findings and recommendations are provided to the LGU for their compliance.	The Economics Unit is responsible for reviewing the financial and economic viability of the proposed SP based on PRDP policies and guidelines which follows the economic viability parameters and standards of the National Economic and Development Authority (NEDA). Every subproject must at least pass the 10% sensitivity scenarios (both increase in costs and decrease in benefits) in order to qualify for endorsement of No Objection Letter 1 (NOL1). Qualification requires that under these scenarios the Net Present Value (NPV) must be positive, Economic Internal Rate of Return (EIRR) must be greater than the 10% Social Discount Rate prescribed by NEDA-ICC, and the Benefit-Cost Ratio (BCR) must be equal or greater than 1.0.
5. Compliance of findings	The LGU will proceed to compliance of findings and recommendations reported by the SPAR team. LGUs are given one month to comply, however, most LGUs take longer by three (3) months to one (1) year to comply with the Project's requirements. Joint Technical Review (JTR) is also initiated to review the compliance of the LGU and expedite the approval process. LGU proponents of SPs that are able to comply with the requirements including all SPAR/JTR findings and	The Economics Unit participates in the JTR together with other components and units of the Project which includes IBUILD, IPLAN, SES, GGU, MEL, Finance and Procurement in all levels, i.e. RPCO, PSO and NPCO.

Activity	Description	Specific Involvement of Economics Unit
	recommendations will be issued clearance to proceed with Regional Project Advisory Board (RPAB) deliberation. RPAB clearance is issued by RPCO/PSO/NPCO based on the approval threshold stipulated in the I-BUILD Operations Manual. Consequently, SPs that are given RPAB Clearance will be issued with No Objection Letter (NOL) 1 Clearance.	
6. Subproject Implementation	During this activity IBUILD together with MEL monitor the construction to ensure that implementation guidelines and plans are followed. Finance is also involved in terms of disbursement.	The Economics Unit is not involved in this activity.
7. Rapid Appraisal of Emerging Benefits (RAEB)	A year after the SP is operational, the project is revisited and will be conducted with RAEB to assess if the target development objectives are achieved.	The Economics Unit is involved in the conduct of household surveys of beneficiaries and analysis of results which forms part in the formulation of the RAEB Report. The RAEB serves as an instrument to gauge the Project's effectiveness in achieving its development goals and as a feedback mechanism to resolve any issues and further improve the Project's implementation.

V. Detailed guidelines and instructions in the preparation of Economic and Financial Analysis (EFA)

General Instructions during preparation of EFA:

1. Always refer to the Program of Works for cost estimates
2. When filling-up the EFA excel file, only fill-in the cells highlighted in yellow
3. For all the data used in the EFA and FS, cite the sources and reference year (Use the latest census). Provide a link to the website of the data source.

A. Farm-to-Market Road (FMR) and Bridge

Economic and financial analyses (EFA) in PRDP and its follow-on project PRDP Scale Up are conducted to determine viability of proposed subprojects requesting funding from the Project. All proposals are required to submit feasibility studies utilizing Benefit-Cost Analysis (BCA). The economic model (Figure 2) for FMRs consider cost estimates from Estimated

Project Costs, Operation & Maintenance Costs, SES-Related Costs and Net Value of Crop Production Foregone, which are then weighed against benefits such as Vehicles Operating Cost (VOC) Savings, Savings in Output and Input Hauling, Savings in Travel Time of Commuters, Benefits from New Agricultural Areas and Savings in Transport Losses. These streams of benefits are considered in the analysis for they represent the direct impacts of FMR subprojects to the local community. The period of analysis for FMRs considered the total usable lifespan of FMRs, which is 20 economic years.

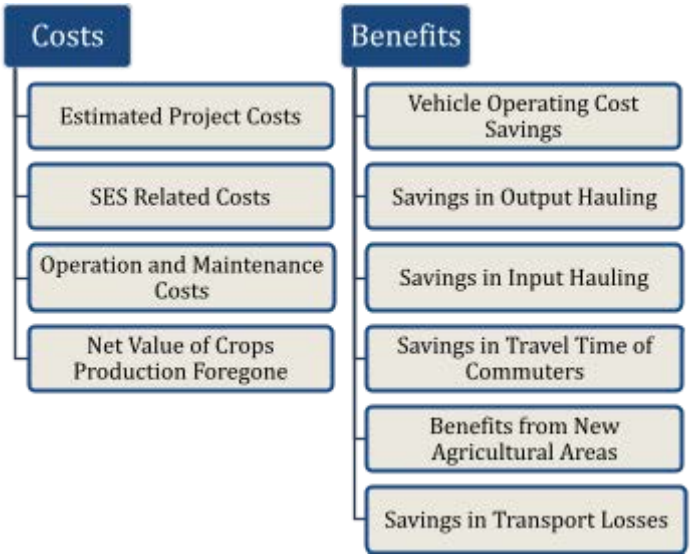


Figure 2. EFA Model for IBUILD FMR/ Bridge/ FMR with Bridge

A.1 Farm-to-Market Road (FMR)/ Bridge/ FMR with Bridge EFA

1. Tab1. Conversion of Financial to Economic Cost

The first tab in the EFA template is the conversion of financial costs of the project to economic cost. Items included in evaluating the economic cost are materials, equipment, skilled labor, unskilled labor, overhead, contingencies and miscellaneous (OCM), contractor's profit, taxes, pre-engineering activities, engineering supervision cost and Social and Environmental Safeguards (SES)-related costs. Shown below is the detailed discussion per item (EFA Table 1).

Financial costs are converted to economic costs using appropriate methodologies and conversion factors, such as shadow pricing for foreign components of construction materials and shadow wage rate pricing for unskilled labor hired during construction. Cost items that have significant foreign exchange component are to be shadow priced using the Foreign Exchange Premium Factor of 1.2 to reflect its real value to the economy, while Unskilled Labor expenses are subjected to the Shadow Wage Rate Factor of 0.6 for the value of unskilled labor to the economy is 60% only of the minimum wage as set by the NEDA.

Table 1. FMR EFA Tab1b Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Materials	Materials are classified into 2 types: (a) with foreign components and (b) locally sourced. It is assumed that 60% of material costs has a foreign component, which is subjected to shadow pricing using a factor of 1.2, and the remaining 40% is base cost of locally sourced materials. Note that the shadow price of foreign exchange is 20% higher than the official rate and this applies to the materials with foreign components. Only cells highlighted in yellow must be filled in as the values for "with foreign component" and "locally-sourced" will automatically be computed.	Material cost under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Equipment	Equipment cost is the equipment rental cost based from the 2014 Association of Carriers and Equipment Lessors, Inc. (ACEL) Rates. Only cells highlighted in yellow must be filled in. Equipment cost is base cost, which does not include taxes. Tax for this item is already calculated under "Taxes" item.	Equipment cost under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Skilled Labor	Skilled labor includes heavy equipment operator, mason, foreman, carpenter, welder and steel fabricators. Only cells highlighted in yellow must be filled in. Skilled labor is a base cost which does not include taxes. Tax for this item is already calculated under "Taxes" item.	Skilled labor cost under financial cost column in EFA template must be the same with the cost reflected in the Program of Works (POW). This must
Unskilled Labor	Unskilled labor includes laborers, helpers,	Unskilled labor cost under the financial cost column in the EFA template must be

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
	warehouse men, and timekeepers. Only cells highlighted in yellow must be filled in. The assumption is that conversion factor for unskilled labor is 0.6 since its value is 60% only of the minimum wage rate (source: NEDA).	the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Overhead, Contingencies and Miscellaneous (OCM)	Overhead, Contingencies and Miscellaneous (OCM) is 15% of total direct cost if subproject cost is PhP5 million below; 12% if PhP5 million to PhP50 million; 10% if PhP50 million to PhP150 million; 8% if above PhP150 million. Only cells highlighted in yellow must be filled in. Tax for this item is already calculated under "Taxes" item.	OCM cost under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Contractor's Profit	Contractor's Profit Contractor's Profit is 10% of total direct cost if project cost is PhP5 million below; 8% otherwise. Only cells highlighted in yellow must be filled in. Tax for this item is already calculated under "Taxes" item.	Contractor's Profit under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Taxes	Tax is 12% of total mark-up value of the base cost and all items sourced locally. Taxes should not be included in the economic value of project cost.	Taxes under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re- checked with the data in the POW.
Pre-engineering Activities	Pre-engineering activities include FS and DED Preparation including conduct of site surveys. Pre-engineering activities are 5% of base direct cost + 12% tax; economic cost, however, should exclude tax.	Pre-engineering activities cost has already been derived under the financial cost column in the EFA template which is 5% of base direct cost + 12% tax. This cost cannot be found in the Program of Works (POW) since it is not included in the total project

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
		cost to be funded by PRDP. This cost must be shouldered by PLGU/MLGU. In deriving the economic cost, tax should be excluded.
Engineering Supervision	Engineering Supervision is 5% of base direct cost + 12% tax; economic cost, however, should exclude tax.	Engineering Supervision cost has already been derived under the financial cost column in EFA template which is 5% of base direct cost + 12% tax. This cost cannot be found in the Program of Works (POW) since it is not included in the total project cost to be funded by PRDP. This cost must be shouldered by PLGU/MLGU. In deriving for the economic cost, tax should be excluded.
SES-related Costs	The total financial and economic costs will be included in this table. The itemized breakdown shall be presented in Tab1b. These costs will be included as indirect costs to be shouldered by the LGU-proponent.	This is linked to Table 1b. Kindly ensure correct linking of cells with tab 1b.
Total Financial and Economic Cost	Summation of Total Direct Cost and Total Indirect Cost (OCM, Contractor's Profit, Engineering Supervision, Pre-Engineering Activities, SES Related Cost).	This is automatically calculated

2. Tab 1b. Social and Environmental Safeguards-Related Cost

All costs to be incurred that are related to social and environmental safeguards activities in the preparation and implementation of the FMR/ Bridge/ FMR with Bridge subproject shall be itemized in this table. SES activities may include consultation with Project-Affected Persons (PAPs), fees and operating expenses in securing permits and licenses including water permit, environmental clearances, NCIP certification, Road Right-of Way acquisition, operating cost and fees for the preparation of Resettlement Action Plan, IP Plan, Biodiversity Management Plan, Cultural Heritage Management Plan, Integrated Pest Management Plan among others. In cases where proposed structures will involve acquisition of Right-of-Way and where there are productive crops that will be affected, the net value of crop production foregone shall be valued and included as

dis-benefits in the EFA. The detailed guidelines including the conversion of financial costs to economic values, are shown in the Annex 2.

3. Tab2. Investment Cost

Tab 2 of the EFA presents a summary, in economic terms, of investment cost and operating & maintenance cost over the 20-year project life of each FMR. The detailed computations for investment cost and operating & maintenance cost are presented in Tab1 and Tabs 3 (3a and 3b), respectively.

Table 2. FMR EFA Tab2 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Total Economic Value	Total economic value under investment cost reflects the economic value of the subproject converted from the total financial cost. Economic value is reflected on year 0 since this cost represents the capital cost but in economic terms. The PLGU/MLGU is not required to provide inputs as the cell already has a formula.	Total economic value is the capital cost of the project in terms of economic cost.
Total Investment Cost	Total investment cost is the sum of the total economic value. The PLGU/MLGU is not required to provide inputs as the cell already has a formula.	Total investment cost is the sum of the economic value. Basically, the total investment cost is the capital cost.
Road Maintenance Unit Cost	Operation means to operate the system in a right manner ensuring that all the component structures are running in good condition. Maintenance refers to ensuring that all component structures of the system are periodically repaired, monitored and maintained in a correct manner. Tab 3a presents the maintenance cost per kilometer in financial and economic terms.	The Operation and Maintenance of the completed Infrastructure Subprojects is both the responsibility of the Local Government Unit and the beneficiary community/ies. Costs for this section are derived in table 3a (Road Maintenance Unit Cost). Financial costs are based on the O&M Plan of the LGU proponent.
Annual Operation and Maintenance Cost	Annual Operations and Maintenance Cost is the product of total road	Total operation and maintenance cost is the

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
	length x maintenance cost per kilometer (and bridge length and O&M cost per linear meter if the proposed FMR has a bridge component). Capital or periodic repairs and maintenance are expected to be done every six (6) years. This is estimated at 60% of the annual economic O&M cost.	sum of the operation and maintenance cost per year.
Total Investment and O&M Cost	Total Investment and O&M Cost is the sum of the economic cost and O&M cost. The PLGU/MLGU is not required to provide inputs as the cell already has a formula.	Total investment cost is the sum of the economic cost and O&M cost.

4. Tab3a. Annual Maintenance Unit Cost

Tab 3a of the EFA presents a summary, in economic terms of operating and maintenance cost of each FMR and bridge over the 20-year project life per unit (i.e kilometer for FMR and linear meter for bridge). The cost is based on the list of planned activities for operation and maintenance per cost item (equipment, material, skilled labor, unskilled labor). Such costs are also converted to economic costs, adopting similar principles in Tab1.

Table 3. FMR EFA Tab3a Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Common road maintenance activities include, but are not limited to, the following items: • Repair of potholes • Reshaping of crown • Clearing and grubbing of shoulders • Clearing of drainage canals • Repair of concrete- lined canals • De-clogging of RCPC	Estimated unit cost per activity per year as identified in the approved O&M Plan of FMR and bridge. Each activity must have a corresponding cost per specific item i.e. equipment, materials, skilled labor, unskilled labor, whichever is applicable.	Activities and costs to be filled in the highlighted cells must be consistent with the activities and costs reflected in the Operation and Maintenance Plan and Budget

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
• Repair of headwalls and replacement of RCPC	*Note: Only cells highlighted in yellow must be filled in.* For economic conversion, it is assumed that all laborers involved in the O&M activities are unskilled laborers. The assumption is that conversion factor for unskilled labor is 0.6 since its value is 60% only of the minimum wage rate (source: NEDA).	

5. Tab3b.Annual Maintenance Cost

This table shows the estimated Total Annual Costs of maintenance as reflected in the O&M Plan. This is derived from the financial unit cost in Tab3a and the total physical target of FMR and bridge based on the approved POW. The Total Annual Maintenance Cost also includes periodic maintenance cost on a specific year (e.g. 6th year) derived from the estimated annual maintenance cost. This assumption is only applicable for subprojects without specific activities identified for periodic maintenance.

Table 4. FMR EFA Tab3b Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Road length: Portland Cement Concrete Pavement (PCCP)	Total proposed road length must be entered in the highlighted cells.	Total road length must be the same with the road length found in FS and POW.
Unit Maintenance Cost: Portland Cement Concrete Pavement (PCCP)	Unit maintenance cost for PCCP must be the economic cost of O&M per kilometer as reflected in table 3a (Road Maintenance Unit Cost).	Cost for the O&M per kilometer is not the financial cost but the economic cost derived from table 3a. This cost must be re-checked in table 3a to be consistent with O&M Plan.
Annual Maintenance Cost: Portland Cement Concrete Pavement (PCCP)	Annual maintenance cost for PCCP is the product of the total proposed road length and the economic O&M cost per unit (kilometer and bridge length) and O&M cost per linear meter if the proposed FMR has a bridge component or if the proposal is a stand alone bridge.	Converted economic unit cost from financial cost (source O&M Plan) based on the table in Tab 3a and the physical target based on the approved POW.

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Periodic Maintenance every 6th year	Periodic Maintenance every 6th year is approximately +60% of annual maintenance and is undertaken every six years. PLGU/MLGU is not required to provide inputs as the cell already has a formula.	Every six years, there is an additional 60% of the annual cost for the periodic maintenance of the road. *Note: Please take note that this is applicable only if the O&M Plan did not specify activities and estimated cost for the periodic maintenance activity of the subproject.)*
Total Annual Maintenance Cost	Total annual maintenance cost derived by adding the annual maintenance cost for PCCP and periodic maintenance every 6th year for FMR and the bridge (if any). These cells already contained formulas for derivation of the results.	Total annual maintenance cost must be the same with Tab 2 (total investment and O&M cost). These costs must be consistent with the cost in FS particularly under Investment and O&M Cost in the Economic Cost portion of the FS.

6. Tab4. Vehicle Operating Cost (VOC) Savings

Tab 4 of the EFA estimates the benefits from the reduction in operating costs brought about by improved road conditions. Vehicle operating cost saving is the benefit from the reduction of operating costs of vehicles due to the improvement in road quality. These savings are expected to be realized upon completion of the subproject. The analysis considers traffic volume, types of vehicles and their corresponding savings in vehicle operating costs over the length of the proposed road. Calculation of savings in vehicle operating costs involves the multiplying projected annual traffic to vehicle operating cost savings index, in accordance with DPWH standards.

For road openings or new road construction, traffic count shall be conducted in an adjacent existing FMR within or nearby barangay/s where the proposed road will be located. Refer Annex 12 of I-BUILD Operations Manual for the Instruction in the Conduct of Traffic Count and Traffic Count Form.

Table 5. FMR EFA Tab4 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Total number / volume per vehicle type	Average daily unit per vehicle type (motorcycle, tricycle, car/van, bus, truck)[1].	Survey on traffic count[2] conducted by municipality or province; if none, use barangay survey.

[1] *The number of vehicles and any assumed projected increase in traffic count must be in line with the project objectives.*

[2] *traffic count is conducted on different days (at least 3) to come up with an average count. These surveys are usually conducted on Sunday, a regular day and a market day.*

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
	Number of units of vehicle in Year 1 will use the projected units from Year 0 which is based on the actual traffic count data.	This data could be requested from Provincial/ Municipal/ Barangay LGU, Traffic Count Survey of PRDP IBUILD Component or LTO.
Number of trips per day	Number of one-way trips per day, for each vehicle.	Survey on traffic count conducted by municipality or province; if none, use barangay survey. This data could be requested from Provincial/ Municipal/ Barangay LGU, Traffic Count Survey of PRDP IBUILD Component or LTO.
Number of days in operation	Total days in a year each vehicle will be in operation.	Survey on traffic count conducted by municipality or province; if none, use barangay survey. This data could be requested from Provincial/ Municipal/ Barangay LGU, Traffic Count Survey of PRDP IBUILD Component or LTO.
Vehicle Operating Cost (VOC) difference	Data are adopted from DPWH standards. These can be derived from the table at the footnotes of Tab4 (i.e. Gravel-Paved (D-A)) per vehicle type)	This table is already standard, no need to substitute figures. Data are adopted from Department of Public Works and Highways (DPWH) standards.
Road length	Total project road length as indicated in the Detailed Engineering Design (DED) and Program of Works (POW)	Reliable data will be the road length indicated in the DED and POW

Formula for the computation of VOC savings per vehicle is as follows:

VOC Savings per vehicle	=	Total number or volume per vehicle type x Number o days in operation per year x Vehicle Operating Cost (VOC) difference x Road length
Total VOC Savings	=	Sum of VOC saving for all vehicles identified

7. Tab5a. Savings in Output Hauling

Output hauling costs are the expenses incurred in bringing the products or crops from the farms to the markets. As one of the benefits of FMRs, it is expected that with the project, cost of hauling will be reduced. The difference between the hauling costs without the project and with the project is the benefit or savings derived.

Table 6. FMR EFA Tab5a Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Current hauling cost (PhP)	Prevailing output hauling cost, based on the cost of the existing mode of hauling used by farmers to transport their crops from farm to the market/buyer. This can be through manual hauling/ animal drawn carriages and/ motorized vehicles. Hauling cost can be single hauling i.e. from farm going directly to the market or the summation of cost for cases with double hauling, such as: 1. from farm to the nearest access road (if applicable), and, 2. from the nearest access road to the market.	a. Data can be gathered from the Municipal/ Provincial Agricultural Office; Socio Economic Profile or similar studies conducted by the LGU b. Conduct of survey/ interview in the Influence area to get the average cost. *Note: There are cases where cost varies per type of crop transported, type of transport vehicle used or combination of both factors. In which case, the average hauling cost must be determined and used in Tab 5a.* *The estimated hauling cost should also consider the current road condition (current road condition to good paved road scenario).*
Estimated hauling cost (PhP)	The expected cost of hauling when the project is completed[3]. For cases with double hauling, reduction may be observed in hauling cost in either of the following stations or both. 1. from farm to the nearest barangay road (if applicable), and 2. from the nearest barangay road to the market when the project is completed ● Should indicate the reduction in	Conduct of Survey or Interview of transport groups or individual engaged in transport services of agricultural crops *Note: The estimated hauling cost should also consider the current road condition (current road condition to good paved road scenario).*

[3] *The % decrease in output hauling cost should approximate the % stated in the objectives of the FS.*

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
	Hauling cost based on projections made.	
Average production	Average production with units (kg, sack, box, etc) per hectare for each crop	Published Data from the Municipal/ Provincial Agriculture Office; Socio-economic profile or similar studies conducted and published by the LGU. Data from DA Banner Programs and other related institutions. *Note: Use the most recent published data, if PSA has more updated data, then use PSA. Data from actual Survey conducted by the LGU can also be used as long as verified*
Area Planted (Ha)	Actual existing production area on a per crop basis[4]	Must be based on actual area as indicated in the FS and verifiable via geotagged photos
% volume brought to the market	Estimated percentage (%) of total production that will be sold to the market; excluding the normal percentage retained by farmers for household consumption.	a. Data provided by MAO/PAO, or b. Survey among farming families to determine actual percentage sold

Formula for the computation of VOC savings per vehicle is as follows:

Savings in Output Hauling per crop	=	Average production per hectare x Area Planted (Ha) x % volume brought to market x (Current hauling cost (PhP) – Estimated hauling cost (PhP))
Total Savings in Output Hauling	=	Sum of Saving in Output Hauling for all crops identified

8. Tab5b. Savings in Input Hauling

Input hauling costs are the expenses incurred in bringing the inputs needed in the production of crops from the market to the farm. The table on savings in input hauling determines the benefit derived (in monetary terms) of the decrease in cost of hauling inputs (fertilizers/seeds) from the market to the farms of a without-the-project scenario to a with-the-project scenario.

Table 7. FMR EFA Tab5b Data Requirements

[4] *The area stated can be validated by geo-tagged photos and RIA maps*

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Current Hauling Cost	Prevailing input hauling cost, based on the cost of the existing mode of hauling used by farmers to transport inputs from source going to the farm. This can be through manual hauling/ animal drawn carriages and/ motorized vehicles. Hauling cost can be single hauling i.e. from source going directly to the farm or the summation of cost for cases with double hauling, such as: 1. from source to the nearest access road 2. from the nearest access road going to the farm (if applicable).	a. Data can be gathered from the Municipal/ Provincial Agricultural Office; Socio Economic Profile or similar studies conducted by the LGU b. Conduct of Survey/interview in the Influence area to get prevailing cost. *Note: There are cases where cost varies depending on the volume and type of input transported, type of transport used or combination of both factors. In which case, the average hauling cost must be determined and used in Tab 5b.*
Estimated hauling cost (PhP)	The expected cost of hauling when the project is completed. For cases with double hauling, reduction may be observed in hauling cost in either of the following stations or both. 1. from source to the nearest barangay road, and 2. from the nearest barangay road going to the farm when the project is completed. ● Should indicate the reduction in hauling cost based on projections made.	Conduct of Survey or Interview of transport groups or individual engaged in transport services of agricultural crops
Mineral fertilizer	Inputs used by farmers to enhance/increase production. Specify the number of fertilizer usage in the appropriate unit of measurement (e.g. sack, bag, box)	a. Data from the Municipal/ Provincial Agricultural Office b. Conduct interview/ survey in the area to determine requirements used by farmers for the given crop

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Seeds	Planting material requirement needed to commence planting of a given annual crop. Specify the number of seedling usage in the appropriate unit of measurement (e.g. sack, bag, lump, pole, etc.) Note: The seed requirement yearly is for annual crops only. For perennial crops, the number of years per replanting, rejuvenation, etc. should be indicated in the footnotes and considered in the projections	a. Data from the Municipal/ Provincial Agricultural Office b. Conduct interview/ survey in the area to determine requirements used by farmers for the given crop
Total # of sacks	Summary of sacks of mineral fertilizer and seed requirement	Refer to the fertilizer requirement and seeds mentioned above(total is derived by simply adding the two)
Area planted	Actual existing production area on a per crop basis.[5]	Must be based on actual area as indicated in the FS and verifiable via geotagged photos

Formula for the computation of Savings in Input Hauling per crop is as follows:

Savings in Input Hauling per crop	=	((Mineral fertilizer requirement + seed requirement) x area planted) x (Current hauling cost (PhP) - Estimated hauling cost (PhP))
Total Savings in Input Hauling	=	Sum of Saving in Input Hauling for all crops identified

9. Tab6. Savings in travel time of commuters

Savings in travel time of commuters is the benefit derived from valuing the implications of realizing improvements in travel time between With and Without Project scenarios. With the concreting of roads, it is expected that reduction in travel time of commuters would translate to more time for work and increased productivity.

[5] *the area stated can be validated by geo-tagged photos and RIA maps*

Table 8. FMR EFA Tab6 Data Requirements

<table>
<tr><th>Data</th><th>Requirements</th><th>Reliable and acceptable data sources/ Acceptable method of data gathering</th></tr>
<tr><td>Population</td><td>Population that will benefit from the proposed road.</td><td>LGU to consolidate population of all barangays traversed by the FMR.

Year 1 population must be based on the actual population of beneficiaries in the RIA. If the actual population is not available, use the projected population using the weighted Annual Population Growth Rate.</td></tr>
<tr><td>Population growth rate</td><td>Existing population growth rate; if influence area covers more than 1 barangay, get the weighted average growth rates of the given barangays.</td><td>Municipal/provincial data on population</td></tr>
<tr><td>Projected Population</td><td>Expected population throughout the project duration by using current population and growth rate</td><td>To get the projected population, multiply the population data by the annual population growth rate.</td></tr>
<tr><td>Economically Active population</td><td>Percentage of the population considered economically active / employed (15 to 65 years old)[6]</td><td>a. Municipal/provincial data on Population and employment

b. If there is no existing data on employment records of the population within the RIA, approximate the economically active population. A sample calculation is as follows:

<table><tr><th>Age Bracket</th><th>Pop.</th><th>%</th></tr><tr><td>0-14</td><td>3000</td><td>18.99</td></tr><tr><td>15-40</td><td>7,000</td><td>44.30</td></tr><tr><td>41-60</td><td>5,000</td><td>31.65</td></tr><tr><td>61-65</td><td>500</td><td>3.16</td></tr><tr><td>above 65</td><td>300</td><td>1.90</td></tr></table>
In the above example, the economically active population is the sum of age brackets 15-40, 41-60 and 61-65 which is 79.11%.</td></tr>
<tr><td>Percentage of commuters in econ active population</td><td>Number of commuters in the economically active population</td><td>Done through determination in relation to traffic count, vehicle count, and</td></tr>
</table>

[6] *Include all persons 15 - 65 years old only as of their last birthday who are either employed or unemployed. PSA definition is 15 years old and above Source: https://psa.gov.ph/content/persons-labor-force-or-economically-active-population-1*

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
		population of economically active. Base the estimation on barangay or municipal socio-economic, particularly employment data. Assume that the population with work requiring commuting, such as but not limited to office work, would comprise the commuter group of the economically active population. Include discussion in the FS write-up to justify the % estimated.
Number of 1-way trips per day	Average trips an economically active person takes in a day	Conduct interview/ survey in the area
Number of working days	Number of days in a year an economically active person commutes to work	Conduct an interview/ survey in the RIA
Time saving for commuters	Actual reduction in minutes of travel time due to completion of the subproject	Estimations for travel time[7] without the project and travel time with the project included in the traffic count survey[8] conducted by municipality or province
Share of saved time used for work	Percent of saved travel time used for a more productive activity due to completion of the subproject	In table above, share of saved time is 50%
Average labor cost	Prevailing labor cost in the area	a. Regional wage boards b. Interviews on prevailing labor rates in the area

Formula for the computation of savings in travel time of commuters is as follows:

Savings in travel time = Population x Population growth rate x Percentage of commuters in econ active population x Number of 1-way trips per day x Number of working days per year x Time saving for commuters x Share of saved time used for work x Average labor cost

10. Tab7. Benefits from new agricultural areas

[7] *Travel time is estimated as the average time it takes to travel to the nearest market or city center using the FMR as a route.*

[8] *traffic count is conducted on different days (at least 3) to come up with an average count. These surveys are usually conducted on Sunday, a regular day and a market day.*

FMRs expands access of farmers to remote agricultural areas and, in some cases, serves as sole access roads to previously inaccessible lands. The provision of access roads allows the conversion of idle lands into agricultural lands to stimulate agricultural activities. Benefits in new agricultural areas refers to the benefits derived from getting the economic value of projected production from the estimated additional area to be converted to agricultural lands.

Table 9. FMR EFA Tab7 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Total area for expansion per crop	Total number of hectares[9]	a. Survey of area conducted b. Studies of MAO or MPDC, verifiable by geotagging
Average production per hectare per year	Average production with units (kg, sack, box, etc) per hectare for each crop Average production should be the same as one indicated in Table 5a	a. Data of MAO b. Provincial Agriculture' interview of actual farmers
Farmgate price	Farmgate price per commodity	a. Determined by market prices prevailing in the area through interview/study (can be verified with prices in nearby areas) b. Data from MAO/PAO/PSA
Land development cost	Cost per hectare incurred in developing the potential area; one time cost (unless additional hectares are added where it will incur cost due to land preparation)	a. Interview/survey conducted by municipality or province in actual cost incurred in the normal conduct of land preparation depending on crop and land quality b. Data from MAO/ PAO/ PSA
Production cost per hectare	Cost incurred in making per hectare of land productive; yearly cost incurred as long as land is being used for production	a. Interview/survey conducted by municipality or province in the actual cost incurred in the normal conduct of crop production b. Data from MAO/PAO/PSA
Marketing cost	Cost incurred in transporting the produce from farm to market.	Data must be consistent with tables requiring output data and cost of

[9] *the area stated can be validated by geo-tagged photos and RIA maps*

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
	Total output multiplied by hauling cost	hauling – Refer to the estimated hauling cost in tab5.

Formula for the computation of benefit from new agricultural area per crop is as follows:

Benefit from New Agricultural Areas per crop	=	(Total area for expansion per crop x Average production per hectare per year x Output price) – ((Land development cost x Incremental Total area fo expansion per crop) + (Production cost per hectare x Total area for expansion per crop) + Marketing cost)
Total Benefit from New Agricultural Areas	=	Sum of Benefit from New Agricultural Areas for all crops identified

11. Tab8. Savings in Transport Losses

This accounts for the benefits derived in terms of reduction in transport losses (in goods) as manifested by the improvement of road conditions.

Table 10. FMR EFA Tab8 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Percentage (%) reduction in transport losses incurred per crop/product	Calculate by deducting the transport losses with the project from the transport losses without the project. Difference to be calculated as percentage. Must be able to determine losses incurred limited to transport of goods from farm to market	a. Data from MAO/PAO b. BAS/PhilMech if available
Output price of harvest marketed	Indicate farmergate price per commodity	Refer to tab7 for data consistency. Farmgate price in the RIA or Average farmgate price data from PSA Openstat database.
Total volume marketed	Estimated percentage (%) of total production that will be sold to the market; excluding the normal percentage retained by farmers for household consumption	Refer to tab5a for data consistency

Formula for the computation of savings in transport losses is as follows:

Savings in Transport Losses pe crop	=	Total volume marketed x Percentage (%) reduction i transport losses incurred per crop/product x Outpu price
Total Savings in Transport Losses	=	Sum of Savings in Transport losses for all crops identified

12. Tab9. Net Value of Crops Production Foregone (if applicable)

This tab is applicable to subprojects that require acquisition of right-of-way for construction of FMR, bridge and other structures in agricultural lands that are currently planted or have standing productive crops including seasonal or annual crops (e.g., palay, corn, root crops, etc.) or perennial crops (e.g., coconut, abaca, cacao, coffee, rubber, etc.). The net value of production foregone of specific affected crops shall be calculated to determine the economic opportunity costs. Please refer to Annex 2 for the guidelines on the calculation of the net value of crop production foregone.

13. Tab10. Economic Analysis

This summarizes all the benefits and costs derived from the previous tables and yields the computed EIRR, NPV, and BCR to reflect economic viability of the subproject.

Table 11. FMR EFA Tab10 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Economic Net Present Value (ENPV)	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed.	It must be noted that ENPV result should be positive to make sure that the investment yields a positive impact to the society. A project that has a negative ENPV result will be rejected.
Economic Internal Rate of Return (EIRR)	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed.	EIRR must be above 10%. Projects with an EIRR below 10% will be rejected.
Benefit-Cost Ratio (BCR)	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed.	BCR must be equal or greater than 1.0. A project with a BCR below 1.0 will not be accepted.

14. Tab11. Sensitivity Analysis

This indicates the feasibility of the subproject given several scenarios of reduced benefits and increased costs. The following scenarios are given: increase in cost of 5%, 10%, 15%, 20%, 30% and decrease in benefits of 5%, 10%, 15%, 20%, 30%) and the feasibility of the subproject is tested for each scenario.

Table 12. FMR EFA Tab11 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Sensitivity Analysis	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed. Sensitivity analysis assesses risks by identifying the variables that most influence a project's net benefits and quantifying the extent of their influence.	The proposed subproject will be accepted if its economic indicators (ENPV, EIRR and BCR) are satisfactory at both sensitivity scenarios of increase of cost by 10% and a decrease of benefits by 10%.

A.2 Feasibility Study Outline for FMR Subprojects

Executive Summary

A. Project Title : _____
B. Project Location : Brgy/ /Municipality
C. Project Category (rehabilitation or new construction): _____
D. Project Scale/Dimension : ____kms. with _____
E. Project Proponent : _____
F. Implementing Unit : _____
: _____
G. Total No. of Barangays Covered by the Subproject.: _____
H. Mode of Implementation : contract/admin
I. Road Influence Area (RIA) : _____hectares
(to be validated using the RIA maps)
Total Land Area:

Total Agricultural Area : _____
Existing Area : _____
Intercropped Area : _____
Potential Area: : _____
Other Land Classification : _____
(if any)

Barangay	Crops		Total
	crop 1 (in ha)	crop 2 (in ha)	
Brgy. 1			
Total			

Note on intercropping:
____ ha are used for intercropping of _____ (*insert crops intercropped*)

J. Project Beneficiaries within the RIA : _____households
_____population; M= ____; F=____
(data source: _____)

_____ farming households; no of farmers=_____
_____ fishing households ; no of fisherfolks=_____
(data source: _____)

_____Indigenous People (IP); M= _____; F=_____
_____ Non-IP
(data source: NCIP)

K. Total Project Cost and Cost Sharing : P_____
WB Loan Proceeds: P_____
GoP : P_____
: LGU Equity : P_____

L. Economic Indicators
1) Economic Net Present Value (ENPV) : _____
2) Economic Internal Rate of Return : _____
3) Benefit Cost Ratio : _____

M. Conclusion and Recommendations : *a statement as to whether or not the project has been found feasible from the marketing, technical, economic and operational view point.*

I. Introduction

a. **Provincial Background (Brief description in 2-3 paragraphs)**
   i. Demographics
   ii. Economy
   iii. Agriculture and Rural Development Sectors

b. Project Identification and Prioritization Profile
   i. E-VSA Maps and Statistics *(Describe how the project site was determined as prime choice to construct the road*
   ii. Value Chain Summary *(Copy excerpts from Value Chain Analysis- the road supports what segment of the VC)*
   iii. Commodity Profile *(Copy excerpts from PCIP-the rationale of the road inclusion in the PCIP)*

c. Existing I-REAP Enterprises to be supported by the Subproject (*if none, then cite the existing agricultural enterprise relative to the priority commodity that will be supported by the subproject)*

d. Other I-BUILD Subprojects funded by the Project (*Only if applicable, identify other subprojects funded by the Project located in the same municipality/city and describe the status of its implementation. These include SPs proposed and implemented by PLGU).*

II. The Subproject

a. The Road Influence Area

i. Location *(Brief description in 1-2 paragraphs)*

   a. Geographic boundaries
   b. Relative distance to growth and commercial centers
   c. Topography
   d. Mapping the Subproject
   - *describe the geotagging methodology (how often they conducted geotagging, at which phase of the project life were the geotags taken; what are the intervals in meters of geotag photos)*

   d.1.Kindly describe existing road networks (to what road does the FMR connect, where the markets are located relative to the FMR, how does the FMR link agricultural areas to the markets)
   d.2. Kindly describe the design of the FMR (does it satisfy the location-specific criteria)?
   d.3 insert screenshots of proposed FMR

   e. Estimation of RIA (Kindly calculate the total road influence area of the proposed FMR in hectares.
   Two levels of delineation of RIA:
   1. Kindly delineate the agricultural (existing and potential production areas), forest/protected timberland (if any), built-up/residential areas, and other major land use
   2. Segregate the agricultural area for each major commodity, and areas with intercrop/s,if any

ii. Demographics (Brief description in 1 paragraph)

iii. Major Economy and Land Use (Brief description in 1 paragraph)

iv. On-farm data - Agricultural Area and Crops Planted, livestock and fisheries (Brief description in 1 paragraph)

v. Off-farm data – processing and marketing industry of agri-fishery products

vi. Poverty Incidence (Brief description in 1 paragraph)

III. Subproject Objectives

a. Subproject objectives relative to % reduction in travel time and % reduction in hauling cost (PRDP SU target is 40% reduction in average travel time from farm to markets in subproject areas and 30% reduction in hauling cost by the end of Project); Include in the objective the need of the road to support the commodity in the VCA. Must also include specific objectives relative to quantified benefits in economic analysis.

Note: add list approved by M&E…

IV. Project Feasibility Indicators (Responsible Component/Unit to review: Econ)

a. Market Analysis/Demand-Supply Analysis

i. Supply Side (Existing Roads, Bridges and Transport System in the Road Influence Area-RIA by road type and classification-Without Project Scenario)

Road Classification	Road Type (in km.)						Total	
	Gravel		Earth		Concrete			
	Passable	Not Passable	Passable	Not Passable	Passable	Not Passable	Passable	Not Passable
Brgy/FMR								
Municipal								
Provincial								
National								
Total								

Note: The road network planning will best illustrate the supply and demand gap analysis

ii. Describe the current road network condition in the project influence area vis-a-vis accessibility of the road to market centers/trading points (specify also major market for products)

iii. Demand Side[10] (Desired Roads, Bridges and Transport System in the Road Influence Area-RIA by road type and classification – With Project Scenario)

Road Classification	Road Type (in km.)						Total	
	Gravel		Earth		Concrete			
	Passable	Not Passable	Passable	Not Passable	Passable	Not Passable	Passable	Not Passable
Brgy/FMR								
Municipal								
Provincial								
National								
Total								

Note: The road network planning will best illustrate the supply and demand gap analysis

iv. Describe the desired road network condition in the project influence area vis-a-vis accessibility of the road to market centers/trading points (specify also major market for products)-desired upgrade in terms of road type and classification within PRDP lifespan)

v. Availability of public transport (land, water)

vi. Demand-Supply Analysis - Describe the gap (degree of the need) between the desired (With Project) and current (Without Project) condition of the road network. (Include discussion/comparison on how the road will be beneficial to the dominant commodity, as presented in VCA, with the project and without the project.)

[10] *Demand Side- from the supply side or current road network by type and classification in terms of total kilometers, what now are the total kilometers per road type of the desired road network after lining several proposals for PRDP funding. For new construction, there will be an increase in length of concrete roads, however for rehabilitation, there will just be an increase in concrete road length and an equivalent reduction in either earth or gravel road length or decrease in both types to be shown in the table.*

vii. Describe the priority (proposed) road segment out of the demand (what is the contribution of the proposed road segment, especially to the commodity, over the demand in terms of road length ratio)

viii. Describe the Projected Traffic Volume over the priority road segment:

1. Normal Traffic Volume- increase due to increased number and usage of motor vehicles (refer to traffic count survey for the **"without"** project scenario and project the traffic volume at the end of the subproject design life for the **"with"** project scenario)
2. Generated traffic Volume- increase due to motor vehicle trips that would not have been realized if the new facility had not been constructed.
3. Diverted/Attracted traffic volume- increase over existing traffic due to improvement.
4. Development/Induced traffic volume - increase due to change in land use due to construction of the new facility.

* *Combined effect of the four types of traffic is about 2% to 6% for urban and below 2% in rural areas.*

b. Technical Analysis

i. Horizontal road alignment analysis (describe the road type and classification of the connecting access road (terminal points) if it is more superior than the proposed road; describe the existing road width compared to the design road width based on traffic density <200ADT>, Are curve widening and side cut needed? Are there permanent road obstructions?

ii. Vertical road alignment analysis (describe the terrain whether flat, rolling and mountainous, is it within the maximum gradient of 18%, is there massive downgrading?)

iii. Drainage analysis/hydraulic analysis (describe the water catchment area and rainfall data, flood discharge measurements, describe the minor and major river road crossings, side drainage, location and condition of existing drainage structures)

iv. Geotechnical – soil and foundation analysis – indicate soil classification based on AASHTO Soil Classification

v. Structural analysis of pavement thickness, bridge structures and other major structures.

vi. Proposed Sources and Location of Quarries, Borrow Pits and Construction Materials
   a. Relative distance of quarry and construction materials to project site/Dumping site for surplus excavation (Attach Certificate signed by Brgy. Captain and Lot Owner)
   b. Handling of materials
   c. Dependability and availability of required quantities

vii. Items of work and cost (POW Summary) – is it within the cost parameter?
viii. Implementation schedule of the sub-project (project duration, estimated start and end of construction)

c. Operational Analysis

i. Organizational Structure of the Project Management Implementing Unit (PMIU) to be set up at either the provincial LGU, city LGU or municipal LGU, that will manage the project and their roles and responsibilities. Mention the executive order creating the PMIU. *(Pre-Implementation Phase)*

ii. Plan for management during construction, key roles and responsibilities of assigned full time construction site personnel. *(Implementation Phase)*

iii. Sustainability Plan *(Post-Implementation)*
   a. Organizational Development Plan for the Operation and Maintenance Group (show the schedule of operation and maintenance in table form)
   b. Operation and Maintenance Plan and Budget (show the operation and maintenance financing mix)

d. Social Analysis

i. Subproject Beneficiaries
ii. Indigenous Cultural Community/Indigenous Peoples (ICC/IP)
iii. Site and Right-of-Way acquisition
iv. Damage to standing crops, houses and/or properties
v. Physical displacement of persons
vi. Economic displacement of persons
vii. Grievance redress mechanism
viii. Labor-related Risks

ix. Occupational Health and Safety
x. Community Health and Safety
xi. Conflict Context Assessment

e. Environmental Analysis

i. Natural habitat
ii. Physical Cultural Resources
iii. Terrain, Soil Types and Rainfall
iv. Natural and Geologic Hazards/Risk Assessment
v. Resource Conservation and Pollution Control
vi. Integrated Pest Management/DA KASAKALIKASAN
vii. Status of Environmental Clearances

f. Social and Environmental Impacts

g. Financial Analysis

i. Total Project Cost by Financing Source and Cost Sharing (WB LP, GOP-DA, LGU)
- *Show Table of Project Cost Sharing*
- *Provide a short write-up/narrative/explanation.*

ii. Total Project Cost Breakdown
a. Direct
b. Indirect
- *Provide a short write-up/narrative/explanation.*

iii. Status of LGU equity availability and LFC certification – attach appropriation ordinance stating the 10% equity for the SP and Cost for O & M for 10 years.
- *Provide a short write-up/narrative/explanation.*
-

h. Economic Analysis and Evaluation

1. Economic Benefits

- *Enumerate the project benefits valuated for the analysis. Explain briefly each benefit and how it is calculated*

a. **Vehicle Operating Cost Savings**

i. Existing vehicular traffic based on Traffic Survey Results[11] and indicating representative vehicles, passenger occupancy/average load by vehicle type, average daily trips, and traveled /Unit to review: Econ)

Table a. Annual Average Daily Traffic within the subproject area, YYYY

Barangay	Existing Mode of Transport in the Area	No. of vehicle Units	Average No. of daily trips	Average daily traffic count[a]	Average Operating Days per year	Ave. loading capacity (passenger/ cargo)	Observed Transport Fares for Passenger/ Cargo[d]	Purpose (for passenger or cargo/agri produce)
1) Brgy. X	Motorcycle	10	6	60	300	2 persons/ 4 sacks		
	Jeep	2	2	10				
	Truck							
	Total							

Source:

- *Provide a short write-up/narrative/explanation for the table.*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*
- *Provide discussion on how these vehicles relate to the transportation of the commuters, dominant crop and other crops as a whole.*

ii. Projected Vehicular Traffic after the project completion

[11] If a traffic survey is done along the proposed road site or adjacent existing road. This may be done through classified manual count and roadside origin-destination

Table ____ b. Projected vehicular traffic after project completion

Vehicle Type	Year 1	Year 20
Motorcycle		
Tricycle		
Jeepney/Multicab		
Vans/ Cars		
Truck		

Source

- *Provide brief discussion as to the basis of projections*

iii. Other considerations in the computation of VOC savings (i.e Length, VOC difference

- Length
  - *Discuss the length with improvement.*
  - *If the proposed road is 100% new opening with the following conditions:*
    1. will serve as a short-cut - discuss what is the existing route of the vehicles, the length currently being traversed and the road condition.
    2. Entirely not accessible to all types of vehicles ---- VOC savings is not applicable

- VOC Difference
  - *Discuss the VOC difference to be used in the computation*
  - *Present and discuss the current road condition and corresponding length*

Road Condition	Length (km)
Existing earth (bad condition)	
Existing gravel (good condition)	
Existing gravel (bad condition)	
Existing PCCP (good condition)	
Existing PCCP (bad condition)	
Total	

Source :

b. Savings in Hauling Cost

- **Production Level Within The Direct Road Influence Area**

Table ____ (No.) Commodity Production Areas to be served by the (Title of Road Sub-project), YYYY

Barangay	Crop/ Livestock/ Fish/ Forest	Area (in has.)	Average Yield/ has.	No. of Turnover/ cropping/ season/ yr.	Mineral Fertilizer Requirement/ has./ yr.	Seed Requirement/ has./ yr.	Annual Production	% of Production Sold in Market
1. Brgy. X								
2. Brgy. Y								

Source:

- *Provide a short write-up/narrative/explanation for the table. Include in the discussion if there are shifting cultivation or intercropping*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*
- *Provide discussion on how the road will be beneficial especially to the dominant crop and other crops as a whole.*
- *Also include how much is the opportunity cost or farmer's benefit from the dominant commodity without the project and with the project.*

- **Transport Prices within the RIA**

i. Transport Prices by Animal/Human Haulers

Table ____ (No.) Transport Prices by Animal/Human Haulers in Barangay ____, YYYY

Barangay	Type of Animal	Origin of Destination	Transport Distance Transport Price	Ave. Loading Capacity
1. Brgy. X	carabao	from farm to nearest brgy. rd.	0.005 km.	Php 20.00/sack
2. Brgy. Y				

Total				

Source:

- *Provide a short write-up/narrative/explanation for the table.*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*
- *Provide discussion on how the road will be beneficial especially to the dominant crop and other crops as a whole.*

ii. Output Hauling

Barangay	Crop	Mode of transport	Origin to Destination	Transport Distance	Transport Price (WOP)	Transport Price (WP)	Ave.loading capacity
1. Brgy. X					P20/sack		3 sacks
2. Brgy. Y							

Source:

iii. Input Hauling

Barangay	Crop	Mode of transport	Origin to Destination	Transport Distance	Transport Price (WOP)	Transport Price (WP)	Ave.loading capacity
1. Brgy. X					P20/sack		3 sacks
2. Brgy. Y							

*Source:*_____

- *This section should clearly discuss the existing farming practices in terms of hauling the cost of agricultural goods going to the market and production inputs from the market to the farm.*
- *Provide a short write-up/narrative/explanation for the table.*
- *If mode of transport differ between output and input hauling, then the 2 separate tables must be presented*

c. Savings in Travel Time of Commuters

i. Population within the Direct Road Influence Area

Table (No.) Population within the Road Influence Area (RIA), YYYY

Barangay	Population			Number of Household	Number of Farmers/ Fisherfolk			No. of Farming / Fishing Household
	Male	Female	Total		Male	Female	Total	
1. Brgy.								
2. Brgy.								
Total								

*Source :*_____

1. *Provide a short write-up/narrative/explanation for the table.*
2. *Make reference to a relevant Model/Detailed Table # of EFA Template*
3. *Provide brief discussion in reference to the total direct beneficiaries of the barangays within the RIA. Are they all using the proposed road as a commuting route?*

   Example. There are 5 barangays identified as part of the direct road influence area with a total population of 10,000 as presented in table____ and figure_____. Out of the 5 barangays, only 3 as shown in table_____ and figure ____ are directly using the proposed road as a commuting route while the remaining 2 barangays use the other road networks.

Table ____ (No.) Population within the Road Influence Area (RIA traversed and using the proposed road), YYYY

Barangay	Population	% of Commuter	Estimated Beneficiaries	Ave. Annual Population Growth Rate (in %)	Economically Active Population (in %)	% of Commuters from Economically Active Population
1. Brgy. X						
2. Brgy. Y						
Total						

*Source :*_____

4. Provide a short write-up/narrative/explanation for the table.

Table ____ (No.) Average Travel Time of Commuters in Barangay _____, YYYY

Barangay	Travel Time WOP (one way in min.)	Travel Time WP (one way in min.)	No. of trips per Person per Day	Number of Working Days	% share of Saved Time for Work	Average Daily Wage Rate
1. Brgy. X						
2. Brgy. Y						
Total						

*Source :*_____

- *Travel time during WOP and WP scenario*
- *Provide a short write-up/narrative/explanation for the table.*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*
  - o should concentrate on the total road length to be proposed.
  - o Average should be taken per barangay

d. Benefits of Newly Cultivated Agricultural Land[12]

Table ____ (No.) Newly Cultivated Agricultural Area in Barangay _____, YYYY

Barangay	Crop	Potential Land for Cultivation (Php/ha)	Farm Gate Price (Php/sack)	Land Development Cost per Has. (Php/ha)	Production Cost Per Has. (Php/ha.)	Marketing Cost Per Sack (Php/sack)
1. Brgy. X	rice	20	70 or 15/kg.	50,000.00	28,000.00	12.00
2. Brgy. Y						
Total						

Source:

- *Provide a short write-up/narrative/explanation for the table. Discuss basis of assumptions for each of the data presented – how they were gathered, what sources and corresponding basis.*
- *Can insert digitized map showing the potential areas…*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*

e. Transport Losses in Agricultural Production

- *Explain briefly this benefit and how the project will help achieve this benefit.*

Table ____ (No.) Reduction in Transport Losses Per Crop in Barangay _____, YYYY

Barangay	Crop/ Fish/ Forest	Farmgate Price (Php/kg.)	Transport Losses WOP (%)	Transport Losses WP (%)	Estimated Reduction in Transport Losses (in %)
1. Brgy. X	rice	20	70 or 15/kg.	50,000.00	28,000.00
2. Brgy. Y					
Total					

Source:

- *Provide a short write-up/narrative/explanation for the table. Discuss basis of assumptions for each of the data presented – how they were gathered, what sources and corresponding basis.*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*

2. Economic Costs

a. Capital Cost and O & M Cost Breakdown

- *Show Capital Cost based on the POW*
- *Show O & M Cost Breakdown (total amounts should be identified according to the stipulated thresholds)*
- *Provide a short write-up/narrative/explanation*
- *Show Tab2 of EFA template (year, total investment cost, O&M cost, total cost (from yr. 0 to 20)*

b. Social and Environmental Safeguards Cost

[12] This benefit is optional and it should be based on a well-justified rationale.

- *Discuss the costs incurred for the preparation of requirements for SES compliance and other fees required for social preparation that are not included in the POW. (Tax is already excluded for fees paid to the government either in the LGU or national offices/agencies, hence financial cost equals economic cost)*
- *Present tab on SES Cost, refer to new EFA Template*

c. Economic Benefits Foregone (Dis-benefits)

- *Discuss the benefits forgone due to implementation of the project, i.e. annual and perennial crops and lumber (specifically for crops/goods marketed only and does not include crops used household consumption)*
- *Show Tab 9a, b c and d of EFA template*

3. Direct Jobs from Construction[13]

a. No. of Unskilled Laborers to be hired and corresponding wage rate

b. No. of Skilled Laborers to be hired and corresponding wage rate

- *Provide a short write-up/narrative/explanation.*

5. Adjustment of Financial Values to Economic Terms

- *Provide a short write-up/narrative/explanation.*
- *Show Tab1 of EFA template*

6. Results of the Economic Analysis

- *Present and discuss EIRR, ENPV and BCR results.*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*

7. Economic Sensitivity Results

- *Present and discuss results of sensitivity analysis.*
- *Describe if the project is robust.*
- *Show summary table on Sensitivity Analysis tab*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*

8. List of the attached Models/Detailed Tables of EFA Template

Table 1a Economic Cost of Sub-Project
Table 1b SES Related Cost
Table 2 Investment and Maintenance Costs
Table 3a Road Maintenance Unit Cost
Table 3b Annual Maintenance Cost
Table 4 Benefit – Vehicle Operating Cost Savings
Table 5a Benefit – Savings in Output Hauling
Table 5b Benefit – Savings from Input Hauling
Table 6 Travel Time Commuters
Table 7 New Agri Area
Table 8 Savings Transport Losses
Table 9a Net Value of Crop Production Foregone
Table 9b Annual Crop Production Cost
Table 9c Perennial Crop Production Cost
Table 10 Economic Analysis
Table 11 Sensitivity Analysis (on cost, benefits & delays)

V. Conclusions and Recommendations

i. Conclusions

(Provide short write-ups on the result of Analyses presented in the FS, Prioritization of Subproject, Supply and Demand Analysis, Technical Analysis, Operational Analysis, Social and Environmental Analysis, Financial Analysis, Economic and Sensitivity Analysis.)

ii. Recommendations

(Provide a statement if the proposal is recommended to be funded and implemented based on the result of analyses presented under the Conclusion.)

[13] Based on Detailed Estimates in the Program of Works

B. Potable Water System (PWS)

Economic and Financial Analyses (EFA) in PRDP are conducted to determine viability of proposed subprojects requesting funding from the Project. All proposals are required to submit feasibility studies utilizing Benefit-Cost Analysis (BCA). The economic model (Figure 2) for Potable Water Systems (PWS) considers cost estimates from Estimated Project Costs and Operation & Maintenance Costs, which are then weighed against benefits such as Time Savings from Water Fetching, Reduction in Cost of Time due to Water-borne Illness, Reduction in Economic Loss due to Reduction in Premature Death Caused by Water-borne Illnesses, Cost Savings in Medical Expenses and Willingness to Pay for Improved Water Service. These streams of benefits are considered in the analysis for they represent the direct impacts of PWS subprojects to the beneficiaries. The period of analysis for PWS considered the usable lifespan of PWSs, which is 10 economic years.

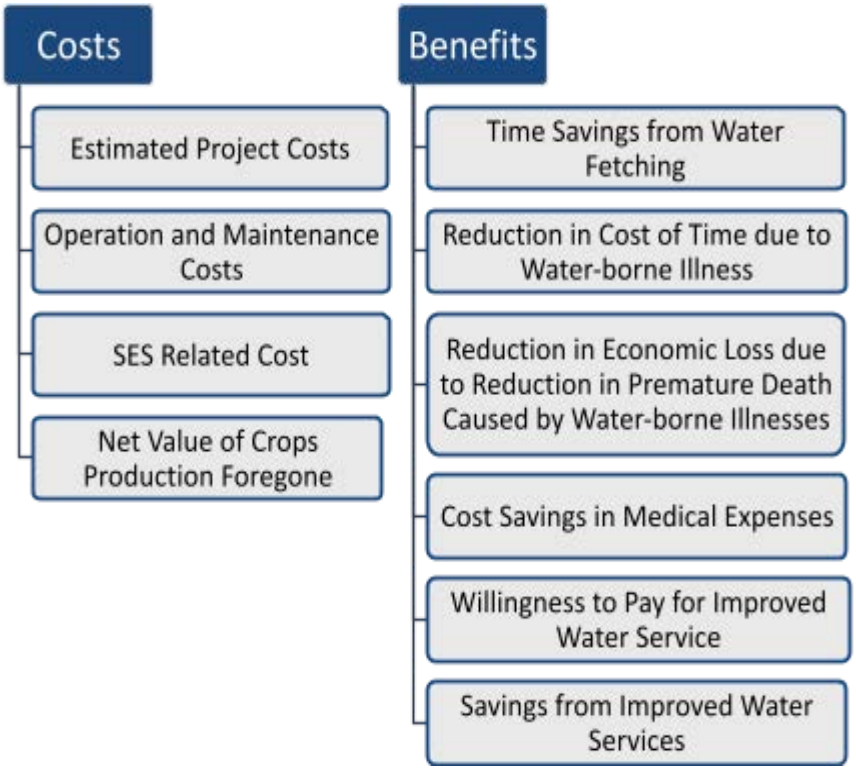


Figure 3. EFA Model for IBUILD PWS

B.1 PWS Economic and Financial Analysis

1. Tab 1a. Conversion of Financial to Economic Cost

Similar to FMR, the first tab in the PWS EFA template is the conversion of financial costs of the project to economic cost. Items included in evaluating the economic cost are materials, equipment, skilled labor, unskilled labor, overhead, contingencies and miscellaneous (OCM), contractor's profit, taxes, pre-engineering activities, engineering supervision cost and SES Related Cost. Shown below is the detailed discussion per item in EFA Table 1.

Table 13. FMR PWS Tab1a Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Materials	Materials are classified into 2 types: (a) with foreign components and (b) locally sourced. It is assumed that 60% of material costs has a foreign component, which is subjected to shadow pricing using a factor of 1.2, and the remaining 40% is base cost of locally sourced materials. Note that the shadow price of foreign exchange is 20% higher than the official rate and this applies to the materials with foreign components. Only cells highlighted in yellow must be filled in as the values for "with foreign component" and "locally-sourced" will automatically be computed.	Material cost under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Equipment	Equipment cost is the equipment rental cost based from the 2014 Association of Carriers and Equipment Lessors, Inc. (ACEL) Rates. Only cells highlighted in yellow must be filled in. Equipment cost is base cost, which does not include taxes. Tax for this item is already calculated under the "Taxes" item.	Equipment cost under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Skilled Labor	Skilled labor includes heavy equipment operator, mason, foreman, carpenter, welder and steel fabricators. Only cells highlighted in yellow must be filled in. Skilled labor is a base cost which does not include taxes. Tax for this item is already calculated under "Taxes" item.	Skilled labor cost under financial cost column in EFA template must be the same with the cost reflected in the Program of Works (POW). This must

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Unskilled Labor	Unskilled labor includes laborers, helpers, warehouse men, and timekeepers. Only cells highlighted in yellow must be filled in. The assumption is that conversion factor for unskilled labor is 0.6 since its value is 60% only of the minimum wage rate (source: NEDA).	Unskilled labor cost under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Overhead, Contingencies and Miscellaneous (OCM)	Overhead, Contingencies and Miscellaneous (OCM) is 15% of total direct cost if subproject cost is PhP5 million below; 12% if PhP5 million to PhP50 million; 10% if PhP50 million to PhP150 million; 8% if above PhP150 million. Only cells highlighted in yellow must be filled in. Tax for this item is already calculated under "Taxes" item.	OCM cost under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Contractor's Profit	Contractor's Profit Contractor's Profit is 10% of total direct cost if project cost is PhP5 million below; 8% otherwise. Only cells highlighted in yellow must be filled in. Tax for this item is already calculated under "Taxes" item.	Contractor's Profit under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Taxes	Tax is 12% of total mark-up value of the base cost and all items sourced locally. Taxes should not be included in the economic value of project cost.	Taxes under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Pre-engineering Activities	Pre-engineering activities include FS and DED Preparation including conduct of site surveys. Pre-engineering activities are 5% of base direct cost + 12% tax; economic cost, however, should exclude tax.	Pre-engineering activities cost has already been derived under the financial cost column in EFA template which is 5% of base direct cost + 12% tax. This cost cannot be found in the Program of Works (POW) since it is not included in the total project cost to be funded by PRDP. This cost must be shouldered by PLGU/MLGU. In deriving the economic cost, tax should be excluded.

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Engineering Supervision	Engineering Supervision is 5% of base direct cost + 12% tax; economic cost, however, should exclude tax.	Engineering Supervision cost has already been derived under the financial cost column in EFA template which is 5% of base direct cost + 12% tax. This cost cannot be found in the Program of Works (POW) since it is not included in the total project cost to be funded by PRDP. This cost must be shouldered by PLGU/MLGU. In deriving for the economic cost, tax should be excluded.
SES-related Costs	The total financial and economic costs will be included in this table. The itemized breakdown shall be presented in Tab1b. These costs will be included as indirect costs to be shouldered by the LGU-proponent.	This is linked to Table 1b. Kindly ensure correct linking of cells with tab 1b.
Total Financial and Economic Cost	Summation of Total Direct Cost and Total Indirect Cost (OCM, Contractor's Profit, Engineering Supervision, Pre-Engineering Activities, SES Related Cost).	This is automatically calculated

2. Tab 1b. Social and Environmental Safeguards Related Cost

All costs to be incurred that are related to social and environmental safeguards activities in the preparation and implementation of the PWS subproject shall be itemized in this table. SES activities may include consultation with Project-Affected Persons (PAPs), fees and operating expenses in securing permits and licenses including water permit, environmental clearances, NCIP certification, water potability test, operating cost and fees for the preparation of Resettlement Action Plan, IP Plan, Biodiversity Management Plan, Cultural Heritage Management Plan, Integrated Pest Management Plan among others. In cases where proposed structures will involve acquisition of Right-of-Way and where there are productive crops that will be affected, the net value of crop production foregone shall be valued and included as dis-benefits in the EFA. The detailed guidelines including the conversion of financial costs to economic values, are shown in the Annex 2.

3. Tab 2. Investment and Operating and Maintenance Cost (Economic)

The subproject cost for PWS composed of Investment and O&M Cost. Investment Cost not only includes the Total Project Cost of the subproject as reflected in the POW but also SES Related Cost and Net Value of Crop Production Foregone (if applicable). On the other hand, projected O&M Cost for the proposed PWS must be provided to ensure operation and

sustainability over its economic life to guarantee that the identified household beneficiaries are provided with access to potable water.

Table 14. FMR PWS Tab2 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Investment Cost	Total Project Cost (TPC) composed of direct cost (materials, labor, equipment) and indirect cost (OCM and Contractor's profit). Investment cost also includes other indirect costs i.e., Pre-Engineering Activities, Engineering Supervision and SES related costs. All of which are converted to economic terms	Total Economic Project Cost in Table 1 and Economic SES Related Cost in Table 2.
Operating and Maintenance Cost	Annual Operating and Maintenance Cost converted to Economic terms	O&M Cost must be linked in Tab3b. Operating Cost must be rechecked in Table 17 under Cash Flow (Economic) for consistency and completeness of projected operating cost and Table 3a

4. Tab 3a. Maintenance Cost (Facility only)

This table consists of specific activities to be conducted only for the maintenance of the potable water system facility and does not include the cost of its operation.

Table 15. PWS Tab3a Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Unit Maintenance Cost (Financial)	Cost items (equipment, materials, skilled and unskilled labor) per planned activity to be conducted for the repair and maintenance of the facility	Cost items and activity must be consistent with the I-BUILD-approved O&M Plan. Check proper encoding of items per activity and tax must be accounted for in the estimated financial cost. Note: *Check if unit cost used per month or per annum and calculate accordingly in tab 17. If the unit cost presented is monthly, then multiply to 12 to get the annual cost. If a specific cost schedule per month is provided in the plan then ensure total annual cost is correctly accounted for.*

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Unit Maintenance Cost (Economic)	Economic unit cost per activity and item (cost is already calculated based on the template)	Check proper linking of cells, conversion and summation.

5. Tab 3b. Annual Operating and Maintenance Cost

This table consists of the annual cost of maintenance of the facility and the projected total annual operating expenses for the management of the system once completed and functional.

Table 16. PWS Tab3b Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Annual Maintenance Cost (Financial)	Annual maintenance cost for PWS must be the financial cost of maintenance of the facility and does not include the operating cost.	Cost for the repair and maintenance must be correctly linked to Tab3a Total Financial Cost. Check if the cost and activities are consistent with the FS and O&M Plan approved by I-BUILD.
Annual Maintenance Cost (Economic)	Annual maintenance cost for PWS must be the Economic cost of maintenance of the facility and does not include the operating cost.	The cost of the repair and maintenance is correctly linked to Tab3a Total Economic Cost. Check if conversion from financial to economic terms are consistent with assumptions used in Tab1a.
Periodic Maintenance every 5^{th} year	Periodic Maintenance every 5^{th} year is approximately +60% of annual maintenance and is undertaken every six years. PLGU/MLGU is not required to provide inputs as the cell already has a formula.	Every six years, there is an additional 60% of the annual cost for the periodic maintenance of the PWS.
Operating Cost (Financial)	Total Annual Operating Cost which includes, utilities, salaries and wages, benefits, repair and maintenance of the facility, administrative expense, miscellaneous expenses and other expenses	Economic Cost is linked to tab 17 Cash Flow. Repair and maintenance of the facility is excluded to avoid double counting. Check if items and cost are consistent with FS Operational and Financial Analysis.

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Operating Cost (Economic)	Total Annual Operating Cost converted into economic terms. All Operating Cost less 12% tax. Labor in the operation of PWS are identified between Skilled and Unskilled. Skilled labor is deducted with 12% tax and unskilled labor is multiplied to a conversion factor of 60%.	Economic Cost is linked to tab 17 Cash Flow. Repair and maintenance of the facility is excluded to avoid double counting.
Annual Maintenance and Operating Cost (Economic)	Annual Repair and maintenance Cost and Annual Operating Cost	The sum of Annual Repair and Maintenance Cost and Annual Operating Cost both in economic terms. Check linking of cells in the table and double check values if correct.

6. Tab 4. Time Savings from Water Fetching

Time savings from water fetching refers to the decrease in time spent on water collection that may lead to an increase in labor force participation.

Table 17. PWS Tab4 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
No. of hours spent in fetching water – without the project.	Data to be inputted in the **'No. of hours spent in fetching of water –without the project'** row should be the average hours spent by the household beneficiaries in fetching water from their current source. *(time spent per fetching)*	To get the 'AVERAGE HOURS SPENT BY THE HOUSEHOLD BENEFICIARIES IN FETCHING OF WATER FROM THEIR CURRENT SOURCE', a sampling survey/interview should be conducted by the LGU to household beneficiaries per barangay. The following formula can be used in the estimation of number of respondents: $n = N/\{1+N(e)^2\}$ where: n = number of sample size N = total number of population/ beneficiaries e = level of precision / sampling error of 5% or 0.05 ---------- **Data to be gathered during the survey/interview:**

<table>
<tr><th>Data</th><th>Requirements</th><th>Reliable and acceptable data sources/ Acceptable method of data gathering</th></tr>
<tr><td></td><td></td><td>
- No. of hours/minutes spent in fetching of water
- Distance of their house to the current source
- Frequency of fetching of water in a given period (daily/weekly /monthly/ annually)
- Waiting time for scheduled water service and bottled water services as potable water sources.

** To get the *'average hours spent by the household beneficiaries in fetching of water from their current source',* get the average no. of hours spent in fetching of water based on the conducted survey. Get the % weight of household beneficiaries per brgy. and multiply to the calculated average no. of hours spent in fetching of water per brgy. Then, add the weighted average of all the brgy. beneficiaries covered by the subproject to get the Total Weighted Average.

SAMPLE:
<table>
<tr><th>Barangay Beneficiary 1</th><th>No. of hours spent in fetching of water</th></tr>
<tr><td>Household 1</td><td>0.5</td></tr>
<tr><td>Household 2</td><td>0.42</td></tr>
<tr><td>Household 3</td><td>0.33</td></tr>
<tr><td>Average</td><td>0.42 hours</td></tr>
</table>
<table>
<tr><th>Barangay Beneficiary 2</th><th>No. of hours spent in fetching of water</th></tr>
<tr><td>Household 1</td><td>0.32</td></tr>
<tr><td>Household 2</td><td>0.47</td></tr>
<tr><td>Average</td><td>0.36 hours</td></tr>
</table>
Summary:
<table>
<tr><th>Barangay Beneficiaries</th><th></th></tr>
<tr><td>1</td><td></td></tr>
<tr><td>2</td><td></td></tr>
<tr><td>Average</td><td>0.43 hours</td></tr>
</table>
<table>
<tr><th>Barangay Bene-ficiaries</th><th>No. of hours spent in fetching of water</th><th>No. of HH.</th><th>of total HH</th><th>Weighted Average (days)</th></tr>
<tr><td>1</td><td>0.42</td><td>3</td><td>60%</td><td>0.25</td></tr>
<tr><td>2</td><td>0.36</td><td>2</td><td>40%</td><td>0.11</td></tr>
<tr><td>Total</td><td></td><td>5</td><td>100%</td><td>0.36</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Data</th><th>Requirements</th><th>Reliable and acceptable data sources/ Acceptable method of data gathering</th></tr>
<tr><td></td><td></td><td>Data to be inputted in the No. of hours spent in fetching of water –without the project’ row should be 0.36 hours.</td></tr>
<tr><td>No. of hours spent in fetching water – with the project</td><td>Data to be inputted in the ‘No of hours spent in fetching of water –with the project’ row should be the average hours that will be spent by the household beneficiaries in fetching of water from the new water system</td><td>To get the ‘AVERAGE HOURS THAT WILL BE SPENT BY THE HOUSEHOLD BENEFICIARIES IN FETCHING OF WATER FROM THE NEW WATER SYSTEM’, the LGU should get the average distance of household beneficiaries from the new water system and estimate the hours that will be spent in fetching.

SAMPLE
<table>
<tr><th>Barangay Beneficiary 1</th><th>No. of hours spent in fetching of water with the project</th></tr>
<tr><td>Household 1</td><td>0.40</td></tr>
<tr><td>Household 2</td><td>0.30</td></tr>
<tr><td>Household 3</td><td>0.25</td></tr>
<tr><td>Average</td><td>0.32 hours</td></tr>
</table>
<table>
<tr><th>Barangay Beneficiary 2</th><th>No. of hours spent in fetching of water</th></tr>
<tr><td>Household 1</td><td>0.25</td></tr>
<tr><td>Household 2</td><td>0.40</td></tr>
<tr><td>Household 3</td><td>0.45</td></tr>
<tr><td>Average</td><td>0.37 hours</td></tr>
</table>
Summary:
<table>
<tr><th>Barangay Beneficiaries</th><th>No. of hours spent in fetching of water</th></tr>
<tr><td>1</td><td>0.32</td></tr>
<tr><td>2</td><td>0.37</td></tr>
<tr><td>Average</td><td>0.35 hours</td></tr>
</table>
Data to be inputted in the No. of hours spent in fetching of water –with the project’ row should be 0.35 hours.</td></tr>
<tr><td>Population</td><td>Data to be provided in the ‘Population’ row should be the actual population data of beneficiaries (catchment population).</td><td>To get the population data, refer to the following sources:
1) refer to the DED prepared by IBUILD for identification of catchment population.
2) refer to LGU for the validated list of beneficiaries and verify with the identified list of household beneficiaries from the SES unit.</td></tr>
<tr><td>Population growth rate</td><td>Data to be inputted in the ‘Population growth rate’ row should be the average growth rate of the population that will</td><td>To get the population growth rate data, refer to the following sources:</td></tr>
</table>

<table>
<tr><th>Data</th><th>Requirements</th><th>Reliable and acceptable data sources/ Acceptable method of data gathering</th></tr>
<tr><td></td><td>benefit from the project (catchment population).</td><td>

Philippine Statistics Authority (PSA)
Provincial Development and Physical Framework Plan (PDPFP) of the Province. Usually found in the Demographic Section.
Comprehensive Land Use Plan (CLUP) of the Municipality. Usually found in the Demographic Section.
Formula to get the average population growth rate:

= ((current population – population in previous year)/population in previous year) *100
* Get the population growth rate for years under a certain time period then compute the weighted average growth rate.
<table>
<tr><th>Barangay Bene-ficiaries</th><th>Annual Pop. Growth Rate</th><th>No. of HH.</th><th>total</th><th>Weighted Average (GR)</th></tr>
<tr><td>1</td><td>1.42%</td><td>3</td><td>60%</td><td>0.85%</td></tr>
<tr><td>2</td><td>0.50%</td><td>2</td><td>40%</td><td>0.20%</td></tr>
<tr><td>Total</td><td></td><td>5</td><td>100%</td><td>1.05%</td></tr>
</table>
Data to be inputted in the No. of hours spent in fetching of water –with the project’ row should be 1.05% annual population growth rate.
</td></tr>
<tr><td>Household size</td><td>Data to be inputted in the ‘Household size’ row should be the number of members of the household that will benefit with the project (catchment population).</td><td>Firstly, refer to DED prepared by IBUILD for identification of catchment population.
Secondly, refer to LGU for the validated list of beneficiaries and verify with the identified list of household beneficiaries from the SES unit.</td></tr>
<tr><td>Average frequency of fetching water per HH per year</td><td>Data to be inputted in the ‘Average frequency of fetching water per HH per year’ row should be the weighted average days in a year that will be spent in fetching water from their current source per the household beneficiaries segregated by area (brgy).</td><td>To get the ‘WEIGHTED AVERAGE DAYS IN A YEAR THAT WILL BE SPENT BY THE HOUSEHOLD BENEFICIARIES IN FREQUENCY OF FETCHING WATER FROM THEIR CURRENT SOURCE’, a sampling survey/interview should be conducted by the LGU to household beneficiaries in the coverage area.

Data to be gathered during the survey/interview:</td></tr>
</table>

<table>
<tr><th>Data</th><th>Requirements</th><th>Reliable and acceptable data sources/ Acceptable method of data gathering</th></tr>
<tr><td></td><td></td><td>- Frequency of fetching of water in a year
----
** To get the 'average days in a year that will be spent by the household beneficiaries in fetching of water from their current source', get the average days spent in fetching of water per brgy. based on the conducted survey.
Get the % weight of household beneficiaries per brgy. and multiply to the calculated average number of days per brgy. Then, add the weighted average of all the brgy. beneficiaries covered by the subproject to get the Total Weighted Average.

SAMPLE:
<table>
<tr><th>Barangay Beneficiary 1</th><th>Days in a year spent in fetching of water</th></tr>
<tr><td>Household 1</td><td>144</td></tr>
<tr><td>Household 2</td><td>192</td></tr>
<tr><td>Household 3</td><td>240</td></tr>
<tr><td>Average</td><td>192 days</td></tr>
</table>
<table>
<tr><th>Barangay Beneficiary 2</th><th>Days in a year spent in fetching of water</th></tr>
<tr><td>Household 1</td><td>167</td></tr>
<tr><td>Household 2</td><td>192</td></tr>
<tr><td>Average</td><td>180 days</td></tr>
</table>
Summary:
<table>
<tr><th>Barangay Bene-ficiaries</th><th>Days in a year spent in fetching of water</th><th>No. of HH.</th><th>total HH</th><th>Weighted Average (days)</th></tr>
<tr><td>1</td><td>192</td><td>3</td><td>60%</td><td>115</td></tr>
<tr><td>2</td><td>230</td><td>2</td><td>40%</td><td>72</td></tr>
<tr><td>Total</td><td></td><td>5</td><td>100%</td><td>187</td></tr>
</table>
Data to be inputted in the Weighted Average frequency of fetching of water per HH per year' row should be 187 days.</td></tr>
<tr><td>Average daily wage rate (financial)</td><td>Data to be provided in the 'Average daily wage rate' row should be the average daily wage rate of the population that will benefit from the project (catchment population).</td><td>To get the 'AVERAGE DAILY WAGE RATE OF THE POPULATION', a sampling survey/interview can be conducted by the LGU to household beneficiaries in the barangay covered by the subproject or they can refer to the following sources:

1) Department of Labor and Employment – National Wages and Productivity Commission. Check the website. Search for the Current</td></tr>
</table>

<table>
<tr><th>Data</th><th>Requirements</th><th>Reliable and acceptable data sources/ Acceptable method of data gathering</th></tr>
<tr><td></td><td></td><td>daily minimum wage rates per Region;

2) Data to be gathered during the survey/interview:

- Daily Wage / Income:

** To get the 'average daily wage', get the weighted average daily wage rate of the beneficiaries per barangay based on the conducted survey.

SAMPLE
<table>
<tr><th>Barangay Beneficiary 1</th><th>Daily Wage Rate</th></tr>
<tr><td>Household 1</td><td>200</td></tr>
<tr><td>Household 2</td><td>250</td></tr>
<tr><td>Household 3</td><td>300</td></tr>
<tr><td>Average</td><td>Php 250.00</td></tr>
</table>
<table>
<tr><th>Barangay Beneficiary 2</th><th>Daily Wage Rate</th></tr>
<tr><td>Household 1</td><td>210</td></tr>
<tr><td>Household 2</td><td>300</td></tr>
<tr><td>Average</td><td>Php 255.00</td></tr>
</table>
<table>
<tr><th>Barangay Bene-ficiaries</th><th>Ave. Wage Rate</th><th>No. of HH.</th><th>% of total</th><th>Weighted Average (days)</th></tr>
<tr><td>1</td><td>250</td><td>3</td><td>60%</td><td>150</td></tr>
<tr><td>2</td><td>255</td><td>2</td><td>40%</td><td>102</td></tr>
<tr><td>Total</td><td></td><td>5</td><td>100%</td><td>252</td></tr>
</table>
Data to be inputted in the Average daily wage rate' row should be Php 252.00.</td></tr>
</table>

7. Tab 5. Reduction in Cost of Time due to Water-borne Illness

The availability of a potable water system aims to reduce the incidence of water-borne illnesses thereby reducing the cost of time due to illness and regaining more productive hours for laborers.

Table 18. PWS Tab5 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Population	Data to be provided in the **'Population'** row should be the actual population of beneficiaries *(catchment population)*.	Total population should be the same with tab4. Refer to Tab4 and check for proper linking of cells.

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Population Growth Rate	Data to be provided in the **'Population Growth Rate'** row should be the weighted average annual population growth rate of covered barangay.	Average Annual Population Growth Rate should be the same with Tab4. Refer to Tab4 and check for proper linking of cells.
Economically active population	Data to be inputted in the **'Economically active population'** row should be the % of economically active population that will benefit from the project *(catchment population)*. Persons in the Labor Force or Economically Active Population - all persons 15 years old and over as of their last birthday who are either employed or unemployed. *https://psa.gov.ph/content/persons-labor-force-or-economically-active-population-1*	To get the economically active population (labor force), refer to the following sources: a. Municipal/provincial data on population and employment ● Provincial Development and Physical Framework Plan (PDPFP) of the Province. Usually found in the Demographics Section. ● Comprehensive Land Use Plan (CLUP) of the Municipality. Usually found in the Demographics Section. ● Philippine Statistics Authority website b. If there is no existing data on employment records of the population, estimate the economically active population. A sample calculation is as follows: Population data (age demographics) Age bracket (yrs) — population — % 0-14 — 3000 — 18.75 15-40 — 7000 — 43.75 41-60 — 5000 — 31.25 Above 60 — 1000 — 6.25 In the above example, the economically active population is the sum of age brackets 15-40, 41-60 and above 60 which is 81.25%.
Morbidity rate (Due to Water-Borne and other Related Illness)	Data to be inputted in the **'Morbidity rate'** row should be the morbidity rate of the population that will benefit from the project *(catchment population)*.	To get the morbidity rate, identify the total number of cases of morbidity due to water borne and other related diseases from the catchment population of barangays beneficiaries. Then get the average morbidity rate between years.

<table>
<tr><th>Data</th><th>Requirements</th><th>Reliable and acceptable data sources/ Acceptable method of data gathering</th></tr>
<tr><td></td><td></td><td>Refer to the following government agencies for available secondary data:

● Provincial Health Office (PHO)
● Municipal Health Office (MHO)
● Rural Health Unit (RHU)

Estimates should have sufficient basis using health office records.</td></tr>
<tr><td>Number of days inactive due to Morbidity</td><td>Data to be inputted in the ‘Number of days inactive due to Morbidity’ row should be the average working days of the population that will benefit from the project (catchment population).</td><td>To get the ‘WEIGHTED AVERAGE NUMBER OF DAYS INACTIVE DUE TO MORBIDITY’, a survey/interview should be conducted by the LGU to sample households in the barangay beneficiaries.

Data to be gathered during the survey/interview:

- Number of days inactive due to Morbidity:

** To get the ‘Number of days inactive due to Morbidity’, get the average working days of the population that will benefit from the project.

SAMPLE:
<table>
<tr><th>Barangay Beneficiary 1</th><th>Days inactive due to Morbidity</th></tr>
<tr><td>Household 1</td><td>5</td></tr>
<tr><td>Household 2</td><td>2</td></tr>
<tr><td>Household 3</td><td>2</td></tr>
<tr><td>Average</td><td>3 days</td></tr>
</table>
<table>
<tr><th>Barangay Beneficiary 2</th><th>Days inactive due to Morbidity</th></tr>
<tr><td>Household 1</td><td>3</td></tr>
<tr><td>Household 2</td><td>1</td></tr>
<tr><td>Average</td><td>2 days</td></tr>
</table>
Summary:
<table>
<tr><th>Baranga y Bene-ficiaries</th><th>ys ctive e to bidity</th><th>No. of HH .</th><th>% of total HH</th><th>Weighted Average (days)</th></tr>
<tr><td>1</td><td>3</td><td>3</td><td>60%</td><td>1.8</td></tr>
<tr><td>2</td><td>3</td><td>2</td><td>40%</td><td>0.8</td></tr>
<tr><td>Total</td><td></td><td>5</td><td>100%</td><td>2.6</td></tr>
</table>
Data to be inputted in the ‘Working days’ row should be 2.6 days.</td></tr>
</table>

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Average daily wage rate	Data to be provided in the **'Average daily wage rate'** row should be the average daily wage rate of the population that will benefit from the project *(catchment population)*.	Average Daily Wage Rate should be the same with Tab4. Refer to Tab4 and check proper linking of cells.
Reduction of morbidity due to subproject	Data to be provided in the **'Reduction of Morbidity due to subproject'** row should be the estimated percentage (%) decrease in morbidity rate of the catchment population due to presence of a potable water source.	To get the reduction in morbidity of the particular barangay beneficiaries, refer to the following government agencies: ● Provincial Health Office (PHO) ● Municipal Health Office (MHO) ● Rural Health Unit (RHU) Estimates should have sufficient basis using health office records.

8. Tab 6. Reduction in Economic Loss due to Reduction in Premature Death Caused by Water-borne Illnesses

This tab refers to the reduction in economic losses as the incidence of premature death caused by water-borne illness is reduced thereby resulting in continued economic activity and more productive years for laborers.

Table 19. PWS Tab6 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Population	Data to be provided in the **'Population'** row should be the actual population of beneficiaries *(catchment population)*.	Total population should be the same with tab4. Refer to Tab4 and check proper linking of cells.
Population Growth Rate	Data to be provided in the **'Population Growth Rate'** row should be the weighted average annual population growth rate of covered barangay.	Average Annual Population Growth Rate should be the same with Tab4. Refer to Tab4 and check proper linking of cells.

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Economically active population	Data to be inputted in the **'Economically active population'** row should be the % of economically active population that will benefit from the project *(catchment population)*. Persons in the Labor Force or Economically Active Population - all persons 15 years old and over as of their last birthday who are either employed or unemployed. *https://psa.gov.ph/content/persons-labor-force-or-economically-active-population-1*	Economically Active Population should be the same with Tab5. Refer to Tab5 and check for proper linking of cells.
Mortality rate (Due to Water-Borne and other Related Illness)	Data to be inputted in the **'Mortality rate'** row should be the mortality rate due to water-borne and other related diseases of the population that will benefit from the project *(catchment population)*.	To get the mortality rate, identify the total number of cases of mortality due to water borne and other related diseases from the catchment population of barangays beneficiaries. Then get the average mortality rate between years of observation. Refer to the following government agencies for available secondary data: To get the mortality rate of the particular barangay beneficiaries, refer to the following government agencies: ● Provincial Health Office (PHO) ● Municipal Health Office (MHO) ● Rural Health Unit (RHU) Estimates should have sufficient basis using health office records.
Number of Working days Inactive leading to Mortality	Data to be inputted in the **'Number of Working days Inactive leading to Mortality'** row should be the average working days of the	The average number of days of morbidity leading to death is assumed to be the same with the number of days inactive due to illness

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
	population that will benefit from the project *(catchment population)*.	in Tab5. Refer to Tab5 and check for proper linking of cells.
Average daily wage rate	Data to be provided in the **'Average daily wage rate'** row should be the average daily wage rate of the population that will benefit from the project *(catchment population)*.	Average Daily Wage Rate should be the same with Tab4. Refer to Tab4 and check proper linking of cells.
Reduction of mortality due to subproject	Data to be provided in the **'Reduction of Mortality due to subproject'** row should be the estimated percentage (%) decrease in morbidity rate of the catchment population due to presence of a potable water source.	To get the reduction in mortality of the particular barangay beneficiaries, refer to the following government agencies: ● Provincial Health Office (PHO) ● Municipal Health Office (MHO) ● Rural Health Unit (RHU) Estimates should have sufficient basis using health office records.

9. Tab 7. Savings in Medical Expense

This tab refers to the savings derived due to reduction of illness thereby resulting in savings in medical expenses.

Table 20. PWS Tab7 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Population	Data to be provided in the **'Population'** row should be the actual population of beneficiaries *(catchment population)*.	Total population should be the same with tab4. Refer to Tab4 and check proper linking of cells.
Population growth rate	Data to be provided in the **'Population Growth Rate'** row should be the weighted average annual population growth rate of covered barangay.	Average Annual Population Growth Rate should be the same with Tab4. Refer to Tab4 and check proper linking of cells.

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Morbidity rate (Due to Water-Borne and other Related Illness)	Data to be inputted in the **'Morbidity rate'** row should be the morbidity rate of the population that will benefit from the project *(catchment population)*.	Morbidity Rate should be the same with Tab5. Refer to Tab4 and check proper linking of cells.
% of population receiving medical service	Data to be inputted in the **'% of population receiving medical service'** should be based on the records of the government agencies on the % of the population of barangay beneficiaries that receive medical services/ treatment .	To get the % of the population of barangay beneficiaries that receive medical services/ treatment, refer to the following government agencies: ● Provincial Health Office (PHO) ● Municipal Health Office (MHO) ● Rural Health Unit (RHU) Get the number of cases that receive medical services/ treatment and compare it to the general population of the barangay beneficiaries. Estimates should have sufficient basis using health office records. **TO COMPUTE FOR THE % PERSONS RECEIVES MEDICAL SERVICE:** = (Number person that received medical services or treatment /population of beneficiaries) * 100
Ave no. of days of hospitalization/person/ year	Data to be inputted in the **'Ave. no. of days of hospitalization/ person/year'** should be based on the records of the government agencies on the average no. of days of hospitalization per person per year within the barangay beneficiaries.	To get the average no. of days of hospitalization per person per year within the barangay beneficiaries, refer to the following government agencies: ● Provincial Health Office (PHO) ● Municipal Health Office (MHO) ● Rural Health Unit (RHU)

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
		Estimates should have sufficient basis using health office records.
Cost of treatment/person/day	Data to be inputted in the **'Cost of treatment per person per day'** should be based on the records of the government agencies on the average cost of treatment per person per day within the barangay beneficiaries.	To get the average cost of treatment per person per day within the barangay beneficiaries, refer to the following government agencies: ● Provincial Health Office (PHO) ● Municipal Health Office (MHO) ● Rural Health Unit (RHU) Estimates should have sufficient basis using health office records.
% of Cost Saving Attributable to the Subproject	Data to be provided in the '**% of Cost Saving Attributable to the Subproject**' should be based on the records of government agencies on similar impacts of existing PWS. If available, findings of studies assessing impacts of PWS can be cited.	To get the % of Cost Saving Attributable to the Subproject, refer to the following sources or government agencies: ● Provincial Health Office (PHO) ● Municipal Health Office (MHO) ● Rural Health Unit (RHU) ● Relevant studies Estimates should have sufficient basis using health office records or published works.

10. Tab 7. Savings in Medical Expense

This tab refers to the savings derived due to reduction of illness thereby resulting in savings in medical expenses.

Table 21. PWS Tab7 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Population	Data to be provided in the **'Population'** row should be the actual population of beneficiaries *(catchment population)*.	Total population should be the same with tab4. Refer to Tab4 and check proper linking of cells.
Population growth rate	Data to be provided in the **'Population Growth Rate'** row should be the weighted average annual population growth rate of covered barangay.	Average Annual Population Growth Rate should be the same with Tab4. Refer to Tab4 and check proper linking of cells.
Morbidity rate (Due to Water-Borne and other Related Illness)	Data to be inputted in the **'Morbidity rate'** row should be the morbidity rate of the population that will benefit from the project *(catchment population)*.	Morbidity Rate should be the same with Tab5. Refer to Tab4 and check proper linking of cells.
% of population receiving medical service	Data to be inputted in the **'% of population receiving medical service'** should be based on the records of the government agencies on the % of the population of barangay beneficiaries that receive medical services/ treatment .	To get the % of the population of barangay beneficiaries that receive medical services/ treatment, refer to the following government agencies: ● Provincial Health Office (PHO) ● Municipal Health Office (MHO) ● Rural Health Unit (RHU) Get the number of cases that receive medical services/ treatment and compare it to the general population of the barangay beneficiaries. Estimates should have sufficient basis using health office records. **TO COMPUTE FOR THE % PERSONS RECEIVES MEDICAL SERVICE:** = (Number person that received medical services or treatment /population of beneficiaries) * 100

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Ave no. of days of hospitalization/person/ year	Data to be inputted is the **'Ave. no. of days of hospitalization/ person/year'** should be based on the records of the government agencies on the average no. of days of hospitalization per person per year within the barangay beneficiaries.	To get the average no. of days of hospitalization per person per year within the barangay beneficiaries, refer to the following government agencies: ● Provincial Health Office (PHO) ● Municipal Health Office (MHO) ● Rural Health Unit (RHU) Estimates should have sufficient basis using health office records.
Cost of treatment/person/day	Data to be inputted is the **'Cost of treatment per person per day'** should be based on the records of the government agencies on the average cost of treatment per person per day within the barangay beneficiaries.	To get the average cost of treatment per person per day within the barangay beneficiaries, refer to the following government agencies: ● Provincial Health Office (PHO) ● Municipal Health Office (MHO) ● Rural Health Unit (RHU) Estimates should have sufficient basis using health office records.
% of Cost Saving Attributable to the Subproject	Data to be provided in the '**% of Cost Saving Attributable to the Subproject**' should be based on the records of government agencies on similar impacts of existing PWS. If available, findings of studies assessing impacts of PWS can be cited.	To get the % of Cost Saving Attributable to the Subproject, refer to the following sources or government agencies: ● Provincial Health Office (PHO) ● Municipal Health Office (MHO) ● Rural Health Unit (RHU) ● Relevant studies Estimates should have sufficient basis using health office records or published works.

11. Tab 8. Savings in Water Expense

This tab refers to the economic benefit from savings in water expenses of household beneficiaries With the Project relative to the water expense expended by household beneficiaries Without the Project. This benefit is only applicable if the existing average water expense is higher than the agreed water tariff which is based on the result of consultation with the proponent LGU and household beneficiaries.

Table 22. PWS Tab8 Data Requirements

<table>
<tr><th>Data</th><th>Requirements</th><th>Reliable and acceptable data sources/ Acceptable method of data gathering</th></tr>
<tr><td>Water Expense Without the Project</td><td>Data required for this row which is the 'average water expense of household without the project', should be based the amount households are spending for water services per month without the project</td><td>To get the 'AVERAGE WATER EXPENSE WITHOUT THE PROJECT, a survey/interview should be conducted by the LGU to sample households in the barangay beneficiaries.

Data to be gathered during the survey/interview:
- Existing annual expense on water consumption (if applicable).

** To get the 'water expense without the project', get the total household user per type of water source and the average water expense per source per month. Then, multiply the percentage of users and average water expense per source and barangay. Add the total water expense per source from all barangay and get the average of all water expenses from the identified sources.

SAMPLE:
(Brgy 1)
<table>
<tr><th>Barangay 1 Beneficiar</th><th colspan="3">Water Expense WOP</th></tr>
<tr><th></th><th>Level 1</th><th>Level 2</th><th>Other</th></tr>
<tr><td>Household 1</td><td>0.00</td><td></td><td>300.00</td></tr>
<tr><td>Household 2</td><td></td><td>50.00</td><td>500.00</td></tr>
<tr><td>Household 3</td><td>10.00</td><td>25.00</td><td></td></tr>
<tr><td>Average</td><td>10.00</td><td>37.50</td><td>400.00</td></tr>
</table>
<table>
<tr><th>Barangay 1 Beneficiary</th><th colspan="3">HH Respondents</th></tr>
<tr><th></th><th>Level 1</th><th>Level 2</th><th>Other</th></tr>
<tr><td>Household 1</td><td>1</td><td></td><td>1</td></tr>
<tr><td>Household 2</td><td></td><td>1</td><td>1</td></tr>
<tr><td>Household 3</td><td>1</td><td>1</td><td></td></tr>
<tr><td>Total</td><td>2</td><td>2</td><td>2</td></tr>
</table>
(Brgy 2)
<table>
<tr><th>Barangay 2 Beneficiary</th><th colspan="3">Water Expense WOP</th></tr>
<tr><th></th><th>Level 1</th><th>Level 2</th><th>Other</th></tr>
<tr><td>Household 1</td><td>10.00</td><td>50.00</td><td>300.00</td></tr>
<tr><td>Household 2</td><td>20.00</td><td>80.00</td><td>200.00</td></tr>
<tr><td>Household 3</td><td></td><td>35.00</td><td>300.00</td></tr>
<tr><td>Average</td><td>15.00</td><td>55.00</td><td>267.00</td></tr>
</table>
<table>
<tr><th>Barangay 2 Beneficiary</th><th colspan="3">HH Respondents</th></tr>
<tr><th></th><th>Level 1</th><th>Level 2</th><th>Other</th></tr>
<tr><td>Household 1</td><td>1</td><td>1</td><td>1</td></tr>
<tr><td>Household 2</td><td>1</td><td>1</td><td>1</td></tr>
<tr><td>Household 3</td><td></td><td>1</td><td>1</td></tr>
<tr><td>Total</td><td>2</td><td>3</td><td>3</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>Data</th><th>Requirements</th><th>Reliable and acceptable data sources/ Acceptable method of data gathering</th></tr>
<tr><td></td><td></td><td>
SUMMARY:
<table>
<tr><th rowspan="2">Brgy</th><th colspan="3">HH Respondents</th><th colspan="3">Weighted Water Exp.</th></tr>
<tr><th>Lvl 1</th><th>Lvl 2</th><th>Others</th><th>Lvl 1</th><th>Lvl 2</th><th>Others</th></tr>
<tr><td>1</td><td>2</td><td>2</td><td>2</td><td>10.00</td><td>37.50</td><td>400.00</td></tr>
<tr><td>2</td><td>2</td><td>3</td><td>3</td><td>15.00</td><td>55.00</td><td>267.00</td></tr>
<tr><td></td><td>4</td><td>5</td><td>5</td><td>5.00</td><td>37.00</td><td>400.00</td></tr>
</table>
<table>
<tr><th rowspan="2">Brgy</th><th colspan="3">% Share</th><th colspan="3">Weighted Water Exp.</th><th rowspan="2">Subtotal Weighted Ave. Water Exp</th></tr>
<tr><th>Lvl 1</th><th>Lvl 2</th><th>Others</th><th>Lvl 1</th><th>Lvl 2</th><th>Others</th></tr>
<tr><td>1</td><td>50%</td><td>40%</td><td>40%</td><td>5.00</td><td>15.00</td><td>160.00</td><td></td></tr>
<tr><td>2</td><td>50%</td><td>60%</td><td>60%</td><td>7.50</td><td>33.00</td><td>160.20</td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td>12.50</td><td>48.00</td><td>320.20</td><td>126.90</td></tr>
</table>
Data to be inputted in the ‘Working days’ row should be 126.90PhP.
</td></tr>
<tr><td>Water Expense with the Project</td><td>Data required for this row is the ‘annual water expense of the household with the project’.</td><td>This should be based on the agreed Water Tariff between the household beneficiaries and the local government that will operate, manage and maintain the system.
A consultation must be conducted to document the agreement on the monthly tariff of household users.</td></tr>
<tr><td>Savings from Improve Water Services</td><td>Total Expense of HHs beneficiaries WOP and Total Tariff the HHs are will WP</td><td>To get the Savings in Water Expense, deduct the total annual expense of HHs WOP and the Water Tariff that HHs will pay WP. This must then be multiplied to the total number of HH beneficiaries to get the overall total savings from improved water services.</td></tr>
<tr><td>Total population to be served by the project</td><td>Data to be provided in the ‘Population’ row should be the actual population of beneficiaries (catchment population).</td><td>Total population should be the same with tab4. Refer to Tab4 and check proper linking of cells.</td></tr>
<tr><td>Population growth rate</td><td>Data to be provided in the ‘Population Growth Rate’ row should be the weighted average annual population growth rate of covered barangay.</td><td>Average Annual Population Growth Rate should be the same with Tab4. Refer to Tab4 and check proper linking of cells.</td></tr>
</table>

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Household Size	Data to be inputted in the **'Household size'** row should be the number of members of the household that will benefit with the project *(catchment population)*.	Household size should be the same with Tab4. Refer to Tab4 and check proper linking of cells. *Note: Double check if the total households served using the population and household size is the same with the figure in the POW and the submitted list of household beneficiaries to the SES unit.*
No. of months	Data to be inputted in the **Number of month's cell** is the number of operating months in a year.	Refer to the Operational Plan of the project. Consult the technical group of the project.

12. Tab 9. Willingness To Pay (Economic Benefit)

This tab refers to the result of the survey conducted on the barangay beneficiaries to determine the water tariff that will be imposed and the total revenue that can be generated.

Table 23. PWS Tab9 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Total population to be served by the project	Data to be provided in the **'Population'** row should be the actual population of beneficiaries *(catchment population)*.	Total population should be the same with tab4. Refer to Tab4 and check proper linking of cells.
Population growth rate	Data to be provided in the **'Population Growth Rate'** row should be the weighted average annual population growth rate of covered barangay.	Average Annual Population Growth Rate should be the same with Tab4. Refer to Tab4 and check proper linking of cells.
Household Size	Data to be inputted in the **'Household size'** row should be the number of members of the household that will benefit with the project *(catchment population)*.	Household size should be the same with Tab4. Refer to Tab4 and check proper linking of cells. *Note: Double check if the total households served using the population and household size is the same with the figure in the POW and the submitted list*

<table>
<tr><th>Data</th><th>Requirements</th><th>Reliable and acceptable data sources/ Acceptable method of data gathering</th></tr>
<tr><td></td><td></td><td>of household beneficiaries to the SES unit.</td></tr>
<tr><td>Amount households are WTP per month for the project</td><td>Data to be inputted in the ‘Amount households are WTP per month for the project’ row should be the average amount the households within the barangay beneficiaries are willing to pay per month.</td><td>To get the ‘average amount the households within the barangay beneficiaries are spending per month, a survey/interview should be conducted by the LGU to households in the barangay beneficiaries.

Data to be gathered during the survey/interview:
- If the households are willing to pay the x amount monthly for a Level II/communal water system?
__ Yes
__ No

- If yes, how much are they are willing to pay?____

** To get the ‘Amount households are WTP per month for the project’’, get the average amount the households within the barangay beneficiaries are willing to pay per month.

SAMPLE:
<table>
<tr><th>Barangay Beneficiary 1</th><th>Amount willing to pay</th></tr>
<tr><td>Household 1</td><td>50</td></tr>
<tr><td>Household 2</td><td>70</td></tr>
<tr><td>Household 3</td><td>30</td></tr>
<tr><td>Average</td><td>Php 50.00</td></tr>
</table>
<table>
<tr><th>Barangay Beneficiary 1</th><th>Amount willing to pay</th></tr>
<tr><td>Household 1</td><td>40</td></tr>
<tr><td>Household 2</td><td>70</td></tr>
<tr><td>Average</td><td>Php 110.00</td></tr>
</table>
Summary:
<table>
<tr><th>Barangay Beneficiaries</th><th>Working days</th></tr>
<tr><td>1</td><td>50.00</td></tr>
<tr><td>2</td><td>110.00</td></tr>
<tr><td>Average</td><td>Php 52.50</td></tr>
</table>
<table>
<tr><th>Barangay Bene-ficiaries</th><th>Amount Willing to Pay</th><th>No. of HH.</th><th>% of total HH</th><th>Weighted Average (days)</th></tr>
<tr><td>1</td><td>50</td><td>3</td><td>60%</td><td>30.00</td></tr>
<tr><td>2</td><td>110</td><td>2</td><td>40%</td><td>44.00</td></tr>
<tr><td>Total</td><td></td><td>5</td><td>100%</td><td>74.00</td></tr>
</table>
Data to be inputted in the ‘Amount households are WTP</td></tr>
</table>

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
		per month for the project' row should be **Php 74.00**
No. of months	Data to be inputted in the **Number of month's cell** is the number of operating months in a year.	Refer to the Operational Plan of the project. Consult the technical group of the project.

13. Tab 10. Net Value of Crops Production Foregone

This tab is applicable to subprojects that require acquisition of right-of-way for installation of structures such as reservoirs, intake boxes, etc., in agricultural lands that are currently planted or have standing productive crops including seasonal or annual crops (e.g., palay, corn, root crops, etc.) or perennial crops (e.g., coconut, abaca, cacao, coffee, rubber, etc.). The net value of production foregone of specific affected crops shall be calculated to determine the economic opportunity costs. Please refer to Annex 2 for the guidelines on the calculation of the net value of crop production foregone.

14. Tab 11. Economic Analysis

This summarizes all the benefits and costs derived from the previous tables and yields the computed EIRR, NPV, and BCR to reflect economic viability of the subproject.

Table 24. PWS Tab11 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Economic Net Present Value (ENPV)	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed.	It must be noted that ENPV result should be positive to make sure that the investment yields a positive impact to the society. A project that has a negative ENPV result will be rejected.
Economic Internal Rate of Return (EIRR)	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed.	EIRR must be above 10%. Projects with an EIRR below 10% will be rejected.
Benefit-Cost Ratio (BCR)	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed.	BCR must be equal or greater than 1.0. A project with a BCR below 1.0 will not be accepted.

15. Tab 12. Sensitivity Analysis

This indicates the feasibility of the subproject given several scenarios of reduced benefits and increased costs. The following scenarios are given: increase in cost of 5%, 10%, 15%, 20%, 30% and decrease in benefits of 5%, 10%, 15%, 20%, 30%) and the feasibility of the subproject is tested for each scenario.

Table 25. PWS Tab12 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Sensitivity Analysis	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed. Sensitivity analysis assesses risks by identifying the variables that most influence a project's net benefits and quantifying the extent of their influence.	The proposed subproject will be accepted if its economic indicators (ENPV, EIRR and BCR) are satisfactory at both sensitivity scenarios of increase of cost by 10% and a decrease of benefits by 10%.

16. Tab 13. Revenue - (Financial Benefit)

This tab refers to the result of the survey conducted on the barangay beneficiaries to determine the water tariff that will be imposed and the total revenue that can be generated.

Table 26. PWS Tab13 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Total population to be served by the project	Data to be provided in the **'Population'** row should be the actual population of beneficiaries *(catchment population)*.	Total population should be the same with tab4. Refer to Tab4 and check proper linking of cells.
Population growth rate	Data to be provided in the **'Population Growth Rate'** row should be the weighted average annual population growth rate of covered barangay.	Average Annual Population Growth Rate should be the same with Tab4. Refer to Tab4 and check proper linking of cells.
Household Size	Data to be inputted in the **'Household size'** row should be the number of members of the household that will benefit with the project *(catchment population)*.	Household size should be the same with Tab4. Refer to Tab4 and check proper linking of cells. *Note: Double check if the total households served using the*

		population and household size is the same with the figure in the POW and the submitted list of household beneficiaries to the SES unit.
Water Expense with the Project	Data required for this row is the **'annual water expense of the household with the project'**.	This should be based on the agreed Water Tariff between the household beneficiaries and the local government that will operate, manage and maintain the system. A consultation must be conducted to document the agreement on the monthly tariff of household users. *Note: Financial Benefit or Revenue may be incorporated with a corresponding increase in water tariff within the analysis period depending on the agreement between the management and the household beneficiaries. Such agreement must be discussed in the Sustainability Plan of the FS.*
No. of months	Data to be inputted in the **Number of month's** referring to the number of operating months in a year.	Refer to the Operational Plan of the project. Consult the technical group of the project.

17. Tab 14. Assumptions and Schedule of Operating Expenses (Financial)

With the use of the proposed Potable Water System (PWS), corresponding budget appropriation for Operation and Maintenance (O&M) Cost is required to support its operation. On the other hand, household beneficiaries are required to pay the water tariff to avail the PWS services. This fee is identified through survey and consultation with the beneficiaries' Willingness to Pay or financial capacity. Income generated from water tariff must be enough to support the O&M cost to confirm the financial viability of the subproject.

The list of Operating Expenses is summarized and estimated in this tab. Costs such as salaries and benefits (estimated in tab 15), utilities, chemicals, , repair and maintenance of facility and machines and equipment (if any) and other expenses related to operation must be completely estimated.

Table 27. PWS Tab14 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Operation and Maintenance Cost	In the Operation and Maintenance Cost row, data to be used should be based on the sum/total of the identified O&M cost. *(identified O&M costs are as follows: 1) Electricity; 2) Fuel, Oil and Lubricants; 3) Chemicals; 4) Repairs and Maintenance of the facility; 5) Repairs and Maintenance of equipment and machines; 6) Other Operating and Overhead Expenses (may vary for every PWS project); 7) Salaries and benefits (computed on a separate tab).*	Data should be based on the Operational and Maintenance Plan attached in the FS. *Note:* *Costs are both financial and economic. Operating and Maintenance Cost under financial cost may incorporate inflationary factors to project for the O&M cost over the period observed.* *Operating and Maintenance Cost under economic cost must be converted to economic terms using the same assumptions and conversion factors used in Tab1a. Inflation rate should not include expenses paid to the government.* *Please ensure correct conversion and linking of cells*
1) Electricity	Provide a table that shows monthly expenses for office electricity.	Refer to the Operational Plan of the proposal as presented in the FS. Consult the technical group of the project.
2) Fuel, Oil and Lubricants	Provide a table that shows monthly expense fuel, oil and lubricants (if any).	Refer to the Operational Plan of the proposal as presented in the FS. Consult the technical group of the project.
3) Chemicals	Provide a table that shows monthly expense for chemicals linked to the annual Chemical expense table (chlorine, etc.)	Refer to the Operational Plan of the proposal as presented in the FS. Consult the technical group of the project.
4) Repairs and Maintenance (facility only)	Automatically linked to Tab 3a.	Refer to the approved O&M Plan of the proposal as presented in the FS. Consult the technical group of the project.
5) Repairs and Maintenance (equipment and machineries)	Provide a table that shows monthly/ yearly expenses for repair and maintenance.	Refer to the Operational Plan of the proposal as reflected in the FS. Consult the technical group of the project.
6) Other Operating and Overhead Expense (may vary for every PWS project)	Provide a table that shows monthly expense for other cost (may vary for every PWS project)	Refer to the Operational Plan of the project. Consult the technical group of the project. *(if cost presented in Tab3a is estimated based on monthly operation, kindly ensure that an*

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
		annual estimate will be calculated and used in the appropriate table) Refer to the Operational Plan of the proposal as presented in the FS. Consult the technical group of the project.

18. Tab 15. Salaries and Benefits

This tab summarizes the manpower complement during the operation of the Potable Water System. Specific positions, number of workers, remuneration, benefits and working arrangement must be identified to estimate the annual cost for salaries and benefits. All staff must also be segregated between skilled and unskilled labor for the calculation of economic cost of labor.

Table 28. PWS Tab15 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Positions	Manpower complement based on the proposed operation with corresponding job description	Refer to the approved Operational Plan as presented and discussed in the FS. Staff to be hired must be classified between skilled and unskilled workers
Number of Staff	Number of persons per position to be hired for the operation	Refer to the approved Operational Plan as presented and discussed in the FS.
Monthly Remuneration	Specific monthly salary for the identified position.	Refer to the approved Operational Plan as presented and discussed in the FS. Salary must adhere to the minimum wage rate approved by the National Wages Productivity Commission (NWPC). Refer to RA No. 1466 or the "Salary Standardization Law of 2019" of organic personnel
Statutory Benefits	Benefits to be provided to the hired organic staff as provided by existing laws which include but not limited to, PhilHealth,	Refer to the approved Operational Plan as presented and discussed in the FS.

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
	GSIS/SSS, HDMF, 13th month pay, etc.	

19. Tab 16. Depreciation Schedule

Depreciation schedule shows the reduction in value of the constructed PWS on a given period or its Estimated Economic Useful Life (EUL). The subproject is considered fully depreciated if it is more economical to construct a new facility rather than maintain the existing one or emergence of a new technology which is more efficient to construct, operate and maintain making the existing PWS obsolete. This cost will also give the LGU the estimated annual value that must be prepared to construct a new one once the PWS is totally depreciated.

Table 29. PWS Tab16 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Acquisition Cost	Value or cost in acquiring the asset	Refer to the final POW approved by I-BUILD
Quantity of Assets	Number of particular asset acquired	Refer to the final POW approved by I-BUILD
Estimated Useful Life (EUL)	The estimated number of years that the asset is economically useful or usable before the asset is fully depreciated or lost its value.	Identification of EUL must be based on acceptable accounting standards. Estimation of useful life may use COA Circular No. 2017-004 as the basis for the number of years. Estimation of Depreciation may refer to COA Circular *Note:* *EUL varies depending on the type of asset i.e., equipment, materials, infrastructure.*
Salvage/ Residual Value	Value of the asset after the estimated useful life is fully depreciated. Government standard accounting estimates salvage value at 10% of the acquisition cost.	Refer to the final POW approved by I-BUILD for the acquisition cost of asset and derived the salvage value by getting the 10% from the acquisition cost. Example: 1000 x 10% = 100

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Depreciation Cost	Acquisition cost, quantity of asset, estimated useful life and salvage value	To calculate for the annual depreciation expense, subtract the salvage value from the acquisition cost and divide the remaining value from the EUL of the asset. Example: EUL = 10 Salvage Value = 100 Depreciation = (acquisition cost – salvage value)/ useful life $= \frac{1000 - 100}{10}$ = 900 / 10 = **90** Annual Depreciation Cost is **90.00Php**
Revenue	The data needed is the cash inflow or **'revenue'** generated from the collection of Water Tariff from household beneficiaries who availed of the service.	Revenue should be the same with the annual revenue generated in Tab13. Refer to Tab13 and check proper linking of cells.
Operating and Maintenance Cost	Cost items or '**operating and maintenance expenses**' incurred for the water service operation and its upkeep. Operating Costs include: - Salaries and Benefits, - Administrative Expense like office supplies, travel and communication expenses, - Overhead Expenses like utilities and chemicals, - Miscellaneous expenses such as permits and licenses, insurance, etc. Maintenance expense includes: - monthly or annual estimated repair and maintenance expense - periodic maintenance	Operating expenses must be linked to Tab15. Salaries and wages must be linked to Tab14. Refer to Tab15 and Tab 14 and ensure correct linking of cells to appropriate year and cost items. *Note:* *Procurement of new assets such as equipment, materials, etc. within the 10-year period of analysis must be reflected as cash outflow in the year the asset is purchased.* *Costs are accounted for in FINANCIAL terms INCLUSIVE of tax and annual cost increase due to inflation.*
Other Fund Sources *(if applicable)*	External fund source from the supporting Local Government i.e., Province, Municipal/City.	This will be computed based on the summation from the estimated Capital Investment Reserves and O&M Cost that

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
		cannot be covered by the generated revenue from collected Water Tariff. Other fund sources indicated must be discussed in the FS as part of the Sustainability Plan *NOTE: The requirement for an external fund source/s is needed if the net income of the subproject shows a deficit or negative income. This is mainly attributed to the non-cash expense i.e., depreciation. Negative net income after depreciation is reflected as Capital Investment Reserve and requires external financial source/s to be funded. This will serve as the proponent's equivalent annual investment needed to establish a new PWS once the subproject fully exhaust its estimated useful life.*
Net Requirement	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed	Amount must be equal to zero (0). This is to ensure that all expenses, especially the deficit net income (if any) inclusive of operating and maintenance expenses and capital investment reserve is appropriated with funds.

20. Tab 17. Projected Annual Cash Flow

This tab shows the annual cash transaction which consists of cash inflow through the revenue generated from collection of water tariff and the cash outflow incurred from the operation and maintenance of the PWS to ensure that the identified household beneficiaries received the intended benefits from water service.

A simple financial analysis will be prepared in order to determine the financial viability of the PWS. The subproject will be assessed based on its capacity to finance the estimated operation and maintenance costs at the minimum. It is vital that the PWS must generate revenue or enough cash to ensure operation and sustainability of service. Therefore, a positive Cash Flow is required as minimum financial measure or decision criteria to determine the operational viability of the subproject.

Table 30. PWS Tab17 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Cash Inflow		
Revenue	The data needed is the cash inflow or **'revenue'** generated from the collection of Water Tariff from household beneficiaries who availed of the service.	Revenue should be the same with the annual revenue generated in Tab13. Refer to Tab13 and check proper linking of cells.
Cash Outflow		
Operating and Maintenance Expense (Financial)	Cost items or '**operating and maintenance expenses**' incurred for the water service operation and its upkeep. Operating Costs include: - Salaries and Benefits, - Administrative Expense like office supplies, travel and communication expenses, - Overhead Expenses like utilities and chemicals, - Miscellaneous expenses such as permits and licenses, insurance, etc. Maintenance expense includes: - monthly or annual estimated repair and maintenance expense - periodic maintenance A projection of increase in beneficiaries due to increase in population must assure that the supply is enough based on water discharge analysis approved by I-BUILD and the appropriate procurement of additional materials for a possible expansion of tap stand or faucet must be incorporated in the expenses.	Operating expenses must be linked to Tab15. Salaries and wages must be linked to Tab14. Refer to Tab15 and Tab 14 and ensure correct linking of cells to appropriate year and cost items. *Note:* *Procurement of new assets such as equipment, materials, etc. within the 10-year period of analysis must be reflected as cash outflow in the year the asset is purchased.* *Costs are accounted for in FINANCIAL terms INCLUSIVE of tax and annual cost increase due to inflation.*
Operating and Maintenance Expense (Economic)	Cost items or Operating Expenses incurred for the water service operation. Costs include: - Salaries and Benefits, - Administrative Expense like office supplies, travel	Operating expenses must be linked to Tab15. Salaries and wages must be linked to Tab14. Economic cost of repair and maintenance of the facility must be linked to Tab 3b. Refer to Tab15, Tab 14 and Tab13

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
	and communication expenses, - Overhead Expenses like utilities and chemicals, - Miscellaneous expenses such as permits and licenses, insurance, etc.	and ensure correct linking of cells to appropriate year and cost items. Costs estimates must first be converted to economic terms to derive the economic cost of operation and maintenance: - All expenses must be less than 12% tax such as materials, skilled labor, equipment, administrative and overhead expenses. - Unskilled Labor must be converted using a conversion factor of 0.60, using the assumption that unskilled labor is equivalent to 60% of the wage rate of skilled labor. *Note:* *Procurement of new assets such as equipment, materials, etc. within the 10-year period of analysis must be reflected as cash outflow in the year the asset is purchased.* *Inflation must not be incorporated in the estimation of economic costs.*
Net Cash Flow	Cash Inflow or Revenue and Cash Outflow or Operating and Maintenance Expense	Net Cash Flow should be derived from Cash Inflow or revenue less Cash Outflow or operating and maintenance expenses.
Cash Beginning Balance	Cash Ending Balance of the previous year.	The unexpended cash from the previous year based on the projected cash transactions
Cash Ending Balance	Net Cash Flow and Cash Beginning Balance of the current year	The net cash from the cash transactions of the current year added with the cash beginning balance of the current year.

21. Tab 18. Project Income Statement

Income Statement of the PWS shows the annual income of the subproject operation. Calculation of Income Statement is necessary to provide the proponent an idea of the annual investment requirement needed to cover the deficit from non-cash expenses such as depreciation. However, it is not required by the Project for the facility to have a positive Net Income in the Income Statement since the subproject is implemented to provide basic services in the community and not mainly as an income generation facility.

Table 31. PWS Tab18 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Revenue	The data needed is the cash inflow or **'Revenue'** generated from the collection of Water Tariff from household beneficiaries who availed of the service.	Revenue should be the same with the annual revenue generated in Tab13. Refer to Tab13 and check proper linking of cells.
Operating Expenses (Financial)	Cost items or '**Operating Expenses**' incurred for the water service operation. Costs include: - Salaries and Benefits, - Administrative Expense like office supplies, travel and communication expenses, - Overhead Expenses like utilities and chemicals, - Miscellaneous expenses such as permits and licenses, insurance, etc.	Operating expenses must be linked to Tab15. Salaries and wages must be linked to Tab14. Refer to Tab15 and Tab 14 and ensure correct linking of cells to appropriate year and cost items.
Depreciation Expense	Projected annual '**Depreciation'** based on the proposed subproject's assets and the corresponding Estimated Useful Life (EUL).	Depreciation expense must be the same with Tab 16. Refer to Tab16 and ensure correct linking of cells to appropriate figures.
Net Income	Revenue generated from Water Tariff, Operating Expenses expended to manage and sustain the water services and the estimated annual depreciation expense	Net Income should be derived based on the projected revenue from water tariff less annual operating and maintenance expense and annual depreciation expense.

B.2 Feasibility Study Outline for PWS Subprojects

Executive Summary

A.	Project Title	:	_____
B.	Project Location	:	Brgy/ /Municipality
D.	Project Scale/Dimension	:	____ tapstands _____ intake box, etc.
E.	Project Proponent	:	_____
F.	Implementing Unit	:	_____
		:	_____
G.	No. of Barangays Covered by the Subproject	:	_____
H.	Mode of Implementation	:	contract
I	Project Beneficiaries within the Service Area	:	_____population; M= ; F=
			_____households
			_____Farming Households; M= ; F:
			_____Fishing Households; M= ; F:
			_____IP Beneficiaries; M= ; F
J.	Total Project Cost and	:	P_____
	Cost Sharing		WB Loan Proceeds: P_____
			GoP : P_____
		:	LGU Equity : P_____
K.	Economic Indicators	:	
	1) Economic Net Present Value (ENPV)		_____
	2) Economic Internal Rate of Return		_____
	3) Benefit Cost Ratio		_____
L.	Conclusion and Recommendations		a statement as to whether or not the project has bee found feasible from the marketing, technica economic and operational view point.

I. Introduction

a. Provincial Background (Brief description in 2-3 paragraphs)

i. Demographics
ii. Economy
iii. Agriculture and Rural Development Sectors

b. Project Identification and Prioritization Profile

(*Discuss the need for a PWS in the project site*)
Note: PWS SPs are not required to be included in the Commodity Investment Plan (CIP). These subprojects are not commodity-driven and will not necessarily require linkage in support of the locality's priority commodity, hence, the exemption. Please see Appendix F of I-BUILD Operations Manual, PRDP Prioritization Scheme for I-BUILD Subprojects under Project Expansion.

c. Other I-BUILD Subprojects funded by the Project (*Only if applicable, identify other subprojects funded by the Project located in the same municipality/city and describe the status of its implementation. These include SPs proposed and implemented by PLGU).*

II. The Subproject

a. The Project Service Area

i. Location *(Brief description in 1-2 paragraphs)*
1. Geographic boundaries
2. Relative distance to growth and commercial centers
3. Topography
4. Groundwater and surface hydrology

ii. Demographics *(Describe number of population in the service area, median household income, socio-economic profile, etc. Brief description in 1 paragraph)*
iii. Major Economy and Land Use *(Brief description in 1 paragraph)*
iv. On-farm data - Agricultural Area and Crops Planted, livestock and fisheries *(Brief description in 1 paragraph)*

v. Off-farm data – processing and marketing industry of agri-fishery products
vi. Poverty Incidence *(Brief description in 1 paragraph)*
vii. Health and Living Condition (Describe occurrences of water-borne diseases in correlation with the lack of a potable water supply and sewerage facilities, morbidity and mortality rates and medical services provided)

III. Subproject Objectives

Subproject objectives relative to number of individuals with access to improved drinking water, % time reduction in water fetching and % reduction in households affected by water-borne diseases. Must also include specific objectives relative to quantified benefits in economic analysis.

IV. Project Feasibility Indicators

a. Market Analysis/Demand-Supply Analysis

i. Supply Side

Table .(Existing coverage and level of water services in the subproject area

Existing Water Source	No. of Units	Location	No. of HH served	Condition of Facility	Volume and Quality of Water
Level 1					
Rainwater Harvester and Surface Water (river/lake/spring)	-				
Total					
Level 2					
Pump Operated					
Gravity Fed					
Total					
Level 3					
Pump Operated					
Gravity Fed					
Total					

Note: a demographic map showing water system facilities will better explain the gap analysis
Source:

ii. Describe the existing water supply sources and facilities, level of service and actual capacities (households served), condition (functional/non-functional), volume and water quality *(salinity levels, concentrations of total dissolved solids-TDS and other quality parameters if available; Describe treatment technologies if being done)*

iii. Demand Side[14] (Desired water service level, capacity, consumption level and water quality)

Table . Existing coverage and level of water services in the subproject area

Existing Water Source	No. of Units	Location	No. of HH served	Condition of Facility	Volume and Quality of Water
Level 1					
Rainwater Harvester and Surface Water (river/lake/spring)	-				
Total					
Level 2					
Pump Operated					
Gravity Fed					
Total					
Level 3					
Pump Operated					
Gravity Fed					
Total					

Source:

iv. Describe the demand for a water system with project scenario in terms of water supply sources and facilities, level of service and actual capacities (households served), condition (functional/non- functional), volume and water quality *(salinity levels, concentrations of total dissolved solids-TDS and other quality*

[14] refers to the desired water service level, capacity, consumption level and water quality for the served population.

parameters if available; Describe treatment technologies if being done). For the new water system, there will be an increase in HH to be served by level 2 systems and decrease in HH served by level 1 and also an increase in the consumption rate per capita per day and improved water quality in the demand table. For rehabilitation, maybe the same HH served but increase in consumption rate and water quality)

v. Demand-Supply Analysis - Describe the impacts of the proposed PWS in terms of meeting the demand of the households in the service area/s including other contributions relative to reduction in time for water fetching and cases of water-borne illnesses

b. Technical Analysis

i. Describe the proposed location of the water source relative to the served population (distance, accessibility, relative elevation).
ii. If rehabilitation, description of existing structures and their current physical condition, salient features of previous operation and maintenance.
iii. Hydraulic analysis shows average source discharge versus the average daily demand in liters per second. Analyze if the average source flow could meet the projected demand over its design life, *(i.e. projected increase in demand (population) over the 10-year period vs. available water source flow).*
iv. Design Analysis of proposed structures (ie. elevated reservoir)
v. Reservoir, pump and pipeline sizing
vi. Well design
vii. Potability test of proposed source
viii. Sources of Construction Materials (pumps, pipes, fittings)
  1. Source and its relative distance to project site
  2. Handling
  3. Dependability and availability of required quantities
ix. Program of Works
x. Schedule of Construction

c. Operational Analysis

i. Organizational Structure of the Project Management Implementing Unit (PMIU) to be set up at either the provincial LGU, city LGU or municipal LGU, that will manage the project and their roles and responsibilities. Mention the executive order creating the PMIU. *(Pre-Implementation Phase)*
ii. Plan for management during construction, key roles and responsibilities of assigned full time construction site personnel or site supervision team. (Implementation Phase)
iii. Sustainability Plan *(Post Implementation Phase)*
  1. Ownership and Management (between LGU and BAWASA)
    Organizational Development Plan for the BAWASA formation.
      • Organizational Structure
      • Duties and Responsibilities
  2. Process Of Availment Prior to Operation *(process flow from conduct of consultation to creation of groups/committees, identification of target beneficiaries, etc.)*
  3. Process During Operation *(flow of operation from distribution, to collection of tariff, recording, remittance, collection reports and maintenance)*
  4. Operation and Maintenance Plan and Budget *(as presented in EFA)*
  5. Utilization of Net Income *(How will the revenue be used?)*
  6. Plan for Future Expansion *(any plan for expansion or upgrading) e.g. additional households accommodated must take into account the capacity of water source. Costs incurred if there are installation of new tap stands and other components must also be reflected in the O&M costs)*

d. Social Analysis

i. Subproject Beneficiaries
ii. Indigenous Cultural Community/Indigenous Peoples (ICC/IP)
iii. Site and Right-of-Way acquisition
iv. Damage to standing crops, houses and/or properties
v. Physical displacement of persons
vi. Economic displacement of persons
vii. Grievance redress mechanism
viii. Labor-related Risks
ix. Occupational Health and Safety
x. Community Health and Safety
xi. Conflict Context Assessment

e. Environmental Analysis

i. Natural habitat
ii. Physical Cultural Resources
iii. Terrain, Soil Types and Rainfall

iv. Natural and Geologic Hazards/Risk Assessment
v. Resource Conservation and Pollution Control
vi. Integrated Pest Management/DA KASAKALIKASAN
vii. Status of Environmental Clearances

f. Social and Environmental Impacts

g. Financial Analysis

i. Total Project Cost by Financing Source and Cost Sharing (WB LP, GOP-DA, LGU)
- Show Table of Project Cost Sharing
- Provide a short write-up/narrative/explanation.

ii. Total Project Cost Breakdown
a. Direct
b. Indirect
- Provide a short write-up/narrative/explanation.

iii. Status of LGU equity availability and LFC certification – attach appropriation ordinance stating the 10% equity for the SP and Cost for O & M for 10 years.
- Provide a short write-up/narrative/explanation.

iv. Financial Statement of Operations and Maintenance
(show how the project can sustain its Operations and Maintenance costs)

a. Operations and Maintenance Costs Schedule (Year 1 to Year 10)

- Provide a short write-up/narrative/explanation.

PARTICULARS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Personnel and Management Fees	2,393,535.00	3,766,849.05	3,879,854.52	3,996,250.16	4,116,137.66	4,239,621.79	4,366,810.45	4,497,814.76	4,632,749.20	4,771,731.68
Pump Fuel	-	-	-	-	-	-	-	-	-	-
Pump Electricity	175,451.65	181,486.65	187,729.23	194,186.53	200,865.95	207,775.11	214,921.94	222,314.58	229,961.52	237,871.48
Chemicals	64,800.00	66,705.12	68,666.25	70,685.04	72,763.18	74,902.42	77,104.55	79,371.42	81,704.94	84,107.07
Meetings and Training Expenses	61,800.00	63,616.92	65,487.26	67,412.58	69,394.51	71,434.71	73,534.89	75,696.82	77,922.30	80,213.22
Transportation Expenses	96,000.00	98,822.40	101,727.78	104,718.58	107,797.30	110,966.54	114,228.96	117,587.29	121,044.36	124,603.06
Office Electric Bill	9,600.00	9,882.24	10,172.78	10,471.86	10,779.73	11,096.65	11,422.90	11,758.73	12,104.44	12,460.31
Office Supplies	38,580.00	39,714.25	40,881.85	42,083.78	43,321.04	44,594.68	45,905.76	47,255.39	48,644.70	50,074.85
Fuel and Oil (Generators)	113,400.00	116,733.96	120,165.94	123,698.82	127,335.56	131,079.23	134,932.96	138,899.99	142,983.65	147,187.36
Potability Test	30,000.00	30,882.00	31,789.93	32,724.55	33,686.66	34,677.04	35,696.55	36,746.03	37,826.36	38,938.46
Repairs and Maintenance	92,240.00	94,951.86	97,743.44	100,617.10	103,575.24	106,620.35	109,754.99	112,981.79	116,303.45	119,722.77
Total	**3,075,406.65**	**4,469,644.44**	**4,604,218.97**	**4,742,848.99**	**4,885,656.83**	**5,032,768.53**	**5,184,313.93**	**5,340,426.79**	**5,501,244.92**	**5,666,910.26**

Source:

b. Capital Investment Reserved (Year 1 to Year 10)
- Provide a short write-up/narrative/explanation.

Asset	Total Project Cost	Estimated Useful Life	Salvage Value (10%)	Annual Depreciation Expense (year 1-year 10)
PWS	148,349,159.83	20	14,834,915.98	6,675,712.19

Source:

c. Water Tariff (Revenue Schedule, Year 1 to Year 10)
- Provide a short write-up/narrative/explanation.

PARTICULARS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Number of Household Serve	3319	3319	3319	3319	3319	3319	3319	3319	3319	3319
Additional Household Serve @ 2.3% GR	0	76	154	234	316	400	485	573	662	754
Total Number of Household Serve	3319	3395	3473	3553	3635	3719	3804	3892	3981	4073
Monthly Tariff	150.00	154.41	158.95	163.62	168.43	173.39	178.48	183.73	189.13	194.69
Number of Months	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
Net Revenue	**5,974,200.00**	**6,291,287.83**	**6,625,205.49**	**6,976,846.22**	**7,347,150.70**	**7,737,109.54**	**8,147,765.92**	**8,580,218.37**	**9,035,623.75**	**9,515,200.33**

Source:

d. Simple Profit and Loss Statement (Year 1 to Year 10)
- Provide a short write-up/narrative/explanation.

PARTICULARS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	5,974,200.0	6,291,287.8	6,625,205.4	6,976,846.2	7,347,150.7	7,737,109.5	8,147,765.9	8,580,218.3	9,035,623.7	9,515,200.3
Less: Operation and Maintenance Cost	3,075,406.6	4,469,644.4	4,604,218.9	4,742,848.9	4,885,656.8	5,032,768.5	5,184,313.9	5,340,426.7	5,501,244.9	5,666,910.2
Net Revenue	**2,898,793.3**	**1,821,643.3**	**2,020,986.5**	**2,233,997.2**	**2,461,493.8**	**2,704,341.0**	**2,963,451.9**	**3,239,791.5**	**3,534,378.8**	**3,848,290.0**
Less: Capital Investment Reserve	**6,675,712.1**	**6,675,712.1**	**6,675,712.1**	**6,675,712.1**	**6,675,712.1**	**6,675,712.1**	**6,675,712.1**	**6,675,712.1**	**6,675,712.1**	**6,675,712.1**
Add: Source of fund										
Provincial LGU										
Municipal LGU	3,776,918.8	4,854,068.8	4,654,725.0	4,441,714.9	4,214,218.2	3,971,371.1	3,712,260.2	3,435,920.0	3,141,333.2	2,827,422.
Barangay LGU										

PARTICULARS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Other Donations										
Total	3,776,918.8	4,854,068.8	4,654,725.6	4,441,714.9	4,214,218.2	3,971,371.1	3,712,260.2	3,435,920.6	3,141,333.2	2,827,422.
Net Requirement										

Source:

h. Economic Analysis and Evaluation

i. Economic Benefits
- *Enumerate the project benefits valuated for the analysis. Explain briefly each benefit and how it is calculated*
- *State the assumptions used in the valuation of benefits (e.g. percentage of benefits attributable to subproject)*

a. Incidence of water-related illnesses and cases of premature death
- *Provide incidence statistics and a short write-up/narrative/explanation.*

b. Income lost due to water-related illnesses
- *Provide a short write-up/narrative/explanation.*

Table ____ (No.) Computation of Reduction in Income Lost Due to Water-related Diseases

Barangay	Morbidity Rate (in %)	Population	Average Population Growth Rate (in %)	% of economically active population	No. Working Days per Year	Average Daily Wage Rate	Average Total Cost of morbidity per year	Average Cost of Morbidity Saved per year
Bgy X	1.9%	1,500	2%	65.4%	260 days	Php280		Php 436,153

*Source :*_____

- *Provide a short write-up/narrative/explanation for the table.*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*

c. Income lost due to premature death
- *Provide a short write-up/narrative/explanation.*

Table ____ (No.) Computation of Reduction in Income Lost Due to Premature Death

Barangay	Mortality Rate (in %)	Population	Average Population Growth Rate (in %)	% of economically active population	Average Daily Wage Rate	No. of working days year	Average Total Income Lost due to Premature Death per year	Average Income Saved due to Premature Death per year
Bgy X	4.6%	1,500	2%	65.4%	Php150	260 days		Php 211,190

*Source :*_____

- *Provide a short write-up/narrative/explanation for the table.*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*

d. Average cost of medical expenses and days of hospitalization
- *Provide a short write-up/narrative/explanation.*

Table ____ (No.) Computation of Savings in Medical Expenses

Barangay	Morbidity Rate (in %)	Population	% of Person hospitalized or received medical treatment	Average cost of hospitalization per day	Average no. of days of hospitalization per year per person	Average medical expense per year	Average medical expense saved per year
Bgy X	0.40%	450	50%	Php200/day	3 days	Php 591	Php 295.00

*Source :*_____

- *Provide a short write-up/narrative/explanation for the table.*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*

e. Time spent in fetching water
- *Provide a short write-up/narrative/explanation.*

Table ____ (No.) Computation of Time Saved in Fetching Water

Barangay	Population	No. of Households	Household Size	Time spent in fetching WOP (in hours/ fetching)	Time spent in fetching WP (in hours/ fetching)	Time Savings in fetching (in hours/ fetching	Average Frequency of Fetching Water per day	Average daily wage rate (in Php)	Value of Time Savings/ year (in Php)
Brgy. X	1500	300	5	1 hour	0.5 hours	0.5 hours	3x	Php150	Php1,847,812.50

*Source :*_____

- *Provide a short write-up/narrative/explanation for the table.*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*

f. Willingness to Pay (amount consumers are willing to pay per month to acquire project)
- *Provide a short write-up/narrative/explanation.*

ii. Economic Costs

1. Capital Cost and O & M Cost Breakdown
   - *Show Capital Cost based on the POW*
   - *Show O & M Cost Breakdown (total amounts should be identified according to the stipulated thresholds)*
   - *Provide a short write-up/narrative/explanation*
   - *Show Tab2 of EFA template*
2. Social Safeguards Related (SES) Cost
   - *Discuss the costs incurred for the preparation of requirements for SES compliance and other fees required for social preparation that are not included in the POW. (Tax is already excluded for fees paid to the government either in the LGU or national offices/agencies, hence financial cost equals economic cost)*
   - *Present tab on SES Cost, refer to new EFA Template*
3. Net Value of Crops Production Foregone
   - *Discuss the benefits forgone due to implementation of the project, i.e. annual and perennial crops and lumber (specifically for crops/goods marketed only and does not include crops used household consumption)*
   - *Show NVCP Foregone Summary, Production Cost for Perennial and Seasonal Crops in EFA template*

iii. Direct Jobs from Construction[15]
1. No. of Unskilled Laborers to be hired
2. No. of Skilled Laborers to be hired
   - *Provide a short write-up/narrative/explanation.*

iv. Adjustment of Financial Values to Economic Terms
- *Provide a short write-up/narrative/explanation.*
- Show Model/Detailed Table 1 of EFA Template

v. Results of the Economic Analysis
- *Present and discuss EIRR, ENPV and BCR results.*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*

vi. Economic Sensitivity Results
- *Present and discuss results of sensitivity analysis.*
- *Describe if the project is robust.*
- *Show summary table on Sensitivity Analysis tab*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*

vii. List of the attached Models/Detailed Tables of EFA Template

Table 1a Economic Cost of Sub-Project
Table 1b SES-Related Cost
Table 2 Investment and O&M Costs
Table 3a Maintenance Cost (Facility)
Table 3b Annual Operating and Maintenance Cost
Table 4 Benefit – Time Savings from Fetching Water
Table 5 Benefit – Reduction in Cost of Time Due to Water Borne Illness
Table 6 Benefit – Reduction in Economic Loss Due to Premature Death Caused by Water-Borne Illness
Table 7 Benefit – Savings in Medical Expense
Table 8 Benefit – Savings in Water Expense
Table 9 Benefit – Revenue Generated from Water Tariff (Economic)
Table 10a Net Value of Crop Production Foregone
Table 10b Annual Crop Production Cost
Table 10c Perennial Crop Production Cost
Table 11 Economic Analysis
Table 12 Sensitivity Analysis (on cost, benefits & delays)
Table 13 Financial Revenue – Willingness to Pay
Table 14 Financial Assumptions and Schedule of Operating Expenses
Table 15 Annual Salaries and Benefits
Table 16 Depreciation Schedule
Table 17 Cash Flow
Table 18 Income Statement

V. Conclusions and Recommendations

a. Conclusion
b. Recommendation

[15] *Based on Detailed Estimates in the Program of Works*

C. Irrigation System

Economic and financial analyses (EFA) in PRDP are conducted to determine viability of proposed subprojects requesting funding from the Project. All proposals are required to submit feasibility studies utilizing Benefit-Cost Analysis (BCA). The economic model (Figure 3) for Irrigation System considers cost estimates from Estimated Project Costs and Operation & Maintenance Costs, which are then weighed against benefits such as Increase in Area Cropped, Increase in Cropping Intensity and Increase in Income. These streams of benefits are considered in the analysis for they represent the direct impacts of Irrigation System subprojects[16] to the farmer beneficiaries. The period of analysis considered the total usable lifespan of an irrigation system, which is 20 economic years.

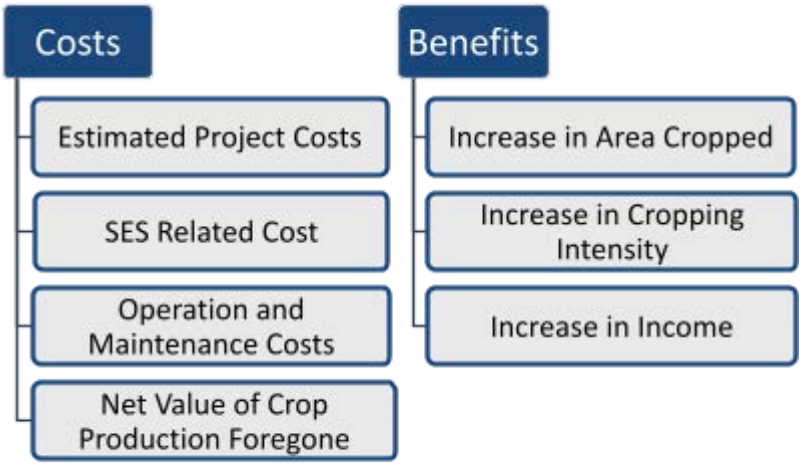


Figure 3. EFA Model for IBUILD Irrigation Systems

C.1 Irrigation System Economic and Financial Analysis

1. Tab 1a. Conversion of Financial to Economic Cost

For the Irrigation System, the first tab in the EFA template is the conversion of financial costs of the project to economic cost. Items included in evaluating the economic cost are materials, equipment, skilled labor, unskilled labor, overhead, contingencies and miscellaneous (OCM), contractor's profit, taxes, pre-engineering activities and engineering supervision cost. The same method and assumption is used, wherein financial costs are converted to economic costs using appropriate methodologies and conversion factors, such as shadow pricing for foreign components of construction materials and shadow wage rate pricing for unskilled labor hired during construction.

[16] *Irrigation SPs eligible for funding under PRDP Scale Up include communal irrigation system, small-water impounding project, solar-powered irrigation system, drip irrigation, ram pump irrigation and other small-scale irrigation. (Source: IBUILD Operations Manual for PRDP Scale Up)*

Table 32. Irrigation System Tab1a Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Materials	Materials are classified into 2 types: (a) with foreign components and (b) locally sourced. It is assumed that 60% of material costs has a foreign component, which is subjected to shadow pricing using a factor of 1.2, and the remaining 40% is base cost of locally sourced materials. Note that the shadow price of foreign exchange is 20% higher than the official rate and this applies to the materials with foreign components. Only cells highlighted in yellow must be filled in as the values for "with foreign component" and "locally-sourced" will automatically be computed.	Material cost under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Equipment	Equipment cost is the equipment rental cost based from the 2014 Association of Carriers and Equipment Lessors, Inc. (ACEL) Rates. Only cells highlighted in yellow must be filled in. Equipment cost is base cost, which does not include taxes. Tax for this item is already calculated under the "Taxes" item.	Equipment cost under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Skilled Labor	Skilled labor includes heavy equipment operator, mason, foreman, carpenter, welder and steel fabricators. Only cells highlighted in yellow must be filled in. Skilled labor is a base cost which does not include taxes. Tax for this item is already calculated under "Taxes" item.	Skilled labor cost under financial cost column in EFA template must be the same with the cost reflected in the Program of Works (POW). This must
Unskilled Labor	Unskilled labor includes laborers, helpers, warehouse men, and timekeepers. Only cells highlighted in yellow must be filled in. The assumption is that conversion factor for unskilled labor is	Unskilled labor cost under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
	0.6 since its value is 60% only of the minimum wage rate (source: NEDA).	
Overhead, Contingencies and Miscellaneous (OCM)	Overhead, Contingencies and Miscellaneous (OCM) is 15% of total direct cost if subproject cost is PhP5 million below; 12% if PhP5 million to PhP50 million; 10% if PhP50 million to PhP150 million; 8% if above PhP150 million. Only cells highlighted in yellow must be filled in. Tax for this item is already calculated under "Taxes" item.	OCM cost under the financial cost column in the EFA template must be the same with the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Contractor's Profit	Contractor's Profit Contractor's Profit is 10% of total direct cost if project cost is PhP5 million below; 8% otherwise. Only cells highlighted in yellow must be filled in. Tax for this item is already calculated under "Taxes" item.	Contractor's Profit under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Taxes	Tax is 12% of total mark-up value of the base cost and all items sourced locally. Taxes should not be included in the economic value of project cost.	Taxes under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Pre-engineering Activities	Pre-engineering activities include FS and DED Preparation including conduct of site surveys. Pre-engineering activities are 5% of base direct cost + 12% tax; economic cost, however, should exclude tax.	Pre-engineering activities cost has already been derived under the financial cost column in the EFA template which is 5% of base direct cost + 12% tax. This cost cannot be found in the Program of Works (POW) since it is not included in the total project cost to be funded by PRDP. This cost must be shouldered by PLGU/MLGU. In deriving the economic cost, tax should be excluded.
Engineering Supervision	Engineering Supervision is 5% of base direct cost + 12% tax; economic cost, however, should exclude tax.	Engineering Supervision cost has already been derived under the financial cost column in the EFA template which is 5% of base direct cost + 12% tax. This

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
		cost cannot be found in the Program of Works (POW) since it is not included in the total project cost to be funded by PRDP. This cost must be shouldered by PLGU/MLGU. In deriving the economic cost, tax should be excluded.
SES-related Costs	The total financial and economic costs will be included in this table. The itemized breakdown shall be presented in Tab1b. These costs will be included as indirect costs to be shouldered by the LGU-proponent.	
Total Financial and Economic Cost	Summation of Total Direct Cost and Total Indirect Cost (OCM, Contractor's Profit, Engineering Supervision, Pre-Engineering Activities, SES Related Cost).	This is automatically calculated

2. Tab 1b. Social and Environmental Safeguards Related Cost

All costs to be incurred that are related to social and environmental safeguards activities in the preparation and implementation of Irrigation System subprojects shall be itemized in this table. SES activities may include consultation with Project-Affected Persons (PAPs), fees and operating expenses in securing permits and licenses including water permit, environmental clearances, NCIP certification, water potability test, operating cost and fees for the preparation of Resettlement Action Plan, IP Plan, Biodiversity Management Plan, Cultural Heritage Management Plan, Integrated Pest Management Plan among others. In cases where proposed structures will involve acquisition of Right-of-Way and where there are productive crops that will be affected, the net value of crop production foregone shall be valued and included as dis-benefits in the EFA. The detailed guidelines including the conversion of financial costs to economic values, are shown in the Annex 2.

3. Tab 2. Investment Cost

Tab 2 of the EFA presents a summary, in economic terms, of investment cost and operating & maintenance cost over the 20-year project life of each CIS. The detailed computations for investment cost is presented in Tab1 and operating & maintenance cost of the facility in Tab 3a and Tab 3b for the operating cost.

Table 33. Irrigation System Tab2 Data Requirements

Data	Requirements	Reliable and acceptable data sources/Acceptable method of data gathering
Total Economic Value	Total economic value under investment cost reflects the economic value of the subproject converted from the total financial cost. Economic value is reflected on year 0 since this cost represents the capital cost but in economic terms. The PLGU/MLGU is not required to provide inputs as the cell already has a formula.	Total economic value is the capital cost of the project in terms of economic cost. Cost must be consistent with Total Economic Cost in Tab1a.
Total Investment Cost	Total investment cost is the sum of the total economic value. The PLGU/MLGU is not required to provide inputs as the cell already has a formula.	Total investment cost is the sum of the economic value. Basically, the total investment cost is the capital cost.
Operating and Maintenance Cost	Annual Operations and Maintenance Cost is the estimated maintenance cost of the irrigation facility. The projected cost is already provided and directly linked to Tab3b.	This cost is the sum of the operation and maintenance cost per year. Ensure correct linking of figures in Tab3b
Total Investment and O&M Cost	Total Investment and O&M Cost is the sum of the investment cost and O&M cost. The PLGU/MLGU is not required to provide inputs as the cell already has a formula.	Please ensure correct linking of cells, i.e., total investment cost + total O&M cost.

4. Tab 3a. Annual Maintenance Unit Cost

All subprojects proposed for funding under the Project are required to have an O&M Plan. The approved O&M Plan approved by I-BUILD shall be the basis for the information to be reported in the table. Such costs are also converted to economic costs, adopting similar assumptions used in Tab1.

Table 34. Irrigation System Tab3a Data Requirements

Data	Requirements	Reliable and acceptable data sources/Acceptable method of data gathering
Common maintenance activities include but are not limited to the following items: Dam Desilting Clearing Replacement of damaged spare parts	Specific activities to be conducted based on the planned maintenance activity. This aspect reflects the activities done during the operation and maintenance of the Communal Irrigation System/Project. Only cells highlighted in yellow must be filled in.	Activities and costs to be filled in the highlighted cells must be consistent with the activities and costs reflected in the approved Operation and Maintenance Plan and Budget. For economic conversion, it is assumed that all laborers involved in the O&M activities are unskilled laborers. The

Data	Requirements	Reliable and acceptable data sources/Acceptable method of data gathering
Greasing of mechanical parts Slope protection maintenance Main Canal Desilting Grass clearing Repair of damaged main canal Greasing of mechanical parts Lateral Canal Desilting Cleaning Repair of damaged lateral canal Greasing of mechanical parts	All activities must be disaggregated as materials, equipment, skilled labor and unskilled labor. *Note:* *Maintenance activities vary depending on the type of irrigation system. Please make sure the final and approved O&M Plan is provided and used in the Tab3a.*	assumption is that the conversion factor for unskilled labor is 0.6 since its value is 60% only of the minimum wage rate (source: NEDA). *Note:* *If the O&M Plan have specific activities for periodic maintenance, then please add new rows for easier linking with Tab3b Annual Maintenance Cost*

5. Tab 3b. Annual Operating and Maintenance Cost

This table details the required maintenance activities and corresponding costs. Such costs are also converted to economic costs, adopting similar principles in Tab1.

Table 35. Irrigation System Tab3b Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Annual Maintenance Cost	Annual maintenance cost is the annual economic cost of O&M activities for the proposed irrigation system.	This cost is already linked in Tab3a.
Periodic Maintenance every 6th year	Periodic Maintenance is approximately +60% of annual maintenance cost and undertaken every sixth-year. However, if the O&M Plan estimated a different year of scheduled periodic maintenance, then, please follow the approved O&M Plan.	This is automatically calculated as 60% of the Annual O&M Cost every sixth-year *Note:* *If the O&M Plan has specific activities for periodic maintenance provided in Tab3a, then please ensure correct linking of figures to the appropriate year and remove the 60% assumption for periodic maintenance.*
Total Annual Maintenance Cost	Total annual maintenance cost derived by adding the annual maintenance cost for the irrigation system and periodic maintenance every	Total annual maintenance cost must be the same with the total investment and O&M cost found in table 2 (Investment Cost). These costs must be consistent with the cost in FS particularly

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
	6th year. These cells already contained formulas for derivation of the results.	under Investment and O&M Cost in the Economic Cost portion of the FS.

6. Tab 4a. Costs and Returns Analysis (wet season), per 1 Ha.

To generate the costs and returns for a certain commodity for the wet season, the costs of inputs, land preparation cost, labor inputs, output price and production volume are needed. This will identify the gross income of farmers during the wet season when there is no irrigation project yet[17] or the existing irrigation system needs rehabilitation (i.e. without the project scenario) and the wet season with project support (i.e. with project scenario).

Table 36. Irrigation System Tab4a Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
***Gross Output per Ha.**		
Production Volume per Hectare	This refers to the volume of production of the commodity in the area (in kilograms per hectare). Only cells highlighted in yellow will be provided with inputs by the PLGU/MLGU for without and with the project.	Data for without the project scenario must be supported with a data sheet of the volume of production. For with the project scenario, projection must be clearly derived from a reliable basis. The projection must also be included in the data sheet. Data inputs are encouraged to be from the local level (Barangay, MLGU and PLGU).
Output Price	This refers to the price of the commodity per kilogram without the project and with the project. Only cells highlighted in yellow will be provided with inputs by the PLGU/MLGU for without and with the project.	Data for without the project scenario must be supported with a data sheet of the price of the commodity per kilogram. For with the project scenario, projection must be clearly derived from a reliable basis. The projection must also be included in the data sheet. Data inputs are encouraged to be from the local level (Barangay, MLGU and PLGU).
Revenue Subtotal (Financial Terms)	Production Volume per hectare and Price per kilogram	This is automatically calculated based on the data provided in production volume per hectare and price per kg. for both WOP and WP scenario.

[17] *New irrigation systems may include small water impounding project, SPIS or other small-scale irrigation systems.*

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Revenue Subtotal (Economic Terms)	Production Volume per hectare and Price per kilogram	In deriving the economic benefits, tax, which is 12% of total mark-up value of item sourced locally, should be excluded. This is automatically calculated based on the data provided in production volume per hectare and price per kg. using the conversion factor in removing 12% tax.
***Input Cost per Ha.** **-Number or volume per Hectare**		
Production Inputs: Seeds (transplanted)	It must be noted that the number of seeds applied per hectare should be reflected. Only cells highlighted in yellow will be provided with inputs by the PLGU/MLGU for without and with the project.	Data for without and with the project scenario must be clearly derived from a reliable basis or must be based on existing farming practices in the area. Note that all seed inputs are transplanted. Data inputs are encouraged to be from the local level (Barangay, MLGU and PLGU).
Production Inputs: Fertilizer	Total number of fertilizers per hectare used must be reflected according to the prevailing farming practices in the area. Only cells highlighted in yellow will be provided with inputs by the PLGU/MLGU for without and with the project. *(Please specify the specific fertilizer used)*	Data for without and with the project scenario must be clearly derived from a reliable basis or must be based on existing farming practices in the area. Data inputs are encouraged to be from the local level (Barangay, MLGU and PLGU).
Land Preparation: Cultivation (Mechanical)	It is assumed that 70% per hectare (irrigable area) uses machines for cultivation. PLGU/MLGU is not required to provide inputs.	Mechanical cultivation is 70% of 1 hectare.
Land Preparation: Cultivation (Animal)	It is assumed that 30% per hectare (irrigable area) uses animals for cultivation. PLGU/MLGU is not required to provide inputs.	Animal cultivation is 30% of 1 hectare.
Labor inputs ● Seed/Land Preparation	Labor requirement includes total number of heads and number of days per activity	Data without and with the project scenario must be clearly derived from a reliable basis or

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
● Transplanting ● Crop Management ● Harvesting	per hectare Only cells highlighted in yellow will be provided with inputs by the PLGU/MLGU for without and with the project.	must be based on existing farming practices in the area. It is assumed that all laborers are 100% unskilled labor.
-Financial Cost per Unit		
Cost of Production Inputs: ● Seed (transplanted)	Local price for seed requirement during wet season must be localized and the existing market price in the area. Only cells highlighted in yellow will be provided with inputs by the PLGU/MLGU for without and with the project.	Price with and without the project scenario must be clearly derived from a reliable basis.
Cost of Production Inputs ● Fertilizer	Local price for fertilizer requirement during wet season must be localized using the existing market price in the area. Only cells highlighted in yellow will be provided with inputs by the PLGU/MLGU for without and with the project.	Price without and with the project scenario, must be clearly derived from a reliable basis.
Land Preparation Cost ● Cultivation (Mechanical)	During land preparation, use of mechanical equipment such as tractors is also considered as a method of land preparation. Estimated cost for the use of mechanical cultivation per hectare must be provided (if any). Only cells highlighted in yellow will be provided with inputs by the PLGU/MLGU for without and with the project.	Price with and without the project scenario must be clearly derived from a reliable basis. Cost from local level (Barangay, MLGU and PLGU) is encouraged. *Note:* *Payment in cavan should be converted into monetary terms or value. Please include notes on the specific number of cavan paid by the farmer.*
Land Preparation Cost ● Cultivation (Animal)	Use of animal helpers in cultivation is also observed in land preparation. Estimated cost for the use of animal helpers in cultivation per hectare must be provided (if any). Only cells highlighted in yellow will be provided with inputs by the PLGU/MLGU for without and with the project.	Price with and without the project scenario must be clearly derived from a reliable basis. Cost from local level (Barangay, MLGU and PLGU) is encouraged. *Note:* *Payment in cavan should be converted into monetary terms or value. Please include notes on the specific number of cavan paid by the farmer.*

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Cost of Labor ● Seed/Land Preparation ● Transplanting ● Crop Management ● Harvesting	Cost for labor is included in the cost and return analysis. Only cells highlighted in yellow will be provided with inputs by the PLGU/MLGU for without and with the project.	Data without and with the project scenario must be clearly derived from a reliable basis. Cost from local level (Barangay, MLGU and PLGU) is encouraged. All or 100% of labor is assumed to be unskilled. Unskilled labor includes laborers, helpers and the like.
Financial Cost Per Hectare	Agricultural requirement per hectare and the equivalent price per unit.	- The financial cost is automatically calculated based on the production input requirement and prices provided.
Economic Cost per Hectare	Agricultural requirement per hectare and the equivalent price per unit. The product of both must be multiplied to the conversion factor converted into economic terms.	-Agricultural inputs such as seeds are non-taxable. -In deriving the economic cost of other agricultural input, the tax, which is 12% of total mark-up value of item sourced locally, should be excluded. -Unskilled labor is not subjected to tax. Conversion factor for unskilled labor is 0.6 since its value is 60% only of the minimum wage (source: NEDA). Data inputs are encouraged to be from the local level (Barangay, MLGU and PLGU).
Gross Income per Hectare	Total Gross Revenue less the Total Production Cost of the commodity	This is automatically calculated based on the production input requirement and prices provided.

7. Tab4b. Costs and Returns Analysis (dry season), per 1 Ha.

To generate the costs and returns for a certain commodity for the dry season, the costs of inputs, land preparation and labor must be provided, while output price per kilogram and production volume per hectare are needed to derive the returns or revenue. This will estimate the gross income of farmers during the dry season without the project scenario and the dry season when the irrigation system is already implemented (i.e. with project scenario).

The same template in Tab4a will be used for Tab4b but specific for the production requirement per hectare during the dry season of the same commodity. Please take note that in cases with multiple commodities per hectare a separate table for each commodity

must be provided and a specific percentage allocated for each crop per hectare must be incorporated in the computation of gross income.

8. Tab4c Incremental Benefits

Table 4c determines the changes in the volume of production, cropping intensity and irrigable area between with and without project scenarios under wet and dry seasons.

Table 37. Irrigation System Tab4c Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
a. 1st Cropping or Wet Season		
Without Project ● Area cropped	This is the current irrigated area. Only cells highlighted in yellow will be provided with inputs by the PLGU/MLGU.	Data without the project scenario or the existing area cropped. Data inputs are encouraged to be from the local level (Barangay, MLGU and PLGU). *Note:* *Data provided by LGU must be verified by GGU. Difference in area exceeding 10% must first be resolved to finalize the existing irrigated area without the project.*
Without Project ● Cropping intensity	Current cropping intensity in the area should be entered in the highlighted cells. The number refers to the proportion of the area effectively used for production.	Data without the project scenario or the existing cropping intensity. Data inputs are encouraged to be from the local level (Barangay, MLGU and PLGU).
Without Project ● Benefit	This portion reflects the gross income in economic terms. This is already linked to table 4a (Cost and Return Analysis for wet season without the project). PLGU/MLGU is not required to provide inputs in this portion.	Data without the project scenario or the existing gross income per hectare.
Without Project ● Total Benefit	Total computed benefits without the project scenario (wet season) is derived by multiplying the gross income, cropping intensity and area cropped.	PLGU/MLGU is not required to provide inputs in this portion. Total benefit is automatically calculated.
With Project ● Area cropped	This is the projected irrigable area. Only cells highlighted in yellow will be provided with inputs by the PLGU/MLGU.	Data without the project scenario or the projected area cropped. Data inputs are encouraged to be from the local level (Barangay, MLGU and PLGU). *Note:*

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
		Data provided by LGU must be verified by GGU. Difference in area exceeding 10% must first be resolved to finalize the existing irrigated area without the project.
With Project ● Cropping intensity	Projected cropping intensity should be entered in the highlighted cells.	Data without the project scenario or the projected cropping intensity. Data inputs are encouraged to be from the local level (Barangay, MLGU and PLGU).
With Project ● Benefit	This portion reflects the gross income in economic terms. This is already linked to table 4a (Cost and Return Analysis for wet season with the project). PLGU/MLGU is not required to provide inputs in this portion.	Data without the project scenario or the projected gross income per hectare.
With Project ● Total Benefit	Total computed benefits without the project scenario (wet season) is derived by multiplying the gross income, cropping intensity and area cropped.	PLGU/MLGU is not required to provide inputs in this portion. Total benefit is automatically calculated.
Incremental Benefits (Wet Season or 1st cropping)	Benefit With Project and Benefit Without Project of the 1st cropping period or during Wet Season	PLGU/MLGU is not required to provide inputs in this portion. Total benefit is automatically calculated.

b. 2nd Cropping or Dry Season

Without Project Area cropped	This is the current irrigated area. Only cells highlighted in yellow will be provided with inputs by the PLGU/MLGU.	Data without the project scenario or the existing area cropped. Data inputs are encouraged to be from the local level (Barangay, MLGU and PLGU). *Note:* *Data provided by LGU must be verified by GGU. Difference in area exceeding 10% must first be resolved to finalize the existing irrigated area without the project.*
Without Project Cropping intensity	Current cropping intensity in the area should be entered in the highlighted cells. The number refers to the proportion of the area effectively used for production.	Data without the project scenario or the existing cropping intensity. Data inputs are encouraged to be from the local level (Barangay, MLGU and PLGU).
Without Project Benefit	This portion reflects the gross income in economic terms. This is already linked to table 4a (Cost and Return Analysis for wet season without the project). PLGU/MLGU is not	Data without the project scenario or the existing gross income per hectare.

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
	required to provide inputs in this portion.	
Without Project Total Benefit	Total computed benefits without the project scenario (wet season) is derived by multiplying the gross income, cropping intensity and area cropped.	PLGU/MLGU is not required to provide inputs in this portion. Total benefit is automatically calculated.
With Project Area cropped	This is the projected irrigable area. Only cells highlighted in yellow will be provided with inputs by the PLGU/MLGU.	Data without the project scenario or the projected area cropped. Data inputs are encouraged to be from the local level (Barangay, MLGU and PLGU). *Note:* *Data provided by LGU must be verified by GGU. Difference in area exceeding 10% must first be resolved to finalize the existing irrigated area without the project.*
With Project Cropping intensity	Projected cropping intensity should be entered in the highlighted cells.	Data without the project scenario or the projected cropping intensity. Data inputs are encouraged to be from the local level (Barangay, MLGU and PLGU).
With Project Benefit	This portion reflects the gross income in economic terms. This is already linked to table 4a (Cost and Return Analysis for wet season with the project). PLGU/MLGU is not required to provide inputs in this portion.	Data without the project scenario or the projected gross income per hectare.
With Project Total Benefit	Total computed benefits without the project scenario (wet season) is derived by multiplying the gross income, cropping intensity and area cropped.	PLGU/MLGU is not required to provide inputs in this portion. Total benefit is automatically calculated.
Incremental Benefits (Dry Season or 2nd cropping)	Benefit With Project and Benefit Without Project of the 2nd cropping period or during Dry Season	PLGU/MLGU is not required to provide inputs in this portion. Total benefit is automatically calculated.
Total Incremental Benefits	Summation of Benefits of the 1st Cropping or Wet Season and 2nd Cropping or Dry Season	PLGU/MLGU is not required to provide inputs in this portion. Total benefit is automatically calculated.

9. Tab 5. Net Value of Crop Production Foregone

This tab is applicable to subprojects that require acquisition of right-of-way for construction of Irrigation System in agricultural lands that are currently planted or have standing productive crops including seasonal or annual crops (e.g., palay, corn, root crops, etc.) or

perennial crops (e.g., coconut, abaca, cacao, coffee, rubber, etc.). The net value of production foregone of specific affected crops shall be calculated to determine the economic opportunity costs. Please refer to Annex 2 for the guidelines on the calculation of the net value of crop production foregone.

10. Tab.6 Economic Analysis

This summarizes all the benefits and costs derived from the previous tables and yields the computed EIRR, NPV, and BCR to reflect economic viability of the subproject.

Table 38. Irrigation System Tab4c Data Requirements

Data	Requirements	Reliable and acceptable data sources/Acceptable method of data gathering
Economic Net Present Value (ENPV)	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed.	It must be noted that ENPV result should be positive to make sure that the investment yields a positive impact to the society. A project that has a negative ENPV result will be rejected.
Economic Internal Rate of Return (EIRR)	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed.	EIRR must be above 10%. Projects with an EIRR below 10% will be rejected.
Benefit-Cost Ratio (BCR)	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed.	BCR must be equal or greater than 1.0. A project with a BCR below 1.0 will not be accepted.

11. Tab 7. Sensitivity Analysis

This indicates the feasibility of the subproject given several scenarios of reduced benefits and increased costs. The following scenarios are given: increase in cost of 5%, 10%, 15%, 20%, 30% and decrease in benefits of 5%, 10%, 15%, 20%, 30%) and the feasibility of the subproject is tested for each scenario.

Table 39. Irrigation System Tab4c Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Sensitivity Analysis	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed. Sensitivity analysis assesses risks by identifying the variables that most influence a project's net benefits and quantifying the extent of their influence.	The proposed subproject will be accepted if its economic indicators (ENPV, EIRR and BCR) are satisfactory at both sensitivity scenarios of increase of cost by 10% and a decrease of benefits by 10%.

C.2. Feasibility Study Outline for Irrigation System Subprojects

Executive Summary

A.	Project Title	:	_____
B.	Project Location	:	Brgy/ /Municipality
C.	Project Type	:	Irrigation
D.	Project Scale/Dimension	:	____hectares
E.	Project Proponent	:	_____
F.	Implementing Unit	:	_____
G.		:	_____
H.	No. of Barangays covered by the Subproject	:	_____
I.	Mode of Implementation	:	contract
J	Irrigable Service Area	:	_____hectares

Barangay	No. of has.	Crop

K	Project Beneficiaries	:	_____population; M= ; F= _____households _____Farming Households; M= ; F: _____Fishing Households; M= ; F: _____IP Beneficiaries; M= ; F
L.	Total Project Cost and Cost Sharing	:	TPC: P_____ WB Loan Proceeds: P_____ GoP : P_____
		:	LGU Equity : P_____
M	Economic Viability Indicators	:	ENPV _____ EIRR_____ BCR_____
N	Conclusion and Recommendations		a statement as to whether or not the project has been fou feasible from the marketing, technical, economic a operational view point.

I. Introduction

a. Provincial Background (Brief description in 2-3 paragraphs)
- i. Demographics
- ii. Economy
- iii. Agriculture and Rural Development Sectors

b. Project Identification and Prioritization Profile
- i. Value Chain Summary (Copy excerpts from Value Chain Analysis)
- ii. E-VSA Maps and Statistics *(Describe how the project site was determined as prime choice to construct the irrigation system)*
- iii. Commodity Profile (Copy excerpts from PCIP)

c. Existing I-REAP Enterprises to be supported by the Subproject (*if none, then cite the existing agricultural enterprise relative to the priority commodity that will be supported by the subproject)*

d. Other I-BUILD Subprojects funded by the Project (*Only if applicable, identify other subprojects funded by the Project located in the same municipality/city and describe the status of its implementation. These include SPs proposed and implemented by PLGU).*

II. The Subproject

a. Irrigation Service Area (ISA)
- *i.* Location *(Brief description in 1-2 paragraphs)*
  - a. Geographic boundaries (*include digitized maps and polygons of irrigation service area*)
  - b. Relative distance to growth and commercial centers

c. Topography
d. Water Resources
e. Climate Conditions

ii. Demographics *(Brief description in 1 paragraph)*
iii. Major Economy and Land Use *(Brief description in 1 paragraph)*
iv. On-farm data - Agricultural Area and Crops Planted, livestock and fisheries *(Brief description in 1 paragraph)*
v. Off-farm data – processing and marketing industry of agri-fishery products
vi. Poverty Incidence *(Brief description in 1 paragraph)*

III. Subproject Objectives

Subproject objectives relative to % increase in yield, cropped area, cropping intensity. Must also include specific objectives relative to quantified benefits in economic analysis.

IV. Project Feasibility Indicators

a. **Market Analysis/Demand-Supply Analysis**

i. Supply Side (Existing Irrigation System in the Irrigation Service Area-ISA, condition of existing irrigation facilities, cropping intensity and yield)

Location	Total Potential Agricultural Area	Irrigated Area	Rainfed Area	Potential Expansion Area
Brgy X				
Brgy Y				
Length and condition of Canal Structures		Main Canal Length Lined=_____ Earth=_____ Lateral Canal Length Lined=_____ Earth=_____ Farm ditch Length Lined=_____ Earth=		
Cropping Intensity				
Yield/hectare				

*Source :*_____

ii. Describe the current irrigation system in the irrigation service area (ISA) – without project situation

iii. Demand Side[18] (Describe the desired Irrigation System in the Irrigation Service Area – change of hectarage for irrigated, rainfed and potential service area in with project situation)

Location	Total Potential Agricultural Area	Irrigated	Rainfed	Potential Expansion Area
Brgy X				
Brgy Y				
Length and condition of Canal Structures		Main Canal Length Lined=_____ Earth=_____ Lateral Canal Length Lined=_____ Earth=_____ Farm ditch Length Lined=		

[18] *Demand Side- from the supply side or current irrigation system, length and condition of existing facilities, cropping intensity and yield, what now are the total hectare per type of irrigation system, cropping intensity and yield as desired after lining several proposals for PRDP funding. For new construction (CIP), it is expected that there will be reduction in potential expansion area or rainfed area but with an equivalent increase in the irrigated area in the demand table. For CIS rehabilitation, there may be no decrease in rainfed or potential expansion area but in terms of increase in cropping intensity and yield.*

Location	Total Potential Agricultural Area	Irrigated	Rainfed	Potential Expansion Area
		Earth=____		
Cropping Intensity				
Yield/hectare				

Note: Parcellary mapping with the irrigation network will best illustrate the supply and demand gap analysis.
*Source :*_____

iv. Describe the desired irrigation system, desired irrigation facility condition, cropping intensity and yield per hectare – with project situation
v. Demand-Supply Analysis - Describe the gap (degree of the need for irrigation) between the desired (with project) and current (without project) condition of the irrigation system. Relate this to any shortage/surplus of rice production within the area (changes in with and without project situation)

vi. Describe the priority (proposed) irrigation intervention out of the demand (what is the contribution of the proposed irrigation subproject over the demand in terms of the total potential agricultural area to be irrigated)

b. Technical Analysis

i. Existing canal alignment describing the route, start and terminal points, canal condition, length, service area and terrain
ii. Describe the hydraulic and hydrological design consideration
iii. Design analysis of major and minor structures including dams, drainage, canal crossing, or bridge for waterways
iv. Proposed Sources and Location of Quarries, Borrow Pits and Construction Materials
    a. Relative distance of quarry and construction materials to project site
    b. Handling of materials
    c. Dependability and availability of required quantities

c. Operational Analysis

i. Organizational Structure of the Project Management Implementing Unit (PMIU) to be set up at either the provincial LGU, city LGU or municipal LGU, that will manage the project and their roles and responsibilities. Mention the executive order creating the PPMIU.
ii. Plan for management during construction. Composition of the supervision team and their key roles and responsibilities.
iii. Sustainability Plan
    a. Organizational Development Plan in the formation of Irrigators Association
    b. Operation and Maintenance Plan and Budget

d. Social Analysis

i. Subproject Beneficiaries
ii. Indigenous Cultural Community/Indigenous Peoples (ICC/IP)
iii. Site and Right-of-Way acquisition
iv. Damage to standing crops, houses and/or properties
v. Physical displacement of persons
vi. Economic displacement of persons
vii. Grievance redress mechanism
viii. Labor-related Risks
ix. Occupational Health and Safety
x. Community Health and Safety
xi. Conflict Context Assessment

e. Environmental Analysis

i. Natural habitat
ii. Physical Cultural Resources
iii. Terrain, Soil Types and Rainfall
iv. Natural and Geologic Hazards/Risk Assessment
v. Resource Conservation and Pollution Control
vi. Integrated Pest Management/DA KASAKALIKASAN
vii. Status of Environmental Clearances

f. Social and Environmental Impacts

g. Financial Analysis

i. Total Project Cost by Financing Source and Cost Sharing (WB LP, GOP-DA, LGU)
- *Show Table of Project Cost Sharing*
- *Provide a short write-up/narrative/explanation.*

ii. Total Project Cost Breakdown
a. Direct
b. Indirect
- *Provide a short write-up/narrative/explanation.*

iii. Status of LGU equity availability and LFC certification – *attach appropriation ordinance stating the 10% equity for the SP and Cost for O & M for 10 years*.
- *Provide a short write-up/narrative/explanation.*

h. Economic Analysis and Evaluation

iv. Economic Benefits
- *Enumerate the project benefits valuated for the analysis and explain briefly (e.g. increase in cropped area, crop yields, cropping intensity, etc.)*
- *State the assumptions used in the study. (e.g. price assumptions)*

a. Irrigation Service Area
- *Provide a brief description of the project influence area.*

Table (No.) Area Planted and Cropping Intensity in the New Irrigation System

Crop	Area Cropped Without Project (WOP) (in Ha)	Cropping Intensity Without Project (WOP)	Area Cropped With Project (WP) (in Ha)	Cropping Intensity With Project (WP)
Wet Season Crop X	Ex. 376 Ha	1.0	400 Ha	1.0
Dry Season Crop X	376 Ha	0.3	400 Ha	0.7

*Source :*_____

- *Provide a short write-up/narrative/explanation for the table.*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*

Table ____ (No.) Average Incremental Yield in the New Irrigation System

Crop	Average Yield per Ha WOP (in MT or kgs)	Average Yield per Ha WP (in MT or kgs)	Increment Change in Crop Production per Ha (in %)
Wet Season Crop X	4000 kgs	5000 kgs	25%
Dry Season Crop X	2000 kgs	2500 kgs	25%

*Source :*_____

- *Provide a short write-up/narrative/explanation for the table.*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*

b. Crop Budget per Hectare in the New Irrigation System

- *Provide a brief description /explanation on the assumptions used.*

Table (No.) Crop Production and Operating Inputs in the New Irrigation System

Crop	Seed requirement for transplanting (in kg per Ha)		Fertilizer							
			(specify) (in kg per Ha)		*(specify)* (in kg per Ha)		*(specify)* (in kg per Ha)		*(specify)* (in kg per Ha)	
	WOP	WP	WOP	WP	WOP	WP	WOP	WP	WOP	WP
Wet Season Crop X	100	100	80	90	30	30	30	30	40	40
Dry Season Crop X	50	50	40	45	15	15	15	15	20	20

Crop	Area under mechanical cultivation (in %)		Area under manual/animal cultivation (in %)	
	WOP	WP	WOP	WP
Wet Season Crop X	80%	90%	20%	10%
Dry Season Crop X	80%	90%	20%	10%

*Source :*_____

- *Provide a short write-up/narrative/explanation for the table.*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*

Table ____ (No.) Unit Prices of Crop Inputs and Output in the New Irrigation System

Crop	Main Produce/ Yield (in Php/kg)		Seeds (transplanted) (in Php/kg)		Fertilizer							
					(specify) (in kg per Ha)		*(specify)* (in kg per Ha)		*(specify)* (in kg per Ha)		*(specify)* (in kg per Ha)	
	WOP	WP	WOP	WP	WOP	WP	WOP	WP	WOP	WP	WOP	WP
Wet Season Crop X	14.2	14.2	30	30	34.4	34.4	32.9	32.9	20.6	20.6	50	50
Dry Season Crop X	14.2	14.2	30	30	34.4	34.4	32.9	32.9	20.6	20.6	50	50

Crop	Mechanical cultivation (in Php)		Manual/animal cultivation (in Php)	
	WOP	WP	WOP	WP
Wet Season Crop X	100	100	100	100
Dry Season Crop X	50	50	50	50

*Source :*_____

- *Provide a short write-up/narrative/explanation for the table.*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*

Table ____ (No.) Labor Requirements for Crop Production in the New Irrigation System

Crop	Seed/Land Preparation (in mandays per Ha)		Transplanting (in mandays per Ha)		Crop Management (in mandays per Ha)		Harvesting (in mandays per Ha)		Average Daily Wage Rate in the Area (in Php/manday)
	WOP	WP	WOP	WP	WOP	WP	WOP	WP	
Wet Season Crop X	28	28	30	30	24	24	22	22	Php280/day
Dry Season Crop X	14	14	15	15	12	12	11	11	

Source :_____

- *Provide a short write-up/narrative/explanation for the table.*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*

v. Economic Costs

1. Capital Cost and O & M Cost Breakdown
   - *Show Capital Cost based on the POW*
   - *Show O & M Cost Breakdown (total amounts should be identified according to the stipulated thresholds)*
   - *Provide a short write-up/narrative/explanation*

2. Social Safeguards Related (SES) Cost
   - *Discuss the costs incurred for the preparation of requirements for SES compliance and other fees required for social preparation that are not included in the POW. (Tax is already excluded for fees paid to the government either in the LGU or national offices/agencies, hence financial cost equals economic cost)*

- *Present tab on SES Cost, refer to new EFA Template*

3. Net Value of Crop Production Foregone
   - *Discuss the benefits forgone due to implementation of the project, i.e. annual and perennial crops and lumber (specifically for crops/goods marketed only and does not include crops used household consumption)*
   - *Show NVCP Foregone Summary, Production Cost for Perennial and Seasonal Crops in EFA template*

vi. Direct Jobs from Construction[19]
1. No. of Unskilled Laborers to be hired
2. No. of Skilled Laborers to be hired
   - *Provide a short write-up/narrative/explanation.*

vii. Adjustment of Financial Values to Economic Terms
   - *Provide a short write-up/narrative/explanation.*
   - *Show Tab1 of EFA template*

viii. Results of the Economic Analysis
   - *Present and discuss EIRR, ENPV and BCR results.*
   - *Make reference to a relevant Model/Detailed Table # of EFA Template*

ix. Economic Sensitivity Results
   - *Present and discuss results of sensitivity analysis.*
   - *Describe if the project is robust.*
   - *Show summary table on Sensitivity Analysis tab*
   - *Make reference to a relevant Model/Detailed Table # of EFA Template*

x. List of the attached Models/Detailed Tables of EFA Template
Table 1a Economic Cost of Sub-Project
Table 1b SES-Related Cost
Table 2 Investment and O&M Costs
Table 3a Annual Maintenance Cost (Facility)
Table 3b Annual Operating and Maintenance Cost
Table 4a Cost and Return Analysis per hectare (Wet Season or 1st Cropping)
Table 4b Cost and Return Analysis per hectare (Dry Season or 2nd Cropping)
Table 4c Incremental Benefit
Table 5a Net Value of Crop Production Foregone
Table 5b Annual Crop Production Cost
Table 5c Perennial Crop Production Cost
Table 6 Economic Analysis
Table 7 Sensitivity Analysis (on cost, benefits & delays)

V. Conclusions and Recommendations

i. Conclusions

(Provide a brief summary of the result of analysis made as presented and discussed in the major section of the FS, i.e., project identification, geographical, supply and demand analysis, technical and operational analysis, social and environmental analysis, financial, economic and sensitivity analysis.)

ii. Recommendations

(Provide recommendations based on the findings summarized in the conclusion.)

[19] *Based on Detailed Estimates in the Program of Works*

D. Value Chain Support Infrastructure

Support infrastructures are essential in improving value chains of agricultural commodities as it enhances the value of products, benefiting producers, traders, and consumers along the entire value chain. These value chain infrastructures facilitates effective flow of commodities with the establishment of trading and landing areas for easier marketing, and access to target markets improvement in the quality of commodities marketed by farmers through construction of strategic storage and drying facilities resulting to increased market value and reduced postharvest losses, and efficient processing of crops, livestock, poultry and fisheries products which further support and promote the segment of value addition in the value chain of commodities.

D.1 Slaughterhouse/ Dressing Plant

Similar with other subproject type funded under I-BUILD, the economic model (Figure 4) for Slaughterhouse/ Dressing Plant (SH/DP) considers cost estimates from Estimated Project Costs and Operation & Maintenance Costs, and benefits from increased in market value, and revenue generated from fees paid by the users of the facility. These streams of benefits are considered in the analysis for they represent the direct impacts of FMR subprojects to the local community and processing segment of livestock value chain. The period of analysis for SH & DH considered the total usable lifespan of the subproject, which is 20 economic years.

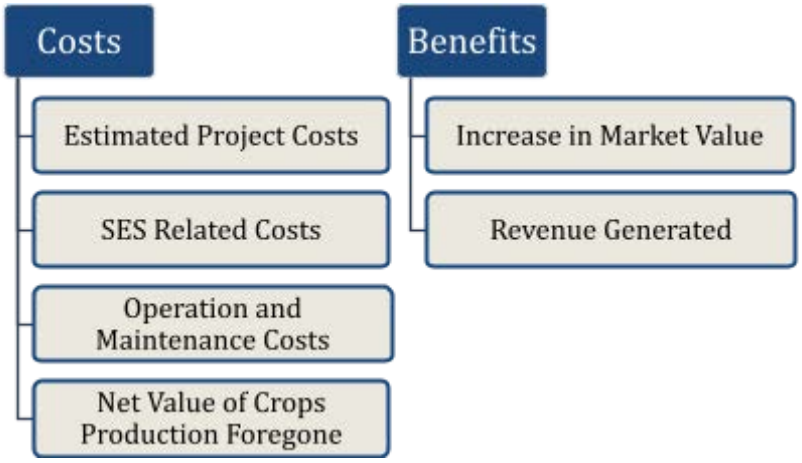


Figure 4. EFA Model for Slaughterhouse/ Dressing Plants

D.1.1 Slaughterhouse/ Dressing Plant EFA

1. Tab1a. Conversion of Financial to Economic Cost

Conversion of financial costs of the project to economic cost is presented in Tab1. Investment Cost items included in evaluating the economic cost are materials, equipment, skilled labor, unskilled labor, overhead, contingencies and miscellaneous (OCM), contractor's profit, taxes, pre-engineering activities, engineering supervision cost and Social and Environmental Safeguards (SES)-related costs. Shown below is the detailed discussion per item in EFA Table 1.

Table 40. SH/DP Tab1a Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Materials	Materials are classified into 2 types: (a) with foreign components and (b) locally sourced. It is assumed that 60% of material costs has a foreign component, which is subjected to shadow pricing using a factor of 1.2, and the remaining 40% is base cost of locally sourced materials. Note that the shadow price of foreign exchange is 20% higher than the official rate and this applies to the materials with foreign components. Only cells highlighted in yellow must be filled in as the values for "with foreign component" and "locally-sourced" will automatically be computed.	Material cost under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Equipment	Equipment cost is the equipment rental cost based from the 2014 Association of Carriers and Equipment Lessors, Inc. (ACEL) Rates. Only cells highlighted in yellow must be filled in. Equipment cost is base cost, which does not include taxes. Tax for this item is already calculated under "Taxes" item.	Equipment cost under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Skilled Labor	Skilled labor includes heavy equipment operator, mason, foreman, carpenter, welder and steel fabricators. Only cells highlighted in yellow must be filled in. Skilled labor is a base cost which does not include taxes. Tax for this item is already calculated under "Taxes" item.	Skilled labor cost under financial cost column in EFA template must be the same with the cost reflected in the Program of Works (POW). This must
Unskilled Labor	Unskilled labor includes laborers, helpers,	Unskilled labor cost under the financial cost column in

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
	warehouse men, and timekeepers. Only cells highlighted in yellow must be filled in. The assumption is that conversion factor for unskilled labor is 0.6 since its value is 60% only of the minimum wage rate (source: NEDA).	the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Overhead, Contingencies and Miscellaneous (OCM)	Overhead, Contingencies and Miscellaneous (OCM) is 15% of total direct cost if subproject cost is PhP5 million below; 12% if PhP5 million to PhP50 million; 10% if PhP50 million to PhP150 million; 8% if above PhP150 million. Only cells highlighted in yellow must be filled in. Tax for this item is already calculated under "Taxes" item.	OCM cost under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Contractor's Profit	Contractor's Profit Contractor's Profit is 10% of total direct cost if project cost is PhP5 million below; 8% otherwise. Only cells highlighted in yellow must be filled in. Tax for this item is already calculated under "Taxes" item.	Contractor's Profit under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Taxes	Tax is 12% of total mark-up value of the base cost and all items sourced locally. Taxes should not be included in the economic value of project cost.	Taxes under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re- checked with the data in the POW.
Pre-engineering Activities	Pre-engineering activities include FS and DED Preparation including conduct of site surveys. Pre-engineering activities are 5% of base direct cost + 12% tax; economic cost, however, should exclude tax.	Pre-engineering activities cost has already been derived under the financial cost column in EFA template which is 5% of base direct cost + 12% tax. This cost cannot be found in the Program of Works (POW) since it is not included in the total project

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
		cost to be funded by PRDP. This cost must be shouldered by PLGU/MLGU. In deriving the economic cost, tax should be excluded.
Engineering Supervision	Engineering Supervision is 5% of base direct cost + 12% tax; economic cost, however, should exclude tax.	Engineering Supervision cost has already been derived under the financial cost column in EFA template which is 5% of base direct cost + 12% tax. This cost cannot be found in the Program of Works (POW) since it is not included in the total project cost to be funded by PRDP. This cost must be shouldered by PLGU/MLGU. In deriving for the economic cost, tax should be excluded.
SES-related Costs	The total financial and economic costs will be included in this table. The itemized breakdown shall be presented in Tab1b. These costs will be included as indirect costs to be shouldered by the LGU-proponent.	This is linked to Table 1b. Kindly ensure correct linking of cells with tab 1b.
Total Financial and Economic Cost	Summation of Total Direct Cost and Total Indirect Cost (OCM, Contractor's Profit, Engineering Supervision, Pre-Engineering Activities, SES Related Cost).	This is automatically calculated

2. Tab 1b. Social and Environmental Safeguards-Related Cost

All costs to be incurred that are related to social and environmental safeguards activities in the preparation and implementation of the Slaughterhouse/ Dressing Plant subproject shall be itemized in this table. SES activities may include consultation with Project-Affected Persons (PAPs), fees and operating expenses in securing permits and licenses including water permit, environmental clearances, NCIP certification, water potability test, operating cost and fees for the preparation of Resettlement Action Plan, IP Plan, Biodiversity Management Plan, Cultural Heritage Management Plan, Integrated Pest Management Plan among others. In cases where proposed structures will involve

acquisition of Right-of-Way and where there are productive crops that will be affected, the net value of crop production foregone shall be valued and included as dis-benefits in the EFA. The detailed guidelines including the conversion of financial costs to economic values, are shown in the Annex 2.

3. Tab2. Investment Cost

Tab 2 of the EFA presents a summary, in economic terms, of investment cost and operating & maintenance cost over the 20-year project life of each FMR. The detailed computations for investment cost and operating & maintenance cost are presented in Tab1 and Tabs 3 (3a and 3b), respectively.

Table 41. SH/DP EFA Tab2 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Investment Cost	Total Project Cost (TPC) composed of direct cost (materials, labor, equipment) and indirect cost (OCM and Contractor's profit). Investment cost also includes other indirect costs i.e., Pre- Engineering Activities, Engineering Supervision and SES related costs. All of which are converted to economic terms	The Total Economic Project Cost in Table 1. This is the summation of total economic investment cost converted from the financial cost in POW and Economic SES Related Cost in Table 2. *Note:* *Economic value is reflected on year 0 since this cost represents the capital cost but in economic terms. The PLGU/MLGU is not required to provide inputs as the cell already has a formula.*
Operating and Maintenance Cost	Annual Operating and Maintenance Cost converted to Economic terms	O&M Cost must be linked in Tab3b. Operating Cost must be rechecked in Table 17 under Cash Flow (Economic) for consistency and completeness of projected operating cost. And Table 3a
Total Investment and O&M Cost	Total Economic Investment Cost and O&M Cost.	Total investment cost is the sum of the economic cost and O&M cost. The PLGU/ MLGU is not required to provide inputs as the cell already has a formula.

4. Tab3a. Annual Maintenance Unit Cost (Facility)

Table 3. SH/DP EFA Tab3a Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Unit Maintenance Cost (Financial)	Cost items (equipment, materials, skilled and unskilled labor) per planned activity to be conducted for the repair and maintenance of the facility. Based on an approved O&M Plan.	Cost items and activity must be consistent with the I-BUILD-approved O&M Plan. Check proper encoding of items per activity and tax must be accounted for in the estimated financial cost. Note: *Check if unit cost used per month or per annum and calculate accordingly in Tab 3a. If the unit cost presented is monthly, then multiply to 12 to get the annual cost. If a specific cost schedule per month is provided in the plan then ensure total annual cost is correctly accounted for.*
Unit Maintenance Cost (Economic)	Economic unit cost per activity and item (cost is already calculated based on the template)	Check proper linking of cells, conversion and summation. Economic conversions are similar to the assumptions used in Tab1 conversion. The PLGU/ MLGU is not required to provide inputs as the cell already has a formula.

5. Tab3b. Annual Maintenance Cost

This table consists of the annual cost of maintenance of the facility and the projected total annual operating expenses for the management of the system once completed and functional.

Table 42. SH/DP Tab3b Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Annual Maintenance Cost (Financial)	Annual Financial Maintenance Cost of the facility and does not include the operating cost.	Cost for the repair and maintenance must be correctly linked to Tab10 Financial Assumptions and Schedule of Operating Expenses. Check if the cost and activities are consistent with the FS and O&M Plan approved by I-BUILD.

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Periodic Maintenance every 6th year	Periodic Maintenance every 6th year is approximately +60% of annual maintenance and is undertaken every sixth year. PLGU/MLGU is not required to provide inputs as the cell already has a formula.	Every six years, there is an additional 60% of the annual cost for the periodic maintenance of the facility. *Note:* *If the O&M Plan has specific activities for periodic maintenance provided in Tab3a, then please ensure correct linking of figures to the appropriate year and remove the 60% assumption for periodic maintenance.*
Annual Maintenance Cost (Economic)	Annual maintenance cost for SH/DH must be the Economic cost of maintenance of the facility and does not include the operating cost.	The cost of the repair and maintenance is correctly linked to Tab3a Total Economic Cost. Check if conversion from financial to economic terms are consistent with assumptions used in Tab1a.
Operating Cost (Financial)	Total Annual Operating Cost which includes, utilities, salaries and wages, benefits, repair and maintenance of the facility, administrative expense, miscellaneous expenses and other expenses	Economic Cost is linked to Tab 13 Cash Flow. Repair and maintenance of the facility is excluded to avoid double counting. Check if items and cost are consistent with FS Operational and Financial Analysis.
Operating Cost (Economic)	Total Annual Operating Cost converted into economic terms. All Operating Cost less 12% tax. Labor in the operation of the facility are identified between Skilled and Unskilled. Skilled labor is deducted with 12% tax and unskilled labor is multiplied to a conversion factor of 60%.	Economic Cost is linked to Tab 13 Operating Expenses (Economic). Repair and maintenance of the facility is excluded to avoid double counting.
Annual Maintenance and Operating Cost (Economic)	Annual Repair and maintenance Cost and Annual Operating Cost converted into economic values.	The sum of Annual Repair and Maintenance Cost and Annual Operating Cost. Check linking of cells in the table and double check values if correct.

6. Tab4. Increase in Market Value

One of the major benefits derived from establishment of an NMIS accredited Slaughterhouse/ Dressing Plant (SH/DP) is the increase in market value of meat due to

standard procedures followed in handling and slaughter of livestock. Meat is ensured to be of high quality and certified to be sanitary and safe for human consumption compared to other traditional methods of livestock slaughter. The suppliers of processed meat also have wider market coverage given the accreditation from LRMEs to Double A facility which gives access for an inter-municipality or inter-province marketing.

Table 43. SH/DP EFA Tab4 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Market Price Without Project	Existing price of processed meat per kilogram	Selling price per kilogram of carcass based on the prevailing price in the Project Service Area. If the proponent has an existing SH/DH or LRMEs and other similar facilities, then use the existing price per kilogram. If none, then use the existing price of processed meat slaughtered in using other methods e.g. backyard slaughter of livestock, etc.
Market Price With Project	Projected price of processed meat per kilogram	Price may be based on areas (Municipalities/ Province) with similar facilities as benchmark. *Note: Please take into consideration the competitive price of processed meat in the market. Too much increase in price is detrimental to the marketability of meat to the consuming public.*
Increase in market Price	Difference of Market Price between Without the Project and With Project Scenario	The LGU is not required to provide information since this is automatically calculated. However, please double check the linking of cells to ensure correct calculation,
Total Projected Output	Projected number of livestock or animal units (au) processed in the facility. *(Note: The type of livestock to process depend on the design of the facility if it can accommodated various type of livestock and its planned accreditation with NMIS)*	a. Data based on the available supply of livestock for processing within the Project Service Area (does not include breeders and calves, piglets, kids, etc.). Average historical data can be used for the estimated number of heads. Projected percentage increase of livestock may use historical data as basis to derive the annual growth rate

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
		Note: *Rated Capacity of the facility must be taken into consideration in projecting the operation. Projected annual number of heads to be processed must not exceed the rated capacity of the facility. Sources of livestock must be specified in terms of location and number per head per type.*
No. of kg. per head	Average Kilogram Per Head and the Average Recovery Rate per type of livestock from live to carcass	Data must be based on actual average data according to records and practice in the Project Service Area.
Total Production per Year	Projected number of heads of livestock or animal unit to process and the average kilogram per carcass	The LGU is not required to provide information since this is automatically calculated. However, please double check the linking and data input in the cells to ensure correct calculation.
Subtotal Net Benefit	Total Production per Year and Increase in Market Price	The LGU is not required to provide information since this is automatically calculated. *Note:* *If there are additional types of livestock to be processed in the facility, kindly ensure proper linking of additional cells and data input in the cells to confirm correct calculation.*
Total Net Benefits	Summation of Net benefits derived from the type of livestock processed in the facility.	The LGU is not required to provide information since this is automatically calculated. *Note:* *If there are additional types of livestock to be processed in the facility, kindly ensure proper linking of additional cells and data input in the cells to confirm correct calculation.*

7. Tab5. Revenue from Fees

This accounts for the benefits derived from the fees collected by the management from the beneficiaries in using the facility. Schedule of fees must be based on the Local Ordinance pursuant to the Local Government Code in collecting revenues from other sources.

Table 44. SH/DP EFA Tab5 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Total projected Output	Total Projected Output per unit. The unit can be per head, per kilogram of livestock or per kilogram of carcass depending on the unit of measure for the fees	This is linked to Tab4. The LGU is not required to provide information since this is automatically calculated. However, please double check the linking and data input in the cells to ensure correct calculation.
Schedule of Fees per unit	Fees collected by unit of product to be processed or processed by the facility.	Based on the prevailing Schedule of Fees as provided by Local Ordinance. Any planned increase in fees must be discussed in the FS and supported with basis. *Nearby municipalities with operational slaughterhouses can be used as benchmark or reference.*
Total Revenue	Annual Total Production and fees per unit	The LGU is not required to provide information since this is automatically calculated. However, please double check the proper linking and data input in the cells to ensure correct calculation.

8. Tab6. Net Value of Crops Production Foregone (if applicable)

This tab is applicable to subprojects that require acquisition of project site for the construction of Slaughterhouse/ Dressing Plants in areas that are currently planted or have standing productive crops including seasonal or annual crops (e.g., palay, corn, root crops, etc.) or perennial crops (e.g., coconut, abaca, cacao, coffee, rubber, etc.). The net value of production foregone of specific affected crops shall be calculated to determine the economic opportunity costs. Please refer to Annex 2 for the guidelines on the calculation of the net value of crop production foregone.

9. Tab7. Economic Analysis

This summarizes all the benefits and costs derived from the previous tables and yields the computed EIRR, NPV, and BCR to reflect economic viability of the subproject.

Table 45. FMR EFA Tab7 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Economic Net Present Value (ENPV)	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed.	It must be noted that ENPV result should be positive to make sure that the investment yields a positive impact to the society. A project that has a negative ENPV result will be rejected.
Economic Internal Rate of Return (EIRR)	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed.	EIRR must be above 10%. Projects with an EIRR below 10% will be rejected.
Benefit-Cost Ratio (BCR)	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed.	BCR must be equal or greater than 1.0. A project with a BCR below 1.0 will not be accepted.

10. Tab 8. Sensitivity Analysis

This indicates the feasibility of the subproject given several scenarios of reduced benefits and increased costs. The following scenarios are given: increase in cost of 5%, 10%, 15%, 20%, 30% and decrease in benefits of 5%, 10%, 15%, 20%, 30%) and the feasibility of the subproject is tested for each scenario.

Table 46. SH/DH EFA Tab8 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Sensitivity Analysis	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed. Sensitivity analysis assesses risks by identifying the variables that most influence a project's net benefits and quantifying the extent of their influence.	The proposed subproject will be accepted if its economic indicators (ENPV, EIRR and BCR) are satisfactory at both sensitivity scenarios of increase of cost by 10% and a decrease of benefits by 10%.

11. Tab 9. Revenue - (Financial Benefit)

Revenue generated is derived from the collected fees paid by the users of the facility. Planned changes in the schedule of fees must be provided with supporting basis and the LGUs must ensure compliance of the proposed changes in the fees to secure the facility's sustainability of operation.

Table 47. SH/DP Tab9 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Total projected Output	Total Projected Output per unit. The unit can be per head, per kilogram of livestock or per kilogram of carcass depending on the unit of measure set by the schedule of fees.	This is linked to Tab4. The LGU is not required to provide information since this is automatically calculated. However, please double check the linking and data input in the cells to ensure correct calculation.
Schedule of Fees	Fees collected per unit and type of livestock to be processed in the facility.	Based on the prevailing Schedule of Fees as provided by Local Ordinance. Any planned increase in fees must be provided with supporting
Total Revenue	Generated revenue by type of livestock (total production and fees per unit)	The LGU is not required to provide information since this is automatically calculated. However, please double check the proper linking and data input in the cells to ensure correct calculation.

12. Tab 10. Assumptions and Schedule of Operating Expenses (Financial)

To estimate the financial viability of the SH/DP, estimated operation and maintenance cost must be determined. The list of expenses includes salaries and benefits (Tab 12), utilities, repair and maintenance of facility and machines and equipment (if any) and other overhead expenses, administrative and miscellaneous expenses. Estimated cost must be provided with a corresponding source of data and other reference details for easier verification.

Table 48. SH/DP Tab10 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Operation and Maintenance Cost	Data to be used for the Operation and Maintenance should be based on the sum/total of the identified O&M cost. *(identified O&M costs are as follows: 1) Electricity; 2) Fuel, Oil and Lubricants; 3) Water; 4) Repairs and*	Data should be based on the Operational and Maintenance Plan attached in the FS. *Note:* *Costs accounted for in this tab is only the financial cost of operation. Operating and Maintenance Cost under financial*

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
	Maintenance of equipment and machines; 5) Repairs and Maintenance of the facility; 6) Other Operating and Overhead Expenses (may vary for every SH/DP subproject); 7) Salaries and benefits (computed in Tab 12).	*cost may incorporate inflationary factors to project for the O&M cost over the period observed. Please ensure correct conversion and linking of cells* Refer to the Operational Plan of the proposal as presented in the FS. Consult the technical group of the project.
1) Electricity	Provide a table that shows monthly expenses for SH/DP electricity consumption.	Refer to the Operational Plan of the proposal as presented in the FS. Consult the technical group of the project for the electrical consumption and cost per kwh.
2) Water	Provide a table that shows the monthly expense of water.	Refer to the Operational Plan of the proposal as presented in the FS. Consult the technical group of the project. Refer BAFS standard water requirement per head of livestock for processing in SH/DP
3) Fuel, Oil and Lubricants	Provide a table that shows monthly expense for Fuel, Oil and Lubricants (if any)	Refer to the approved O&M Plan of the proposal as presented in the FS. Consult the technical group of the project.
4) Repairs and Maintenance (facility only)	Automatically linked to Tab 3a.	Refer to the Operational Plan of the proposal as reflected in the FS. Consult the technical group of the project. *(if cost presented in Tab3a is estimated based on monthly operation, kindly ensure that an annual estimate will be calculated and used in the appropriate table)*
5) Repairs and Maintenance (equipment and machineries)	Provide a table that shows monthly/ yearly expenses for repair and maintenance.	Refer to the Operational Plan of the project. Consult the technical group of the project.
6) Other Operating and Overhead Expense	Provide a table that shows monthly expenses for other costs, e.g. operating supplies and sanitation equipment, Admin and miscellaneous expenses (may vary for every SH/DP project).	Refer to the Operational Plan of the proposal as presented in the FS. Consult the technical group of the project.

13. Tab 11. Salaries and Benefits

This tab summarizes the manpower complement during the operation of the Potable Water System. Specific positions, number of workers, remuneration, benefits and working arrangement must be identified to estimate the annual cost for salaries and benefits. All staff must also be segregated between skilled and unskilled labor for the calculation of economic cost of labor.

Table 49. SH/DP Tab11 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Positions	Manpower complement based on the proposed operation with corresponding job description	Refer to the approved Operational Plan as presented and discussed in the FS. Staff to be hired must be classified between skilled and unskilled workers Please verify with NMIS on the minimum requirement and staff complement of accredited SH/DPs.
Number of Staff	Number of persons per position to be hired for the operation	Refer to the approved Operational Plan as presented and discussed in the FS.
Monthly Remuneration	Specific monthly salary for the identified position.	Refer to the approved Operational Plan as presented and discussed in the FS. Salary must adhere to the minimum wage rate approved by the National Wages Productivity Commission (NWPC). Refer to RA No. 1466 or the "Salary Standardization Law of 2019" of organic personnel
Statutory Benefits	Benefits to be provided to the hired organic staff as provided by existing laws which include but not limited to, PhilHealth, GSIS/SSS, HDMF, 13th month pay, etc.	Refer to the approved Operational Plan as presented and discussed in the FS.

14. Tab 12. Depreciation Schedule

Depreciation is the reduction in value of the constructed SH/DH on a given period or its Estimated Useful Life (EUL). The subproject is considered fully depreciated if it is more economical to construct a new facility rather than maintain the existing one or emergence of an advanced technology making it more efficient to construct, operate and maintain a new facility. This cost will also give the LGU the estimated annual value that must be prepared to construct a new SH/DP once it is totally depreciated.

Table 50. SH/DP Tab12 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Acquisition Cost	Value or cost in acquiring the asset	Refer to the final POW approved by I-BUILD
Quantity of Assets	Number of particular asset acquired	Refer to the final POW approved by I-BUILD
Estimated Useful Life (EUL)	The estimated number of years that the asset is economically useful or usable before the asset is fully depreciated or lost its value.	Identification of EUL must be based on acceptable accounting standards. Estimation of useful life may use COA Circular No. 2017-004 as the basis for the number of years. Estimation of Depreciation may refer to COA Circular *Note:* *EUL varies depending on the type of asset i.e., equipment, materials, infrastructure.*
Salvage/ Residual Value	Value of the asset after the estimated useful life is fully depreciated. Government standard accounting estimates salvage value at 10% of the acquisition cost.	Refer to the final POW approved by I-BUILD for the acquisition cost of asset and derived the salvage value by getting the 10% from the acquisition cost. Example: 1000 x 10% = 100
Depreciation Cost	Acquisition cost, quantity of asset, estimated useful life and salvage value	To calculate for the annual depreciation expense, subtract the salvage value from the acquisition cost and divide the remaining value from the EUL of the asset. Example: EUL = 10 Salvage Value = 100 Depreciation = (acquisition cost – salvage value)/ useful life = $\frac{1000 - 100}{10}$ = 900 / 10 = **90**

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
		Annual Depreciation Cost is **90.00Php**
Revenue	Cash inflow or **'revenue'** generated from the fees collected from the users/beneficiaries for the use of the facility	Revenue should be the same with the annual revenue generated in Tab9. Refer to Tab9 and check proper linking of cells.
Operating and Maintenance Cost	Cost items of '**operating and maintenance expenses**' incurred for the operation and upkeep of the facility. Operating Costs include: - Utilities (Electricity, water) - Salaries and Benefits, - Administrative Expense like office supplies, travel and communication expenses, - Miscellaneous and other overhead expenses such as permits and licenses, insurance, operating supplies, NMIS compliances, etc. Maintenance expense includes: - monthly or annual estimated repair and maintenance expense - periodic maintenance	Operating Expenses must be linked to Tab 10, Salaries and Benefits must be linked to Tab 12, financial cost of repair and maintenance of the facility must be linked to Tab 10. Please ensure correct linking of cells to appropriate year and cost items. A projection of increase in the number of heads of livestock to be processed must also reflect an increase in the projected operating cost. % increase in cost, standard ratios and other rates used as basis must be provided with appropriate sources and reference for easy verification. *Note:* *Procurement of new assets such as equipment, materials, etc. within the 10-year period of analysis must be reflected as cash outflow in the year the asset is purchased.* *Costs are accounted for in FINANCIAL terms INCLUSIVE of tax and annual cost increase due to inflation.*
Other Fund Sources *(if applicable)*	External fund source from the supporting Local Government i.e., Province, Municipal/City.	This will be computed based on the summation from the estimated Capital Investment Reserves and O&M Cost that cannot be covered by the generated revenue from collected Water Tariff. Other fund sources indicated must be discussed in the FS as part of the Sustainability Plan

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
		NOTE: The requirement for an external fund source/s is needed if the net income of the subproject shows a deficit or negative income. This is mainly attributed to the non-cash expense i.e., depreciation. Negative net income after depreciation is accounted requires external financial source/s to be funded. This will serve as the proponent's equivalent annual investment needed to establish a new PWS once the subproject fully exhaust its estimated useful life.
Net Requirement	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed	Amount must be equal to zero (0). This is to ensure that all expenses, especially the deficit net income (if any) inclusive of operating and maintenance expenses and capital investment reserve is appropriated with funds.

15. Tab 13. Projected Annual Cash Flow

The SH/DP's cash transaction consists of cash inflow from the revenue generated out of the fees collected by the management/LGU proponent paid by users of the facility.

A simple financial analysis will be prepared in order to determine the financial viability of the facility. The subproject will be assessed based on its capacity to finance the estimated operation and maintenance costs at the minimum. It is vital that the SH/DP must generate enough revenue to ensure operation and sustainability of service. A positive Cash Flow is required as minimum financial measure or decision criteria to determine the operational viability of the subproject.

Table 51. SH/DP Tab13 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Cash Inflow		
Revenue	Cash inflow or **'revenue'** generated from the fees collected from the users/beneficiaries for the use of the facility	Revenue should be the same with the annual revenue generated in Tab9. Refer to Tab9 and check proper linking of cells.

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Cash Outflow		
Operating and Maintenance Expense (Financial)	Cost items of '**operating and maintenance expenses**' incurred for the operation and upkeep of the facility. Operating Costs include: - Utilities (Electricity, water) - Salaries and Benefits, - Administrative Expense like office supplies, travel and communication expenses, - Miscellaneous and other overhead expenses such as permits and licenses, insurance, operating supplies, NMIS compliances, etc. Maintenance expense includes: - monthly or annual estimated repair and maintenance expense - periodic maintenance	Operating Expenses must be linked to Tab 10, Salaries and Benefits must be linked to Tab 12, financial cost of repair and maintenance of the facility must be linked to Tab 10. Please ensure correct linking of cells to appropriate year and cost items. A projection of increase in the number of heads of livestock to be processed must also reflect an increase in the projected operating cost. % increase in cost, standard ratios and other rates used as basis must be provided with appropriate sources and reference for easy verification. *Note:* *Procurement of new assets such as equipment, materials, etc. within the 10-year period of analysis must be reflected as cash outflow in the year the asset is purchased.* *Costs are accounted for in FINANCIAL terms INCLUSIVE of tax and annual cost increase due to inflation.*
Operating and Maintenance Expense (Economic)	Cost items of Operating Expenses incurred for the SH/DP operation. Costs include: - Utilities - Fuel, Oil & Lubricants - Salaries and Benefits - Repair and maintenance of the facility and assets - Administrative Expense like office supplies, travel and communication expenses - Other Overhead Expenses and Miscellaneous expenses like testing and NMIS compliances, sanitation,	Operating Expenses are linked to the financial Cash Flow within Tab13. Only Salaries and Benefits cost are linked to Tab 12. Financial cost of repair and maintenance of the facility is excluded to avoid double counting of expense in Tab 3b. - Fees paid to the government for compliance of requirements are not included in the economic cost of operation. Please ensure correct linking of cells to appropriate year and cost items. Costs estimates must first be converted from financial to

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
	permits and licenses, insurance, etc.	economic terms to derive the economic cost of operation and maintenance: - All expenses must be less than 12% tax such as materials, skilled labor, equipment, administrative and overhead expenses. - Unskilled Labor must be converted using a conversion factor of 0.60, using the assumption that unskilled labor is equivalent to 60% of the wage rate of skilled labor. *Note:* *Procurement of new assets such as equipment, materials, etc. within the 10-year period of analysis must be reflected as cash outflow in the year the asset is purchased. Financial Cost must be converted to economic terms to be included in the total economic cost of operation.* *Inflation must NOT be incorporated in the estimation of economic costs.*
Net Cash Flow	Cash Inflow or Revenue and Cash Outflow or Operating and Maintenance Expense	Net Cash Flow should be derived from Cash Inflow or revenue less Cash Outflow or operating and maintenance expenses.
Cash Beginning Balance	Cash Ending Balance of the previous year.	The unexpended cash from the previous year based on the projected cash transactions
Cash Ending Balance	Net Cash Flow and Cash Beginning Balance of the current year	The net cash from the cash transactions of the current year added with the cash beginning balance of the current year.

16. Tab 14. Project Income Statement

This tab refers to the annual income of the SH/DP services operation. Given the nature of the facility as a public good managed by the LGU and serving the general population,

it is not required by the Project for the facility to have a positive Net Income based on Income Statement. Nevertheless, calculation of Income Statement is necessary to provide the proponent an idea of the annual investment requirement needed to cover the deficit brought by non-cash expenses such as depreciation.

Table 52. SH/SP Tab14 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Revenue	The data needed is the cash inflow or **'Revenue'** generated from the collection of Service Fees for the use of the facility (SH/DP). .	Revenue should be the same with the annual revenue generated in Tab9. Refer to Tab9 and check proper linking of cells.
Operating Expenses (Financial)	Cost items or '**Operating Expenses**' incurred for the SH/DP services include: - Salaries and Benefits, - Administrative Expense like office supplies, travel and communication expenses, - Overhead Expenses like utilities and chemicals, - Miscellaneous expenses such as permits and licenses, insurance, etc.	Operating expenses must be linked to Tab10. Salaries and wages must be linked to Tab12. Refer to Tab10 and Tab 12 and ensure correct linking of cells to appropriate year and cost items.
Depreciation Expense	Projected annual '**Depreciation'** based on the proposed subproject's Estimated Useful Life (EUL).	Depreciation expense must be the same with Tab 11. Refer to Tab11 and ensure correct linking of cells to appropriate figures. *Note:* *Verify if there are machines and equipment incorporated in the proposal. This type of assets have a separate EUL and must be presented separately. Assets that are depreciated within the 20-year observed period must be replaced with a new asset as part of investing activity.*
Net Income	Revenue from collection of Service Fees, Operating Expenses expended to manage and sustain the facility's operation and the estimated annual depreciation expense	Net Income should be derived based on the projected revenue from service fees less annual operating and maintenance expense and annual depreciation expense.

D.1.2 Feasibility Study Outline for Slaughterhouse/ Dressing Plant Subprojects

Executive Summary

A. Project Title : _____
B. Project Location : Brgy/ /Municipality
C. Project Category (rehabilitation or new construction): _____
D. Project Scale/Dimension : _____
E. Project Proponent : _____
F. Implementing Unit : _____
G. No. of Barangays Covered by the SP.:_____
H. Mode of Implementation : *(contract/admin)*
I. Operational Management : _____*(BLGU, MLGU, PLGU)*
J. Project Beneficiaries
Direct :

Barangay/ Municipality	Supply				Demand			
	Livestock Raisers	Meat Processors	Meat Vendors	Other Institutional supplier	Household	Male	Female	Total Population

Other Institutional Buyer includes:
Data Source:

_____ farming households; no of farmers=_____
_____ fishing households ; no of fisherfolks=_____
(data source: _____)

_____Indigenous People (IP); M= _____; F=_____
_____ Non-IP
(data source: NCIP)

K. Total Project Cost and Cost Sharing : P_____
WB : P_____
GoP : P_____
LGU Equity : P_____

L. Economic Indicators
1) Economic Net Present Value (ENPV) : _____
2) Economic Internal Rate of Return : _____
3) Benefit Cost Ratio : _____

M. Conclusion and Recommendations : *a statement as to whether or not the project has been found feasible from the marketing, technical, economic and operational viewpoint.*

I. Introduction

a. **Provincial Background (Brief description in 2-3 paragraphs)**
   i. Demographics
   ii. Economy
   iii. Agriculture and Rural Development Sectors

b. Project Identification and Prioritization Profile
   i. E-VSA Maps and Statistics *(Show and discuss the data of the priority commodity that is presented in the E-VSA Maps and Statistics)*

   ii. Value Chain Summary *(Cite discussion and findings from Value Chain Analysis.)*

   iii. Commodity Profile *(Cite excerpts from PCIP-the rationale of the SP inclusion in the PCIP. Highlight how the subproject was identified and how it will support the specific Value Chain. Establish the issue/ problem that the proposal will address to strengthen the Value Chain of the priority commodity.)*

c. Existing I-REAP Enterprises to be supported by the Subproject (*if none, then cite the existing enterprise/s relative to the priority commodity that will be supported by the subproject)*

d. Other I-BUILD Subprojects funded by the Project (*Only if applicable, identify other subprojects funded by the Project located in the same municipality/city and describe the status of its implementation. These include SPs proposed and implemented by PLGU).*

II. The Subproject

a. The Project Influence Area
   i. Location *(Brief description in 1-2 paragraphs)*
      a. Geography
      b. Relative distance to growth and commercial centers
      c. Topography
      d. Mapping the Subproject
         - describe the geotagging methodology
      e. Estimation of PIA
         - If possible, kindly delineate between sources of livestock (primary and potential) and residential areas
   ii. Demographics (Brief description in 1 paragraph)
   iii. Major Economy and Land Use (Brief description in 1 paragraph)
   iv. On-farm data - Agricultural Area and Crops Planted, livestock and fisheries (Brief description in 1 paragraph)
   v. Off-farm data – processing and marketing industry of agri-fishery products
   vi. Poverty Incidence (how the SP will address alleviation of poverty in the PIA)

III. Subproject Objectives

a. Subproject objectives relative to increase in market value of the product, decrease in the hauling/marketing cost (if applicable), decrease transport losses (if applicable), projected revenue of the operation. Include in the general objective statement about the need to implement the facility to support the commodity in the VCA.

IV. Project Feasibility Indicators

a. Market Analysis/ Demand-Supply Analysis
   i. Supply Side - Discuss the availability of supply (no. of farmers, sources and volume of production in terms of number of heads per type of livestock. Also, discuss if there is a significant factor in the supply such as seasonality of the specific livestock)

	No. of Raisers	Livestock Inventory		
		Backyard	Commercial	TOTAL
(Location)				
Swine				
Cattle				
Goat				

NOTE: Please present the inventory of livestock of the projected Project Influence Area (Barangays covered or Municipal wide figures)
Source:

ii. Discuss the current situation of the growers without the intervention.
iii. Discuss the facilities present that offer the same intervention as the proposed facility and the volume they currently cater.

Location	Type	Capacity (no. of heads/yr)			Total livestock heads for slaughter (no. of heads/yr)			Gap (no. of heads/yr)		
		Cattle	Swine	Goat	Cattle	Swine	Goat	Cattle	Swine	Goat

Source:

iii. Demand Side - Discuss the farmer's current situation/practice and their willingness to use the facility (the number of farmers willing to use the facility, how many are willing to use shift in the proposed intervention)
iv. Discuss the improvement in the capacity with the intervention of the proposed facility and the volume that will be catered with the project

Location	Type	Capacity (no. of heads/yr)			Total livestock heads for slaughter (no. of heads/yr)			Gap (no. of heads/yr)		
		Cattle	Swine	Goat	Cattle	Swine	Goat	Cattle	Swine	Goat

Source:

vi. Demand-Supply Analysis - Describe the gap (degree of the need) between the desired (With Project) and current (Without Project) condition. (Include discussion/comparison on how the facility will be beneficial to the commodity, as presented in VCA, with the project and without the project.)

b. Technical Analysis

i. Location of the proposed Slaughterhouse or Dressing Plant (with perspective)
ii. Description of Existing Structures (if any)
iii. Description of the proposed facility
iv. Design Properties of Materials
v. Load Assumptions
vi. Subproject Layout
vii. Proposed Sources and Location of Quarries, Borrow Pits and Construction Materials
    a. Relative distance of quarry and construction materials to project site/Dumping site for surplus excavation (Attach Certificate signed by Brgy. Captain and Lot Owner)
    b. Handling of materials
    c. Dependability and availability of required quantities
viii. Items of work and cost (POW Summary) – is it within the cost parameter?
ix. Implementation schedule of the sub-project (project duration, estimated start and end of construction)

c. Operational Analysis

i. Pre-Implementation Phase
    a. Organizational Structure of the Project Management Implementing Unit (PMIU) to be set up at either the provincial LGU, city LGU or municipal LGU, that will manage the project and their roles and responsibilities. Mention the executive order creating the PMIU.

ii. Implementation Phase
    a. Plan for management during construction, key roles and responsibilities of assigned full time construction site personnel.

iii. Post-Implementation Phase
    a. Ownership and Management (Post-Impl
        1. Operational Management Structure
            - Describe the Operation team, how will the subproject be managed ~ clearly discuss the roles of the LGU and other partners
        2. Organizational Chart
            - Describe the personnel recruitment or staffing pattern and the responsibilities of each staff, job descriptions
        3. Project Monitoring and Financial Reporting

    b. Facilities & Equipment
        - Describe the needed facilities and equipment (existing and proposed) of the enterprise. What is the input and output capacity? How much will be the estimated costs per operation?

c. Resources and Production - What are the production methods, the process and the inputs required for each process, and staffing?
   1. Illustrate the process flow (major steps to perform from raw material sourcing to processed form).
   2. What is the operational process and input requirements (from the staff/ laborers and from the farmer beneficiaries)? This can be presented in tabular format (process steps, description of the step, where it occurs-geographic and/or physical location, expected inputs required in terms of materials, tools, equipment, to perform the step, expected output/result, who will perform this step?
   3. What is your capacity and level of Production? In terms of units, in Pesos?
   4. What are the production cycles?
   5. What are the costs to manage wastes and other possible negative environmental impacts? ~SES Part

d. Operations
   1. What is the projected production schedule of the facility? (Show the projected number of heads to be slaughtered by type of livestock from year 1 to year 10).
   2. Monthly Operations showing seasonality (peak and lean, if applicable)
   3. Fees and Charges
   4. Operating Expenses

vi. Sustainability Plan
   a. Operation and Maintenance Plan and Budget (show the operation and maintenance financing mix)
      1. Show and discuss the O&M activities as detailed in the Annual Maintenance Cost in EFA Tab 3a
      2. Show and discuss the Annual Operating and Maintenance Cost (refer to EFA tab 3B
      3. Show and discuss the Investment Reserves
      4. Utilization and Maintenance Plan and Budget (how will the income be used?)
         - Plan on Expanding the Operation (if any)
         - What are the required technical assistance to ensure continuous operation

d. Social Analysis

i. Subproject Beneficiaries
ii. Indigenous Cultural Community/Indigenous Peoples (ICC/IP)
iii. Site and Right-of-Way acquisition
iv. Damage to standing crops, houses and/or properties
v. Physical displacement of persons
vi. Economic displacement of persons
vii. Grievance redress mechanism
viii. Labor-related Risks
ix. Occupational Health and Safety
x. Community Health and Safety
xi. Conflict Context Assessment

e. Environmental Analysis

i. Natural habitat
ii. Physical Cultural Resources
iii. Terrain, Soil Types and Rainfall
iv. Natural and Geologic Hazards/Risk Assessment
v. Resource Conservation and Pollution Control
vi. Integrated Pest Management/DA KASAKALIKASAN
vii. Status of Environmental Clearances

f. Social and Environmental Impacts

g. Financial Analysis

i. Total Project Cost by Financing Source and Cost Sharing (WB LP, GOP-DA, LGU)
   - *Show Table of Project Cost Sharing*
   - *Provide a short write-up/narrative/explanation.*

ii. Total Project Cost Breakdown
   a. Direct
   b. Indirect
   - *Provide a short write-up/narrative/explanation.*

iii. Status of LGU equity availability and LFC certification – attach appropriation ordinance stating the 10% equity for the SP and Cost for O & M for 10 years.
   - *Provide a short write-up/narrative/explanation.*

viii. Sales/Revenue
ix. Depreciation Expense

x. Projected Income Statement
xi. Cash Flow

h. Economic Analysis and Evaluation

1. Economic Benefits

- *Enumerate the project benefits valuated for the analysis. Explain briefly each benefit and how it is calculated*

a. **Increase in Market Value** *(Market Price)*

- *Describe the increase in market value of meat with and without the SP.*

Table (No.) Market Value of Meat WOP and WP

Livestock	Price		Difference
	WOP	WP	
Swine			
Cattle			
Goat			

- *Discuss the benefits generated from the total production relative the incremental increase in Value WP*

Table (No.) Projected Benefits with the increase in Market Value

Livestock	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Swine										
Cattle										
Goat										
TOTAL										

Source:

b. Decrease in Marketing/ Production Cost/ Slaughtering Fee *(if applicable)*

- *Provide a comparative cost With and Without the Project. Enumerate the costs incurred in using the SP compared to the fees paid using the existing facilities.*

Table (No.) Comparative Cost With and Without the SP

Livestock	WOP			WP			Difference
	Slaughter Fee	Other Fees	Total	Slaughtering Fee	Other Fees	Total	
Swine							
Cattle							
Goat							

Source:

- *Provide a short write-up/narrative/explanation for the table.*
- *Make reference to a relevant Model/Detailed Table # of EFA*

c. **Revenue Generated**

- *Show and discuss the projected revenue generated by the subproject. Discuss the fees per head of livestock slaughtered*
- *Provide a short write-up/narrative/explanation for the table.*

Table (No.) Revenue Generated, YYYY

Livestock	Schedule of Fees				Annual Generated Revenue
	Slaughter Fee				
Swine					
Cattle					
Goat					
TOTAL					

Source:

2. Economic Costs

a. Capital Cost and O & M Cost Breakdown

- *Show Capital Cost based on the POW*
- *Show O & M Cost Breakdown (total amounts should be identified according to the stipulated thresholds)*
- *Provide a short write-up/narrative/explanation*

b. Social Safeguards Related (SES) Cost

- *Discuss the costs incurred for the preparation of requirements for SES compliance and other fees required for social preparation that are not included in the POW. (Tax is already excluded for fees paid to the government either in the LGU or national offices/agencies, hence financial cost equals economic cost)*
- *Present tab on SES Cost, refer to new EFA Template*

c. Net Value of Crop Production Foregone

- *Discuss the benefits forgone due to implementation of the project, i.e. annual and perennial crops and lumber (specifically for crops/goods marketed only and does not include crops used household consumption)*

- *Show NVCP Foregone Summary, Production Cost for Perennial and Seasonal Crops in EFA template*

3. Direct Jobs

a. **Construction**[20]
- No. of Unskilled Laborers to be hired and corresponding wage rate
- No. of Skilled Laborers to be hired and corresponding wage rate

Provide a short write-up/narrative/explanation

b. **Operations**
- No of staff to be hired once the SP is operational

Provide a short write-up/narrative/explanation.

4. Adjustment of Financial Values to Economic Terms
- *Provide a short write-up/narrative/explanation.*
- *Show Tab1 of EFA template*

5. Results of the Economic Analysis
- *Present and discuss EIRR, ENPV and BCR results.*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*

6. Economic Sensitivity Results
- *Present and discuss results of sensitivity analysis.*
- *Describe if project is feasible with the change in benefits and cost at 10%*
- *Show summary table on Sensitivity Analysis tab*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*

7. List of the attached Models/Detailed Tables of EFA Template

Table 1a Economic Cost of Sub-Project
Table 1b SES-Related Cost
Table 2 Investment and O&M Costs
Table 3a Maintenance Cost (Facility)
Table 3b Annual Operating and Maintenance Cost
Table 4 Benefit – Increase in Market Value
Table 5 Benefit – Revenue Generated from Fees (Economic)
Table 6a Net Value of Crop Production Foregone
Table 6b Annual Crop Production Cost
Table 6c Perennial Crop Production Cost
Table 7 Economic Analysis
Table 8 Sensitivity Analysis (on cost, benefits & delays)
Table 9 Financial Revenue – Willingness to Pay
Table 10 Financial Assumptions and Schedule of Operating Expenses
Table 11 Annual Salaries and Benefits
Table 12 Depreciation Schedule
Table 13 Cash Flow
Table 14 Income Statement

V. Conclusions and Recommendations

i. Conclusions

(Provide a brief summary of the result of analysis made as presented and discussed in the major section of the FS, i.e., project identification, geographical, supply and demand analysis, technical and operational analysis, social and environmental analysis, financial, economic and sensitivity analysis.)

ii. Recommendations

(Provide recommendations based on the findings summarized in the conclusion.)

[20] Based on Detailed Estimates in the Program of Works

D.2 Fish Landing/ Feeder Port

Fish Landing/ Feeder Port (FL/FP) is one of the identified type infrastructure support to the value chain of commodities that can be funded under I-BUILD. Benefits that can be realized once the subproject is operational includes increase in market value of commodities due to improved quality and better access to the market, reduction of post-harvest and transport losses and savings in transport cost particularly for new FL/FP that are located relatively nearer to the market compared to the previous location of the current facility used and revenue if the LGU plans to collect service fees for the use of the facility for its maintenance and operation. To assess the economic and financial viability of the proposed subproject, the economic investment cost, O&M cost SES-Related Cost and NVCP Foregone are also estimated to conduct Benefit-Cost Analysis (BCA). These streams of benefits are considered in the analysis for they represent the direct impacts of the subproject to the local community. The period of analysis for FL/FP considered the total usable lifespan of the subproject, which is 20 economic years.

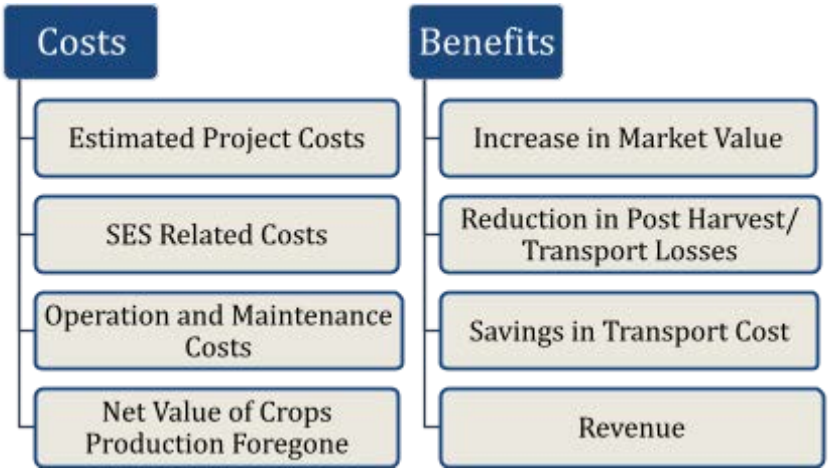


Figure 2. EFA Model for IBUILD Feeder Ports/ Fish landing

D.2.1 Fish Landing/ Feeder Port EFA

1. Tab1. Conversion of Financial to Economic Cost

Tab 1 of the EFA template is the conversion of financial costs of the project to economic cost. Items included in evaluating the economic cost are materials, equipment, skilled labor, unskilled labor, overhead, contingencies and miscellaneous (OCM), contractor's profit, taxes, pre-engineering activities, engineering supervision cost and Social and Environmental Safeguards (SES)-related costs.

Table 53. FP/FL EFA Tab1b Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Materials	Materials are classified into 2 types: (a) with foreign components and (b) locally sourced. It is	Material cost under the financial cost column in the EFA template must be the same as the cost reflected in

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
	assumed that 60% of material costs has a foreign component, which is subjected to shadow pricing using a factor of 1.2, and the remaining 40% is base cost of locally sourced materials. Note that the shadow price of foreign exchange is 20% higher than the official rate and this applies to the materials with foreign components. Only cells highlighted in yellow must be filled in as the values for "with foreign component" and "locally-sourced" will automatically be computed.	the Program of Works (POW). This must be re-checked with the data in the POW.
Equipment	Equipment cost is the equipment rental cost based from the 2014 Association of Carriers and Equipment Lessors, Inc. (ACEL) Rates. Only cells highlighted in yellow must be filled in. Equipment cost is base cost, which does not include taxes. Tax for this item is already calculated under the "Taxes" item.	Equipment cost under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Skilled Labor	Skilled labor includes heavy equipment operator, mason, foreman, carpenter, welder and steel fabricators. Only cells highlighted in yellow must be filled in. Skilled labor is a base cost which does not include taxes. Tax for this item is already calculated under "Taxes" item.	Skilled labor cost under financial cost column in EFA template must be the same with the cost reflected in the Program of Works (POW). This must
Unskilled Labor	Unskilled labor includes laborers, helpers, warehouse men, and timekeepers. Only cells highlighted in yellow must be filled in. The assumption is that conversion factor for unskilled labor is 0.6 since its value is 60% only of the minimum wage rate (source: NEDA).	Unskilled labor cost under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Overhead, Contingencies and Miscellaneous (OCM)	Overhead, Contingencies and Miscellaneous (OCM) is 15% of total direct cost if subproject cost is PhP5 million below; 12% if PhP5 million to PhP50 million; 10% if PhP50 million to PhP150 million; 8% if above PhP150 million. Only cells highlighted in yellow must be filled in. Tax for this item is already calculated under "Taxes" item.	OCM cost under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Contractor's Profit	Contractor's Profit Contractor's Profit is 10% of total direct cost if project cost is PhP5 million below; 8% otherwise. Only cells highlighted in yellow must be filled in. Tax for this item is already calculated under "Taxes" item.	Contractor's Profit under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Taxes	Tax is 12% of total mark-up value of the base cost and all items sourced locally. Taxes should not be included in the economic value of project cost.	Taxes under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re- checked with the data in the POW.
Pre-engineering Activities	Pre-engineering activities include FS and DED Preparation including conduct of site surveys. Pre-engineering activities are 5% of base direct cost + 12% tax; economic cost, however, should exclude tax.	Pre-engineering activities cost has already been derived under the financial cost column in the EFA template which is 5% of base direct cost + 12% tax. This cost cannot be found in the Program of Works (POW) since it is not included in the total project cost to be funded by PRDP. This cost must be shouldered by PLGU/MLGU. In deriving the economic cost, tax should be excluded.
Engineering Supervision	Engineering Supervision is 5% of base direct cost + 12% tax; economic cost, however, should exclude tax.	Engineering Supervision cost has already been derived under the financial cost column in EFA template which is 5% of base direct cost + 12% tax. This cost cannot be found in the

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
		Program of Works (POW) since it is not included in the total project cost to be funded by PRDP. This cost must be shouldered by PLGU/MLGU. In deriving for the economic cost, tax should be excluded.
SES-related Costs	The total financial and economic costs will be included in this table. The itemized breakdown shall be presented in Tab1b. These costs will be included as indirect costs to be shouldered by the LGU-proponent.	This is linked to Table 1b. Kindly ensure correct linking of cells with tab 1b.
Total Financial and Economic Cost	Summation of Total Direct Cost and Total Indirect Cost (OCM, Contractor's Profit, Engineering Supervision, Pre-Engineering Activities, SES Related Cost).	This is automatically calculated

Tab 1b. Social and Environmental Safeguards-Related Cost

All costs to be incurred that are related to social and environmental safeguards activities in the preparation and implementation of the Fish Landing/ Feeder Port subproject shall be itemized in this table. SES activities may include consultation with Project-Affected Persons (PAPs), fees and operating expenses in securing permits and licenses including water permit, environmental clearances, NCIP certification, water potability test, operating cost and fees for the preparation of Resettlement Action Plan, IP Plan, Biodiversity Management Plan, Cultural Heritage Management Plan, Integrated Pest Management Plan among others. In cases where proposed structures will involve acquisition of Right-of-Way and where there are productive crops that will be affected, the net value of crop production foregone shall be valued and included as dis-benefits in the EFA. The detailed guidelines including the conversion of financial costs to economic values, are shown in the Annex 2.

2. Tab2. Investment Cost

Tab 2 of the EFA presents a summary, in economic terms, of investment cost and operating & maintenance cost over the 20-year project life of the facility. The detailed computations for investment cost and operating & maintenance cost are presented in Tab1 and Tabs 3 (3a and 3b), respectively.

Table 54. FP/FL EFA Tab2 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Investment Cost	Total Project Cost (TPC) composed of direct cost (materials, labor, equipment) and indirect cost (OCM and Contractor's profit). Investment cost also includes other indirect costs i.e., Pre-Engineering Activities, Engineering Supervision and SES related costs. All of which are converted to economic terms	The Total Economic Project Cost in Table 1. This is the summation of total economic investment cost converted from the financial cost in POW and Economic SES Related Cost in Table 2. *Note:* *Economic value is reflected on year 0 since this cost represents the capital cost but in economic terms. The PLGU/MLGU is not required to provide inputs as the cell already has a formula.*
Operating and Maintenance Cost	Annual Operating and Maintenance Cost converted to Economic terms	O&M Cost must be linked in Tab3b. Operating Cost must be rechecked in Table 17 under Cash Flow (Economic) for consistency and completeness of projected operating cost. And Table 3a
Total Investment and O&M Cost	Total Economic Investment Cost and O&M Cost.	Total investment cost is the sum of the economic cost and O&M cost. The PLGU/ MLGU is not required to provide inputs as the cell already has a formula.

3. Tab3a. Annual Maintenance Unit Cost (Facility)

This table provides a detailed activity for the maintenance of the facility based on the approved O&M Plan submitted by LGU to I-BUILD. These activities are converted to Economic terms using similar conversion factors and assumptions in Tab1 of EFA. Activities must be estimated in specific items, i.e. equipment, materials, skilled labor and unskilled labor.

Table 55. FP/FL EFA Tab3a Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Unit Maintenance Cost (Financial)	Cost items (equipment, materials, skilled and unskilled labor) per planned activity to be	Cost items and activity must be consistent with the I-BUILD-approved O&M Plan. Check proper

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
	conducted for the repair and maintenance of the facility. Based on an approved O&M Plan.	encoding of items per activity and tax must be accounted for in the estimated financial cost. Note: *Check if unit cost used per month or per annum and calculate accordingly in Tab 3a. If the unit cost presented is monthly, then multiply to 12 to get the annual cost. If a specific cost schedule per month is provided in the plan then ensure total annual cost is correctly accounted for.*
Unit Maintenance Cost (Economic)	Economic unit cost per activity and item (cost is already calculated based on the template)	Check proper linking of cells, conversion and summation. The methods used in economic conversions are similar to the assumptions used in Tab1. The PLGU/ MLGU is not required to provide inputs as the cell already has a formula.

4. Tab3b. Annual Maintenance Cost

This provides an estimated annual cost of maintenance activities to ensure that the facility functions as planned and in good condition over the estimated useful life. The estimated cost will be included as part of the economic cost of the facilities in addition to the investment cost, cost to comply with the SES requirements and opportunity cost (if any) for the use of the area.

Table 56. FP/FL EFA Tab3b Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Annual Maintenance Cost (Financial)	Annual Financial Maintenance Cost of the facility and does not include the operating cost.	Cost for the repair and maintenance must be correctly linked to Tab10 Financial Assumptions and Schedule of Operating Expenses. Check if the cost and activities are consistent with the FS and O&M Plan approved by I-BUILD.
Periodic Maintenance every 6^{th} year	Periodic Maintenance every 6^{th} year is approximately	Every six years, there is an additional 60% of the

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
	+60% of annual maintenance and is undertaken every sixth year. PLGU/MLGU is not required to provide inputs as the cell already has a formula.	annual cost for the periodic maintenance of the facility. *Note:* *If the O&M Plan has specific activities for periodic maintenance provided in Tab3a, then please ensure correct linking of figures to the appropriate year and remove the 60% assumption for periodic maintenance.*
Annual Maintenance Cost (Economic)	Annual maintenance cost for SH/DH must be the Economic cost of maintenance of the facility and does not include the operating cost.	The cost of the repair and maintenance is correctly linked to Tab3a Total Economic Cost. Check if conversion from financial to economic terms are consistent with assumptions used in Tab1a.
Operating Cost (Financial)	Total Annual Operating Cost which includes, utilities, salaries and wages, benefits, repair and maintenance of the facility, administrative expense, miscellaneous expenses and other expenses	Economic Cost is linked to Tab 13 Cash Flow. Repair and maintenance of the facility is excluded to avoid double counting. Check if items and cost are consistent with FS Operational and Financial Analysis.
Operating Cost (Economic)	Total Annual Operating Cost converted into economic terms. All Operating Cost less 12% tax. Labor in the operation of the facility is identified between Skilled and Unskilled. Skilled labor is deducted with 12% tax and unskilled labor is multiplied to a conversion factor of 60%.	Economic Cost is linked to Tab 13 Operating Expenses (Economic). Repair and maintenance of the facility is excluded to avoid double counting.
Annual Maintenance and Operating Cost (Economic)	Annual Repair and maintenance Cost and Annual Operating Cost converted into economic values.	The sum of Annual Repair and Maintenance Cost and Annual Operating Cost. Check linking of cells in the table and double check values if correct.

5. Tab4. Increase in Market Value

One of the major benefits derived from establishment of FL/FP is the increase in market value. Facilities such as FL/FP which provide value chain infrastructure support enables

farmers to market their goods at a higher price due to better quality transported through the proposed facility.

Table 57. FP/FL EFA Tab4 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Market Price Without Project	Existing market price of commodity	Based on prevailing market price in the Project Service Area. Data may come from responsible office in the PLGU/MLGU
Market Price With Project	Projected market price of commodity	Projected market price may use the price of other areas with similar facilities as benchmark with project scenario.
Increase in market Price	This is automatically calculated	The LGU is not required to provide information since this is automatically calculated. However, please double check the linking of cells to ensure correct calculation.
Total Projected Output	Volume of Commodity produced in the Project Service Area, e.g. fisheries, crops, livestock depending on the type of commodity that accessed the facility.	Data from PLGU/MLGU records/reports and other relevant government agencies. Annual historical data of previous years (at least 5 years) can be used to derive the average volume.
Percentage (%) of Output Transported Using the Facility	Projected % of commodity that will access the facility	Data from PLGU/MLGU records/reports and other relevant government agencies. *Note:* *If the area has an existing facility proposed for rehabilitation, the existing volume can be used as a basis. If there are multiple areas within the LGU with the same facility, the projected % must also consider these facilities in the estimation.*
Total Landed Output Per Year (kg)	This is automatically calculated	The LGU is not required to provide information since this is automatically calculated. However, please double check the linking and data input in the cells

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
		to ensure correct calculation.
Subtotal Net Benefit	Total Production per Year and Increase in Market Price	The LGU is not required to provide information since this is automatically calculated. *Note:* *If there are additional type of commodity that will access the facility, kindly ensure proper linking of additional cells and data input in the cells to confirm correct calculation.*
Total Net Benefits	Summation of Net benefits derived from the type of livestock processed in the facility.	The LGU is not required to provide information since this is automatically calculated. *Note:* *If there are additional type of commodity that will access the facility, kindly ensure proper linking of additional cells and data input in the cells to confirm correct calculation.*

6. Tab5. Savings in Transport Cost (if applicable)

Transport costs are the expenses incurred in transporting the commodities from the facility going to the market. If the current location of a similar facility used by the beneficiary is farther to the market compared to the location of the proposed facility then it is projected that with the project, cost of transport will be reduced. The difference in the transport costs without and with the project is the benefit or savings derived from establishing the facility.

Table 58. FD/FL EFA Tab5a Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Current transport cost (PhP)	Prevailing transport cost; specific to the transport of landed commodity going to the market *(Note: this is only applicable if prior to the approval of the subproject the beneficiaries use a similar facility with*	Data can be gathered from the Municipal/ Provincial Agricultural Office; Socio Economic Profile or similar studies conducted by the LGU Conduct. Of Survey/ interview in the Influence

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
	location farther from the current location of the proposed facility relative to the market.	area to get the prevailing cost
Estimated transport cost (PhP)	The expected cost of transport when the project is completed	Conduct of Survey or Interview
Total Volume of Landed Output	This is linked in Tab4	Please ensure that volume is correctly linked to Tab4
% of Output transported to the market	% of volume transported to the market out of the landed volume	Data can be gathered from the Municipal/ Provincial Agricultural Office; Socio Economic Profile or similar studies conducted by the LGU
Total Transported Output	This is automatically calculated	No need for LGU to provide data since this is automatically calculated. However, in the case were there are more commodity than the rows provided in the template, please add rows and copy the same formula and linked to appropriate cell
Subtotal Savings in transport Cost	This is automatically calculated	No need for LGU to provide data since this is automatically calculated. However, in the case were there are more commodity than the rows provided in the template, please add rows and copy the same formula and linked to appropriate cell
Total Savings in Transport Cost	This is automatically calculated	No need for LGU to provide data since this is automatically calculated. However, in the case were there are more commodity than the rows provided in the template, please add rows and copy the same formula and linked to appropriate cell

8. Tab6. Savings in Transport Losses

This accounts for the benefits derived in terms of reduction in transport losses due to better proximity of the facility going to the market or reduction in waiting time due to improved facilities allowing more goods that can be transported at a given time.

Table 59. FD/FL EFA Tab8 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Total volume landed commodity	This is linked to Tab4, Total volume of landed commodity	No need for LGU to provide data. However, please ensure proper linking of cells in Tab4.
Market price With Project	This is linked to Tab4, Project Market Price with Subproject (WP)	No need for LGU to provide data. However, please ensure proper linking of cells in Tab4.
Percentage (%) reduction in transport losses per commodity	Calculate by deducting the transport losses with the project from the transport losses without the project. Difference to be calculated as percentage. Must be able to determine losses incurred limited to transport of goods from farm to market	Data from MAO/PAO BAS/PhilMech if available
Subtotal Savings in Transport Loss	This is automatically calculated	No need for LGU to provide data since this is automatically calculated. However, in the case were there are more commodity than the rows provided in the template, please add rows and copy the same formula and linked to appropriate cell
Total Savings in Transport Loss	This is automatically calculated	No need for LGU to provide data since this is automatically calculated. However, in the case were there are more commodity than the rows provided in the template, please add rows and copy the same formula and linked to appropriate cell

9. Tab7. Revenue from Fees (if any)

This accounts for the benefits derived from the fees collected by the management from the beneficiaries in using the facility. Schedule of fees must be based on the Local Ordinance pursuant to the Local Government Code in collecting revenues from other sources.

Table 60. SH/DP EFA Tab5 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Total projected Output	Total Projected Output per unit. The unit can be per head, per kilogram of livestock or per kilogram of carcass depending on the unit of measure for the fees	This is linked to Tab4. The LGU is not required to provide information since this is automatically calculated. However, please double check the linking and data input in the cells to ensure correct calculation.
Schedule of Fees per unit	Fees collected by unit of product to be processed or processed by the facility.	Based on the prevailing Schedule of Fees as provided by Local Ordinance. Any planned increase in fees must be provided with supporting basis, e.g. pending local ordinance or executive order waiting for approval
Total Revenue	Annual Total Production and fees per unit	The LGU is not required to provide information since this is automatically calculated. However, please double check the proper linking and data input in the cells to ensure correct calculation.

10. Tab 8. Net Value of Crops Production Foregone (if applicable)

This tab is applicable to subprojects that require acquisition of project site for the construction of Fish Landing/ Feeder Port in areas that are currently planted or have standing productive crops including seasonal or annual crops (e.g., palay, corn, root crops, etc.) or perennial crops (e.g., coconut, abaca, cacao, coffee, rubber, etc.). The net value of production foregone of specific affected crops shall be calculated to determine the economic opportunity costs. Please refer to Annex 2 for the guidelines on the calculation of the net value of crop production foregone.

11. Tab 9. Economic Analysis

This summarizes all the benefits and costs derived from the previous tables and yields the computed EIRR, NPV, and BCR to reflect economic viability of the subproject.

Table 61. FD/FL EFA Tab9 Data Requirements

Data	Requirements	Reliable and acceptable data sources/Acceptable method of data gathering
Economic Net Present Value (ENPV)	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed.	It must be noted that ENPV result should be positive to make sure that the investment yields a positive impact to the society. A project that has a negative ENPV result will be rejected.
Economic Internal Rate of Return (EIRR)	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed.	EIRR must be above 10%. Projects with an EIRR below 10% will be rejected.
Benefit-Cost Ratio(BCR)	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed.	BCR must be equal or greater than 1.0. A project with a BCR below 1.0 will not be accepted.

12. Tab10. Sensitivity Analysis

This indicates the feasibility of the subproject given several scenarios of reduced benefits and increased costs. The following scenarios are given: increase in cost of 5%, 10%, 15%, 20%, 30% and decrease in benefits of 5%, 10%, 15%, 20%, 30%) and the feasibility of the subproject is tested for each scenario.

Table 62. FMR EFA Tab10 Data Requirements

Data	Requirements	Reliable and acceptable data sources/Acceptable method of data gathering
Sensitivity Analysis	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed. Sensitivity analysis assesses risks by identifying the variables that most influence a project's net benefits and quantifying the extent of their influence.	The proposed subproject will be accepted if its economic indicators (ENPV, EIRR and BCR) are satisfactory at both sensitivity scenarios of increase of cost by 10% and a decrease of benefits by 10%.

D.2.2 Feasibility Study Outline for Fish Landing/ Feeder Port Subprojects

Executive Summary

A. Project Title : _____
B. Project Location : Brgy/ /Municipality
C. Project Category (rehabilitation or new construction): _____
D. Project Scale/Dimension : _____
E. Project Proponent : _____
F. Implementing Unit : _____
G. No. of Barangays Covered by the SP.:_____
H. Mode of Implementation : *(contract/admin)*
I. Operational Management : _____*(BLGU, MLGU, PLGU)*
J. Project Influence Area (PIA) : _____*hectares*

Commodities	Average Annual Volume
Marine Products	
-	
Aquaculture Products	
-	
Total	

Source:

K. Project Beneficiaries

Barangay	Suppliers				Demand			
	No of Fisherfolk	fish pond owners	fish vendors	Other Institutional suppliers	Household	Male	Female	Total Population

Other Institutional suppliers includes:
Data Source:

_____ farming households; no of farmers=_____
_____ fishing households ; no of fisherfolks=_____
(data source: _____)

_____Indigenous People (IP); M= _____; F=_____
_____ Non-IP
(data source: NCIP)

L. Total Project Cost and Cost Sharing : P_____
WB : P_____
GoP : P_____
LGU Equity : P_____

M. Economic Indicators
1) Economic Net Present Value (ENPV) : _____
2) Economic Internal Rate of Return : _____
3) Benefit Cost Ratio : _____

N. Conclusion and Recommendations : *a statement as to whether or not the project has been found feasible from the marketing, technical, economic and operational viewpoint.*

I. Introduction

a. **Provincial/Municipal Background** *(Brief description in 2-3 paragraphs particular to SP proponent)*
   i. Demographics
   ii. Economy
   iii. Agriculture and Rural Development Sectors

b. Project Identification and Prioritization Profile

   i. E-VSA Maps and Statistics *(Show and discuss the data of the priority commodity that is presented in the E-VSA Maps and Statistics)*

   ii. Value Chain Summary *(Cite discussion and findings from Value Chain Analysis.)*

   iii. Commodity Profile *(Cite excerpts from PCIP-the rationale of the SP inclusion in the PCIP. Highlight how the subproject was identified and how it will support the specific Value Chain. Establish the issue/ problem that the proposal will address to strengthen the Value Chain of the priority commodity.)*

c. Existing I-REAP Enterprises to be supported by the Subproject (*if none, then cite the existing agricultural enterprise relative to the priority commodity that will be supported by the subproject)*

d. Other I-BUILD Subprojects funded by the Project (*Only if applicable, identify other subprojects funded by the Project located in the same municipality/city and describe the status of its implementation. These include SPs proposed and implemented by PLGU).*

II. The Subproject

a. The Project Influence Area
   i. Location *(Brief description in 1-2 paragraphs)*
      a. Geography
      b. Relative distance to growth and commercial centers
      c. Topography
      d. Mapping the Subproject
         - describe the geotagging methodology
      e. Estimation of PIA
         - If possible, kindly delineate between sources of livestock (primary and potential) and residential areas
   ii. Demographics *(Brief description in 1 paragraph)*
   iii. Major Economy and Land Use *(Brief description in 1 paragraph)*
   iv. On-farm data - *Agricultural Area and Crops Planted, livestock and fisheries (Brief description in 1 paragraph)*
   v. Off-farm data – *processing and marketing industry of agri-fishery products*
   vi. Poverty *Incidence (how the SP will address alleviation of poverty in the PIA)*

III. Subproject Objectives

a. Subproject objectives relative to increase in market value of the commodity, decrease in the marketing cost, decrease in transport losses and projected revenue of the operation. Include in the objective the need of the facility to support the commodity in the VCA. Objectives must be specific based on the quantified benefits in economic analysis as well as other benefits that were non-quantified.

IV. Project Feasibility Indicators

a. Market Analysis/ Demand-Supply Analysis
   i. Supply Side - *Discuss the availability of supply (no. of fisherfolk both small, groups and commercial) sources and average volume of fish catch on a monthly basis (with lean and peak seasons). Also, discuss other considerations that affect supply.*

Table . Sources of Fish Catch

Location	Average Volume	Sources		
		Fisherfolk	Commercial	Aquaculture Operator

Source:

Table . Average Trend of Fish Catch per Month

Type of Commodity	Volume of Fish Catch												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ave
Marine Products													
-													
-													
Aquaculture Products													
-													
-													

Source:

ii. *Describe the existing facilities that offer the same service as the proposed subproject and the volume that they currently cater. Describe the current situation of the fisherfolk in terms of use of the facility (if existing and needs repair or expansion) or current operation or practice of the fisherfolk (if the proposed facility is new construction).*

Table ____. Present profile of Existing Fish Landing/ Feeder Port

Location	Capacity	Condition (functional, non-functional)

Source:

iii. Demand Side - *Discuss the capacity with the intervention of the proposed facility. (How will this change the existing profile of post-harvest facilities and the volume of crops that can benefit from its operation. Discuss the farmer's willingness to use the facility.)*

Table ____. Projected profile of Fish Landing/ Feeder Port

Location	Capacity	Condition (functional, non-functional)

Source:

iv. Demand-Supply Analysis - *Describe the gap (degree of need) between the desired (With Project) and current condition (Without Project). Will the construction of the proposal be enough to cater the demand? How will the proposal affect the current situation? How will the facility benefit the commodity value chain as discussed in the Value Chain Analysis. How will this affect the beneficiaries?*

b. Technical Analysis

i. Location of the Fish Landing/Feeder Port
ii. Description of Existing Structures
iii. Technical Description of the Fish Landing/Feeder Port (show the design perspective)
iv. Design Properties of Materials
v. Load Assumptions
vi. Layout of the Facility
vii. Proposed Sources and Location of Quarries, Borrow Pits and Construction Materials
    a. Relative distance of quarry and construction materials to project site/Dumping site for surplus excavation (Attach Certificate signed by Brgy. Captain and Lot Owner)
    b. Handling of materials
    c. Dependability and availability of required quantities
viii. Items of work and cost (POW Summary) – is it within the cost parameter?
ix. Implementation schedule of the sub-project (project duration, no. of unworkable days, estimated start and end of construction)

c. Operational Analysis

i. Organizational Structure of the Project Management Implementing Unit (PMIU) to be set up at either the provincial LGU, city LGU or municipal LGU, that will manage the project and their roles and responsibilities. Mention the executive order creating the PMIU. *(Pre-Implementation Phase)*

ii. Plan for management during construction, key roles and responsibilities of assigned full time construction site personnel or site supervision team. *(Implementation Phase)*

iii. Sustainability Plan *(Post-Implementation)*
    a. Organizational Development for the Operation and Maintenance
        • Organizational Structure

- Duties and Responsibilities

b. Process Of Availment of the Facility's Services *(process flow of operation from distribution, to collection of tariff, recording, remittance, collection reports and maintenance)*
c. Operation and Maintenance Plan and Budget *(as presented in EFA)*
d. Utilization of Net Income *(How will the revenue be used?)*
e. Plan for Future Expansion *(any plan for expansion, upgrading)*

d. Social Analysis

i. Subproject Beneficiaries
ii. Indigenous Cultural Community/Indigenous Peoples (ICC/IP)
iii. Site and Right-of-Way acquisition
iv. Damage to standing crops, houses and/or properties
v. Physical displacement of persons
vi. Economic displacement of persons
vii. Grievance redress mechanism
viii. Labor-related Risks
ix. Occupational Health and Safety
x. Community Health and Safety
xi. Conflict Context Assessment

e. Environmental Analysis

i. Natural habitat
ii. Physical Cultural Resources
iii. Terrain, Soil Types and Rainfall
iv. Natural and Geologic Hazards/Risk Assessment
v. Resource Conservation and Pollution Control
vi. Integrated Pest Management/DA KASAKALIKASAN
vii. Status of Environmental Clearances

f. Social and Environmental Impacts

g. Financial Analysis

i. Total Project Cost by Financing Source and Cost Sharing (WB LP, GOP-DA, LGU)
   - *Show Table of Project Cost Sharing*
   - *Provide a short write-up/narrative/explanation.*
ii. Total Project Cost Breakdown
   a. Direct
   b. Indirect
   - *Provide a short write-up/narrative/explanation.*
iii. Status of LGU equity availability and LFC certification – attach appropriation ordinance stating the 10% equity for the SP and Cost for O & M for 10 years.
   - *Provide a short write-up/narrative/explanation.*
xii. Sales/Revenue *(if applicable)*
xiii. Depreciation Expense *(if applicable)*
xiv. Projected Income Statement *(if applicable)*
xv. Cash Flow *(if applicable)*

h. Economic Analysis and Evaluation

1. Economic Benefits

- *Enumerate the project benefits valuated for the analysis. Explain briefly each benefit and how it is calculated*

a. **Increase in Market Value** *(Farmgate Price)*
   - *Present and briefly discuss the increase in market value of crops with and without the SP. How was it estimated? Discuss the result of the analysis.*

Table (No.) Market Value of Commodity Product WOP and WP

Commodity Product	WOP Price	WP Price	Difference

Source:

- *Discuss the benefits generated from the total production relative the incremental increase in Value WP*

Table (No.) Projected Benefits with the increase in Market Value

Commodity	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Total										

Source:

b. **Decrease in Marketing/ Expense or Hauling Cost** *(if applicable)*

- *Provide a comparative cost With and Without the Project. Explain briefly the contents of the table or the costs incurred in using the SP compared to the current cost paid WOP.*

Table (No.) Comparative Cost With and Without the SP

Commodity	WOP				WP				Difference
	vehicle 1	Vehicle 2	Vehicle 3	Average	vehicle 1	Vehicle 2	Vehicle 3	Average	

Source:

- *Provide a short write-up/narrative/explanation for the table.*
- *Make reference to a relevant Model/Detailed Table # of EFA*
- *Identify the valuated benefit generated from the incremental increase in market value of crops WP.*

c. **Reduction in Transport Losses**

- *Explain briefly this benefit and how the project will help achieve this benefit.*
- *Provide a short write-up/narrative/explanation for the table. Discuss basis of assumptions for each of the data presented – how they were gathered, what sources and corresponding basis.*

Table ____ (No.) Reduction in Transport Losses Per Commodity in Barangay _____, YYYY

Commodity	Unit	Market Price (Php/unit)	Transport Losses WOP per unit *(% per __)*	Transport Losses WP per unit *(% per __)*	Estimated Reduction in Transport Losses *(% per __)*
		20Php	2%	1%	1%

Source:

- *Make reference to a relevant Model/Detailed Table # of the EFA Template.*
- *Identify the valuated benefit generated from the decrease in postharvest losses of crops WP.*

d. **Revenue Generated** *(only if applicable)*

- Show and discuss the projected revenue generated by the subproject. Discuss the fees per head of livestock slaughtered
- *Provide a short write-up/narrative/explanation for the table.*

Table (No.) Revenue Generated, YYYY

Fee	Volume	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	Y19	Y20
TOTAL																					

Source:

2. Economic Costs

a. Capital Cost and O & M Cost Breakdown
- *Show Capital Cost based on the POW*
- *Show O & M Cost Breakdown (total amounts should be identified according to the stipulated thresholds)*
- *Provide a short write-up/narrative/explanation*

b. Social Safeguards Related (SES) Cost
- *Discuss the costs incurred for the preparation of requirements for SES compliance and other fees required for social preparation that are not included in the POW. (Tax is already excluded for fees paid to the government either in the LGU or national offices/agencies, hence financial cost equals economic cost)*
- *Present tab on SES Cost, refer to new EFA Template*

c. Net Value of Crop Production Foregone
   - *Discuss the benefits forgone due to implementation of the project, i.e. annual and perennial crops and lumber (specifically for crops/goods marketed only and does not include crops used household consumption)*
   - *Show NVCP Foregone Summary, Production Cost for Perennial and Seasonal Crops in EFA template*

3. Direct Jobs

a. **Construction**[21]
- No. of Unskilled Laborers to be hired and corresponding wage rate
- No. of Skilled Laborers to be hired and corresponding wage rate
  Provide a short write-up/narrative/explanation

b. **Operations**
- No of staff to be hired once the SP is operational
  Provide a short write-up/narrative/explanation.

4. Adjustment of Financial Values to Economic Terms
- *Provide a short write-up/narrative/explanation.*
- *Show Tab1 of EFA template*

5. Results of the Economic Analysis
- *Present and discuss EIRR, ENPV and BCR results.*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*

6. Economic Sensitivity Results
- *Present and discuss results of sensitivity analysis.*
- *Describe if project is feasible with the increase in cost and benefit at 10%*
- *Show summary table on Sensitivity Analysis tab*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*

7. List of the attached Models/Detailed Tables of EFA Template

Table 1a Economic Cost of Sub-Project
Table 1b SES-Related Cost
Table 2 Investment and O&M Costs
Table 3a Maintenance Cost (Facility)
Table 3b Annual Operating and Maintenance Cost
Table 4 Increase in Market Value of Commodity
Table 5 Savings in Transport Cost *(only if applicable)*
Table 6 Savings in Reduction in Transport Losses
Table 7 Revenue *(only if applicable)*
Table 8a Net Value of Crop Production Foregone
Table 8b Annual Crop Production Cost
Table 8c Perennial Crop Production Cost
Table 9 Economic Analysis
Table 10 Sensitivity Analysis (on cost, benefits & delays)

V. Conclusions and Recommendations

i. Conclusions

(Provide a brief summary of the result of analysis made as presented and discussed in the major section of the FS, i.e., project identification, geographical, supply and demand analysis, technical and operational analysis, social and environmental analysis, financial, economic and sensitivity analysis.)

ii. Recommendations

(Provide recommendations based on the findings summarized in the conclusion.)

[21] *Based on Detailed Estimates in the Program of Works*

D.3 Warehouse and Warehouse with Multi-Purpose Drying Pavement (MPDP)

One of the vital postharvest facilities to support the value chain of commodities are Warehouse (WH) and Warehouse with MPDP. This type of infrastructure subproject is needed by farmers for the storage and drying of their crops to improve marketability of their produce. The benefits that can be derived for the establishment of WH and WH w/ MPDP includes increase in market value of crops due to improved quality and better access to the market, reduction of post-harvest losses and revenue if the LGU plans to collect service fees for the use of the facility for its maintenance and operation. To assess the economic and financial viability of the proposed subproject, the economic investment cost, O&M cost SES-Related Cost and NVCP Foregone are also estimated to conduct Benefit-Cost Analysis (BCA). The period of analysis for WH and WH w/ MPDP considered the total usable lifespan of the subproject, which is 20 economic years.

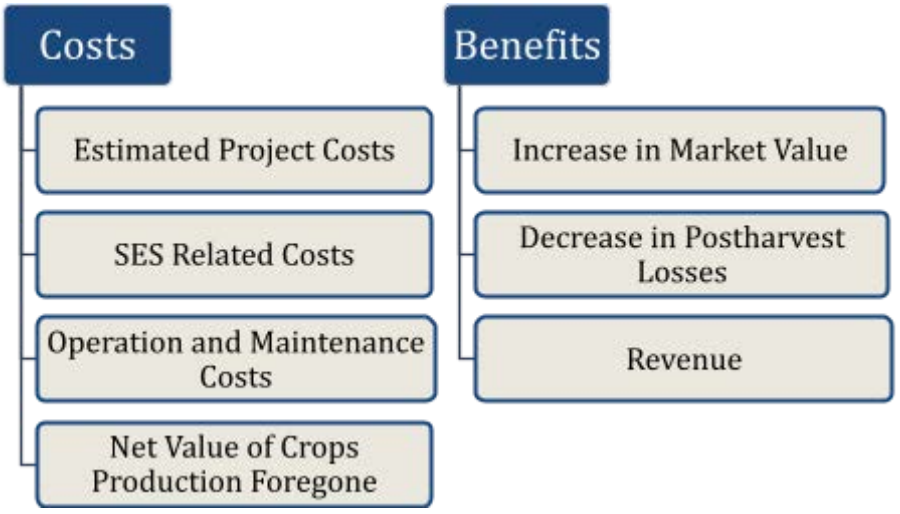


Figure 2. EFA Model for IBUILD Warehouse/ Warehouse with MPDP

D.3.1 Warehouse/ Warehouse with MPDP

1. Tab1. Conversion of Financial to Economic Cost

Tab 1 of the EFA template is the conversion of financial costs of the project to economic cost. Items included in evaluating the economic cost are materials, equipment, skilled labor, unskilled labor, overhead, contingencies and miscellaneous (OCM), contractor's profit, taxes, pre-engineering activities, engineering supervision cost and Social and Environmental Safeguards (SES)-related costs.

Table 63. WH/WH with MPDP EFA Tab1b Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Materials	Materials are classified into 2 types: (a) with foreign components and (b) locally sourced. It is assumed that 60% of	Material cost under the financial cost column in the EFA template must be the same as the cost reflected in the Program of

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
	material costs has a foreign component, which is subjected to shadow pricing using a factor of 1.2, and the remaining 40% is base cost of locally sourced materials. Note that the shadow price of foreign exchange is 20% higher than the official rate and this applies to the materials with foreign components. Only cells highlighted in yellow must be filled in as the values for "with foreign component" and "locally-sourced" will automatically be computed.	Works (POW). This must be re-checked with the data in the POW.
Equipment	Equipment cost is the equipment rental cost based from the 2014 Association of Carriers and Equipment Lessors, Inc. (ACEL) Rates. Only cells highlighted in yellow must be filled in. Equipment cost is base cost, which does not include taxes. Tax for this item is already calculated under the "Taxes" item.	Equipment cost under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Skilled Labor	Skilled labor includes heavy equipment operator, mason, foreman, carpenter, welderand steel fabricators. Only cells highlighted in yellow must be filled in. Skilled labor is a base cost which does not include taxes. Tax for this item is already calculated under "Taxes" item.	Skilled labor cost under financial cost column in EFA template must be the same with the cost reflected in the Program of Works (POW). This must
Unskilled Labor	Unskilled labor includes laborers, helpers, warehouse men, and timekeepers. Only cells highlighted in yellow must be filled in. The assumption is that conversion factor for unskilled labor is	Unskilled labor cost under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
	0.6 since its value is 60% only of the minimum wage rate (source: NEDA).	
Overhead, Contingencies and Miscellaneous (OCM)	Overhead, Contingencies and Miscellaneous (OCM) is 15% of total direct cost if subproject cost is PhP5 million below; 12% if PhP5 million to PhP50 million; 10% if PhP50 million to PhP150 million; 8% if above PhP150 million. Only cells highlighted in yellow must be filled in. Tax for this item is already calculated under "Taxes" item.	OCM cost under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Contractor's Profit	Contractor's Profit Contractor's Profit is 10% of total direct cost if project cost is PhP5 million below; 8% otherwise. Only cells highlighted in yellow must be filled in. Tax for this item is already calculated under "Taxes" item.	Contractor's Profit under the financial cost column in EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Taxes	Tax is 12% of total mark-up value of the base cost and all items sourced locally. Taxes should not be included in the economic value of project cost.	Taxes under the financial cost column in the EFA template must be the same as the cost reflected in the Program of Works (POW). This must be re-checked with the data in the POW.
Pre-engineering Activities	Pre-engineering activities include FS and DED Preparation, including site surveys. Pre- engineering activities are 5% of base direct cost + 12% tax; economic cost, however, should exclude tax.	Pre-engineering activities cost has already been derived under the financial cost column in EFA template which is 5% of base direct cost + 12% tax. This cost cannot be found in the Program of Works (POW) since it is not included in the total project cost to be funded by PRDP. This cost must be shouldered by PLGU/MLGU. In deriving the economic cost, tax should be excluded.

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Engineering Supervision	Engineering Supervision is 5% of base direct cost + 12% tax; economic cost, however, should exclude tax.	Engineering Supervision cost has already been derived under the financial cost column in EFA template which is 5% of base direct cost + 12% tax. This cost cannot be found in the Program of Works (POW) since it is not included in the total project cost to be funded by PRDP. This cost must be shouldered by PLGU/MLGU. In deriving for the economic cost, tax should be excluded.
SES-related Costs	The total financial and economic costs will be included in this table. The itemized breakdown shall be presented in Tab1b. These costs will be included as indirect costs to be shouldered by the LGU-proponent.	This is linked to Table 1b. Kindly ensure correct linking of cells with tab 1b.
Total Financial and Economic Cost	Summation of Total Direct Cost and Total Indirect Cost (OCM, Contractor's Profit, Engineering Supervision, Pre-Engineering Activities, SES Related Cost).	This is automatically calculated

2. Tab 1b. Social and Environmental Safeguards-Related Cost

All costs to be incurred that are related to social and environmental safeguards activities in the preparation and implementation of the Warehouse/ Warehouse with Multi-Purpose Drying Pavement (MPDP) subproject shall be itemized in this table. SES activities may include consultation with Project-Affected Persons (PAPs), fees and operating expenses in securing permits and licenses including water permit, environmental clearances, NCIP certification, water potability test, operating cost and fees for the preparation of Resettlement Action Plan, IP Plan, Biodiversity Management Plan, Cultural Heritage Management Plan, Integrated Pest Management Plan among others. In cases where proposed structures will involve acquisition of Right-of-Way and where there are productive crops that will be affected, the net value of crop production foregone shall be valued and included as dis-benefits in the EFA. The detailed guidelines including the conversion of financial costs to economic values, are shown in the Annex 2.

3. Tab2. Investment Cost

Tab 2 of the EFA presents a summary, in economic terms, of investment cost and operating & maintenance cost over the 20-year project life of the facility. The detailed computations for investment cost and operating & maintenance cost are presented in Tab1 and Tabs 3 (3a and 3b), respectively.

Table 64. WH/WH with MPDP EFA Tab2 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Investment Cost	Total Project Cost (TPC) composed of direct cost (materials, labor, equipment) and indirect cost (OCM and Contractor's profit). Investment cost also includes other indirect costs i.e., Pre-Engineering Activities, Engineering Supervision and SES related costs. All of which are converted to economic terms	The Total Economic Project Cost in Table 1. This is the summation of total economic investment cost converted from the financial cost in POW and Economic SES Related Cost in Table 2. *Note:* *Economic value is reflected on year 0 since this cost represents the capital cost but in economic terms. The PLGU/MLGU is not required to provide inputs as the cell already has a formula.*
Operating and Maintenance Cost	Annual Operating and Maintenance Cost converted to Economic terms	O&M Cost must be linked in Tab3b. Operating Cost must be rechecked in Table 17 under Cash Flow (Economic) for consistency and completeness of projected operating cost. And Table 3a
Total Investment and O&M Cost	Total Economic Investment Cost and O&M Cost.	Total investment cost is the sum of the economic cost and O&M cost. The PLGU/ MLGU is not required to provide inputs as the cell already has a formula.

4. Tab3a. Annual Maintenance Unit Cost (Facility)

This table provides a detailed activity for the maintenance of the facility based on the approved O&M Plan submitted by LGU to I-BUILD. These activities are converted to Economic terms using similar conversion factors and assumptions in Tab1 of EFA.

Activities must be estimated in specific items, i.e. equipment, materials, skilled labor and unskilled labor.

Table 65. WH/WH with MPDP EFA Tab3a Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Unit Maintenance Cost (Financial)	Cost items (equipment, materials, skilled and unskilled labor) per planned activity to be conducted for the repair and maintenance of the facility. Based on an approved O&M Plan.	Cost items and activity must be consistent with the I-BUILD-approved O&M Plan. Check proper encoding of items per activity and tax must be accounted for in the estimated financial cost. Note: *Check if unit cost used per month or per annum and calculate accordingly in Tab 3a. If the unit cost presented is monthly, then multiply to 12 to get the annual cost. If a specific cost schedule per month is provided in the plan then ensure total annual cost is correctly accounted for.*
Unit Maintenance Cost (Economic)	Economic unit cost per activity and item (cost is already calculated based on the template)	Check proper linking of cells, conversion and summation. Economic conversions are similar to the assumptions used in Tab1 conversion. The PLGU/ MLGU is not required to provide inputs as the cell already has a formula.

5. Tab3b. Annual Maintenance Cost

This provides an estimated annual cost of maintenance activities to ensure that the facility functions as planned and in good condition over the estimated useful life. The estimated cost will be included as part of the economic cost of the facilities in addition to the investment cost, cost to comply with the SES requirements and opportunity cost (if any) for the use of the area.

Table 66. WH/WH with MPDP EFA Tab3b Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Annual Maintenance Cost (Financial)	Annual Financial Maintenance Cost of the facility and does not include the operating cost.	Cost for the repair and maintenance must be correctly linked to Tab10 Financial Assumptions and Schedule of Operating

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
		Expenses. Check if the cost and activities are consistent with the FS and O&M Plan approved by I-BUILD.
Periodic Maintenance every 6th year	Periodic Maintenance every 6th year is approximately +60% of annual maintenance and is undertaken every sixth year. PLGU/MLGU is not required to provide inputs as the cell already has a formula.	Every six years, there is an additional 60% of the annual cost for the periodic maintenance of the facility. *Note:* *If the O&M Plan has specific activities for periodic maintenance provided in Tab3a, then please ensure correct linking of figures to the appropriate year and remove the 60% assumption for periodic maintenance.*
Annual Maintenance Cost (Economic)	Annual maintenance cost for SH/DH must be the Economic cost of maintenance of the facility and does not include the operating cost.	The cost of the repair and maintenance is correctly linked to Tab3a Total Economic Cost. Check if conversion from financial to economic terms are consistent with assumptions used in Tab1a.
Operating Cost (Financial)	Total Annual Operating Cost which includes, utilities, salaries and wages, benefits, repair and maintenance of the facility, administrative expense, miscellaneous expenses and other expenses	Economic Cost is linked to Tab 13 Cash Flow. Repair and maintenance of the facility is excluded to avoid double counting. Check if items and cost are consistent with FS Operational and Financial Analysis.
Operating Cost (Economic)	Total Annual Operating Cost converted into economic terms. All Operating Cost less 12% tax. Labor in the operation of the facility is identified between Skilled and Unskilled. Skilled labor is deducted with 12% tax and unskilled labor is multiplied to a conversion factor of 60%.	Economic Cost is linked to Tab 13 Operating Expenses (Economic). Repair and maintenance of the facility is excluded to avoid double counting.
Annual Maintenance and Operating Cost (Economic)	Annual Repair and maintenance Cost and Annual Operating Cost converted into economic values.	The sum of Annual Repair and Maintenance Cost and Annual Operating Cost. Check linking of cells in the table and double check values if correct.

6. Tab4. Increase in Market Value

One of the major benefits derived from establishing WH/WH with MPDP is the increase in market value. This facility provides value chain infrastructure support which enables farmers to market their goods at a higher price due to better quality and better access to market opportunity.

Table 67. WH/WH with MPDP EFA Tab4 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Warehouse Capacity and Utilization		
Total Capacity	Effective storage area, stacking density of sacks/bags, area of alley and passageways	Approved Detailed Engineering Design (DED) submitted by LGU to I-BUILD
Utilization Rate	Estimate % of utilization of the warehouse per batch. *Note: The rate is used to provide a conservative estimate of total volume stored at a given time in order to not overestimate the benefit and provide a more realistic benefit based on actual scenario*	Based on actual experience with similar facility in the municipality, data from appropriate office in the PLGU/MLGU
Length of Storage per batch	Estimated average number of days of storage per batch	Based on actual experience with similar facility in the municipality, data from appropriate office in the PLGU/MLGU
Estimated number of days of operation per year	Number of days of operation or use of the facility less number of days for preventive maintenance	Based on O&M Plan, Operational Plan as reflected in the FS.
Total Frequency of Storage per year	Number of days of storage per batch, number of days of operation, utilization rate	The LGU is not required to provide information since this is automatically calculated. However, please double check the linking of cells to ensure correct calculation.
Total Volume to be Stored	Total number of batches or frequency of storage per year and the average volume of crops to be stored per batch.	The LGU is not required to provide information since this is automatically calculated. However, please double check the linking of cells to ensure correct calculation.
Dryer Capacity and Utilization		
Total Capacity	Effective drying area less area of alley and passageways	Approved Detailed Engineering Design (DED) submitted by LGU to I-BUILD

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Utilization Rate	Estimate % of utilization of the dryer per batch. *Note: The rate is used to provide a conservative estimate of total volume dried at a given time in order to not overestimate the calculation and provide a more realistic benefit based on actual scenario.*	Based on actual experience with similar facility in the municipality, data from appropriate office in the PLGU/MLGU
Length of Drying per batch	Estimated average number of days of drying per batch *Note: Seasonality should also be considered, i.e. longer drying days for wet season and shorter for dry season*	Based on actual experience with similar facility in the municipality, data from appropriate office in the PLGU/MLGU
Estimated number of days of operation per year	Number of days of operation or use of the facility less number of days for preventive maintenance	Based on O&M Plan, Operational Plan as reflected in the FS.
Total Frequency of Drying per year	Number of days of drying per batch, number of days of operation, utilization rate	The LGU is not required to provide information since this is automatically calculated. However, please double check the linking of cells to ensure correct calculation.
Total Volume to be Dried	Total number of batches or frequency of drying per year and the average volume of crops to be dried per batch.	The LGU is not required to provide information since this is automatically calculated. However, please double check the linking of cells to ensure correct calculation.
Estimated Volume of Crops (supply)		
Total Production Area	Estimated project service area as validated per type of crop	Actual geotagging by the PLGU/LGU verified and approved by GGU, Commodity Map in the FS
Yield per year per crop	Type of crop and average yield per hectare in one year	Based on actual farming record in the project service area, data from appropriate office in the PLGU/MLGU
Total volume of production per type of crop per year	Total production are, yield per hectare per year per crop *Volume of crops produced within the Project Service Area is estimated to verify if the proposed facility has enough supply of crops for its use or*	The LGU is not required to provide information since this is automatically calculated. However, please double check the linking of cells to ensure correct calculation.

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
	confirm if the proposed design capacity is enough and not overly estimated to prevent the risk of underutilization.	
Increase in Market Price of Crops		
Market Price Without Project (Harvest Price)	Existing market price of commodity	Based on prevailing market price. Data may come from responsible office in the PLGU/MLGU
Market Price With Project (Selling Price)	Projected market price of commodity	Projected market price may use the price of other areas with similar facilities as benchmark with project scenario.
Increase in market Price	Selling Price less Harvest price	The LGU is not required to provide information since this is automatically calculated. However, please double check the linking of cells to ensure correct calculation.
Increase in Market Value		
Subtotal Net Benefit	Estimated volume of commodity to be stored in the facility (warehouse) or dried in the dryer per year per crop and the estimated increase in Market Price for the specified crop	The LGU is not required to provide information since this is automatically calculated.
Total Net Benefits	Summation of Net benefits derived from all type crops that will be stored in the warehouse	The LGU is not required to provide information since this is automatically calculated. *Note:* *If there are additional type of commodity that will access the facility, kindly ensure proper linking of additional cells and data input in the cells to confirm correct calculation.*

7. Tab5. Savings in Postharvest Losses

This accounts for the benefits derived in terms of reduction in postharvest losses due to construction of a new post harvest facility as compared to the current facility used by farmers in storing and drying of crops.

Table 68. WH/ WH with MPDP Tab5 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Total volume stored/dried	Estimated volume stored in the warehouse and/or volume dried in the dryer. This is linked to Tab4	This is linked to Tab 4. The LGU is not required to provide information. However, please double check the linking of cells to ensure correct calculation.
Estimated Reduction in Postharvest Losses	Estimated percentage (%)reduction in postharvest. (Postharvest losses without project less postharvest losses with project)	Based on actual experience with similar facility in the municipality, data from appropriate office in the PLGU/MLGU
Farmgate price	Farmgate price of crops	Data from appropriate PLGU/MLGU or PSA
Subtotal Net Benefit	Estimated volume of commodity to be stored in the facility (warehouse) or dried in the dryer per year per crop, the estimated reduction in postharvest losses and farmgate price of the specific commodity	The LGU is not required to provide information since this is automatically calculated.
Total Net Benefits	Summation of subtotal net benefits derived from all type crops calculated with the decrease of postharvest losses	The LGU is not required to provide information since this is automatically calculated. *Note:* *If there are additional type of commodity that will access the facility, kindly ensure proper linking of additional cells and data input in the cells to confirm correct calculation.*

8. Tab6. Revenue from Fees (if any)

This accounts for the benefits derived from the fees collected by the management from the beneficiaries in using the facility. Schedule of fees must be based on the agreed fees as approved by barangay resolution, local ordinance and other issuances pursuant to the Local Government Code in collecting revenues from other sources.

Table 69. WH/WH with MPDP EFA Tab5 Data Requirements

Data	Requirements	Reliable and acceptable data sources/ Acceptable method of data gathering
Total projected volume stored/ dried	Volume of crop to be stored and/or dried per year.	This is linked to Tab4. The LGU is not required to provide information. However, please double check the linking and data input in the cells to ensure correct calculation.
Schedule of Fees per unit	Fees collected by unit of crop to be dried or stored in the facility.	Based on approved or existing Schedule of Fees as provided by Local Ordinance. Any planned increase in fees must be provided with supporting basis, e.g. pending local ordinance or executive order waiting for approval. This must also be presented and discuss in the FS under Operational Analysis
Total Revenue	Total projected volume stored/ dried multiplied to fees paid per unit (e.g. sack, kg. bag, etc.)	The LGU is not required to provide information since this is automatically calculated. However, please double check the proper linking and data input in the cells to ensure correct calculation.

9. Tab7. Net Value of Crops Production Foregone (if applicable)

This tab is applicable to subprojects that require acquisition of project site for the construction of Warehouse/ Warehouse with MPDP in areas that are currently planted or have standing productive crops including seasonal or annual crops (e.g., palay, corn, root crops, etc.) or perennial crops (e.g., coconut, abaca, cacao, coffee, rubber, etc.). The net value of production foregone of specific affected crops shall be calculated to determine the economic opportunity costs. Please refer to Annex 2 for the guidelines on the calculation of the net value of crop production foregone.

10. Tab8. Economic Analysis

This summarizes all the benefits and costs derived from the previous tables and yields the computed EIRR, NPV, and BCR to reflect economic viability of the subproject.

Table 70. FD/FL EFA Tab9 Data Requirements

Data	Requirements	Reliable and acceptable data sources/Acceptable method of data gathering
Economic Net Present Value (ENPV)	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed.	It must be noted that ENPV result should be positive to make sure that the investment yields a positive impact to the society. A project that has a negative ENPV result will be rejected.
Economic Internal Rate of Return (EIRR)	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed.	EIRR must be above 10%. Projects with an EIRR below 10% will be rejected.
Benefit-Cost Ratio (BCR)	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed.	BCR must be equal or greater than 1.0. A project with a BCR below 1.0 will not be accepted.

11. Tab9. Sensitivity Analysis

This indicates the feasibility of the subproject given several scenarios of reduced benefits and increased costs. The following scenarios are given: increase in cost of 5%, 10%, 15%, 20%, 30% and decrease in benefits of 5%, 10%, 15%, 20%, 30%) and the feasibility of the subproject is tested for each scenario.

Table 71. FMR EFA Tab10 Data Requirements

Data	Requirements	Reliable and acceptable data sources/Acceptable method of data gathering
Sensitivity Analysis	PLGU/MLGU is not required to provide inputs in this portion as this will automatically be computed. Sensitivity analysis assesses risks by identifying the variables that most influence a project's net benefits and quantifying the extent of their influence.	The proposed subproject will be accepted if its economic indicators (ENPV, EIRR and BCR) are satisfactory at both sensitivity scenarios of increase of cost by 10% and a decrease of benefits by 10%.

D.3.2 Feasibility Study Outline for Warehouse/ Warehouse with MPDP Subprojects

Executive Summary

A. Project Title : _____
B. Project Location : Brgy/s, Municipality
C. Project Category (rehabilitation or new construction): _____
D. Project Scale/Dimension : _____
E. Project Proponent : _____
F. Implementing Unit : _____
G. No. of Barangays Covered by the SP.: _____
H. Mode of Implementation : *(contract/admin)*
I. Operational Management : _____*(BLGU, MLGU, PLGU)*
J. Project Influence Area (PIA) : _____*hectares*

Brgy.	Production Area	Crops	Average Annual Volume
Brgy 1		-	
		-	
Brgy 2		-	
		-	
Total			

Source:

K. Project Beneficiaries

Barangay	Demand			
	Household	Male	Female	Total Population

_____ farming households; no of farmers: M= _____; F=_____
_____ fishing households ; no of fisherfolks: M= _____; F=_____

(data source: _____)

_____Indigenous People (IP); M= _____; F=_____
_____ Non-IP
(data source: NCIP)

L. Total Project Cost and Cost Sharing : P_____
WB : P_____
GoP : P_____
LGU Equity : P_____

M. Economic Indicators
1) Economic Net Present Value (ENPV) : _____
2) Economic Internal Rate of Return : _____
3) Benefit Cost Ratio : _____

N. Conclusion and Recommendations : *a statement as to whether or not the project has been found feasible from the marketing, technical, economic and operational viewpoint.*

I. Introduction

a. **Provincial/Municipal Background (Brief description in 2-3 paragraphs particular to SP proponent)**

i. Demographics
ii. Economy
iii. Agriculture and Rural Development Sectors

b. Project Identification and Prioritization Profile

i. E-VSA Maps and Statistics *(Show and discuss the data of the priority commodity that is presented in the E-VSA Maps and Statistics)*

ii. Value Chain Summary *(Cite discussion and findings from Value Chain Analysis.)*

iii. Commodity Profile *(Cite excerpts from PCIP-the rationale of the SP inclusion in the PCIP. Highlight how the subproject was identified and how it will support the specific Value Chain. Establish the issue/ problem that the proposal will address to strengthen the Value Chain of the priority commodity.)*

c. Existing I-REAP Enterprises to be supported by the Subproject (*if none, then cite the existing agricultural enterprise relative to the priority commodity that will be supported by the subproject)*

d. Other I-BUILD Subprojects funded by the Project (*Only if applicable, identify other subprojects funded by the Project located in the same municipality/city and describe the status of its implementation. These include SPs proposed and implemented by PLGU).*

II. The Subproject

a. The Project Influence Area

i. Location *(Brief description in 1-2 paragraphs)*
   a. Geography
   b. Relative distance to growth and commercial centers
   c. Topography
   d. Mapping the Subproject
      - describe the geotagging methodology
   e. Estimation of PIA
      - If possible, kindly delineate between sources of crops (existing and potential) and residential areas
ii. Demographics *(Brief description in 1 paragraph)*
iii. Major Economy and Land Use *(Brief description in 1 paragraph)*
iv. On-farm data – *(Briefly describe the agricultural area and crops planted, livestock and fisheries, farming practices)*
v. Off-farm data – (*processing and marketing industry of agri-fishery products especially those located within the PIA)*
vi. Poverty Incidence *(How the SP will address alleviation of poverty in the PIA?)*

III. Subproject Objectives

a. Subproject objectives relative to increase in market value of the crops dried and/or stored, decrease in post-harvest losses and projected revenue of the operation (if any). Include in the objective the need of the facility to support the commodity in the VCA. Objective must be specific based on the quantified benefits in economic analysis as well as other benefits that were non-quantified.

IV. Project Feasibility Indicators

a. Market Analysis/ Demand-Supply Analysis

i. Supply Side – Discuss the availability of supply of crops. Describe any changes of volume of crops planted between cropping season (if any) and other considerations that affect the supply.

Table . Crop Production

Barangay	Commodity	Production Area (ha)	Production/ Ha.	No. of Cropping	Total Annual Production

Barangay	Commodity	Production Area (ha)	Production/ Ha.	No. of Cropping	Total Annual Production

Source:

ii. Show the inventory and profile of existing warehouses, MPDPs, or warehouses with MPDPs both private and publicly owned that are present within the Project Influence Area and neighboring barangays with close proximity to the proposed subproject. Also discuss the existing facilities' (*presented in the Supply Side table)* existing operation, fees, management & ownership, scope and other important details present.

Table ____. Present profile of Existing WH/ WH with MPDP

Location	Capacity	Ownership (private, public)	Condition (functional, non-functional)

Source:

iii. Discuss the current situation of the farmer's without the facility. If a warehouse or MPDP is existing but not sufficient or not operational, then please elaborate how farmers deal with it. Are they able to access the existing facility? If yes, are they paying fees for its use? Does it require membership for its use?

iv. Demand Side – Discuss the capacity with the proposed facility.
(How will this change the existing post-harvest inventory and the volume of crops that can benefit from its operation? Discuss the farmer's willingness to use the facility, How many farmers are willing to use the proposed facility.)

Table ____. Present profile of Existing WH/ WH with MPDP

Location	Capacity	Ownership (private, public)	Condition (functional, non-functional)

Source:

v. Demand-Supply Analysis - Describe the gap (degree of need) between the desired (With Project) and current condition (Without Project) in terms of production volume that needs the postharvest facility. (*Will the construction of the proposal be enough to cater the demand once the facility is operational? How will the proposal affect the current situation? Will this affect other existing facilities with similar services or functions? How will the facility benefit the commodity value chain as discussed in the Value Chain Analysis. How will this affect the farmers?)*

b. Technical Analysis

i. Location of the WH/ WH w/ MPDP
ii. Description of Existing Structures
iii. Technical Description of the Warehouse/ Warehouse with MPDP *(also show the design perspective)*
iv. Design Properties of Materials
v. Load Assumptions
vi. Warehouse/ Warehouse with MPDP Layout
vii. Proposed Sources and Location of Quarries, Borrow Pits and Construction Materials
   a. Relative distance of quarry and construction materials to project site/Dumping site for surplus excavation (Attach Certificate signed by Brgy. Captain and Lot Owner)
   b. Handling of materials
   c. Dependability and availability of required quantities
viii. Items of work and cost (POW Summary) – is it within the cost parameter?
ix. Implementation schedule of the sub-project (project duration, no. of unworkable days, estimated start and end of construction)

c. Operational Analysis

i. Organizational Structure of the Project Management Implementing Unit (PMIU) to be set up at either the provincial LGU, city LGU or municipal LGU, that will manage the project and their roles and responsibilities. *(Pre-Implementation Phase)*
ii. Plan for management during construction, key roles and responsibilities of assigned full time construction site personnel. *(Implementation Phase)*
iii. Sustainability Plan *(Post-Implementation)*

a. Organizational Development for the Operation and Maintenance
   - Organizational Structure
   - Duties and Responsibilities

b. Process Of Availment *(process flow from reservation, storage, payments, recording, etc.)*
c. Operation and Maintenance Plan and Budget *(based on approved O&M Plan consistent with in EFA)*
d. Utilization of Net Income *(How will the revenue be used?)*
e. Plan for Future Expansion *(any plan for expansion, upgrading, etc.)*

d. Social Analysis

i. Subproject Beneficiaries
ii. Indigenous Cultural Community/Indigenous Peoples (ICC/IP)
iii. Site and Right-of-Way acquisition
iv. Damage to standing crops, houses and/or properties
v. Physical displacement of persons
vi. Economic displacement of persons
vii. Grievance redress mechanism
viii. Labor-related Risks
ix. Occupational Health and Safety
x. Community Health and Safety
xi. Conflict Context Assessment

e. Environmental Analysis

i. Natural habitat
ii. Physical Cultural Resources
iii. Terrain, Soil Types and Rainfall
iv. Natural and Geologic Hazards/Risk Assessment
v. Resource Conservation and Pollution Control
vi. Integrated Pest Management/DA KASAKALIKASAN
vii. Status of Environmental Clearances

f. Social and Environmental Impacts

g. Financial Analysis

i. Total Project Cost by Financing Source and Cost Sharing (WB LP, GOP-DA, LGU)
   - *Show Table of Project Cost Sharing*
   - *Provide a short write-up/narrative/explanation.*

ii. Total Project Cost Breakdown
   a. Direct
   b. Indirect
   - *Provide a short write-up/narrative/explanation.*

iii. Status of LGU equity availability and LFC certification – attach appropriation ordinance stating the 10% equity for the SP and Cost for O & M for 10 years.
   - *Provide a short write-up/narrative/explanation.*

iv. Sales/Revenue *(if applicable)*
v. Depreciation Expense *(if applicable)*
vi. Projected Income Statement *(if applicable)*
vii. Cash Flow *(if applicable)*

h. Economic Analysis and Evaluation

1. Economic Benefits

- *Enumerate the project benefits valuated for the analysis. Explain briefly each benefit and the data used.*

a. **Increase in Market Value** *(Farmgate Price)*

1.a Present and briefly discuss the estimated volume of crops to be stored in the facility. How was it estimated? What are the assumptions considered? Discuss the result of the analysis.

Table (No.) Estimated Volume of Crops Stored in the Warehouse

Particulars	*Crop 1*	*Crop 2*
Rated Storage Capacity		
Number of days of operation/ yr.		
Number of days per batch		
Estimated number of batch/yr.		

Particulars	*Crop 1*	*Crop 2*
Total Volume Stored per year		
% Share in Storage Area		
Calculated Volume Stored/yr.		

Source:

1.b Present and briefly discuss the estimated volume of crops to be dried in the facility. How was it estimated? What are the assumptions considered? Discuss the result of the analysis.

Table ____ (No.) Estimated Volume of Crops Stored in the Warehouse

Particulars	*Crop 1*	*Crop 2*
Rated Storage Capacity		
Number of days of operation/ yr.		
Number of days per batch		
Estimated number of batch/yr.		
Total Volume Stored per year		
% Share in Storage Area		
Calculated Volume Stored/yr.		

Source:

2. Present and briefly discuss the increase in market value of crops stored and dried with and without the SP. How was it estimated? Discuss the result of the analysis.

Table (No.) Market Value of Commodity Product WOP and WP

Commodity Product	WOP Price	WP Price	Difference

Source:

- *Provide a short write-up/narrative/explanation for the table. Discuss basis of assumptions for each of the data presented – how they were gathered, what sources and corresponding basis.*
- *Identify the valuated benefit generated from the incremental increase in market value of crops WP.*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*

b. **Reduction in Postharvest Losses**

- *Explain briefly this benefit and how the project will help achieve this benefit.*
- *Provide a short write-up/narrative/explanation for the table. Discuss basis of assumptions for each of the data presented – how they were gathered, what sources and corresponding basis.*

Table ____ (No.) Reduction in Postharvest Losses Per Commodity

Crop	Farmgate Price *(Php/kg.)*	Postharvest Losses WOP *(per sack)*	Postharvest Losses WOP *(per sack)*	Estimated Reduction in Transport Losses *(per sack)*
Warehouse				
Crop 1	20	1%	0.5%	0.5%
Crop 2				
MPDP				
Crop 1				
Crop 2				

Source:

- *Make reference to a relevant Model/Detailed Table # of EFA Template*
- *Identify the valuated benefit generated from the decrease in postharvest losses of crops WP.*

c. **Revenue Generated** *(if any)*

- *Show and discuss the projected revenue generated by the subproject. How much is the fee?*
- *Provide a short write-up/narrative/explanation for the table.*

Table (No.) Revenue Generated, YYYY

Crop	Fee per Unit *(PhP)*	Total Annual olume of crops *(kg. or sack)*	Estimated Annual Revenue *(PhP)*
Warehouse			
Crop 1			

Crop	Fee per Unit *(PhP)*	Total Annual Volume of crops *(kg. or sack)*	Estimated Annual Revenue *(PhP)*
Crop 2			
Subtotal			
MPDP			
Crop 1			
Crop 2			
Subtotal			
TOTAL			

Source:

2. Economic Costs

d. Capital Cost and O & M Cost Breakdown
- *Show Capital Cost based on the POW*
- *Show O & M Cost Breakdown (total amounts should be identified according to the stipulated thresholds)*
- *Provide a short write-up/narrative/explanation*

e. Social Safeguards Related (SES) Cost
- *Discuss the costs incurred for the preparation of requirements for SES compliance and other fees required for social preparation that are not included in the POW. (Tax is already excluded for fees paid to the government either in the LGU or national offices/agencies, hence financial cost equals economic cost)*
- *Present tab on SES Cost, refer to new EFA Template*

f. Net Value of Crop Production Foregone
- *Discuss the benefits forgone due to implementation of the project, i.e. annual and perennial crops and lumber (specifically for crops/goods marketed only and does not include crops used household consumption)*
- *Show NVCP Foregone Summary, Production Cost for Perennial and Seasonal Crops in EFA template*

3. Direct Jobs

a. **Construction**[22]
- No. of Unskilled Laborers to be hired and corresponding wage rate
- No. of Skilled Laborers to be hired and corresponding wage rate

Provide a short write-up/narrative/explanation

b. **Operations**
- No of staff to be hired once the SP is operational

Provide a short write-up/narrative/explanation.

4. Adjustment of Financial Values to Economic Terms
- *Provide a short write-up/narrative/explanation.*
- *Show Tab1 of EFA template*

5. Results of the Economic Analysis
- *Present and discuss EIRR, ENPV and BCR results.*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*

6. Economic Sensitivity Results
- *Present and discuss results of sensitivity analysis.*
- *Describe if project is feasible with the change in benefit and cost*
- *Show summary table on Sensitivity Analysis tab*
- *Make reference to a relevant Model/Detailed Table # of EFA Template*

7. List of the attached Models/Detailed Tables of EFA Template

Table 1a Economic Cost of Sub-Project
Table 1b SES-Related Cost
Table 2 Investment and O&M Costs
Table 3a Maintenance Cost (Facility)
Table 3b Annual Operating and Maintenance Cost
Table 4a Warehouse - Benefits in Increased Market Value of Crops
Table 4b MPDP - Benefits in Increased Market Value of Crops

[22] Based on Detailed Estimates in the Program of Works

V. Conclusions and Recommendations

i. Conclusions

(Provide a brief summary of the result of analysis made as presented and discussed in the major section of the FS, i.e., project identification, geographical, supply and demand analysis, technical and operational analysis, social and environmental analysis, financial, economic and sensitivity analysis.)

ii. Recommendations

(Provide recommendations based on the findings summarized in the conclusion.)

ANNEXES

ANNEX 1

Guidelines for Screening OF Proposed FMR Subprojects based on Road Influence Area under PRDP Scale Up

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Guidelines for Screening of Proposed FMR Subprojects based on Road Influence Area (RIA)

I. Background/Rationale

The Philippine Rural Development Project (PRDP) is a 10-year-project[23] of the Department of Agriculture (DA), in collaboration with the World Bank (WB) and Local Government Units (LGU), that focuses on increasing rural incomes and enhancing farm and fishery productivity in targeted areas by supporting small farmholders and fisherfolk to increase their marketable surpluses and their access to markets. One of the major components of the Project is its infrastructure or I-BUILD component, of which Farm-to-Market Roads (FMR) with or without Bridges cover about 85% of the PRDP I-BUILD sub-project portfolio.

PRDP has been utilizing the Applied Geotagging Technology (AGT) as a planning tool since mid-year 2015 to determine if proposed subprojects are strategically situated in places that would best contribute to the objectives of the Project. The AGT is one of the basic requirements during the subprojects' proposal identification and validation stages. AGT, as a requirement for review and approval of subprojects, is stipulated in Project documents such as Project Appraisal Documents (PAD), I-BUILD Manual, GGU Manual and IPLAN Manual. Inherently, FMR proposals thoroughly reviewed using AGT ensures that these roads will be located in places that would best service Project-prioritized commodities.

However, during its infancy years, the PRDP has met a number of challenges in subproject approval and implementation. FMR proposals, especially those approved in the early stages of the Project, have encountered challenges such as: (a) PRDP proposals apparently overlapping with other DA FMR projects or projects from other funding agencies/institutions, (b) proposals that are closely parallel with major roads, (c) proposals failing to establish linkages to existing road networks and (d) proposals misrepresenting its data on agricultural areas in feasibility studies.

With these concerns, the PRDP has referred to existing studies[24] from DA and WB to help formulate its guidelines on the estimation of the Road Influence Areas (RIA) of FMRs. The RIA is the area that an FMR is expected to effectively service to ensure that the value of investments in an FMR will be much more beneficial than costly. RIA captures an indicative area, including both agricultural and built-up areas, that will directly utilize the road with the goal of supporting and augmenting agricultural activities in the area. In estimating the RIA,

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[23] *Implementation period of PRDP was extended from year-end 2020 to year-end 2022 under the Original Loan and Additional Financing I and to year-end 2024 under the Second Additional Financing.*

[24] *Existing Studies on Road Influence Area*

1. *Philippines Infrastructure for Rural Productivity Enhancement Sector (InfRES) Project. Tools for Identifying Rural Infrastructure Investment Priorities (ILO, 2006) - To estimate the total number of people served, lay out on the map a 3 to 5-kilometer distance on both sides of the road to describe its area of influence.*
2. *Transport Papers- Rural Access Index: A Key Development Indicator (World Bank, 2006). In practice the RAI measures the number of rural people who live within two kilometers (typically equivalent to a walk of 20-25 minutes) of an all-season as a proportion of the total rural population.*

PRDP has adopted a maximum of 2.5-kilometer (km) band from both sides of the proposed road The maximum 2.5 km is the length of band to be laidout on geo-mapping tools such as Geographic Information System (GIS) and AGT. The result of the RIA estimation will help the Project identify/prioritize subprojects that can fully maximize its road investments, given the limited resources of the Project. Equally important is that the RIA estimation will serve as a guide to assumptions used in the economic analysis of proposed FMRs.

The PRDP, through the Geomapping & Governance Unit (GGU) and Economics Unit, has been leading this undertaking to ensure that this guideline is applied to subproject proposals. Since midyear of CY 2015, the Project has been adopting this guideline and was able to avoid proposals that are either overlapping with other similar infrastructure, have minimal to zero effective RIA and/or are parallel to existing major roads. Through this, the Project was able to attain savings in funds and redirected these savings into investments in more appropriate and effective proposals.

Under the **PRDP Scale Up**, a follow-on project to the PRDP and also financed by the World Bank to be implemented from 2024 to 2028, the Project shall continue to adopt the use of RIA in screening proposed FMR subprojects, which constitute about 81 percent of the I-BUILD subproject portfolio. The following sections provide the specific guidelines in estimating the RIA and screening subprojects based on the RIA under PRDP Scale Up.

II. Screening Subprojects

As a general rule of thumb, all proposed subprojects must be strategically located within an area covering the prioritized commodity identified in the expanded Vulnerability and Suitability Assessment (eVSA) map presentation. At the outset, proposed subprojects will be screened based on the following location-specific criteria:

- The proposed FMR will adopt an effective maximum RIA of 2.5 km-, subject to conditions specified in Section IV.
- The proposed FMR will not duplicate or overlap with any existing major road's RIA (e.g. National and provincial concrete road or serviceable road based on hauling speed of 30 kilometer per hour).
- The proposed FMR will not connect to access roads that are in bad condition.
- The proposed FMR will not create a loop that will serve the same area of influence, as shown in Figure 1.

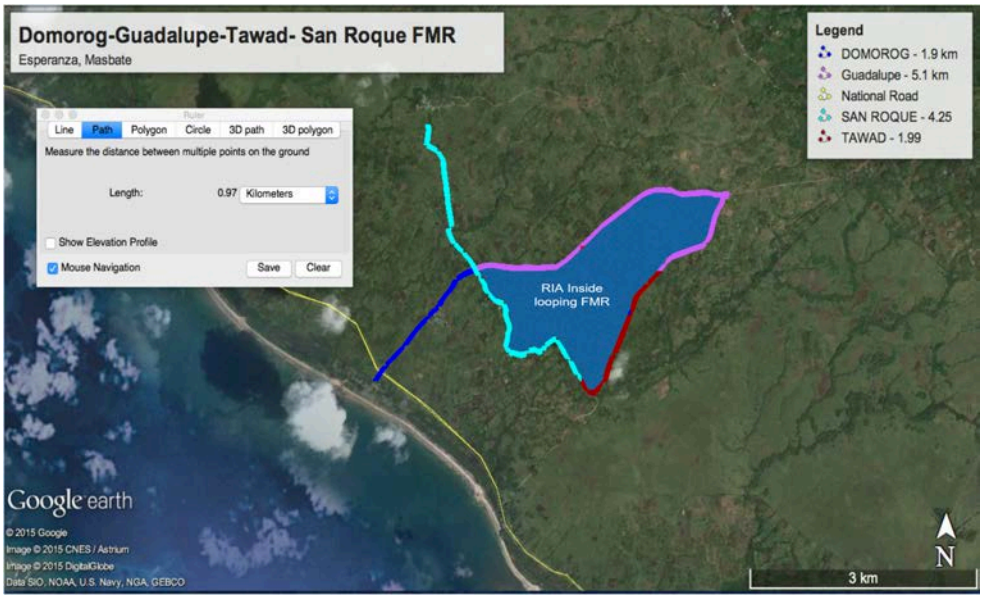


Figure 1. RIA inside looping proposed FMR.

- Proposed sub-projects that will duplicate/overlap with an earlier completed program/project with remaining Operations and Maintenance activities will be excluded from the list of priorities.

In visualizing and determining the distance or proximity of existing roads to the proposed road, and in measuring road influence area and commodity area, the PRDP shall use a Geomapping Tool such as the Applied Geotagging Technology (AGT) to initially screen subprojects with the above-mentioned location-specific criteria. This initial screening will eliminate proposals failing to satisfy PRDP standards that maximize the returns of the road investments.

If the proposed subproject does not pass the criteria set above and is found to have significant overlapping influence areas with existing concrete roads, a recommendation to re-design or relocate the proposal will be issued. As such, it will be given less priority or temporarily excluded from the priority list of subprojects until revised accordingly.

III. Estimating Road Influence Area (RIA)

The influence area determination of rural roads will be based on a 2.5-kilometer distance on both sides of the road and from the end of the proposed road. In general, RIA of PRDP should exclude the RIA of existing concrete roads with similar or better road quality. Only the net serviceable production areas within the 2.5-kilometer band are to be considered as RIA of the subproject. Notwithstanding, this base rule will be subjected to various site-specific considerations and exemptions to get the final road influence area estimation.

For sole-access roads (i.e., end of proposed road will not connect with an existing road except narrow earth trails passable only on foot, animals, or two-wheeled vehicles), the

2.5-kilometer distance from the end of the proposed road can be extended up to a maximum distance of 5.0 kilometers.

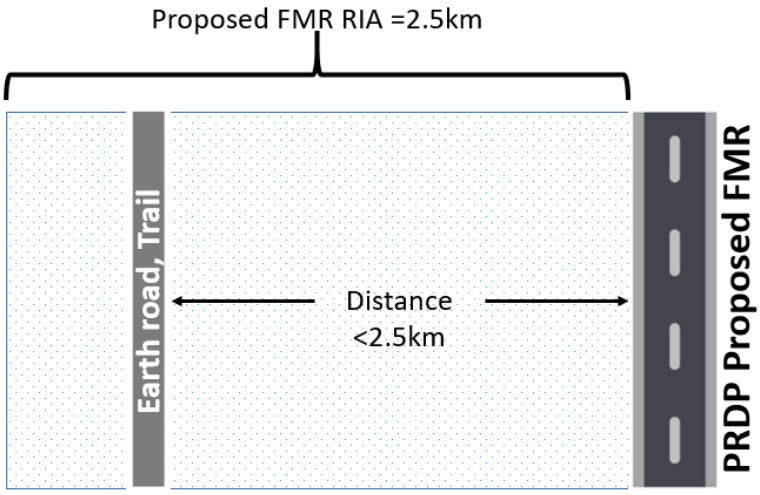
IV. Considerations and exemptions to the 2.5-km band rule

1) Marginal production areas can be included in the RIA of subprojects. In cases when the impact of the FMR includes the establishment of new agricultural areas within the RIA of existing roads, the additional production areas can be included as benefits of the project.

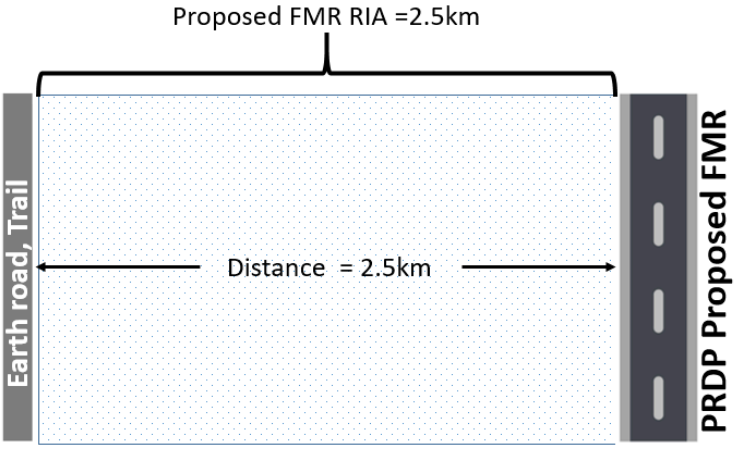
2) For stand-alone bridges that provide sole access, the RIA would cover the whole area the bridge would provide access to, leading to the market. It may extend more than the 5-kilometer limit.

3) If the proposed road is parallel with a lower quality road (i.e., earth road, trail and tire paths), the following analysis applies:

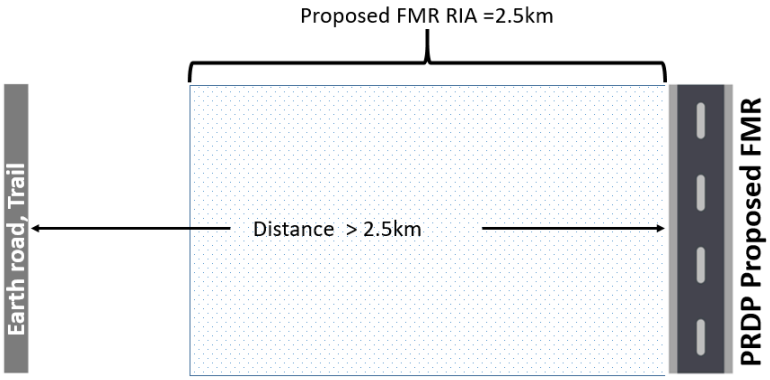
    a. Distance between the two roads < 2.5 km : The effective RIA of PRDP is 2.5 km, notwithstanding the presence of the road it is parallel to.



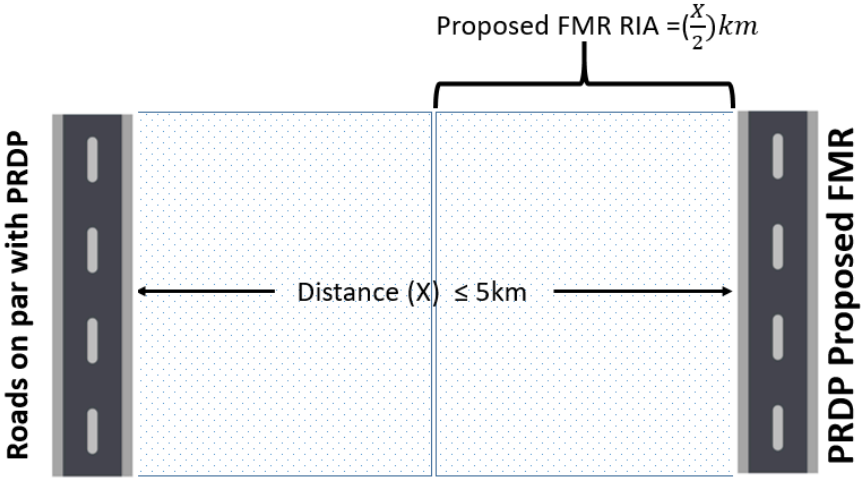
    b. Distance between the two roads = 2.5km: The effective RIA of PRDP will cover the full 2.5 km.



c. Distance between the two roads is greater than 2.5 km : The effective RIA of PRDP will cover the full 2.5 km.

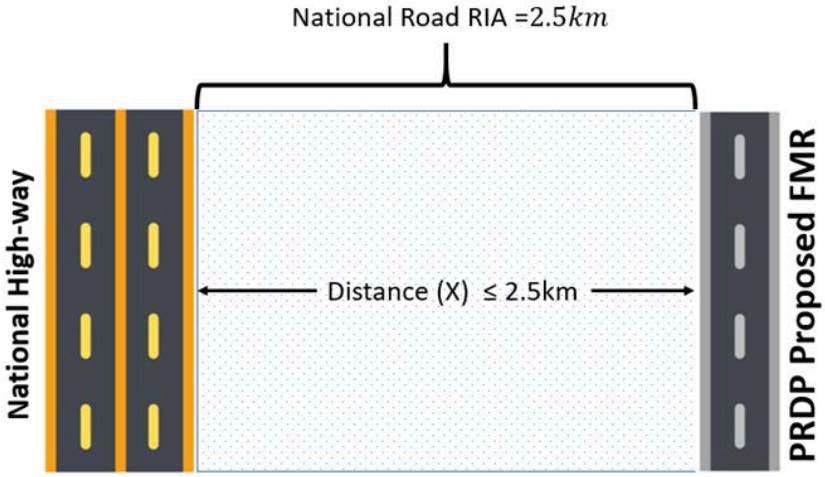


4) If the proposed road is parallel to a road that has a quality on par with PRDP standards (i.e., well-maintained gravel, PCCP[25] and asphalt), the effective RIA of PRDP is equal to half of the distance between the two roads. The maximum effective RIA is 2.5 km.



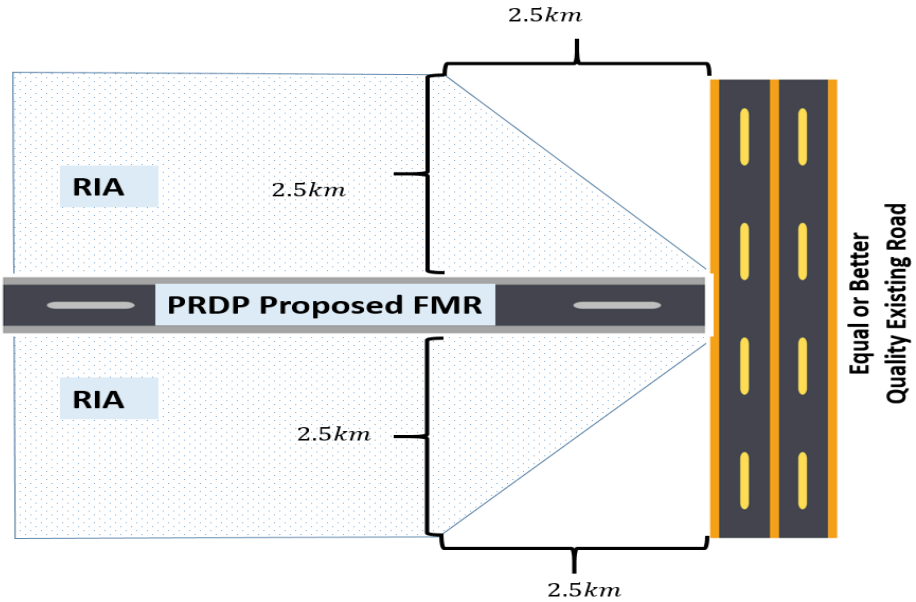
[25] PCCP refers to Portland Cement Concrete Pavement.

5) If the proposed road is parallel with a higher quality road (i.e., National Road), the following analysis applies:
    a. Distance between the two roads 2.5 km : The effective RIA of PRDP is zero, in consideration of the superior quality of the national road.

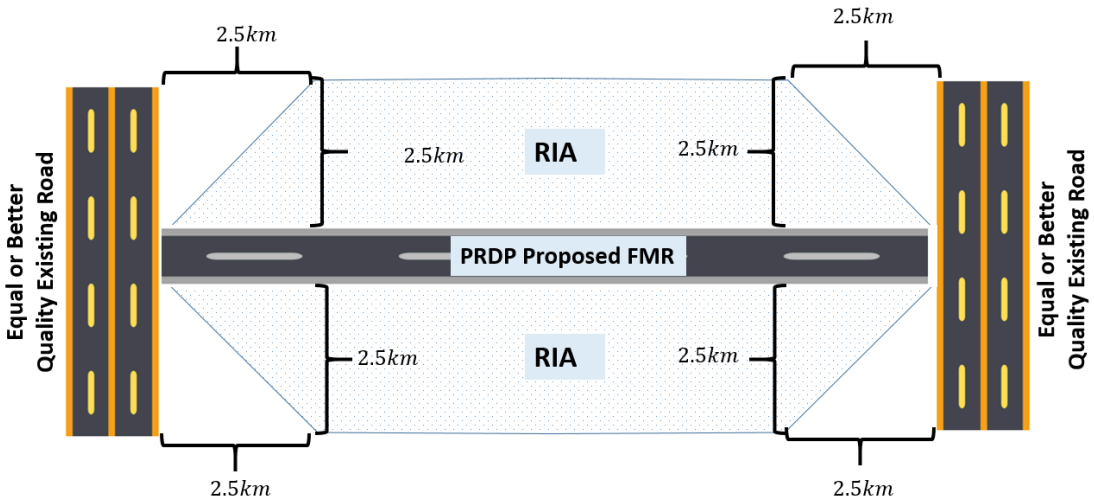


    b. Distance between the two roads is between 2.5 km and 5km : The effective RIA of PRDP is anything that's left after the national road RIA of 2.5 km has been deducted , in consideration of the superior quality of the national road.

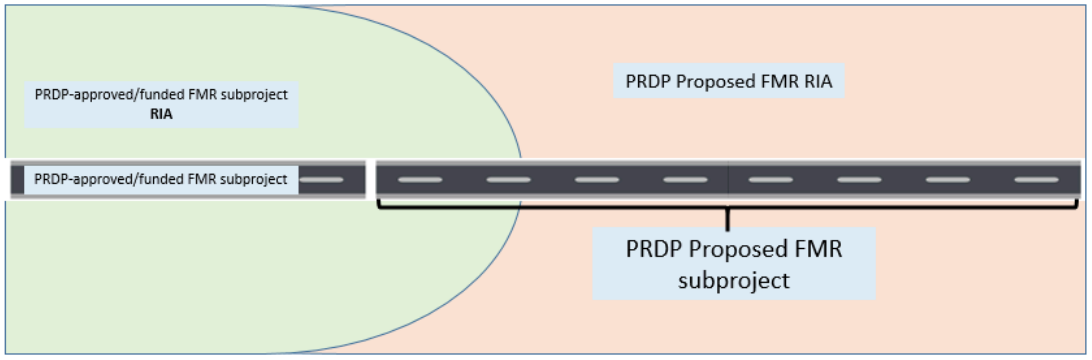
6) If a proposed road is perpendicular to an existing road that is of equal or better quality than PRDP standards (i.e., well-maintained gravel, asphalt national/provincial road), the following analysis applies in the following case scenarios:
    a. Proposed road connects with an existing road at or near Sta. 0+000, RIA computation at the junction or Sta. 0+000 is zero and increasing following a diagonal shape towards the maximum allowable RIA at the end of the proposed road, taking into consideration the tributary divisors and topography.



b. Proposed road connects with existing roads at both start and end, RIA computation at each junction shall be zero and increasing diagonally towards the maximum allowable RIA at mid-point, taking into consideration the tributary divisors and topography.



7) For proposed subprojects that will connect with a previously PRDP-approved/funded FMR subproject, RIA of the proposed road shall exclude any RIA section of the previously funded subproject that may overlap with the RIA of the proposed road.



8) For proposed roads with tributary divisors (rivers, creeks, streams, etc.), separated by mountains, or located along coastline; RIA computation will vary depending on factors such as tributary boundary, accessible slope and coastline. For roads with tributary divisors, unless a bridge connects to its divisor, the 2.5-kilometer RIA rule will be adopted. And for mountainous areas, if the proposed road will serve as a road network connecting to agricultural tramline systems to facilitate transport of farm produce from adjacent mountainous areas, the proposed FMR'S RIA can also extend to the tramline's service area.

1. Tributary Divisor

For proposed roads with a tributary, the RIA computation will vary based on the tributary boundary (covering only up to 294 meters), as illustrated in Figure 2 . Unless a bridge connects the tributary divisor, the 2.5- kilometer km RIA rule will be adopted.

Figure 2. Exemption to 2.5 km RIA rule: Tributary Divisor

2. Mountainous Area

For proposed roads located in mountainous areas, the computation of RIA will be based on the elevation and slope, as illustrated in Figure 3. The elevation profile will determine the degree of the slope that can be traversed (both sides) by the proposed road.

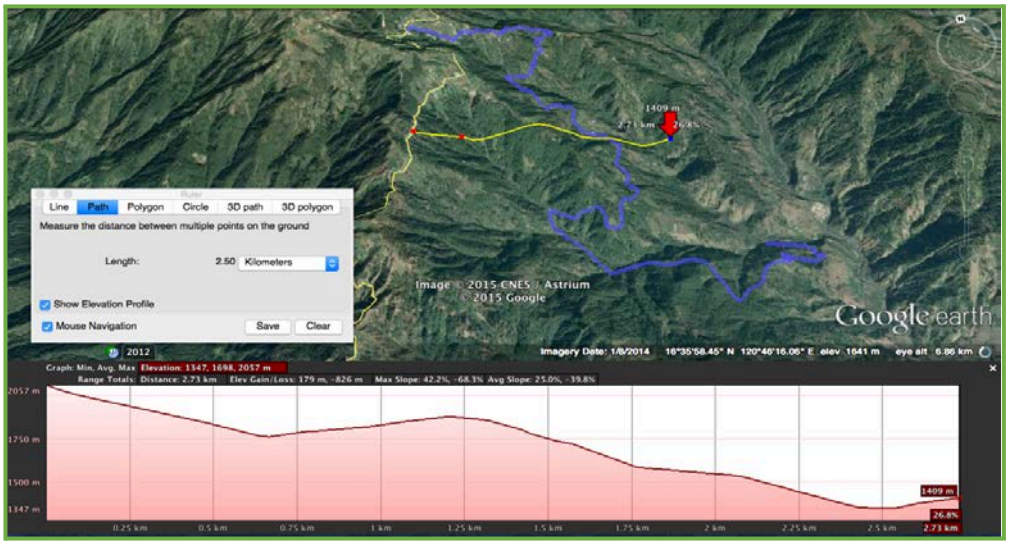


Figure 3. Exemption to 2.5 km RIA rule: Mountainous Area

The map above presents the 2.5-km radius for the RIA of the national road. However, the elevation profile shows that portions of the RIA, specifically the areas reaching a 1.25-km

distance from the national road, are inaccessible from the proposed FMR. Thus, the RIA of the proposed FMR will be limited to accessible distances. Referring to the elevation profile above, these accessible areas would be the distances from the 1.25-km mark until the 2.5-km mark.

If the proposed FMR will serve as a road network connecting to agricultural tramline systems to facilitate transport of farm produce from adjacent mountainous areas, the proposed FMR'S RIA can also extend to the tramline's service area.

3. Coastal Zone

For proposed roads along coastal areas, the RIA computation will be limited to the coastal zone, as illustrated in Figure 4. The map below illustrates an FMR in a coastal zone wherein the proposed road will only have a RIA coverage of up to a radius of 1.64-km kilometers towards the coastal zone.

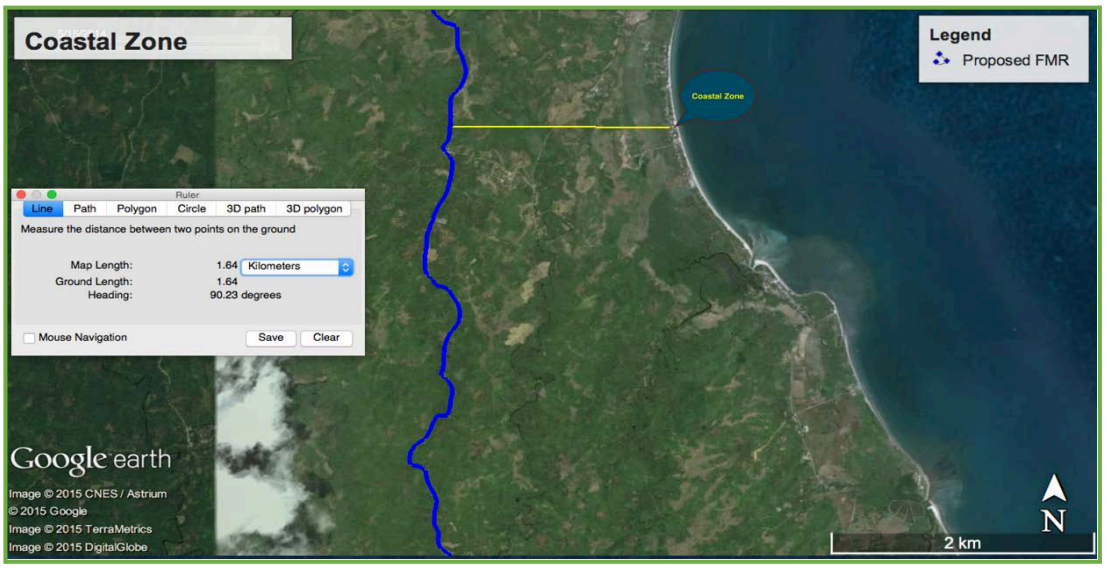


Figure 4. Exemption to 2.5 km RIA rule for: Coastal Zones

V. RIA application to the Economic and Financial Analysis of Feasibility Studies

Economic and Financial Analyses (EFA) in PRDP are conducted to determine the viability of proposed subprojects requesting funding from the Project. All proposals are required to submit feasibility studies (FS) utilizing Benefit-Cost Analysis (BCA), which weighs the costs of the proposals (i.e. Estimated Project Cost, Operation and Maintenance Costs, Safeguards-related Costs) against the calculated benefits from FMRs (i.e. Vehicles Operating Cost (VOC) Savings, Savings in Output and Input Hauling, Savings in Travel Time of Commuters, Benefits from New Agricultural Areas, and Savings in Transport Losses).

Economic benefits from FMR are largely calculated using data on agricultural areas located within the RIA. RIA maps show the location and area (in hectares) of major land use classification within the estimated RIA including agricultural lands, forest/timberland, residential/built-up areas. There are three main pieces of information that can be extracted from RIA maps that are deemed extremely useful in the FS. Firstly, the RIA commodity maps would show the existing production areas specifically the following:

- what commodities are produced within the RIA
- where these crops are located
- how large are the production areas per commodity
- identify areas with intercrops (by type of main crop/s and intercrops)

Secondly, since the EFA analyzes potential areas for agricultural expansion, the RIA maps could validate whether there indeed are idle lands within the RIA that are suitable for agricultural expansion and what crops can be produced.

Thirdly, the RIA maps identify the barangays that will benefit from the road and, by extension, the size of the benefitting population. The maps will show the barangays traversed by the FMRs. Identification of barangays will be used in estimating the total number of beneficiaries.

Economic data used in the EFA specifically on existing and potential crop production areas and the types of commodities produced (crops, intercrops, aquaculture, etc.) should be consistent with RIA data and RIA commodity maps. The data will aid the economic analysis by ensuring that the stated agricultural areas (by crop) in the feasibility studies are indeed situated within the RIA. In this way, the RIA maps will serve as a guide and validation tool for both the proponent LGUs and reviewers on the size and extent of the effective RIA of each proposed subproject and guarantee that the proposal will not overestimate the benefits. Moreover, these maps will provide a visual context to the proposal for better appreciation of the proposed subproject.

The description of the FMR RIA is in Section II of Feasibility Study outline as shown below.

Excerpt from FS Outline for Proposed FMR Subprojects

II. The Subproject

a. The Road Influence Area

i. Location (Brief description in 1-2 paragraphs)
a. Geographic boundaries including barangay boundaries
b. Relative distance to growth and commercial centers
c. Topography
d. Mapping the Subproject-describe the geotagging methodology (how often geotagging was conducted, at which phase of the project life were the geotags taken; what are the intervals in meters of geotag photos)

d.1.Kindly describe existing road networks (to what road/s does the FMR connect, where the markets are located relative to the FMR, how does the FMR link agricultural areas to the markets)

d.2. Kindly describe the design of the FMR (does it satisfy the location-specific criteria)?

d.3 insert screenshots of proposed FMR

e. Estimation of RIA (Kindly calculate the total road influence area of the proposed FMR in hectares.

Two levels of delineation of RIA:

1. If possible, kindly delineate the agricultural (existing and potential production areas), forest/protected timberland (if any), built-up/residential areas, and other major land use

2. More specifically, kindly segregate the agricultural area for each major commodity, and areas with intercrop/s, if any

ANNEX 2

Guidelines on the Inclusion of Safeguards-Related Costs in the Economic and Financial Analysis of I-BUILD Sub-Projects for Funding Under the PRDP Scale-Up

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Guidelines on the Inclusion of Safeguards-Related Costs in the Economic and Financial Analysis of I-Build Sub-Projects for Funding Under the PRDP Scale-Up

A. Background and Purpose

These guidelines shall be used by the Local Government Units (LGU) proponents with guidance from the concerned PRDP Project Support Office (PSO) and Regional Project Coordination Offices (RPCO), to account for and determine the Social and Environmental Safeguards (SES)-related costs directly incurred in the planning and implementation of each proposed sub-project.

B. Coverage and Applicability

These guidelines shall be applicable to all proposed I-BUILD sub-projects for approval under the PRDP Scale-Up.

C. Roles and Responsibilities

The **LGU-proponents (i.e., LGU-SES focal persons and the LGU-Economist)** shall identify the relevant costs that will be included in the economic and financial analysis (EFA) of proposed I-BUILD sub-projects, to be incorporated in the narrative economic and financial analysis section of the sub-project feasibility study (FS).

The **RPCO-SES staff** shall guide and assist the LGU-proponents in identifying the relevant SES-related financial cost items and monetary values to be included in the EFA of the proposed sub-project. Specifically, the RPCO-SES staff shall assist the LGU-proponent to:

a. Fill in the "Financial costs at Year 0" column of EFA Tab1b – Safeguards-related Costs *(see Annex 1);* and

b. In case of right-of-way acquisition of land where there are crops that will be affected, determine the "type of crops, production area affected, number of trees cut, and percentage of productive trees cut" in EFA Tab9a - Valuation of Net Value of Crop Production Foregone Due to Right-of-Way Acquisition.

The **RPCO Economist** shall guide and assist the LGU-Economist in the preparation of the EFA specifically the following:

a. Conversion of financial costs to economic values (EFA Tab1b) and incorporating these in the EFA Tab1a – Economic Costs;

b. In case of right-of-way acquisition of land where there are crops that will be affected, calculation of the annual net value of crop production foregone per type of crop specifically the average production or yields, farm gate price per unit, and economic production cost in EFA; and

c. Incorporating the costs in items *a* and *b* above in the Economic Analysis worksheet of the EFA[26].

[26] *Numbering of Economic Analysis and Net Value of Crop Production Foregone worksheets in the EFA may differ for each subproject type (i.e., FMRs, Irrigation, PWS, Value Chain Support Infrastructures).*

The SES staff and Economists in the PSO and NPCO shall provide technical assistance to their respective RPCO counterparts.

D. Safeguards-Related Costs

The following safeguards-related financial costs of sub-projects, where applicable, shall be included as indirect costs to be shouldered by the LGU-proponent. *(See Table 1 below).* All safeguards financial costs of a specific sub-project shall be itemized under a separate indirect cost item category and labeled as "Safeguards-related costs" in EFA Tab1a. SES-related costs such as tree cutting permit, water permit, NCIP certification, PAPs consultation, etc., that are included in the pre-feasibility/pre-engineering costs shall be identified separately and should be part instead of the safeguards-related costs.

Table 1. Safeguards-related Costs in the EFA of Proposed I-BUILD Sub-projects

No.	Safeguards Activity	Financial Costs 1/	Economic Costs 2/
1	Consultations (project beneficiaries meeting, PAPs consultation, FPIC or broad-based consultation, Tribal Chieftain Certification)	Food, venue, transportation, and other logistics for all consultations conducted. If part of the FS/pre-engineering costs, these should be moved to the Safeguards-related Cost category.	Same but excluding taxes.
2	DENR ECC/CNC	Application expenses such as application fees, notarization and other logistics	**Exclude:** Payment for fees for government-issued permits and licenses. **Include:** Direct operating expenses incurred by the LGU/PG in securing the permits/licenses, e.g., transportation costs, payment for services of IEE preparer, notarization, etc.
3	NCIP for Certificate of Precondition or Certificate of Non – Overlap	Application fees and other logistics	
4	Tree Cutting Permit (PCA or DENR)	Application fees, consultant fees (if necessary) and other logistics. Note that removal of trees may be part of the POW. Hence, should be excluded.	
5	NWRB Permit	Application fees and other logistics	
6	Water Quality Tests/Potability Test (i.e. for CIS and/or PWS)	Initial testing fee. If part of the FS/pre-engineering costs, this should be moved to the Safeguards-related Cost category.	Same but excluding taxes.
7	Transfer of electric posts	Transfer/relocation cost	Excluded
8	Notarized Waiver/Quit Claims and/or Deed of Donations	Funds needed to cover the expenses for activities directly related to land/right-of-way acquisition for the subprojects. (i.e. Notarization fees including the taxes of transfer, cost of parcellary surveys and appraisal of properties affected by the projects and cost of annotation.) Note that logistics for signing should be included under consultation activities.	Only operating expenses incurred in the processing of ROW documents shall be included, e.g., notarization fees, cost of parcellary surveys, appraisal, annotation, supplies, etc. Taxes shall be excluded.

No.	Safeguards Activity	Financial Costs 1/	Economic Costs 2/
9	For Public Lands (Special land Use Permit (SLUP)/Forest Land Use Agreement (FLAg) and/or Foreshore Lease Agreement (FLA) issued by the DENR)	Application fees and other annual forest charges (include 1st year payment only)	**Exclude:** Payment for fees for government-issued permits and licenses. **Include:** Direct operating expenses incurred by the LGU/PG in securing the permits/licenses, e.g., transportation costs, payment for services of IEE preparer, notarization, etc.
10	For SPs within Multiple-use Zone (MUZ) – Special Use Agreement in Protected Areas (SAPA) issued by the DENR	One-time Development Fee for non-profit projects of the government (as per IRR of the E-NIPAS law)	
11	Location and zonal clearances	Application fees and other logistics	
12	Rehabilitation/Relocation /Resettlement Action Plan	Resettlement costs which include acquisition of land, installation of water, construction of houses, electricity and other basic utilities, transfer fees, additional assistance through livelihood, among others.	Excluded in econ analysis since this would be considered as another subproject which is expected to incur costs and at the same time generate economic benefits.
13	Land Compensation between the PAPs and LGU	Entitlement based on market value including the taxes of transfer and cost of annotation	Value of land shall be excluded in the economic analysis. In lieu of such, include only the opportunity cost of lands or lots affected by the right-of-way acquisition. The opportunity costs shall be based on any **one** of the following: For privately-owned lands: a) annual land rental or lease rates per square meter prevailing in the barangay for such type of land (multiplied by the specific area in square meters of land/lot affected); ***or*** *b)* In case affected land is being utilized for agricultural production, opportunity cost shall be the Net Value of Crop Production (NVCP) foregone. *Please see the NVCP Tab of the EFA and refer to the guidelines (Section E) provided in the following pages for the calculation of NVCP foregone.* The derived annual opportunity costs shall be included as dis-benefits over the economic life of the sub-project.
14	Reconstruction of damaged structures	Replacement costs of materials of the structure including labor. Note that removal of structures is	Not included except for removal of structures which is

No.	Safeguards Activity	Financial Costs 1/	Economic Costs 2/
		part of the POW. Hence, should be excluded.	part of the sub-project's scope of work (from POW).
15	Compensation and/or Replacement of affected tree crops or other plants/foliage	Agreed cost of the affected trees/plants based on market value and/or cost of replacement trees. Note that removal of trees may be part of the POW. Hence, should be excluded. Note: to be included in Tab1b of the EFA.	This section covers trees that are non-fruit bearing or sold for lumber and other standing crops planted by informal settlers. Economic costs will be the current market value of the affected trees and other standing crops and included as Year 0 cost. Note: to be included in Tab1b of the EFA. Net value of production foregone of fruit-bearing and other productive tree crops and seasonal crops (that generate annual income) shall be covered under Section 13-b.
16	Resettlement Action Plan	**Exclude:** Payment for fees for government-issued permits and licenses. **Include:** Direct operating expenses incurred by the LGU/PG in securing the permits/licenses, e.g., transportation costs, payment for services of IEE preparer, notarization, etc.	**Exclude:** Payment for fees for government-issued permits and licenses. **Include:** Direct operating expenses incurred by the LGU/PG in securing the permits/licenses, e.g., transportation costs, payment for services of IEE preparer, notarization, etc.
17	Land Conversion		
18	IP Plan		
19	Biodiversity Management Plan		
20	Cultural Heritage Management Plan		
21	Integrated Pest Management Plan		
21	Other SES Related Cost		

1/ Relevant costs shall be included as separate SES cost items in the total subproject investment costs.
2/ Applicable to economic analysis of proposed I-BUILD subprojects.

E. Guidelines on the Economic Valuation of Net Value of Crop Production (NVCP) Foregone due to Right-of Way (ROW) Acquisition

Net value of crop production foregone shall be calculated to determine the economic opportunity costs of agricultural lands affected by right-of-way acquisition.

Coverage:

1. Proposed I-BUILD sub-projects requiring ROW acquisition that are for approval under the PRDP Scale Up; and,

2. Agricultural lands affected by ROW acquisition that are currently planted or have standing productive crops including seasonal or annual crops (e.g., palay, corn, root crops, etc.) or perennial crops (e.g., coconut, abaca, cacao, coffee, rubber, etc.).

General Instructions:

1. The attached excel tables *(Annex 2.1)* contain the data to be generated in the calculation of the **annual net value of production foregone for each type of crop affected by ROW acquisition**. These tables are incorporated in the updated EFA templates of proposed I-BUILD sub-projects *(e.g., Tab 9a, 9b and 9c in the EFA for FMR/ bridge/ FMR with bridge; Tab 10a, 10b and 10c for potable water supply; Tab 5a, 5b and 5c for irrigation system; Tab 6a, 6b and 6c for slaughterhouse/ dressing plants; Tab 8a, 8b and 8c for fish landing/ feeder port, and; Tab 7a, 7b and 7c for warehouse and warehouse with MPDP)*. The resulting annual net value of production foregone shall be included in the economic cost-benefits stream as dis-benefits *(EFA Tab on Economic Analysis)*.

2. Please refer to Table Guides 1 and 2 below for the specific definition of the data requirements. It is also important to refer to the footnotes provided under each excel table.

3. For all data used, cite the sources and reference year (use the latest census). If possible, provide a link to the website of the data source.

Data to be generated:

1. Use NVCP Table 1 in case there are annual crops affected.
2. Use NVCP Table 2 in case there are perennial crops affected.

Guide 1. Seasonal or Annual Crops Affected Due to ROW Acquisition (for NVCP Table 1)

Data	Requirements/Description	Reliable and acceptable data sources/Acceptable method of data gathering
Production area affected	This refers to the area that will be affected by type of crop	Inventory done by the LGU. (SES form 1)
Average annual production per hectare	This refers to the average annual production volume by type of crop affected	Data must be supported with a data sheet of the volume of production. Data inputs are encouraged to be from the local level (Barangay, MLGU and PLGU).
Production output marketed in the form of	Specify in what form the crop produce is being marketed/sold. (i.e. for palay: dry or fresh)	Data inputs are encouraged to be from the local level (Barangay, MLGU and PLGU).
Farm gate price per unit (Php/kg)	This refers to the price per kilogram of the commodity.	Data inputs are encouraged to be from the local level (Barangay, MLGU and PLGU).

Economic production cost per hectare per cropping	This refers to the total cost of production including labor and inputs involved from land preparation to harvesting.	Data must be supported with a data sheet on the related production costs. *(See attached Table 1.a of Annex 2.2)* Data inputs are encouraged to be from the local level (Barangay, MLGU and PLGU).

Guide 2. Perennial Crops Affected Due to ROW Acquisition (for NVCP Table 2)

Data	Requirements/Description	Reliable and acceptable data sources/Acceptable method of data gathering
No. of trees affected/to be cut	These are the number of trees that will be cut down/affected for the right of way acquisition.	Inventory done by the LGU. (SES form 1)
% productive	These are the % of trees that are productive. This can be obtained by getting the number of trees productive and the total number of trees affected. Equation: % Productive = *No. of trees productive from the area affected* *Total no. of trees affected*	
Production Form of output marketed	This refers to the form of the product being marketed. (i.e. for coconut: nut, copra)	Data inputs are encouraged to be from the local level (Barangay, MLGU and PLGU).
Average production per tree per year (kgs)	This refers to the volume of production of the commodity in the area (in kilograms) per year.	Data must be supported with a data sheet on the volume of production. Data inputs are encouraged to be from the local level (Barangay, MLGU and PLGU).
Farm gate price per unit (P/kg)	This refers to the price per kilogram of the commodity.	Data inputs are encouraged to be from the local level (Barangay, MLGU and PLGU).
Economic production cost per tree	This refers to the total cost of production including labor and inputs involved from crop management to harvesting. Shadow wage rate shall be applied to labor costs.	Data must be supported with a data sheet on the related production costs. (*See attached Table 2.a of Annex 2.2).* Data inputs are encouraged to be from the local level (Barangay, MLGU and PLGU).

Attachments:

Table 1 - Template of EFA Tab1b – Safeguards-related Costs
Table 2 - Pro-forma excel tables on valuation of net value of crop production foregone

Table 1 SES Related Cost

Particulars	Financial Cost at Year 0 (current prices)	Conversion factors	Economic Cost
1. Consultation activities with Community and PAPS			
1.1 Consultations with PAPs		1.12	0.00
1.2 Consultations with Direct Beneficiaries		1.12	0.00
2. ECC application			
2.1. Application fee			
2.2 Services of IEE/EIA preparer		1.12	0.00
2.3. Notarization fees/Other operating expenses		1.12	0.00
3. NCIP Certification			
3.1 Work and Financial Plan		1.12	0.00
4. ROW acquisition			
4.1 Parcellary survey		1.12	0.00
4.2 Appraisal of properties affected		1.12	0.00
4.3 Notarization fees/Other operating expenses		1.12	0.00
4.4 Cost for Annotation		1.12	0.00
4.5 Compensation for land			
4.6 Compensation and/or reconstruction of affected structures			
4.7 Compensation and/or replacement of affected trees/plants /a		1.00	0.00
4.8 Cost of additional assistance or livelihood			
5. Cutting of Trees			
5.1 Tree cutting permit			
5.2 Tree Replacement Plan			
6. Resettlement Action Plan		1.12	0.00
7. Relocation/Transfer of Electric Post/s and other utilities			
8. Location and Zonal Clearances			
9. Land Conversion			
10. Special Land Use Permit/ Forest Land Use Agreement			
10.1 Application Fee			
10.2 Annual Fee			
11. Special Use Agreement in Protected Areas			
11.1 One time Development Fee			
12. Water Quality/ Potability Tests		1.12	0.00
13. NWRB Water Permit			
13.1. Application fee			
13.2 Processing/ Direct Operating Expense		1.12	0.00
14. IP Plan			
14.1 Cost of plan preparation/ Direct Operating Expense		1.12	0.00
15. Biodiversity Management Plan			
15.1 Cost of plan preparation/ Direct Operating Expense		1.12	0.00
16. Cultural Heritage Management Plan			
16.1 Cost of plan preparation/ Direct Operating Expense		1.12	0.00
17. Integrated Pest Management Plan			
17.1 Cost of plan preparation/ Direct Operating Expense		1.12	0.00
18. Other Costs (please specify)		1.12	0.00
Total Cost	**0.00**		**0.00**

Note: All fees paid to the government should not be included in the Economic Cost
Note: All costs spent for the preparation of plans or fees paid to private individuals or institutions must be included in the Financial Cost.
a/ Amount paid by the LGU as compensation to PAPs for trees and other plants affected by ROW acquisition and included as Year 0 cost. Said trees/plants are non-fruit bearing or non-productive, sold for lumber, or standing crops planted by informal settlers.

Table 2.1a **SEASONAL OR ANNUAL CROPS AFFECTED**

Indicator	Type of Crop a/				
	Palay - irrigated	Palay - rainfed	Corn - irrigated	Corn - rainfed	**TOTAL**
Production area affected b/					
o in square meters	1,000.00				
o in hectares	0.10	-	-	-	-
Production output marketed in the form of: c/	Dry Palay				
Average annual production per hectare (kgs) d/	5,000.00				
Farm gate price per unit (P/kg) d/	17.00				
Gross annual value of production per ha (P)	85,000.00	-	-	-	
Less: Economic production cost per ha. (P) e/	-	-	-	-	
Annual Net Value of Production per ha. (P)	85,000.00	-	-	-	
Total Annual Net Value of Production Foregone in the affected area f/	**8,500.00**	**-**	**-**	**-**	**8,500.00**

Notes & Assumptions:
a/ For palay and corn, please specify if irrigated or rainfed. Add columns if necessary
b/ Data to be sourced from SES Form 1
c/ Specify in what form the commodity is sold/marketed
d/ Primary data to be generated thru interviews/FGD with PAPs; In lieu of primary data, secondary data (municipal or provincial level) may be generated from source agencies such as MAO, PAO, Philippine Statistics Authority, etc.
e/ Data shall be sourced from Table 1a. Estimated Production Cost of (Name of Annual Crop) per Hectare
f/ Annual net value of production per hectare per cropping multiplied by total area planted/harvested

Table 2.2a **PERENNIAL CROPS AFFECTED**

Indicator	Type of Crop				
	Crop 1	Crop 2	Crop 3	Crop 4	**TOTAL**
No. of trees to be cut a/	100				
% productive b/	50%				
No. of productive trees	50	0	0	0	
Production output marketed in the form of	Copra				
Average production per tree per year (kgs) d/	10.00				
Farm gate price per unit (P/kg) d/	20.00				
Gross annual income per tree (P)	200.00	-	-	-	
Less: Economic production cost per tree (P) e/					
Annual Net Income per tree - economic (P)					
Total Annual Net Value of Production Foregone (P)					

Notes & Assumptions:
a/ Based from SES Form 1
b/ Includes newly planted and fruit-bearing trees/plants
c/ Specify in what form the production output is marketed
d/ Primary data to be generated thru interviews/FGD with PAPs; In lieu of primary data, secondary data (municipal or provincial level) may be generated from source agencies such as MAO, PAO, Philippine Statistics Authority, etc.
e/ Data shall be sourced from Table 1b. Estimated Production Cost of (Name of Perennial Crop) per Hectare

Table 2.1b **Estimated Production Cost of (Name of Annual Crop) per Hectare a/**
In current 2018/2019 prices

Production Activity/Expense Item	Unit e/	Crop 1 f/			
		Quantity	Unit Cost (PhP)	Financial Value (PhP)	**Economic Value (PhP) g/**
A. Labor Cost b/					
Sub-total				-	
B. Material Inputs/Supplies c/					
Sub-total				-	
C. Other Costs d/					
Sub-total				-	
Total Production Cost per Hectare				-	

Notes & Assumptions:
a. Supporting table to Table 1. Valuation of net value of production foregone due to right-of-way acquisition (for seasonal or annual crops)
b. List specific labor activities using manual or man-animal, e.g., land preparation, planting, fertilizer and pesticide application, weeding, harvesting, etc. Include hired and family labor.
c. Specify material inputs, e.g., seeds/planting materials, fertilizers, pesticides, herbicides, farm tools, sacks/baskets, etc.
d. Other costs may include rental of equipment, drying fees, hauling or transport fees.
e. Please specify unit of measurement per activity, e.g., mandays, man-animal days, machine days, kilograms, sacks, etc.
f. Provide annual production data of specific types of annual crop, e.g., palay, corn, etc., affected by ROW acquisition.
g. Convert to economic values. Apply shadow wage rate factor of 0.6 to unskilled labor.

Table 2.1b **Estimated Production Cost of (Name of Perennial Crop) per Hectare a/**
In current 2018/2019 prices

Production Activity/Expense Item	Unit e/	Crop 1 f/			
		Quantity	Unit Cost (PhP)	Financial Value (PhP)	**Economic Value (PhP) g/**
A. Labor Cost b/					
Sub-total				-	-
B. Material Inputs/Supplies c/					
Sub-total				-	-
C. Other Costs d/					
Sub-total				-	-
Total Production Cost per Hectare				-	-
Average No. of Crop Hectare					
Ave. Production Cost per Crop					

Notes:
a. Supporting table to Table 2. Valuation of net value of production foregone due to right-of-way acquisition (for perennial crops)
b. List specific labor activities using manual or man-animal, e.g., land preparation, planting, fertilizer and pesticide application, weeding, harvesting, etc. Include hired and family labor.
c. Specify material inputs, e.g., seeds/planting materials, fertilizers, pesticides, herbicides, farm tools, sacks/baskets, etc.
d. Other costs may include rental of equipment, drying fees, hauling or transport fees.
e. Please specify a unit of measurement per activity, e.g., mandays, man-animal days, machine days, kilograms, sacks, etc.
f. Provide annual production data per specific type of perennial crop/tree crops affected by ROW acquisition. Please add columns as necessary.
g. Convert to economic values. Apply shadow wage rate factor of 0.6 to unskilled labor

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Department of Agriculture
PHILIPPINE RURAL DEVELOPMENT PROJECT (PRDP) SCALE UP
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Part II: Guidelines for Preparation of Financial Analysis of Proposed I-REAP Subprojects

Economics Unit
I-SUPPORT Component
May 2023

Guidelines for the Preparation of Financial Analysis of Proposed I-REAP Subprojects under the PRDP Scale Up[27]

I. Rationale

These guidelines aim to provide Implementing Proponents (IPs) {e.g. Local Government Units (LGUs) and Farmers' Cooperatives and Associations (FCAs) or FCA Clusters} a step-by-step procedure in the preparation of Financial Analysis (FA) for enterprise proposals under the Philippine Rural Development Project (PRDP) Scale Up. Any implementing proponent (i.e., LGU, FCA or FCA Cluster) who will prepare Business Plan (BP) proposals is recommended to familiarize themselves with the general policies, guidelines, data requirements, acceptable data sources and data gathering methodologies to produce sound financial analyses.

The Financial Analysis shall be prepared in Excel format with traceable formulas and the summary tables as required in the BP outline shall be incorporated in the BP write-up. An electronic copy of the FA and BP shall be submitted to the PRDP for review. The Economist/s at the RPCO, PSO and NPCO are tasked to review the FA based on the guidelines and parameters of the I-REAP component as specified in the I-REAP Operations Manual under PRDP Scale Up.

All Economists shall also be guided by the I-REAP subproject approval and review process specifically in the following activities where their participation is required or necessary:

a) Business plan preparation/enhancement - orientation/training of the implementing proponents on the guidelines on preparation of financial analysis for the proposed enterprise
b) Technical review by the RPCO Technical Review Committee (RPCO Economist is a member of the committee)
c) Joint Technical Review (JTR) at the PSO or NPCO depending on the threshold for issuance of clearance for Regional Project Advisory Board (RPAB) approval - PSO/NPCO Economists to prepare and issue Form 2A containing the summary of findings and recommendations on the FA and BP write-up for compliance by the implementing proponent.
d) Compliance review of the revised BP and FA and issuance of clearance for RPAB deliberation once the proposed subproject passes the compliance review.

Subprojects approved by the RPAB shall be issued with No Objection Letter (NOL) based on the following thresholds.

NOL Issuing Office	Threshold, Total Investment Cost
RPCO	All SPs with Total Investment Cost US$ 60,000.00 to US$ 300,000.00
PSO	All SPs with Total Investment Cost above US$ 300,000 up to US$ 1 Million
NPCO	All SPs with Total Investment Cost above US$ 1 Million

*Exchange rate reckoning date: RPAB Approval date

[27] *Updated June 23, 2023*

II. General Policies and Guidelines

This section outlines the general policies and guidelines to be adopted in the preparation of financial analysis for I-REAP subprojects.

1. PRDP Scale Up investments in eligible enterprise subprojects under the I-REAP component in the following categories: Small: Php3,000,000-Php15,000,000; Medium: Above Php15,000,000 – Php100,000,000; Large: Above Php100,000,000, will be subjected to financial analysis over a 10-year period. On a case-to-case basis, period of financial analysis may be extended to 15 or 20 years particularly for large-scale enterprise subprojects based on the useful life of the fixed asset investments. To qualify for the issuance of No Objection Letter (NOL) 1, the proposal must remain financially feasible at sensitivity scenarios with at least 10% increase in cost and 10% decrease in revenue (individual scenario), Net Present Value (NPV) greater than 0, Internal Rate of Return (IRR) of at least 8%, and Benefit Cost Ratio (BCR) greater than or equal to 1.

2. The Project adopts an eight percent (8%) financial discount rate as the hurdle rate which the Financial IRR of proposed IREAP subprojects must exceed to be considered as a financially viable investment;

3. The basis for the establishment of all assumptions used in the financial analysis must be discussed in the business plan and supported with reliable data including its corresponding data sources; and

4. During the course of the review process of submitted proposals under PRDP, any changes in the data (assumptions and costing) must be documented. Economist counterparts at the RPCO, PSO and NPCO levels must be well-informed of the subsequent changes.

III. Overview of data requirements in the preparation of Financial Analysis

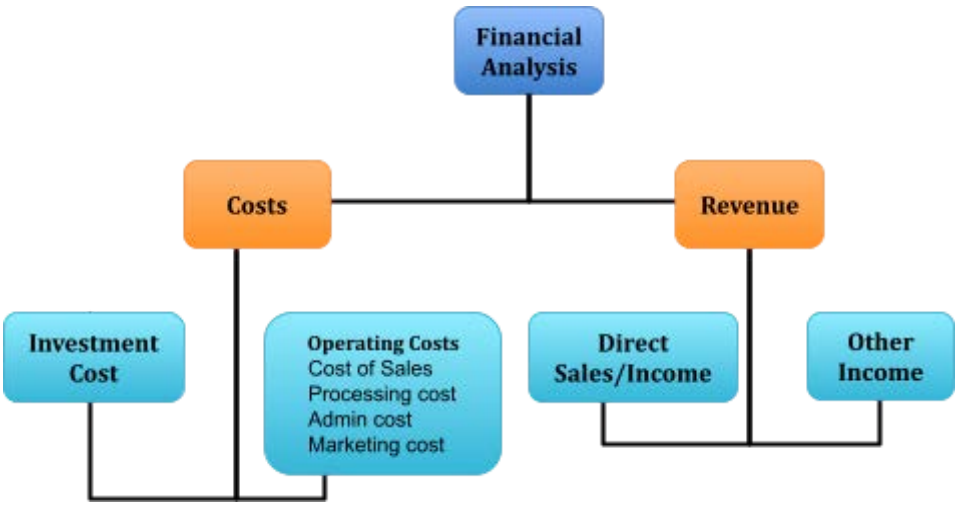

Figure 1. Summary of data requirements

In the preparation of financial analysis, all costs and revenue items must be properly identified and valuated in order to come up with sound financial viability results and to paint a realistic picture of expected performance of the proposed enterprise.

The total cost of an enterprise is an aggregate of the investment cost and operating costs, with the latter being composed of sales, processing costs, administrative costs and marketing costs. All streams of revenue must also be fully documented in the Financial Analysis, these include both the direct income from sales and other enterprise-related income.

IV. Detailed guidelines and instructions in the preparation of Financial Analysis for Small, Medium and Large Enterprises

Financial analysis is the process of evaluating businesses, projects, budgets and other finance-related entities to determine their suitability for investment. It is being done to ensure the financial sustainability, financial profitability and distributional impact of the proposed project.

Income Statement, Cash Flow Statement, Balance Sheet are to be computed in doing the financial analysis. Results of such will be used to determine the financial indicators. These include Financial Net Present Value (NPV), Financial Internal Rate of Return (FIRR), Benefit Cost Ratio (BCR), Return on Investment (ROI), Payback Period and Break-even analysis.

Results of the financial indicators are taken into account to determine the viability and efficiency of the sub-projects.

a. Capital Investment Plan & Financing Mix

The total capital investment refers to the different costs needed to run the proposed enterprise. These costs are being identified during the business planning stage of which product selection, process flow, infrastructure and other technical requirements are being determined. It is a combination of three (3) different types of costs including fixed assets, variable costs and fixed costs. For each subproject, the Implementing Proponents are required to submit the capital investment plan and financing mix (See Annex A-Schedule 1 and 2 for the format) which will provide the detailed listings of the required funds for the enterprise including its financing sources, i.e., (Loan Proceeds (LP), Government of the Philippines – Department of Agriculture (GOP – DA), and Implementing Proponent equity.

Specific Policies

1. The cost-sharing scheme under the PRDP Scale Up is shown below:

Type of Implementing Proponent	WB-Loan Proceeds (LP)	GoP – DA	Implementing Proponent Counterpart
FCA/FCA Cluster	60%	20%	20% (cash and/or in-kind; 5% in cash)

LGU	60%	20%	20% (in cash)

2. The total investment plan must be derived from the work and financial plan of the proposed enterprise. All costs must reflect current market prices;
3. Furniture and fixtures and other equipment related to the direct operation and/or creation of the product(s) for the proposed enterprise shall form part of the counterpart/equity of the Implementing Proponent;
4. In the valuation of land, only the portion that will be allotted for the proposed enterprise shall be included as part of the capital investment requirement;
5. The budget for initial trading and/or working capital shall be shouldered by the Implementing Proponent as part of their equity;
6. Submit inventory of assets of the Implementing Proponent for enterprises classified under expansion/upgrading. All existing assets must be accounted for and only the remaining facilities/equipment should be funded under PRDP Scale Up; and
7. For vehicles, a benefit-cost analysis for a 10-year period (may be extended following the agreed period of financial analysis for the specific enterprise) must be prepared to compare and determine whether it is more economical and cost-efficient to procure or rent the said vehicle considering the operation of the proposed enterprise. A 10-year trucking schedule must be submitted to analyze its utilization rate and serve as a basis to gauge the necessity of the requested vehicle. In the comparative cost-benefit analysis of trucks – owning vs renting, the most acceptable is the option with the lowest Net Present Value (NPV) in terms of cost.

b. Assumptions and Schedules

Assumptions are a set of information needed in the projection of financial analysis based on the business model and business plan prepared for a specific enterprise. Assumptions will briefly present and discuss how the business will run and operate as to revenue and expenses. Schedules on the other hand, refers to the set of data where all the computations will be done and shown thoroughly, starting from production, sales, hauling and delivery, depreciation, etc. The values to be computed will then be reflected in the financial statements and to be used in the financial analysis.

Specific Policies

1. All assumptions to be used in the financial projection must be listed in the financial section of the business plan;
2. All assumptions should be listed in a separate worksheet in the FA excel file with values linked to the relevant schedules;
3. All assumptions must be accompanied with relevant and acceptable data reference to verify data soundness;
4. The basis for the establishment of all assumptions must be clearly discussed in the business plan;

5. Formats for various schedules are attached to these guidelines as Annex A. The Implementing Proponent can use other formats as long as the essential information needed in the computation of income and cost streams are established.

b.1. Income Assumptions

Income refers to all earnings generated from the operation of a specific enterprise. In the preparation of financial analysis, it is important for the Implementing Proponent to determine the various sources of income as indicated in the business plan and shall be accounted accordingly in the financial statements. In the conduct of financial analysis, income generated by the enterprise will be classified as sales of primary product(s) of the enterprise and other income. Below is the definition for each classification:

Classification of Income	Definition
Sales of Product(s)	Revenue generated from the sale of primary product (s) of the enterprise.
Other Income	Revenue generated from other sources such as but not limited to vehicle and facility rentals, marketing of by-products and other secondary activities of the enterprise.

Specific Policies

1. All revenues identified in the business plan must be accounted in the financial analysis;
2. GANTT chart and production schedule (Please see Annex A-Schedule 3 to 4) must be submitted. The Gantt chart will provide a timeline of operation of the proposed enterprise thereby providing information on its production cycle. Production schedule on the other hand will show computation of the total volume of production of product(s) produced by the enterprise at a given period.
3. To estimate the volume of production, critical factors like mortality rate, rejects, product returns, postharvest/handling losses, conversion ratio and other factors that may affect the quantity of the produce must be established. The values that will be used shall depend on the assessment of the condition of the target areas and/or baseline information from reliable sources;
4. Pricing scheme shall be clearly stated in the business plan and must be supported with baseline data from reliable sources. Basis for buying and selling prices may be:
    a) If prevailing market price is used, historical price data of 3 to 5 years shall be provided as support. If cost-plus pricing data is used, a cost-structure computation shall be provided as support.
    b) If current price will be used, the basis and source/s must be specified, e.g., competitors price or production costs, among others.
5. A mini income statement shall be presented should the Implementing Proponent undertake different kinds of activities in the proposed enterprise;

6. Sales schedule (See Annex A Schedule 5) shall be submitted to present the projected revenue (i.e. sales of primary products and other income) of the proposed enterprise. The sale schedule shall indicate the total quantity sold per product at a given period including its corresponding price. The Implementing Proponent can devise their own format as long as it contains the necessary information in the assessment of revenue of the enterprise; and
7. Data requirements and Annexes are attached in this guideline as Annex B.

b.2. Cost assumptions

Cost is defined as the cash amount or the cash equivalent being given up by the enterprise to produce a certain product and its operation. To account for the costs on the proposed enterprise, the PG must determine which expense items are classified as direct costs and indirect costs. Direct costs are expenses related to the production of the products. This may include among others the cost for the procurement of raw materials, packaging materials, labor, facilities and equipment. Indirect costs on the other hand refers to expenses related to the maintenance of the operation of the business. Cost items under this classification include among others the payment for salaries of employees and its benefits, repairs and maintenance, office supplies, utilities, marketing expenses, advertising and promotion, representation expenses and others.

Classification of Cost(s)	Definition
Raw Materials	Basic materials or substances used in the primary production or manufacturing of a good. These most commonly make up the bulk of the cost items of every enterprise.
Direct Labor	Labor refers to the work needed to perform production activities and being paid for by the enterprise. Usually labor refers to the volume of output to be produced and their engagement can be on a seasonal or regular basis.
Fuel and Oil	Fuel and oil are one of the important cost items needed in the operation of the proposed enterprise. These are necessary in the production and delivery of goods and services offered by the enterprise.
Packaging Materials	A type of materials used to enclose or protect products for distribution, storage, sale and use. This expense is part of direct cost and is directly related to the total volume of products.
Salaries and Wages	A form of periodic payment from an employer to an employee. This is a cost associated with the service provided by the administrative and project management staff of the enterprise.

Supplies and Materials	Items necessary in performing administrative tasks and financial transactions of the proposed enterprise including office supplies and other supplies used for operation.
Repairs and Maintenance	Refers to the costs involving fixing of any equipment, facility or any asset in order to bring back the condition of the said asset to continue with the operational activities of the proposed enterprise.
Utilities	This accounts the report of the cost incurred for the use of electricity and water for the operation of the enterprise.
Marketing Expenses	Refers to the cost incurred for the conduct of advertising and promotion of the proposed enterprise. The cost shall depend on the marketing strategies and promotional activities discussed under the business plan.
Representation Expenses	Costs incurred whose primary purpose is for representational related activities such as conduct of meetings, attendance to business related events, etc.
Permits and Licenses	This includes cost incurred for securing permits, licenses and certification (e.g. organic certification, certification on hazard analysis and critical control points (HACCP), certification on good manufacturing practices, license to operate and etc).
Tax	A compulsory contribution to state revenue levied by the government on business profits.
Depreciation	Depreciation is a cost used to determine the intrinsic value of any asset. Data needed in the computation of depreciation are the total acquisition cost, the estimated lifespan and the salvage value (if applicable).

Specific Policies

1. All costs identified in the business plan must be accounted in the financial analysis;
2. Costs can be presented following the prescribed schedule of PRDP Scale Up (Please see Annex A for the format). However, the Implementing Proponent (IP) can devise their own format as long as the vital information for the computation are present;
3. For the computation of direct labor, the IP must clearly indicate in the business plan the nature of engagement of the laborers particularly the basis for the payment of their salary (i.e. output based or fixed rate) and the duration of their engagement to the enterprise**;**
4. Trucking schedule (See Annex A Schedule 8) shall be submitted and shall become one of the basis for the justification of the requested vehicles under PRDP Scale Up and computation of gasoline/fuel and oil expense of the proposed enterprise. This

schedule will project the frequency of hauling and delivery of products of the enterprise, loading capacity and actual loads per trip, and distance travelled per trip, for at least one production cycle. If the proposed enterprise will shoulder both the hauling and delivery, costing should be computed separately. Please take note that in the computation of fuel cost for hauling and delivery, average number of trips can be used if you have same number of trips per month, otherwise, use the total number of trips per annum;

5. Total number of trips is estimated by computing the total volume of production vis-à-vis the capacity of the delivery/hauling vehicle. The value generated will be rounded up (e.g. Number of Trips = 11.10 trips per annum (computed) the value to be used in the computation is 12 trips per annum);
6. Computation of gasoline/fuel and oil used in the operation of facilities and equipment shall consider the capacity of each equipment, average consumption per day, total number of working days per month and price to determine its corresponding cost (See Annex A Schedule 8-Fuel Cost for Facilities and Equipment);
7. The quantity of packaging materials is estimated by computing the total volume of production and the capacity of the identified packaging materials. Value generated shall be rounded up (e.g. Total Quantity of Packaging Materials = 345.10 pieces (computed) the value to be used in the computation is 346 pieces);
8. The business plan should clearly indicate the classification (i.e. regular or contractual) of all the staff for hiring on the proposed enterprise;
9. Statutory benefits (SSS, PHILHEALTH and HDMF) and 13th month pay shall be provided to employees as mandated by law and shall be accounted for in the financial analysis. Provision of other benefits/incentives will be accounted depending on what is indicated in the operational plan of the proposed enterprise;
10. Basis for the computation of utilities for facilities/equipment used in the manufacturing of product(s) of the enterprise should include consideration on the capacity of the facilities/equipment, per kilowatt consumption per day, number of working days per month and the per kilowatt cost (See Annex A Schedule 11);
11. Income tax shall be computed based on the tax rate applied by the Bureau of Internal Revenue (BIR);
12. Depreciation of all fixed assets of the enterprise shall be computed using the straight-line method. The formula is shown below:

    Depreciation (in any period) = ((total acquisition cost – Salvage value)/EUL)

    Where:
    - Acquisition cost is the total amount paid to purchase a particular facility/equipment/vehicle
    - Salvage value refers to the estimated sellable amount of a particular facility/equipment/vehicle after its useful life
    - EUL refers to the Estimated Useful Life of a particular facility/equipment/vehicle

13. Depreciation schedule must be submitted (See Annex A Schedule 12);
14. Equipment and facilities with lifespan less than the project life shall be re-purchased and corresponding depreciation cost should be computed;

15. For existing assets of the IP that will be used as counterpart in the operations of the enterprise, the cost shall be based on the asset's current book value. The asset's acquisition date and estimated useful life should be indicated in the assumptions; and
16. Other costs may be included aside from those stated in these guidelines and shall depend on the operation of the proposed enterprise.

c. Financial Statements

c.1 Projected Income Statement

The projected income statement is a financial statement that measures a company's financial performance over a specific accounting period. Financial performance is assessed by giving a summary of how the business incurs its revenues and expenses through both operating and non-operating activities.[2] It also shows the net profit or loss incurred over a specific accounting period. This is known as the profit and loss statement. It forecasts sales and costs involved in running a specific enterprise or business.

Data Requirements	Definition and Reliable data sources and references
Total Revenue/Sales	This is the sum of all sales and other income of the proposed business or enterprise. *Formula: Selling price of product X times quantity of product X*
Expenses	This includes the sum of all expenses in the operation of the proposed business or enterprise (e.g. Cost of Sales, Operating Expense, Selling Expense, Administrative Expense, and Depreciation).
Taxes	**Tax Rate** will be dependent on the classification of the Proponent, whether Association, Cooperative, Business, etc.

Specific Policies

1. All funds that are part of the investment cost should not be reflected under the income statement or profit and loss statement
2. Sales of each product produced by the enterprise including details of other income must be reflected in the income statement;
3. All costs shall be accounted except for the payment of tax;
4. For existing enterprise, the income statement before the proposed sub-project must be included as Year 0 in order to determine the current transactions and projected income and expenses; and
5. Use the income statement format (See Annex A Schedule 13) for the presentation of the enterprise profit and loss statement;

c.2 Projected Cash Flow

Projected cash flow explains how a company or enterprise acquires and spends its CASH. It provides an overview of the cash inflows and outflows of the business during a certain period of time, depicting the cash utilization from the different enterprise activities.

Data Requirements	Definition and Reliable data sources and references
Cash Inflows	Cash inflows pertain to all types of cash coming in as part of the operation of a specific enterprise or business, which include all sales, proceeds, loans (if any), grant, gains, etc. ● For Year 0, Loan Proceeds, GOP, and Cash IP Equity will be generated from the total investment plan ● Sales, other income and depreciation can be derived from the Income Statement.
Cash Outflows	Cash outflows pertains to all types of cash going out (being spent) in running a specific enterprise or business, which include purchases, payments, expenses, investments, dividends paid, etc. ● Items for the capital investment plan will come from the total investment plan ● Cost of Sales, Operating Expense, Selling/Marketing Expense, Administrative Expense and Taxes

Specific Policies

1. All pre-operating expenses including the investment capital requirement in the form of cash shall be reflected under Year 0 of the cash flow statement;
2. The net income entries in the cash flow statement shall be based on the computed net income under the profit or loss statement excluding depreciation cost;
3. Payment for taxes shall be accounted based on the projected net income of the enterprise and applicable tax rate of the IP; and
4. For facilities and equipment with estimated life span shorter than the project life, the corresponding cost of acquisition must be reflected in the project cash flow as part of the outflow.

c.3 Projected Balance Sheet

The projected balance sheet is a financial statement that summarizes the proponent group's assets, liabilities and shareholders' equity at a specific point in time. It provides a snapshot summary of what the proposed business or enterprise owns (assets) and owe to non-owners (liability) and owners (equity). The projection being made is based on the

current situation of the enterprise/business as of a specific date. It also shows how much of the assets can cover liabilities and earn profits.

Data Requirements	Definition and Reliable data sources and references
Assets	Assets refer to all the properties owned by a company or enterprise. Assets can be categorized in two: 1) Current assets (normally lasts within one year) which include cash, accounts receivable, inventory 2) Non-current assets (lasts more than one year) which include fixed assets (ex. Machineries and equipment), long term investments, etc.
Liabilities	Liabilities include loans, accounts payable, mortgages acquired by the business/enterprise from its creditors. It can be classified into current and noncurrent liabilities as well.
Equity	Equity is the value of ownership interest in property, including stakeholders' equity in a business. It is what the enterprise owes to the owners. This includes investments/grant and retained earnings

d. Financial Profitability Indicators

d.1 Payback Period

Payback period refers to the period of time required to recoup the funds expended in an investment, or to reach the break-even point. It is expressed in years and fraction of years.

Data Requirements	Definition and Reliable data sources and references
Total investment cost	The total investment cost should come from the capital investment plan of the proposed enterprise
Net return/income per year	Net return/income per year should come from the income statement. *In order to get the net income to be used in the computation of the payback period, the depreciation cost must be added back to the net income computed under the projected income statement.*

Specific Policies

1. All sub projects/enterprises shall follow the formula below for the computation of payback period:

Payback period = Y1+ (total capital-X1)/ X2

Where:

Y1 Year Number before you break-even / number of years bef
you reach break-even year

X1 Cumulative total at year before you breakeven

X2 net income at break-even year

Total Capital Investment: PhP _____

Years	Net income	Cumulative Total
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

2. Net income used is based on the computed net income after tax under the cash flow statement.

d.2 Break-even Analysis

Break-even analysis is used to determine the point at which revenue equals the costs associated with receiving the revenue. It shows the level of sales at which revenue equals expenses. Thus, showing zero net income. The sales point at this level is called the Break-Even Point.

Data Requirements	Definition and Reliable data sources and references
Annual Fixed Costs	Fixed costs are the costs incurred in the operation that do not fluctuate with the change in quantity of volume to be produced. These include rent, insurance, office supplies, advertising, etc. Fixed costs can be generated from the Schedules Sheet
Selling Price	It is the price of the product that is offered to the buyers
Variable Cost per unit	Variable costs are those costs that vary depending on the enterprise's production volume. These include materials used in production, labor costs and utilities in the production of products, etc. Variable cost per unit is computed using the following formula: *Variable cost per unit = total variable cost/total volume of output*
Contribution margin per unit (CMPU)	Contribution margin per unit is the difference between the selling price and the variable cost per unit. It represents the portion of revenue left after deducting the variable cost. This is one of the variables needed in order to compute for the break-even analysis. CMPU = selling price per unit – variable cost per unit
Contribution margin ratio	Contribution margin ratio is the difference between an enterprise's sales and variable expenses and being expressed as percentage. It represents the portion of revenue left after deducting the variable cost C/M ratio = CMPU/selling price
Break-even point in Units	It is the point where the total costs (variable + fixed costs) and total revenues are equal. It is expressed in the number of units. This indicator is important in preparing financial analysis in order to determine the critical volume at which the enterprise should produce in order to gain profit and not to incur losses. Determining this critical point will help the enterprise to plan and prepare strategies to keep the enterprise gaining profit.

Data Requirements	Definition and Reliable data sources and references
	Fixed Costs/Contribution Margin Per Unit
Break-even point in Peso	It is the point where the total costs (variable + fixed costs) and total revenues are equal. It is expressed in peso terms. Fixed Cost/ Contribution Margin ratio
Break-even Price	(Total Fixed Cost + Total Variable Cost)/Total Prod. Volume

Specific Policy

If there are more than one (1) product to be produced by the enterprise, a break-even analysis for each product over a 10-year period should be computed.

d.3 Financial Profitability Indicators and Sensitivity Analysis

Financial Analysis is an aid to examine which business proposals should be approved. This will include indicators such as Financial Net Present Value (FNPV), Financial Internal Rate of Return (FIRR), Benefit-Cost Ratio (BCR), Return on Investment (ROI) and Sensitivity Analysis. Computation of financial indicators and sensitivity analysis will determine the profitability and financial viability of the proposed enterprise.

Data Requirements	Definition and Reliable data sources and references
Financial Net Present Value (FNPV)	NPV evaluates the present value of total revenue against the present value of total costs for the whole project life. An NPV value of > 0 means that the business is gaining profit.
Financial Internal Rate of Return (FIRR)	The IRR shows the rate of growth the investment is expected to generate. If the FIRR value is greater than the opportunity cost of capital, the proposed subproject is profitable. FIRR > 8% is profitable

Data Requirements	Definition and Reliable data sources and references
Benefit cost ratio (BCR)	BCR is the ratio of the benefits of a project against its costs, expressed in discounted present values. BCR with values > 1 means that the proposed project is gaining profit
Sensitivity analysis Scenarios: ● 10% increase in cost ● 10% decrease in revenue ● 10% increase in cost and 10% decrease in revenue ● 15% increase in cost ● 15% decrease in revenue	Sensitivity analysis is a technique used to determine how different values of an independent variable will impact a particular dependent variable under a given set of assumptions. It is a way to predict the outcome of a decision if a situation turns out differently compared to the key prediction(s). **Decision criteria: accept proposed subproject if financial indicators pass the 10% increase in cost and 10% decrease in revenue scenarios (individual scenario)**

Specific Policies

1. Computation of total expenses include the direct cost, administrative and operating expenses, and tax payments (if applicable). Depreciation cost, interest on share capital/dividends and patronage refund are excluded in the computation.
2. For an enterprise to be approved, the financial indicators at individual sensitivity analysis case scenarios of 10% increase in cost and 10% decrease in revenue must pass the prescribed hurdle rates: FNPV should have a positive value, FIRR must be at least 8%, BCR should have a value of 1.0 or higher.
3. Implementing Proponent will present sensitivity analysis using the following scenarios:
   - Base scenario
   - 10% increase in cost
   - 10% decrease in revenue
   - 10% increase in cost and 10% decrease in revenue
   - 15% increase in cost
   - 15% decrease in revenue
4. Computation of indicators is subjected to an 8% financial discount rate.

The current practice on computing sensitivity analysis is subjecting all the costs and revenue items to a certain percentage increase and decrease. However, with this new guideline, each enterprise can have the option to identify specific costs and items in the computation of revenue that will be subjected to certain increase and decrease.

But in doing so, there must be a thorough analysis in identifying the risks that may affect the operation of the enterprise. In the identification of risks for every enterprise the following must be considered:

- Nature of the enterprise.
- Historical data on the variables affecting the production of each enterprise

V. Policies on the Computation of Economic Benefits

a. Comparative analysis of individual farmer income under scenarios of (a) Without the PRDP Scale Up Project and (b) With the PRDP Scale Up Project.

This section highlights the benefits that an individual farmer/beneficiary can get from the project. In support of one of the Project Development Objectives (PDOs) of PRDP Scale Up, which is to increase income of individual beneficiaries, it is of necessity to carefully determine and analyze how the proposed project will augment farmer/beneficiary income and achieve the targeted increase in the PDOs. However, caution must be taken in accounting the different benefits to farmers/beneficiaries. It must be clear that only the benefits directly attributed to the project and benefits resulting from the interventions of PRDP Scale Up shall be considered in the analysis. Baseline income shall be based on the commodity supported by the enterprise and data shall be sourced from the FCA beneficiary profiling conducted by I-REAP and M&E. The format for the comparative analysis of income of individual farmers is attached in Annex A Schedule 18.

b. Job/Employment generation

Another benefit that is important to highlight is the additional jobs/employment that will be generated by the proposed enterprises.

Based from the definition of Philippine Statistics Authority (PSA), persons in employment are those who do any work even for one hour during the reference period for pay or profit. Format for the computation of additional jobs generated from the proposed enterprise is attached in Annex A Schedule 18.

INFRA Component – Number of jobs to be generated by each subproject will include all persons who will be hired and paid for during construction and operation and maintenance activities.

Note on counting of total number of job generation: Counting of number of jobs should be based on the actual accomplishment. Masterlist of jobs with the corresponding names should be monitored and consolidated as a basis for counting the total number of jobs to be generated. This list can be requested from the concerned contractor.

Enterprise component:

- **For start-up sub-projects**
  Number of jobs to be generated by each subproject will include all manpower requirements to perform the projected activities in the operation of the enterprise

- **For expansion and upgrading subprojects**
  - Number of jobs to be generated by each subproject will include all additional manpower requirements due to the upgrading or expansion of the proposed enterprise.
  - Existing workers/staff of the enterprise should be excluded in the list.

Part time workers should also be considered part of the job/employment generation. Administrative Staff who were previously employed prior to the implementation of the proposed project and will perform additional work (to be provided honorarium and other benefits) should not be considered additional job/employment generation by the project.

However, said data should also be captured as a separate category to capture the other benefits of the project.

c) Women Engagement - potential engagement of women in the proposed enterprise shall be discussed in the BP

d) Profit sharing scheme - computation of the enterprise' profit-sharing scheme, if applicable, (i.e., distribution of interest on share capital or dividends and patronage refund) for each farmer-member shall be presented in the Projected Income Statement. The amounts shall be added to the net income of the farmer (without and with Project) in the Comparative Analysis of Farmer's Income table. The enterprise' profit-sharing scheme and computation shall be discussed in BP write-up.

e) Other potential benefits - Other targeted or potential impact of the Project shall be discussed in the BP write-up.

Annex A. SAMPLE SCHEDULES

Following is the format of sample FA schedules. Note that the default period of financial analysis is 10 years but may be extended to 15 or 20 years depending on the agreed period for specific large-scale enterprise subprojects.

Schedule 1 – Capital Investment Plan

Particulars 1/	QTY.	UNIT COST	TOTAL	Source of Fund				
				LP	GOP-DA	*If Implem.Proponent is either* *LGU*	FCA/FCA Cluster	
				60%	*20%*	*20% Cash*	*5% Cash*	*15% In-Kind*
Civil Works								
Enterprise Cost								
Working Capital 2/								
TOTAL PROJECT COST (TPC)								

1/ Cost items should be itemized based on the requirements of the enterprise proposal. Please refer to the annotated business outline.

2/ Working or trading capital shall be fully shouldered by Implementing Proponents.

Schedule 2 – Financing Mix

Fund Source	Amount (in Php)	Cost Sharing
LP		60%
GOP-DA		20%
LGU/FCA or FCA Cluster		20%
Cash		
In-Kind		
Sub-Total		
TPC		**100%**

Schedule 3 – Gantt Chart of Operation

Activity	Year 1							….	Year 10
	Month 1…					….	…Month 12	…	Month
	Week 1		Week 2	Week 3	Week 4	….	Week	…	Week
	Day 1…	…Day 7					Day	…	Day
Hauling									
Processing									
Step 1 ---									
…..									
Packaging									
Delivery									
Payment									

Schedule 4 – Gantt Chart of Implementation

Activity	YEAR 1												….	…YEAR 10
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	….	
Pre-Implementation														
Specific Activity														
Operation														
Specific Activity														
…..														

Schedule 5 – Sales Schedule

Particulars	Year 1		…	Year 10
	Month 1…	…Month 12	…	….
Volume				
Price				
Sales				

Schedule 6 – Assumptions

Assumptions	Data Required	Source of Data
A. Pricing		
A.1. Direct cost		
A.1.1. A.1.2. Raw materials	▪ Buying price for year 1 ▪ Buying price for year 2 and onwards	
A.1.3. Fuel and oil	Price of fuel and oil	
A.1.4. Packaging materials	▪ Number of packaging materials ▪ Capacity of packaging material ▪ Price per piece of packaging materials	
A.2. Administrative and other operating costs		
A.2.1. Supplies and benefits		
A.2.2. Other costs such as permits and licenses		
A.3. Taxes	Tax Rate (If exempted, provide certificate of exemption)	
B. Other incomes	▪ Vehicle and facility rentals ▪ Marketing of by-products	
C. Working capital requirement		
For farming-based enterprise	▪ Percentage of sales on credit ▪ Credit terms with buyers (days receivable) ▪ Percentage of costs of goods sold on credit ▪ Credit terms with suppliers (days payable) ▪ Production period (planting) ▪ Inventory period (from harvest to delivery)	
For processing	▪ Percentage of sales on credit ▪ Credit terms with buyers (days receivable) ▪ Percentage of costs of goods sold on credit ▪ Credit terms with suppliers (days payable) ▪ Inventory period (from purchase of raw materials to manufacturing) ▪ Production period (manufacturing)	

Assumptions	Data Required	Source of Data
	▪ Inventory period (from stocking to delivery of finished products)	
For marketing and/ or trading	▪ Percentage of sales on credit ▪ Credit terms with buyers (days receivable) ▪ Percentage of costs of goods sold on credit ▪ Credit terms with suppliers (days payable) ▪ Inventory period (from purchase to delivery of traded goods)	
D. Depreciation schedule (for existing and proposed fixed assets) – *see sample table below*	▪ Acquisition costs ▪ Year of acquisition ▪ Estimated useful life ▪ Estimated salvage value (if applicable)	
E. Comparative analysis of renting vs owning vehicles *(see sample table below)*	Decision criterion: if NPV (own) < NPV (rent), then purchase vehicle.	
F. ……..		

Schedule 7 – Technical Analysis

Assumptions	Data Required	Data Source
A. Production Schedule		
For farming-based enterprise	▪ Mortality rate (%) ▪ % Rejects	
For processing	▪ Conversion ratio ▪ % losses per activity	
For marketing and/ or trading	▪ Handling losses	

Schedule 8 – Trucking Schedule

Origin	Destination	Year								Annual Fuel Cost
		Month Week Day						Number of Trips/ Month	Monthly Fuel Cost (PhP)	
		Distance (km)	Time of Trave (min.)	Volume (kg.)	Fuel Consumption (L/km)	Fuel Price (PhP)`	Total Fuel Cost			
Hauling										
Delivery										

Schedule 9 – Cost of Raw Materials

Particulars	Month 1…	….Month 12	Year 1…	…Year 10
Total Volume (kg.)				
Price (Php)				
Total Cost of Raw Mat (Php)				

Schedule 10 - Salaries and Benefits

Position	Wage Rate	Monthly Salary	Benefits				No. of Workers	Total Monthly Expense	Annual Salaries & Benefits
			SSS	PhilHealth	Pag-ibig	13th Month Pay			

Schedule 11 – Comparative Cost Analysis for Vehicle

Truck 1	M1…	M12	Y1…	….	…Y10
RENTING					
Rental expenses					
Other related expenses					
Total rental expenses					
OWNING					
Acquisition cost					
Other cash outflows:					
Interest expenses (if applicable)					
Fuel expenses (see hauling and delivery schedules)					
Repair and maintenance costs					
Other administrative costs (e.g. salaries of driver and crew, licensing fees, insurance)					
Total costs before salvage value					
Less: Salvage value					
Total ownership costs					
Net Present Value for Renting					
Net Present Value for Owning					

Schedule 12 – Depreciation Schedule

Asset	Qty	Acquisition Cost	Total Cost	Estimated Useful Life	Remaining Useful Life	Book Value	Salvage Value (10%)	Annual Depreciation Cost

Schedule 13 – Income Statement

Particulars	Year 1		Year 1…	…Year 10
	Month 1….	….Month 12		
Sales				
Other Income				
Gross Revenue				
Less: Cost of Goods Sold				
Net Revenue/Gross Profit Margin				
Less: Expenses				
Operating Expense				
Selling Expense				
Administrative Expense				
Depreciation				
Taxes				
Total Expenses				
NET INCOME				

Schedule 14 – Cash Flow

Particulars	Year 0	Year 1		Year 1…	…Year 10
		Month 1….	….Month 12		
CASH INFLOW					
Cash Investment 1/					
Sales					
Other Income					
Total Cash Inflow					
CASH OUTFLOW					
Purchase of Assets 2/					
Cost of Goods Sold					
Operating Expense					
Admin and Selling Expenses					
Total Cash Outflow					
NET CASH FLOW					

1/ Includes capital investment from PRDP Scale Up and IP cash equity.
2/ Purchase of assets as part of project investment.

Schedule 15 – Balance Sheet

Particulars	Year 1		Year 1…	…Year 10
	Month 1….	….Month 12		
ASSETS				
Current Asset				
Cash				
Non-Current Asset				
Properties				
TOTAL ASSETS				
LIABILITIES				
Current Liabilities				
Non-Current Liabilities				
Total Liabilities				
IP EQUITY				
Total IP EQUITY				
TOTAL LIABILITIES AND IP EQUITY				

Schedule 16 - Payback Period

Total Invest Cost = 0.00

Years	Net income	Cumulative Total
0		
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Schedule 17 – Break-Even Analysis

Product 1	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10
Annual Fixed Cost										
Selling Price										
Unit Variable Cost										
Total Variable Cost										
Production Volume										
Contribution Margin Per Unit										
Contribution Margin Ratio										
Break-even Units										
Break-even Sales										
Break-even Price										
Average break-even units										
Average break-even sales										
Average break-even price										

Schedule 18 – Comparative Farmer's Income

Particulars	WOP									
	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10
Average Production Area/Farmer										
SALES										
Total Volume Produced										
Price per kg.										
Total Sales										
PRODUCTION COST										
Materials Cost										
Production Input										
Labor Cost										
Marketing Cost										
Total Production Cost										
NET INCOME										
OTHER BENEFITS										
Patronage Refund										
Share Capital										
Total Other Benefits										
TOTAL FARMER BENEFIT										

Particulars	WP									
	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10
Average Production Area/Farmer										
SALES										
Total Volume Produced										
Price per kg.										
Total Sales										
PRODUCTION COST										
Materials Cost										
Production Input										
Labor Cost										

Particulars	WP									
	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10
Marketing Cost										
Total Production Cost										
NET INCOME										
OTHER BENEFITS										
Patronage Refund										
Share Capital										
Total Other Benefits										
TOTAL FARMER BENEFIT										

Schedule 19 – Job Generation

Position	No. of Jobs		Wage/ Month/ Person		Wage/ Annum/ Year	
	WOP	WP	WOP	WP	WOP	WP