Department of Public Works and Highways, Government of Philippines

March, 2013

Support for the Nationwide Roll-out of the National Sewerage and Septage Management Program

Program Operations Manual

wsp water and sanitation program

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ACRONYMS

ABC	Approved Budget of Contract
ABR	Anaerobic baffled reactor
AIWPS ™	Advanced Integrated Wastewater Pond System
BAC	Bids and Awards Committee
BAR	Budget Accountability Report
BED	Budget Execution Documents
BIR	Bureau of Internal Revenue
BLGF	Bureau of Local Government Finance
BOD	Biological oxygen demand
BOT	Build-operate-transfer
CAPEX	Capital expenditure
CHD	Center for Health Development
CHED	Commission on Higher Education
CWA	Clean Water Act
COA	Commission on Audit
COD	Chemical oxygen demand
CPDO	City Planning and Development Office
DAO	DENR Administrative Order
DBM	Department of Budget and Management
DBP	Development Bank of the Philippines
DepED	Department of Education
DENR	Department of Environment and Natural Resources
DILG	Department of Interior and Local Government
DO	Dissolved oxygen
DoF	Department of Finance
DoH	Department of Health
DPWH	Department of Public Works and Highways
DSR	Debt service ratio
DTI	Department of Trade and Industry
ECA	Environmentally Critical Area
ECC	Environmental Compliance Certificate
ECP	Environmentally Critical Project
EEID	Environmental Education and Information Division
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EMB	Environmental Management Bureau
ESC	Environmental Sanitation Clearance
ESSO	Environmental and Social Services Office
FIES	Family Income and Expenditure Survey
FS	Feasibility Study
GAA	General Appropriations Act
GAB	General Appropriations Bill
G-EPS	Government Electronic Procurement System
GCC	General Conditions of Contract
GFI	Government financial institution
GOCC	Government Owned and Controlled Corporation
GoP	Government of the Philippines
HUC	Highly Urbanized City
IAEB	Invitation to Apply for Eligibility and to Bid
ICC	Investment Coordinating Committee
IEC	Information, education and communication
IEE	Initial Environmental Examination
IRR	Implementing Rules and Regulations
IRR	Internal rate of return
ISC	Inter-agency Steering Committee

ITB	Instructions to Bidders
JVA	Joint venture agreement
KAIPA	Knowledge-Approval-Intent-Practice-Advocacy
LCE	Local Chief Executive
LCB	Lowest Calculated Bid
LCRB	Lowest Calculated Responsive Bid
LDWQMC	Local Drinking Water Quality Monitoring Committee
LGC	Local Government Code
LGU	Local Government Unit
LGUGC	Local Government Unit Guarantee Corporation
LLDA	Laguna Lake Development Authority
LOI	Letter of Intent
LSSP	Local Sustainable Sanitation Plan
LSSPP	Local Sustainable Sanitation Promotion Program
LSSS	Local Sustainable Sanitation Strategy
LWUA	Local Water Utilities Administration
MC	Memorandum Circular
MDFO	Municipal Development Funding Office
M&E	Monitoring and evaluation
MoA	Memorandum of Agreement
MoU	Memorandum of Understanding
MWSS	Metropolitan Waterworks and Sewerage System
MPDO	Municipal Planning and Development Office
NCA	Notice of Cash Allocation
NEDA	National Economic and Development Authority
NG	National Government
NGAS	National Government Accounting System
NGO	Non-government organization
NTP	Notice to Proceed
NPV	Net present value
NSSMP	National Sewerage and Septage Management Program
NSSP	National Sustainable Sanitation Plan
NTP	Notice to Proceed
O&M	Operation and maintenance
OPEX	Operational expenditure
OPIF	Organization Performance Indicator Framework
OVI	Objectively verifiable indicator
PASS	Performance Assessment of Sewerage and Sanitation Services
PAWD	Philippine Association of Water Districts
PAWS	Performance Assessment of Water Services
PBAC	Pre-qualification Bids and Awards Committee
PCAB	Philippine Contractors Accreditation Board
PD	Presidential Decree
PEMAPS	Project Environmental Monitoring and Audit Prioritization Scheme
PhP	Philippine peso
PIA	Public Information Agency
POM	Program Operations Manual
PPMP	Project Procurement Management Plan
PPP	Public-private partnership
PSSR	Philippine Sustainable Sanitation Roadmap
PWRF	Philippine Water Revolving Fund
PWWA	Philippine Water Works Association
RA	Republic Act
SBR	Sequencing batch reactor
SCC	Special Conditions of Contract
SCRB	Single Calculated and Responsive Bid
SEC	Securities Exchange Commission
SOW	Scope of Work
SSM	Sewage and Septage Management

SSMP	Sewerage and Septage Management Program
SuSEA	Sustainable Sanitation for East Asia
ToR	Terms of Reference
TSS	Total suspended solids
TWG	Technical Working Group
UASB	Up-flow anaerobic sludge blanket
USAID	US Agency for International Development
UV	Ultra-violet
VGF	Viability Gap Fund
WACC	Weighted-average cost of capital
WASH	Water, sanitation and hygiene
WATSAN	Water and sanitation
WD	Water District
WSP	Water and Sanitation Program
WTF	Water Treatment Facility
WWTF	Wastewater Treatment Facility
WQMA	Water Quality Management Area

1 Introduction to the Manual

1.1 Current Situation

According to the Water and Sanitation Program (WSP)[1] 664 million people lack access to improved sanitation, with more than 100 million practicing open defecation all around the world.

The Philippines has invested very little in proper sewage collection and treatment. More than 20 million Filipinos do not have access to proper sanitation, and about 7 million practice open defecation. The WSP Sustainable Sanitation for East Asia study (SuSEA 2008) reported that the design of most septic tanks does not conform to the standards prescribed by the Department of Health (DoH). Many who have toilets do not have septic tanks; many septic tanks have open bottoms; most septic tanks are not regularly desludged; and the septage removed is not treated and disposed of properly. Less than 10% of the population has access to piped sewerage systems. Septic tank management, especially desludging, also requires improvement. This study revealed that about half of the respondents with their own septic tanks have not emptied their facilities in the past five years, if ever.

The effects of this neglect include economic losses exceeding PhP78 billion per year and 55 deaths per day, as well as damage to ecosystems and biodiversity. Constraints to development of sewage collection and treatment systems include a low level of awareness and demand from the public, low technical capacity to develop infrastructure, lack of enforcement of regulations, the limited resources of water districts and local government units, and the lack of a national program or budget. Thus, there is a need for a national approach that addresses these constraints.

The NSSMP is part of the National Sustainable Sanitation Plan (NSSP) and Philippine Sustainable Sanitation Roadmap (PSSR), which are broader, overarching frameworks that include the full spectrum of sanitation challenges such as ending open defecation and treating sewage from markets, agriculture, industry and other point and non-point sources of water pollutants. While the NSSMP identifies six intervention areas to address all of these sources, its focus is on the larger infrastructure projects that local implementers (mainly LGUs, water districts and private service providers/utilities) will develop to collect and treat wastewater from densely populated urban centres.

Unfortunately, LGUs continue to find it difficult to develop sanitation projects with local resources, given their limited capacity and competing demands for limited funds. This problem is compounded by an overall lack of enforcement of environmental laws and low level of awareness of the problem and appropriate solutions by the Philippine public and government officials.

[1] The Water and Sanitation Program (WSP) is a multi-donor partnership administered by the World Bank to support poor people in obtaining affordable, safe and sustainable access to water and sanitation services. WSP works directly with client governments at the local and national level in 25 countries through regional offices in Africa, East and South Asia, Latin America and the Caribbean, and in, Washington D.C. WSP has led or supported many of the advances made within the water and sanitation sector over the last three decades.

The Philippine Clean Water Act of 2004 (Republic Act No. 9275) aims to protect the country's water bodies from pollution from land-based sources (e.g. industries and commercial establishments, agriculture and community/ household activities). It provides for a comprehensive and integrated strategy to prevent and minimize pollution through a multi-sectoral and participatory approach involving all the stakeholders.

1.2 National Sewerage and Septage Management Program, NSSMP

The Philippine Clean Water Act (CWA) of 2004 is a landmark piece of legislation that mandates the preparation of a **National Sewerage and Septage Management Program (NSSMP)** and requires highly urbanized cities (HUCs) to provide sewerage and septage services to minimize the adverse impacts of domestic wastewater discharges on water quality and water resources in general. The NSSMP, as defined in the CWA's Implementing Rules and Regulations (IRR), includes the preparation of a framework plan to **address various national issues on sanitation and treatment and disposal of wastewater**, focusing on, among others, objectives, strategies, targets, institutional mechanism, financing mechanism, technology implementation, programming, monitoring and evaluation and other key national concerns.

The goal of the NSSMP is to improve water quality and protect public health in urban areas of the Philippines by 2020. Its objectives are to enhance the ability of local implementers to build and operate wastewater treatment systems for urban centers and promote the behavior change and supporting environment needed for systems to be effective and sustainable. The main strategy is to facilitate a bottom-up, demand-driven project development process by providing national government support and incentives.

Following the Clean Water Act mandates, the NSSMP targets for areas outside Metro Manila are:

***Target 1**: By 2020, all LGUs have developed septage management systems and the 17 highly urbanized cities (HUCs) have developed sewerage systems.*

***Target 2**: By 2020, approximately 43.6 million people have access to septage treatment facilities and about 3.2 million will have access to sewage treatment facilities.*

***Target 3**: By 2020, PhP 26.3 billion has been invested in sanitation improvement projects.*

***Target 4**: By 2020, about 346 million kilograms of BOD is diverted from the environment per year as a result of the sewerage and septage management projects.*

Achievement of these targets is dependent upon the conduct of effective nationwide training, promotions, capacity building and cost sharing with the national government for sewerage projects.

The CWA assigned the Department of Public Works and Highways (DPWH) to prepare the NSSMP, including the creation of an Inter-agency Steering Committee (ISC) and its Technical Working Group (TWG). Since 2008, both the ISC and the TWG have been jointly steered by the National Economic and Development Authority (NEDA) and DPWH, with active participation of the relevant agencies, namely: the Local Water Utilities Administration (LWUA), Department of Environment and Natural Resources (DENR), Department of Health (DoH), Metropolitan Waterworks and Sewerage System (MWSS), Maynilad Water Services Inc. and the Manila Water Co. Inc.

NSSMP implementation will begin with the creation of the NSSMP Office in DPWH and the development of this Program Operations Manual (POM), which aims to illustrate the necessary processes for project implementation. The next chapter presents the purpose, objectives and contents of the POM.

2 Program Operations Manual

2.1 Description

This Program Operations Manual (POM) forms part of the National Sewerage and Septage Management Program (NSSMP) and its efforts to improve water quality and protect public health in urban areas of the Philippines by 2020.

The Department of Public Works and Highways (DPWH) and the Department of Health (DoH) will lead a nationwide training and promotions campaign using this Manual and the toolkits contained in the NSSMP Guide for Local Implementers.

This manual and the toolkits described in it can be found at the NSSMP website: www.nssmp.org

2.2 Objectives and Scope

The purpose of this POM is to provide a guide to the operations of project activities under the NSSMP. It is intended to serve and assist project proponents, decision makers and facility operators, as well as act as a useful reference to other stakeholders.

The POM aims to illustrate the entire process for implementing sewerage and septage management projects. It provides guidance and information on the processes involved in developing projects successfully, and explains the steps in each process to facilitate smooth implementation.

2.3 Manual Structure and Organisation

The remainder of the manual is divided into six Parts:

- Institutional Framework,
- The Project Cycle and its various processes,
- Budgeting,
- Financing,
- Communication, and
- Annexes with documents, templates and guidelines

A brief explanation of each Part is provided below.

Part A: Institutional Framework

This Part describes the roles, responsibilities and skill and knowledge requirements of lead, implementing and support agencies for the NSSMP, and discusses the structure and resourcing of the central NSSMP Office and Local Project Offices. There are many institutions and agencies involved in NSSMP implementation, which can be classified according to functions:

Policy: DPWH and NEDA

Implementation Focal Point: NSSMP Office

Project Implementers: LGUs and WDs

Project Facilitators: DoH, DBM, DENR, WQMAs, DILG, LWUA, MWSS, DepEd, LoC, PAWD, PWWA and donor agencies

Part B: Processes

This Part explains the project cycle and its processes and sub-processes which need to be followed for effective project implementation. This central Part of the Manual describes these processes and the roles and tasks of participants in more detail, as they apply to typical sanitation programs and projects. The Part includes information on: planning steps and guidelines; appropriate sanitation and sewage collection and treatment technologies; technology selection and prioritization; design processes and tools; guidance on feasibility assessments (technical, financial, environmental, etc); procedures and documentary requirements for funding applications, procurement, construction, operation, maintenance, monitoring, evaluation and reporting processes; and anticipated training needs. Key phases of project cycle are:

Sanitation Planning: This step discusses measures for sanitation improvement in the region**.**

Sewerage and Septage System Design: During this phase the technologies for achieving the strategic goals are identified.

Project Feasibility: This phase guides the project viability analysis through the use of several toolkits.

Project Application and Selection: This stage provide guidelines for completing the application form and selecting the projects which will receive funding support.

Project Procurement: this chapter contains the steps for conducting a tender.

Project Construction: This stage provides guidelines for conducting an efficient construction process.

Project Operation & Maintenance: this phase illustrates a proper O&M planning approach for correct system functioning.

Project Monitoring & Evaluation: This final process provides guidance on checking project performance, the accomplishment of NSSMP objectives and O&M effectiveness.

Part C: Budgeting

This Part provides an understanding of local and national budget processes, and explains how the public expenditure program is prepared. It describes the agencies and processes involved, and provides relevant supporting information. The budget phases of the project are:

Budget Preparation: This phase involves the formulation of estimates of income and a budget proposal.

Budget Authorization: In this phase the Sanggunian deliberates the legislative approval of the proposal.

Budget Execution: This phase involves the release of funds for the implementation of projects and activities.

Budget Accountability: This involves the accurate recording and reporting of the LGU's income and expenditures and evaluation of the LGU's physical and financial performance.

Part D: Financing

This Part describes the funds allocation and PPP evaluation processes for the agencies involved and their training needs. The process consists of the following steps:

Identify financing needs: This involves the determination of the project's financial feasibility and its financing requirements, and the preparation of a project brief.

Secure financing: Partnership between the LGU and the WD (and possibly with a private sector investor) is developed to help meet financing needs. Equity and loan financing for the project are secured by the LGU and the WD. Subsequently, NG subsidy is requested from DPWH, followed by the release of the NG share to the LGU.

Implement cost recovery mechanisms: During the project's operational stage, user fees or environmental fees are collected from households and commercial establishments to achieve full cost recovery over the long term

Part E: Communication

This part presents the roles of the agencies in the communication process, describes the training needs for each agency, and develops a communication strategy at national and local levels. The communication strategy intended for the local or HUC level essentially follows the same process as that of the national. But it would differ in terms of coverage, target stakeholders, behavior change objectives, messages, media and channels, and approaches. The Communication Strategy contents are:

Stakeholder analysis: Identify the position of stakeholders on the Knowledge-Approval-Intent-Practice-Advocacy (KAIPA) matrix. Identify current actions for reinforcement.

Strategic Design: Define priority issues, targets and behavior change objectives, and define the message and approaches.

Development, Production and Pretesting of Communication Materials: Present a positioning message to reach stakeholders.

Implementation and Management: Coordinate and develop the communication strategy and check results with the objectives and indicators proposed.

Part F. Supporting documents, guidelines and templates

This Part includes a wide range of materials, including technical guidance and tools; technical, financial and administrative information; and sample documents, lists, formats and templates, to support the descriptive material in the foregoing Parts:

Institutional Organisation and Support:

1. **Tasks, inputs, outputs and timing for responsible organisations**: Annexes provides a detailed description of the inputs and outputs associated with each of the key tasks under the overall responsibilities of these organizations, estimates their timeframes in the overall process, and identifies linkages with both the content of the Manual and other supporting documents.
2. **Sample baseline survey form**. This sample form is intended to assist project proponents to conduct baseline surveys as part of the project identification and planning process.
3. **Prioritization of sanitation needs**: This annex provides a simple but systematic approach to prioritizing different types of sanitation problems in an LGU, according to need.
4. **Guidance on stakeholder and partner consultation**: This annex provides some simple guidelines and principles for planning and conducting consultations with stakeholders, potential partners and local communities.
5. **List of potential stakeholders**: This list is designed to assist local authorities to plan and conduct stakeholder consultation in relation to sanitation planning and specific programs or projects.

6. **Sample Executive Order establishing a TWG**: This document is an example of an Order that should be used for guiding the involvement and mobilisation of experts.
7. **Feasibility assessment tasks and documentation.** The table in this annex describes the tasks, responsible agencies, inputs and outputs, and timing of steps in the assessment process, and references relevant supporting materials
8. **List of required documentation, permits and clearances.** These are the planning and enabling documents and regulatory approvals required to implement a sewerage or septage management project
9. **Sample resolution for adopting a Local Sustainable Sanitation Plan**: This is an exampe of a document that may be used to define and establish the LSSS.
10. **Sample Ordinance for septage management**: This is an example of an existing Local Ordinance that established a septage management system for an LGU.
11. **Sample MoU between WD and LGU**: The MoU sets out the obligations and responsibilities of both parties of a partnership (e.g. between an LGU and a private contractor) for financing, developing and operating a sanitation project

Environmental

12. **Philippine Environmental Impact Statement (EIS) System**: This annex provides further information on the EIS process, to supplement the material in the main text of the manual

Application Process

13. **Format for Project Concept Note**: The Concept Note is a simple description of the project concept and design that can be used in initial consultations with stakeholders and local communities.
14. **Sample letters regarding approval or non-approval of funding applications**: These letters would be issued to prospective project local implementers by DPWH after their applications for National Government funding have been reviewed and, in the case of a priority project, the relevant funds have been approved.
15. **Number of families and family disbursements by income class and by region and type of disbursements**. This table illustrates the capacity of the families to pay for water and sanitation services

Procurement Process

16. **Detailed procurement procedures**: This annex provides further information on the procurement process, to supplement the material in the main text of the manual
17. **Documentary requirements during procurement**: Self-explanatory
18. **Sample procurement notice**: Self-explanatory
19. **Sample letter of acknowledgment of receipt**: This can be used or adapted for a variety of documents that may be submitted during a procurement process.
20. **Sample shortlisting notice**: Self-explanatory
21. **Sample letter to firms not shortlisted**: Self-explanatory.
22. **Sample letter inviting firms to tender**: Self-explanatory.
23. **Outline of Terms of Reference**: This provides guidance on the structure and contents of the project ToR to be provided to tenderers.
24. **Sample notification letter for supply of works**: This would be sent to the selected tenderer/bidder
25. **Sample format for negotiation report**: This is the report on negotiations with the successful bidder.
26. **Sample cover letter requesting submission of signed contract:** Self-explanatory.

Budget and Financing

27. **Information on possible finance sources.** This annex provides information on public and private financial institutions that may be able to support the funding of NSSMP projects, including sources offering donor-funded or commercial forms of finance, and the loan terms and conditions that are offered. The process for issuing LGU or municipal bonds is also described in this annex.

28. **Basic features of Public Private Partnership (PPP) options**: The table in this annex compares the main features, conditions and challenges associated with various PPP options

29. **Items for review during evaluation of PPP projects**: This annex identifies the main issues and factors that should be considered in assessing the feasibility of a proposed PPP project, i.e. market, technical, economic/financial and organization/management aspects, political acceptability and legality, and environmental/social issues.

2.4 Applicable Laws, Rules and Policies

The NSSMP is reinforced by policy framework. The Government of the Philippines has created an enabling policy and legislative framework to lead and guide national and local agencies and institutions, the private sector and the Philippine population towards more effective and sustainable sanitation practices, aimed at achieving acceptable water quality throughout the country. Relevant regulations for sewerage and septage management include:

- **Code on Sanitation of the Philippines** – Septic tanks must be water-tight, inspected once a year, cleaned when the sludge has reduced the liquid capacity by 50%, and the sludge must be treated/disposed of properly. It is unlawful to discharge untreated effluent of septic tanks and/or sewage treatment plants to bodies of water without approval of the Secretary of Health.
- **Clean Water Act** – The CWA provisions on LGU's role in maintaining good water quality. By 2020, LGUs are mandated to have their own septage and sewerage services in place. All industrial, commercial and residential buildings should be connected to existing sewerage systems in highly urbanized cities (HUCs). For non-HUCs septage management systems shall be employed. LGUs are required to provide land for treatment facilities.
- **Operations Manual on the Rules and Regulations Governing Domestic Sludge and Septage** – All septage haulers and septage treatment entities must secure an Environmental Sanitation Clearance (ESC) from the Center for Health Development of the DOH. Proper collection, treatment and disposal of the septage are required.
- **Plumbing Code of the Philippines** – It is unlawful for any person to deposit into any plumbing fixture connected to the excreta and storm drainage systems any oils, greases or other things which could cause damage to the drainage system or public sewer.
- **Presidential Decree 198** – A water district may require, construct, operate and furnish facilities and services, within or without the district, for the collection, treatment and disposal of sewage, waste and storm water. The water district may require all buildings used by human beings to be connected to the sewer system within such reasonable time as may be prescribed by the district. Failure to connect can be a ground for the water district to deny water services to the non-complying building. A water district may prescribe and collect rates and other charges for sewerage services furnished.
- **Local Government Code** – Barangays are primarily responsible for general hygiene and sanitation services. Provinces, municipalities and cities are responsible for building drainage and sewerage infrastructure. LGUs may impose a special levy on the lands within their jurisdiction specially benefited by public works projects or improvements funded by the local government unit concerned. However, the special levy shall not exceed 60% of the actual cost of such projects and improvements.

3 Part A: Institutional Framework

This chapter describes:

- the roles and key capabilities needed for the lead (DPWH, NEDA), implementing (LGUs, Water Districts), and support and facilitating agencies (DBM, DoH, DENR, DILG, LWUA and others) for the NSSMP;
- the structure and resourcing of the central NSSMP Office and Local Project Offices; and
- the skill and knowledge requirements of the key implementing agencies.

The following figure depicts the overall institutional structure for NSSMP implementation.

Figure 1: NSSMP Implementation Institutional Structure

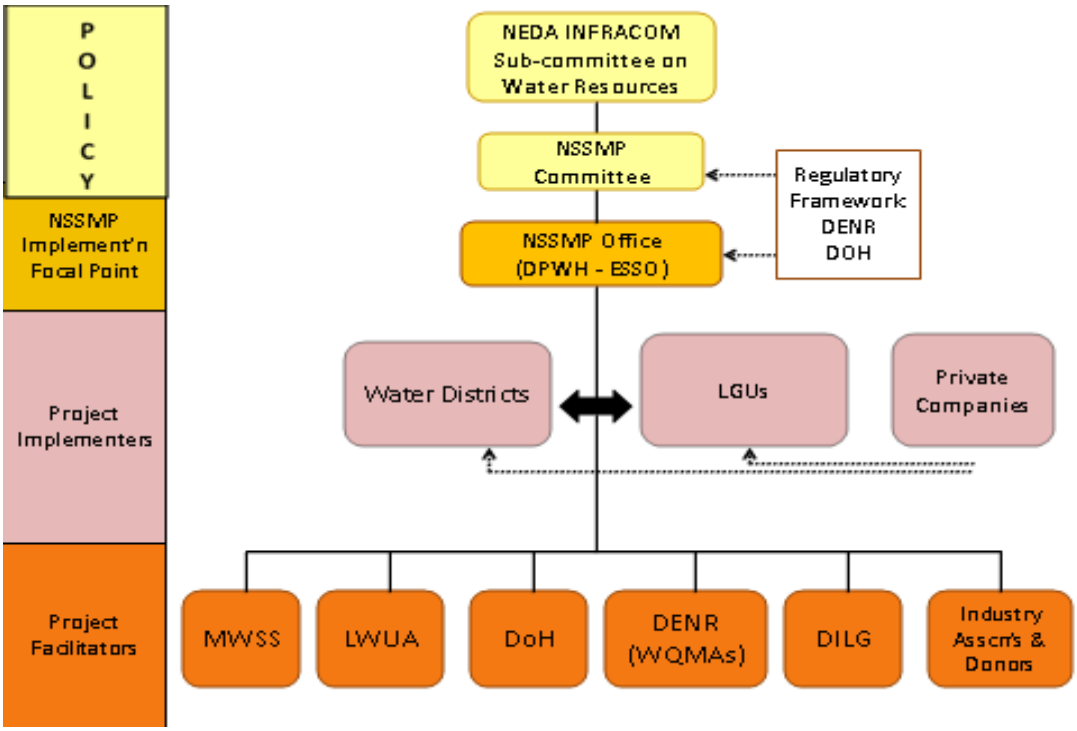
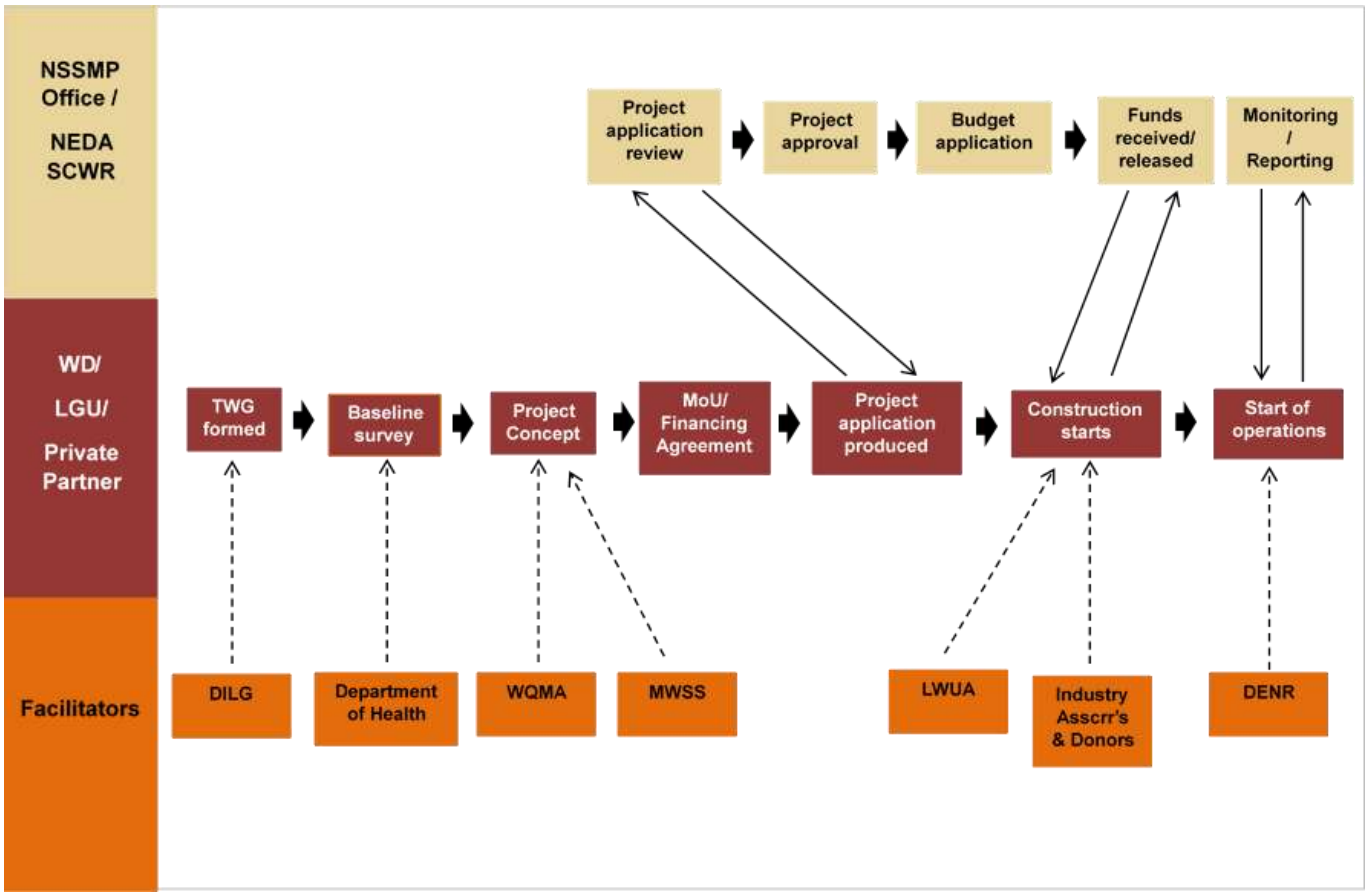


Figure 2 Institutional Development Flowchart

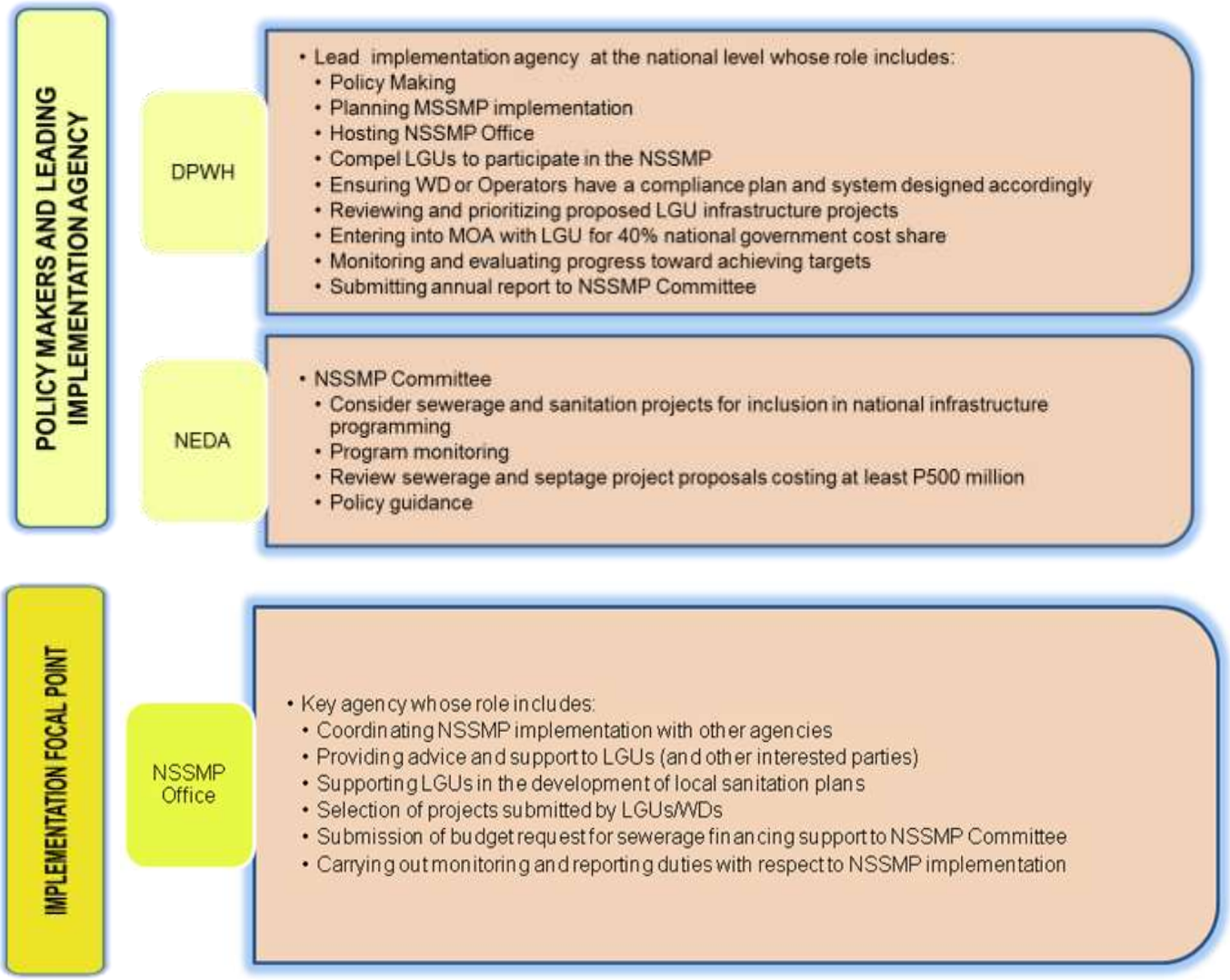


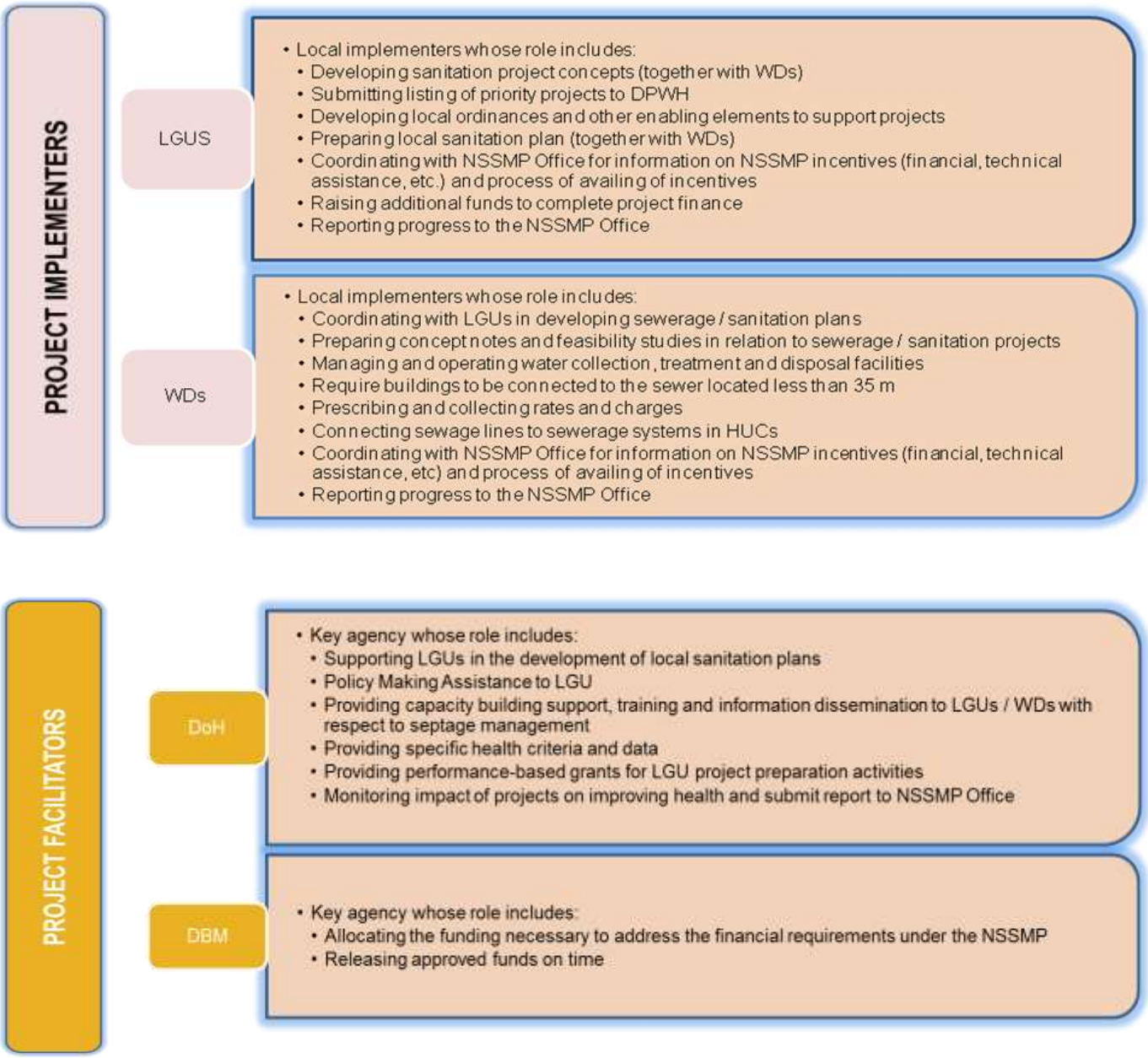
3.1 Roles and Responsibilities

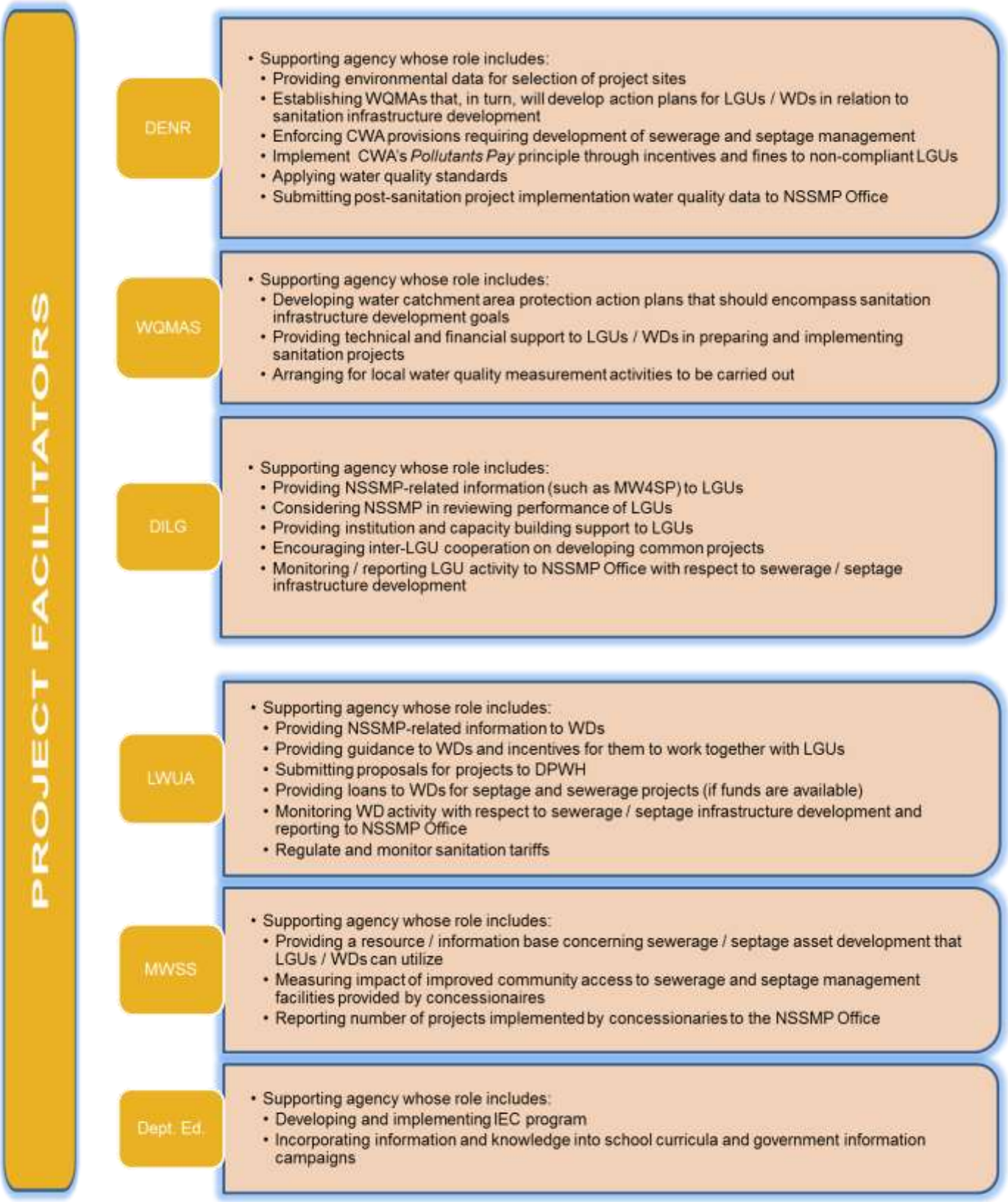
The figure below describes the **roles and responsibilities** expected to be played by the various lead, oversight, participating and supporting organizations. The colors used in the figure are the same as in the previous figure on institutional structure.

A conservative approach has been taken in assigning responsibilities. A role has only been allocated to an organization if it can realistically be expected to meet the responsibilities and deliver the related outputs.

Figure 3: Roles of Institutions and Agencies Involved in NSSMP Implementation




PROJECT IMPLEMENTERS
LGUS
• Local implementers whose role includes:
• Developing sanitation project concepts (together with WDs)
• Submitting listing of priority projects to DPWH
• Developing local ordinances and other enabling elements to support projects
• Preparing local sanitation plan (together with WDs)
• Coordinating with NSSMP Office for information on NSSMP incentives (financial, technical assistance, etc.) and process of availing of incentives
• Raising additional funds to complete project finance
• Reporting progress to the NSSMP Office
WDs
• Local implementers whose role includes:
• Coordinating with LGUs in developing sewerage / sanitation plans
• Preparing concept notes and feasibility studies in relation to sewerage / sanitation projects
• Managing and operating water collection, treatment and disposal facilities
• Require buildings to be connected to the sewer located less than 35 m
• Prescribing and collecting rates and charges
• Connecting sewage lines to sewerage systems in HUCs
• Coordinating with NSSMP Office for information on NSSMP incentives (financial, technical assistance, etc) and process of availing of incentives
• Reporting progress to the NSSMP Office
PROJECT FACILITATORS
DoH
• Key agency whose role includes:
• Supporting LGUs in the development of local sanitation plans
• Policy Making Assistance to LGU
• Providing capacity building support, training and information dissemination to LGUs / WDs with respect to septage management
• Providing specific health criteria and data
• Providing performance-based grants for LGU project preparation activities
• Monitoring impact of projects on improving health and submit report to NSSMP Office
DBM
• Key agency whose role includes:
• Allocating the funding necessary to address the financial requirements under the NSSMP
• Releasing approved funds on time


PROJECT FACILITATORS
DENR
• Supporting agency whose role includes:
• Providing environmental data for selection of project sites
• Establishing WQMAs that, in turn, will develop action plans for LGUs / WDs in relation to sanitation infrastructure development
• Enforcing CWA provisions requiring development of sewerage and septage management
• Implement CWA's Pollutants Pay principle through incentives and fines to non-compliant LGUs
• Applying water quality standards
• Submitting post-sanitation project implementation water quality data to NSSMP Office
WQMAS
• Supporting agency whose role includes:
• Developing water catchment area protection action plans that should encompass sanitation infrastructure development goals
• Providing technical and financial support to LGUs / WDs in preparing and implementing sanitation projects
• Arranging for local water quality measurement activities to be carried out
DILG
• Supporting agency whose role includes:
• Providing NSSMP-related information (such as MW4SP) to LGUs
• Considering NSSMP in reviewing performance of LGUs
• Providing institution and capacity building support to LGUs
• Encouraging inter-LGU cooperation on developing common projects
• Monitoring / reporting LGU activity to NSSMP Office with respect to sewerage / septage infrastructure development
LWUA
• Supporting agency whose role includes:
• Providing NSSMP-related information to WDs
• Providing guidance to WDs and incentives for them to work together with LGUs
• Submitting proposals for projects to DPWH
• Providing loans to WDs for septage and sewerage projects (if funds are available)
• Monitoring WD activity with respect to sewerage / septage infrastructure development and reporting to NSSMP Office
• Regulate and monitor sanitation tariffs
MWSS
• Supporting agency whose role includes:
• Providing a resource / information base concerning sewerage / septage asset development that LGUs / WDs can utilize
• Measuring impact of improved community access to sewerage and septage management facilities provided by concessionaires
• Reporting number of projects implemented by concessionaries to the NSSMP Office
Dept. Ed.
• Supporting agency whose role includes:
• Developing and implementing IEC program
• Incorporating information and knowledge into school curricula and government information campaigns


PROJECT FACILITATORS
LoC
• Role may be expected to include:
• Liaising with member LGUs regarding NSSMP-related development plans
• Providing information, capacity building and training support in relation to sewerage / sanitation to members
• Reporting on sewerage / sanitation asset development
PAWD
• Role may be expected to include:
• Liaising with member WDs regarding NSSMP-related development plans
• Providing information, capacity building and training support in relation to sewerage / sanitation to members
• Reporting on sewerage / sanitation asset development
PWWA
• Role may be expected to include:
• Liaising with members regarding NSSMP-related development plans
• Providing information, capacity building and training support in relation to sewerage / sanitation to members
• Reporting on sewerage / sanitation asset development
Donor Agencies / Programs
• Role may be expected to include:
• Providing capacity building and training support to DPWH and other agencies in relation to NSSMP implementation
• Providing direct technical assistance to LGUs / WDs in relation to sewerage / septage asset development e.g. funding feasibility studies
• Providing capital funding support to LGUs / WDs for sewerage / septage asset development

3.2 Lead agency and NSSMP Office

The creation of a **NSSMP Office** is the first action required to help develop sewerage and septage management projects. This office will be in charge of overseeing the development, monitoring the progress and evaluating the performance of individual projects to be implemented in the coming years.

The task of managing and overseeing the implementation of the NSSSMP has been assigned to the DPWH. The NSSMP Office will therefore also be responsible for overseeing and evaluating the performance of the NSSMP as a whole.

The resources required to perform these functions are described and quantified below.

Rather than DPWH undertaking all of these roles, there is also the option of entering into a contractual relationship with one or more third parties to undertake some of the relevant tasks and functions. Resolving this issue essentially boils down to the level and capability of resources available within DPWH. If it has staff with the appropriate skills, then it can effectively carry out the task itself. If it does not, or there is a concern that the staff are not able to devote enough time to the task, the oversight and monitoring roles may be better off being contracted out to a third party. If such a contracting relationship (i.e. through using external contractors and/or secondees from DPWH) does take place, however, it will be important to ensure that there is no legal or administrative problem with the Project Office submitting NSSMP national budget recommendations to DPWH.

The NSSMP management process will comprise a number of activities including:

- Overall project management responsibility, which will involve a number of tasks such as deciding on an appropriate strategy for implementing the NSSMP, modifying this approach as necessary over time in accordance with results obtained, monitoring the progress of LGUs and WDs in meeting the objectives set out for the NSSMP, and briefing the NEDA infrastructure sub-committee (as well as other interested stakeholders) on progress. This significant task will require an experienced **Project Manager**.
- Reviewing the project proposals submitted by LGUs and WDs to ascertain their completeness, technical adequacy, financial impact and sustainability and environmental influence, This will require the skills of at least one **wastewater engineer**, one **economic/financial specialist** and an **environmental expert**.
- Responding to clarifications and information requests from LGUs and WDs engaged or interested in sanitation infrastructure development. Dealing with such requests will again require a blend of skills including **engineering, economic, financial and environmental expertise**.
- Conducting Program and project monitoring and reporting activities which will require detailed infrastructure progress examination via on-site visits and remote surveying. The same mix of **engineering, economic, financial and environmental** expertise will be required to carry out this task.
- Developing and implementing an ongoing communication strategy and IEC campaign in support of the NSSMP. This will encompass a number of actions such as promoting the NSSMP to national, regional and local stakeholders, creating local sanitation information awareness campaigns, disseminating information concerning project progress, case studies and best practice activities, and liaising closely with partner/ support institutions (such as the DoH, DENR and DepEd) on IEC activities. This task will require the full-time input of at least one **communications professional**.
- Ensuring that the NSSMP implementation process is being carried out in close and effective cooperation with other, linked endeavors being undertaken by other agencies. For example, the DoH has a responsibility and interest in assisting LGUs and WDs with septage development planning and implementation. Also, a number of National Government agencies have mandates and capabilities to meet the training needs of personnel involved in the Program. These activities need to be communicated to and coordinated with the NSSMP Project Office team so that the maximum possible positive impacts are delivered. This work will require the (possibly part-time) involvement of an **institutional liaison team member**.
- Finally, the NSSMP implementation management process will involve a considerable amount of inter-agency communications and coordination, as well as other activities such as making logistical arrangements for site visits and IEC or training activities. This will require a full time administrative capability, such as **secretarial staff** (perhaps two persons).

Figure 4: NSSMP Office Organization Chart

3.3 Local Implementers and Project Offices

The expectation is that LGUs and WDs will work together in developing, implementing and managing sanitation projects, particularly those that involve a sewerage component and will be eligible for national grant financing support. This partnership relationship will be underpinned by the signing of a Memorandum of Understanding (MoU) between the two parties a template for which is included as an Appendix to this Manual.

The MoU will set out the financial, technical, administrative and other responsibilities to be shared between the parties. Generally speaking, however, whilst both the LGU and WD will be expected to help finance (in cash or in kind) the proposed development, the responsibilities of the LGU in the partnership will principally relate to providing the necessary administrative underpinning of the project (e.g. developing ordinances, helping secure permits / certificates, establishing Working Groups, etc.) whilst the WD will be principally concerned with the technical side of the implementation process (e.g. producing Feasibility Studies, overseeing project implementation, managing and operating the assets once they are developed, etc.).

However, whilst a partnership between LGUs and WDs is the most likely and perhaps most logical arrangement, there are other options available. In summary:

Table 1: Institutional Partnership Options for Sanitation Project Development

Option Summary	Summary Assessment
LGU & WD	Assuming both parties can raise the necessary finance, this is a highly viable option as each party can focus on their area of capability – the LGU on administrative matters and the WD on operational matters
LGU	The LGU can potentially manage and implement a sanitation project by itself although it will likely need to contract out the construction and operations activities to a third party
WD	It is not practical for a WD to develop a sanitation project by itself because it will need the cooperation of the relevant LGU(s) for passage of an enabling ordinance
LGU & Private Partner(s)	The LGU can feasibly work with one or more private companies in designing, developing and operating a sanitation project and this may be the best option in circumstances where either the WD is not interested in acting as a project partner or where the WD does not have sufficient access to financing to become a project partner
LGU, WD & Private Partner(s)	A tripartite agreement can be reached where one or private firms assume responsibility for some part of the design, development and operations process with the WD left to manage the remaining elements and the LGU handling the administrative side of things

In addition, whilst Highly Urbanised Cities are expected to represent the principal target for national government financial support in relation to sewerage development activities, it would potentially be highly advantageous for neighbouring Water Districts and Local Government Units to associate themselves with such HUCs in order to

share access to the waste treatment facilities being developed. In return, the HUCs can expect such WDs and LGUs to contribute towards the capital and/or operating costs associated with such asset development.

More generally, even where NSSMP grant funding is not available, it may often be a sensible course of action for multiple WDs and/or LGUs to form a consortium in order to co-finance project development and subsequently share the capacity of the waste treatment collection and treatment assets that have been purchased or constructed.

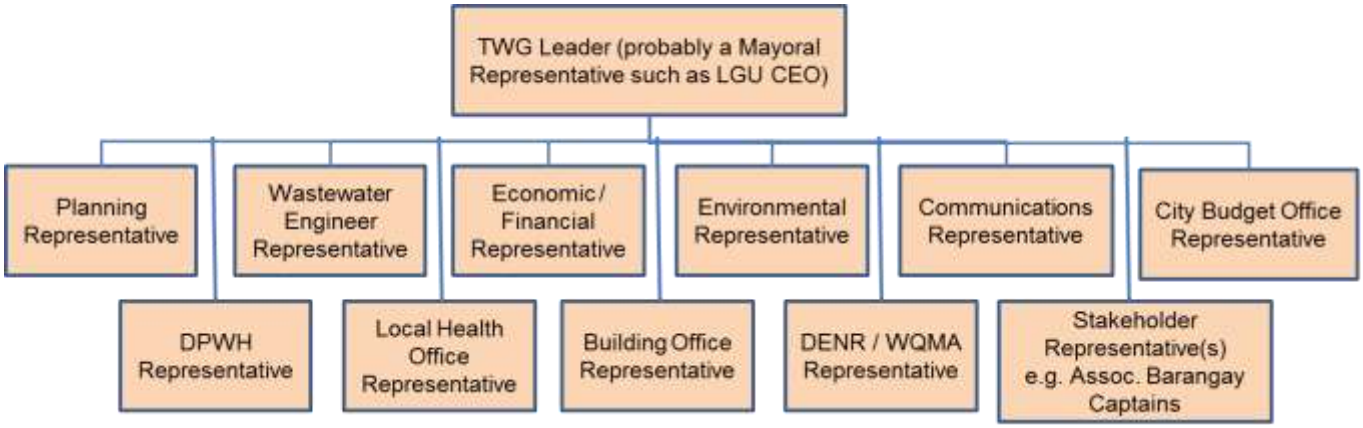
WDs and LGUs (individually or in combination) will need to create a **Technical Working Group** or **Local Project Office** with responsibility for sanitation needs and analysis planning, project selection/design and development, and project management (including monitoring, evaluation and reporting).

The functions of this office would include:

- developing the Local Sustainable Sanitation Strategy (LSSS) and Local Sustainable Sanitation Plan (LSSP);
- developing a local communication strategy and implementing individual IEC project;
- developing sanitation programs in response to local needs;
- prioritizing possible sanitation interventions;
- selecting projects and developing initial concepts/designs;
- arranging project financing and selecting implementation approach (e.g. PPP);
- preparing detailed designs and conducting feasibility studies;
- conducting the necessary tendering and procurement processes;
- managing the construction and operation phases of projects; and,
- monitoring and evaluating the progress, performance and outcomes of projects.

The expectation would be that the Technical Working Group (TWG) established at a local level to manage the sewerage/septage infrastructure implementation process (as described in further detail in Part B of this Manual) would also fulfil this Project Office role. An indication of the possible composition of the TWG/Project Office is presented in the figure below.

Figure 5: Local Project Office Structure



3.4 Key Skill and Knowledge Requirements

The table below summarizes the skills, knowledge and capabilities required of the staff employed by the **key organizations** responsible for NSSMP implementation.

Table 2: Training Requirements

Organization	Unit	Skills Required
DPWH	NSSMP Project Office	• wastewater engineering • water quality monitoring and assessment • project feasibility assessment • financial and economic analysis • operational performance data analysis and reporting • project management, monitoring, evaluation and reporting • IEC policy and program design and implementation • funds management • budget planning and implementation • funds disbursement, monitoring and reporting
LGUs	Local Project Office Municipal Planning & Development Office Local Health Office	• NSSMP Implementation processes and documentation • wastewater engineering • water quality monitoring and assessment • health policy and links to sanitation • sanitation and wastewater infrastructure planning • project feasibility assessment • financial and economic analysis • operational performance data analysis and reporting • project management • construction supervision • project monitoring, evaluation and reporting • IEC policy and IEC program design and implementation • budget planning and implementation • drafting of contracts and MoUs
WDs	All	• wastewater engineering • water quality monitoring and assessment • health policy and links to sanitation • sanitation and wastewater infrastructure planning • project feasibility assessment • financial and economic analysis • project management • construction supervision • project monitoring, evaluation and reporting • IEC policy and IEC program design and implementation • budget planning and implementation • drafting of contracts and MoUs

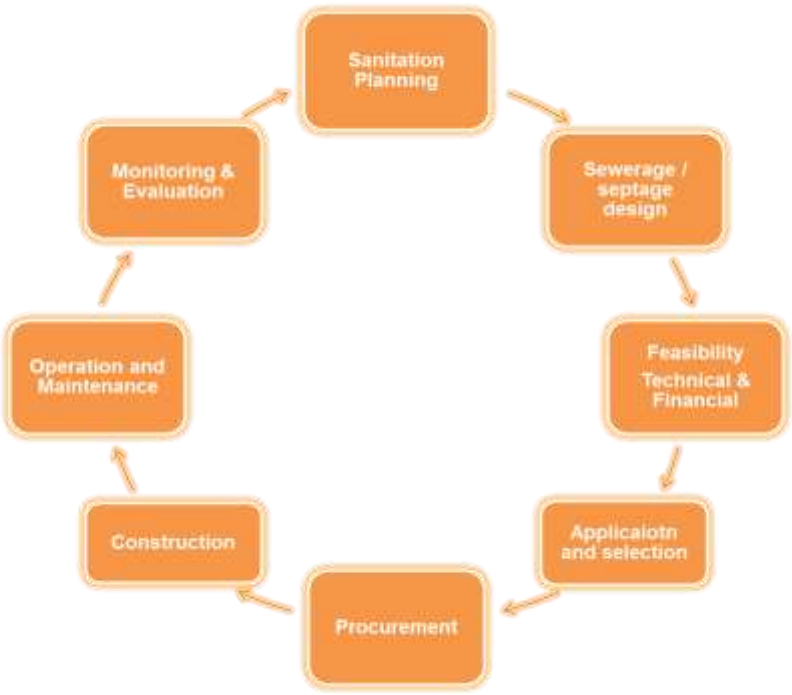
4 Part B: Project Cycle

4.1 Overall process

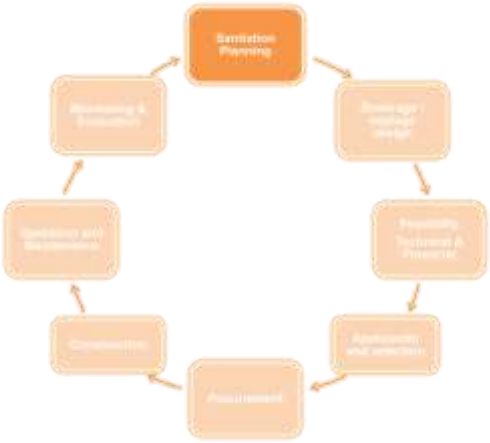
The project cycle includes the **key steps and phases** of a project's development and implementation, e.g. from the initial planning stages to project monitoring and evaluation, or from calling for funding applications to the commissioning and operation of projects.

The project cycle is divided into eight steps, as illustrated below. Each of these steps has its own processes and participants. This chapter of the Manual describes these processes in more detail, as they apply to typical sanitation programs and projects.

Figure 6: The Project Cycle



4.2 Sanitation Planning

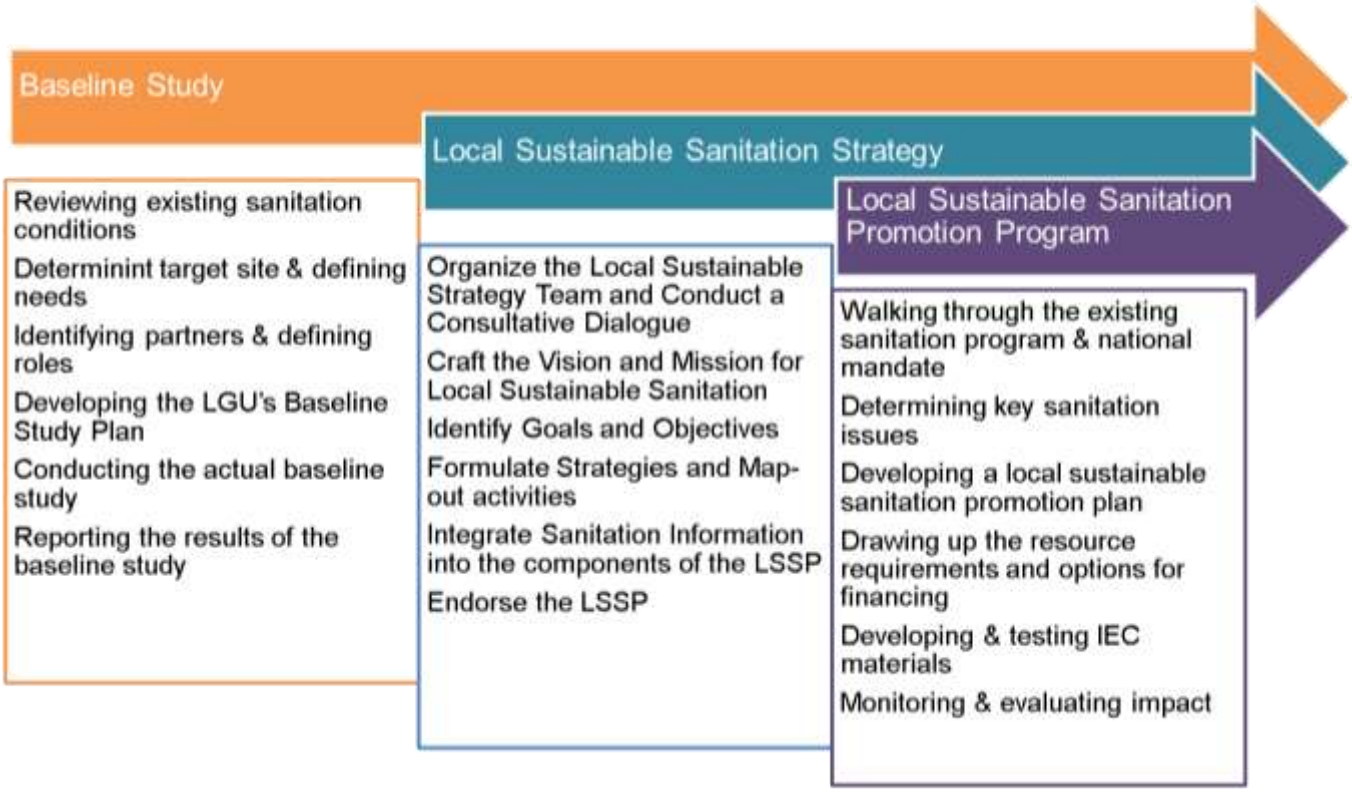


The first task of the LGU Project Office is to review the **Local Sustainable Sanitation Plan** (LSSP). In the event that there is no LSSP, the LGU should take the lead in developing a **Local Sustainable Sanitation Strategy** (LSSS) assisted by the Project Office. The DoH has produced a Guidebook that clearly explains how to develop a LSSS and LSSP. The LSSP states the LGU sanitation vision, mission and goals, and contains: (i) core principles adopted for the planning process, (ii) a brief description of the water and sanitation status of the community, (iii) sanitation problems and issues and their potential impacts and importance, (iv) current programs and actions addressing those problems and issues, and (v) the local sustainable sanitation strategy.

Once there is a LSSP, the LGU should develop a **Local Sustainable Sanitation Promotion Program** (LSSPP). The LSSPP is the roadmap for the development of the promotion strategy and program. It contains guidelines for the development of strategies and activities that will convince people to change mindsets and behaviors regarding key sanitation issues. These guidelines provide knowledge for information, education and communication (IEC) programs and targeting local communities.

4.2.1 Process workflow and description

Figure 7: Sanitation Planning Workflow Chart



Baseline Study

Planning staff of the Local Project Office should review the LSSP and, together with LGU technical staff, identify possible projects. This involves the review of baseline data collected during the preparation of the LSSP. Special attention should be given to overall objectives, priorities and implementation strategies.

Reviewing existing sanitation conditions

In this phase the LGU will identify its current programs, if any, on sustainable sanitation.

Determining target site & defining needs

In this step the LGU will define study coverage and sampling method and will check the availability of sources to conduct the baseline study.

Identifying partners & defining roles

In this stage the LGU will identify possible partners for conducting the baseline study and define the responsibilities of each team member.

Developing the LGU's baseline study plan

Once the necessary human resources are assigned the baseline study plan is developed. LGU will define specific strategies to cover the human and financial requirements. Annexes provide an example of a baseline survey form.

Conducting the actual baseline study

LGU will then implement the baseline study

Reporting the results of the baseline study

Results will be presented in a report for future consultation and as a basic input to future monitoring and evaluation processes.

Local Sustainable Sanitation Strategy

Stakeholders should be involved early in the planning process to convert them into development partners that will actively support and help implement the sanitation plan. Stakeholders' workshop should be organized and held, where issues can be presented and outputs developed, including program goals and objectives and a consensus on priority issues and next steps.

Organize the Local Sustainable Sanitation Strategy team and conduct a consultative dialogue

The first step is to identify the members of the LSSS team who will be in charge of drafting the plan and ensuring its successful implementation. The Technical Working Group (TWG) should be formed to take the lead in implementing the next steps agreed at the stakeholders' workshop(s). The TWG will further define objectives and timeframes, review alternative approaches, and evaluate and recommend preferred alternatives for program implementation. Sub-groups can be formed to develop the necessary ordinance and the promotional campaigns to support the program.

Craft the vision and mission for local sustainable sanitation

Based on the results of the Baseline Study, the LSSS team will identify a list of various health and sanitation issues affecting the community. This will allow the formulation of the vision and mission.

Identify goals and objectives

After an analysis of the current situation and based on awareness of the need to improve sanitation conditions, the LSSS team will define the goals and objectives. Goals are the "what" and represent long-term results. Objectives are the more immediate responses to sanitation issues.

Formulate strategies and map out activities

Strategies are general approaches to reach objectives. Activities are specific tasks that follow or give effect to those strategies.

For planning purposes, septage treatment programs are typically developed prior to the implementation of sewerage systems, as properly functioning septic tanks can help ensure the long term sustainability of downstream sewerage works. Planners should consider the following guidelines for the timing of septage management and sewerage projects:

- Septage projects should be developed before sewerage projects, generally between years 1 and 3 of the sanitation planning cycle.
- Sewerage projects should be developed between years 4 and 10 in the planning cycle, or once septage programs are in place.
- For sewerage projects, interceptor systems may be built first, followed later by piped sewage collection systems.

Integrate sanitation information into the components of the LSSP

Once the LSSS team has identified concrete actions to achieve objectives they will integrate data and information into the Local Sustainable Sanitation Plan.

The Local Project Office should decide which projects will be further elaborated and developed. The prioritization tool used by DPWH for project selection, together with specific criteria, will be the basis for project selection at this stage.

Endorse the LSSP

Finally, LSSS team will elaborate a report and communicate it for adoption and approval.

Local Sustainable Sanitation Promotion Program

Walking through the existing sanitation program & national mandate

This first step consists of reviewing the Baseline Study, the Local Sustainable Sanitation Strategy and the Local Sustainable Sanitation Plan to understand definitions, goals,objectives, processes, etc. This step also allows the LGU to situate community issues inside the National Plan.

Determining key sanitation issues

This phase consists of identifying community issues and concerns, and ensuring that they are addressed by the LSSPP. Annexes contain a check list for prioritizing sanitation needs.

Developing a local sustainable sanitation promotion plan

This step is the main one in this process. It consists of elaborating the promotion plan in the following areas: identify behavior change objective, determine target, identify channels, develop activities, assign financial and human resources, detail a work plan and specify monitoring and evaluation parameters.

Drawing up the resource requirements and options for financing

The LGU will analyse the detailed budget and plan on how to get the resources needed to implement the plan.

Developing & testing of IEC materials

LGU will develop materials such as posters, flyers, radio and TV plugs, and will test them with different audiences.

Implementation of sanitation promotion plan

LGU will conduct the promotion plan, taking into account the results of testing.

Monitoring & evaluating impact

Regular monitoring and evaluation will take place in order to analyse the effectiveness of the plan. LGU will take measures in the event that the plan does not reach objectives

4.2.2 Supporting documentation

The steps described above can be easily follow with the Guidebooks issued by DoH under "The Philippine Sustainable Sanitation Knowledge Series". This compilation of manuals describe the processes related with the Local Sustainable Sanitation Plan. The series of Guidebooks are:

- Guidebook for a Sustainable Sanitation Baseline Study
- Guidebook for a Local Sustainable Sanitation Strategy
- Guidebook for a Local Sustainable Sanitation Promotion Program
- Guidebook for Community-Led Total Sanitation
- Guidebook for a Zero Open Defecation Program
- Guidebook for Onsite Sanitation Technologies
- Guidebook for Designating a Water Quality Management Area
- Guidebook for Marketing a Septage Treatment Facility
- Guidebook for Monitoring and Evaluation
- Septage Management Program: The General Santos City Experience
- The SuSEA LGU Experience: Dagupan, Guiuan, Polomolok, General Santos City, Alabel, Bauko
- Guidebook for a Disease Prevention and Control Program for Soil-transmitted Helminth Infections and Diarrheal Diseases
- Guidebook on Water Supply Protection Program
- Water Pollution Prevention and Control Program: The Polomolok Experience

4.2.3 Training requirements

Organization	Unit	Knowledge and Skills Required
DPWH	NSSMP Project Office	• the water cycle • wastewater engineering • health links to sanitation • sanitation and wastewater infrastructure planning • IEC policy and IEC program design and implementation
LGUs	Project Office MPDO Local Health Office	• the water cycle • wastewater engineering • health links to sanitation • sanitation and wastewater infrastructure planning • IEC policy and IEC program design and implementation
WD	All	• the water cycle • wastewater engineering • health links to sanitation • sanitation and wastewater infrastructure planning • IEC policy and IEC program design and implementation

4.3 Sewerage and Septage System Design

The next step is to develop a **Sewerage and Septage Management Program** (SSMP). This is a deeper development of the LSSP. It requires specifically defined projects. Following the LSSP, an overall Sewerage and Septage Design will be developed by initiatives described on subchapter 3.3 LGU & WD, LGU alone, WD alone, LGU & Private Partner(s) or LGU, WD & Private Partner(s)

The Sewerage and Septage Design, will be assessed by the Project Office for feasibility (technical and financial), which will be the basis for future project implementation.

The NSSMP provides tools and other documentation to assist local implementers to develop their SSMP. These tools are described in this manual and can be accessed through the NSSMP website.

During this phase, TWG/Project Offices shall identify suitable sanitation projects for possible future implementation.

This stage is divided in two main stages:

- **Selection of Technology**. In this stage the implementer chooses between Septage and Sewerage and decides which Treatment Plant is more appropriate for implementation.
- **Dimension of the project**. In this stage the implementer establishes the capacity of the treatment plant

The next figure illustrates the process. It must be read from left to right and from top to bottom.

Figure 8: Sewerage and System Design Process

<table>
<tr><th colspan="4">Selection of Technology</th><th colspan="3">Dimension</th></tr>
<tr><td>Interventions</td><td>Selection of conveyance technology</td><td>Population</td><td>Selection of Treatment Plant</td><td colspan="3"></td></tr>
<tr><td rowspan="2">Septage</td><td rowspan="2">Pump Trucks Suppliers</td><td rowspan="2">Any</td><td rowspan="2">Decision Tree for Septage Treatment</td><td colspan="3">Septage Design Toolkit</td></tr>
<tr><td>Septage design flow</td><td>Number of Trucks needed</td><td>Cost estimation</td></tr>
<tr><td rowspan="2">Sewerage</td><td rowspan="2">Decision Tree for Sewerage System</td><td>More than 200,000 people</td><td>Decision Tree for Wastewater Treatment System</td><td colspan="3">Sewerage Design Toolkit</td></tr>
<tr><td>Less than 200,000</td><td>Decision Tree for Wastewater Treatment System for small and medium systems</td><td>People in the program</td><td>CAPEX and OPEX</td><td>Financing</td></tr>
</table>

For the “Selection of Technology” the process will be selection of interventions, selection of technology and selection of treatment plant. These steps are briefly described below and illustrated in following subchapters.

Selection of interventions. This first step defines the range of the project. Hence, it will establish all of the kinds of intervention that are required. This will be done with:

- **The Decision Tree for Technology Intervention**. This assists in selecting generic technology at each level: toilets, treatment/storage, conveyance method (septage/sewage), treatment technology and sludge reuse/disposal.

Selection of Conveyance Technology. In this step, the implementer will choose the appropriate technology for collecting effluents. In the case of septage this is done by trucks. In the case of sewerage projects four alternatives are indicated.

- **Sewerage Technology Selection Decision Tree**. This tool will assist in decision making to choose the form of sewerage intervention from: sanitary sewers, combined sewers, small diameter effluent sewers or condominial sewers.

Selection of Treatment Plant. Once the implementer has identified the technology for collecting the effluents, it is time to select the appropriate treatment plant. There are two decision trees to assist in this step, one for septage and the other for sewerage.

- **Decision Tree for Septage Treatment**. This decision tree assists in considering several factors for selecting the most appropriate treatment plant.
- **Decision Tree for Waste Water Treatment System.** This decision tree acts in the same way.

The dimensioning of the project is done with the toolkits. These are two excels available at the NSSMP website.

- **Septage management toolkit**. This tool allows estimation of septage design flow, number of trucks needed and overall service costs.
- **Interactive sewerage toolkit** This interactive toolkit is designed to help local implementers better understand the costs and resources required to develop sewerage infrastructure projects.

4.3.1 Technology interventions

Analysing the Local Sustainable Sanitation Plan should enable easy identification of the sanitation requirements of the municipality.

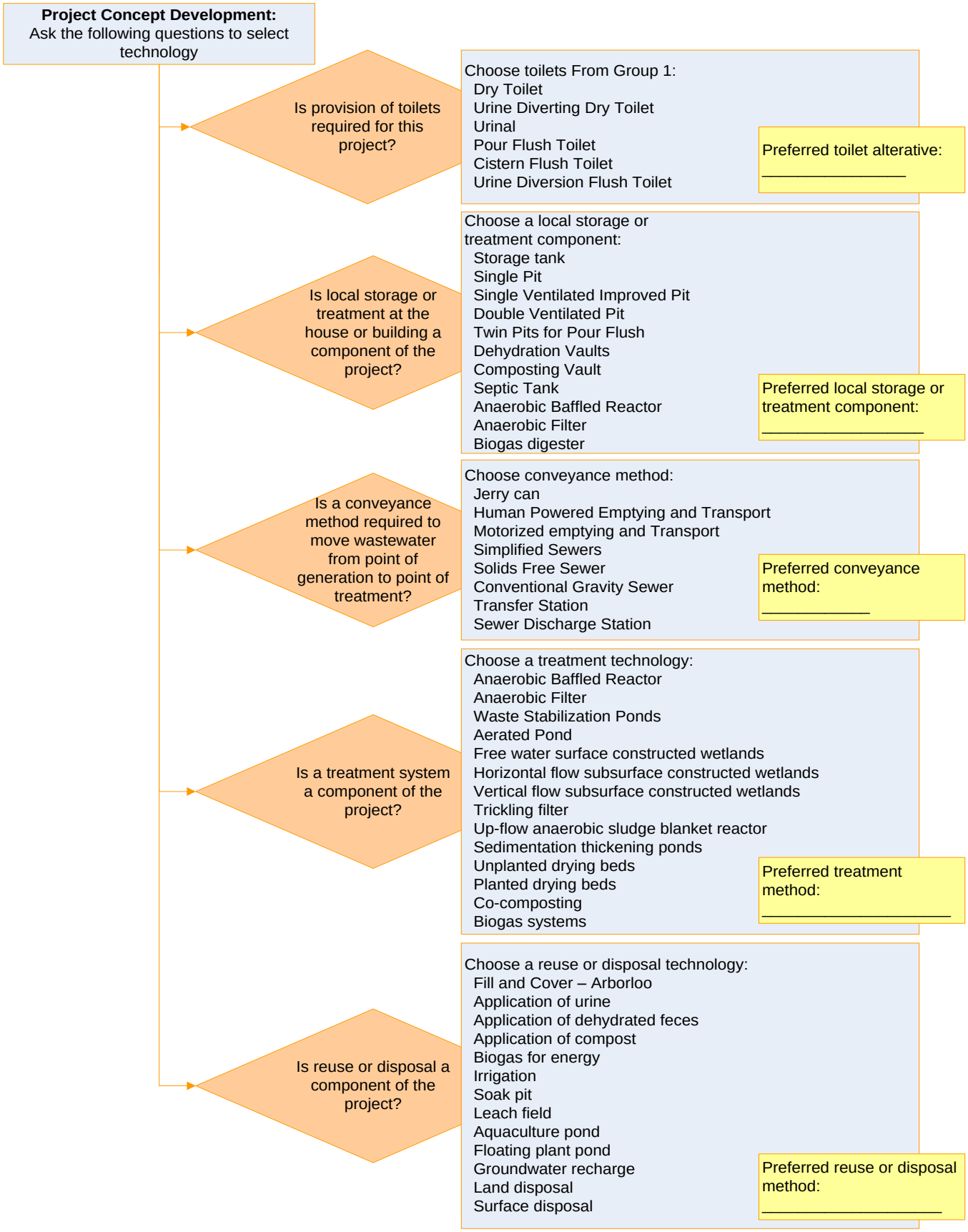
Technologies for **sanitation improvement** are generally organized into five groups:

- toilets;
- collection and storage for local treatment - on-site systems for storing and initial processing of sewage, usually settling and decomposition or bio-degradation;
- conveyance of wastes - moving sewage or septage from the point of generation to the point of treatment;
- off-site treatment - products and systems used to treat accumulated sewage or septage, either with a centralized or decentralized approach; and
- effluent reuse and disposal - final disposition of the treated effluent and process by products.

The NSSMP focuses on septage and sewerage project and only provides funds for sewerage projects. However, a sanitation project or intervention needs to consider the whole process and integrate all slabs of the wastewater chain, ensuring that it provides appropriate solutions for on-site collection for all of the population.

The next figure is provided to assist the identification of technology interventions.

Figure 9: Decision Tree for Technology Interventions



4.3.2 Sewer systems

This subchapter illustrates the sewer system. This information will be used in case sewer system is required on the project but it is highly recommended to have an overview of the whole sanitation system.

Sewer systems consist of the **underground sewer pipes and pumps that transport sewage or effluent** from the point of origin to a treatment or disposal site. There are four types of sewer systems:

- **Sanitary sewers** use sewer pipes to connect the waste discharge from homes directly to a sewer network, while excluding storm water. There are several places in the Philippines with sanitary sewers such as parts of Zamboanga, Baguio, Makati and Quezon City. Sanitary sewers do not rely on septic tanks as direct connections are required. Commercial pre-treatment programs that remove grease, lint and other undesirable materials that can clog pipes must be removed to keep sewers operating properly.

  Sanitary sewers are most applicable for newly planned dense urban settings, new subdivisions or commercial estates, as the pipelines may be installed along with other infrastructure such as roads and utility rights of way. Many existing communities in the Philippines are unwilling to install sanitary sewers as they are very expensive and require excavation of roadways, which is disruptive to commerce and increases traffic problems. Instead, existing urban areas tend to opt for combined sewer systems that can utilize existing drainage channels.

Figure 10: Example of sanitary sewers

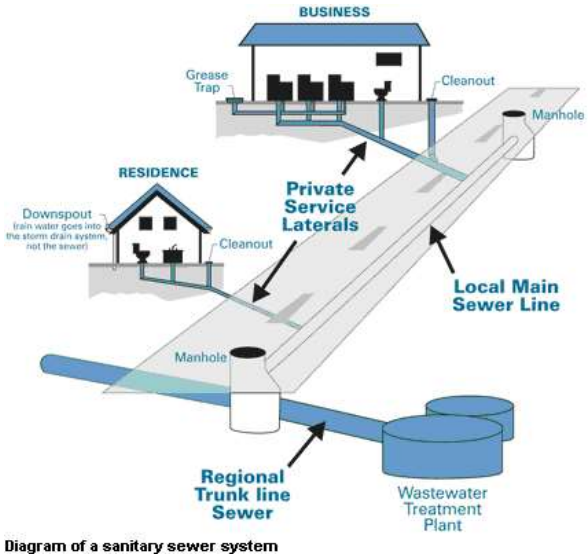
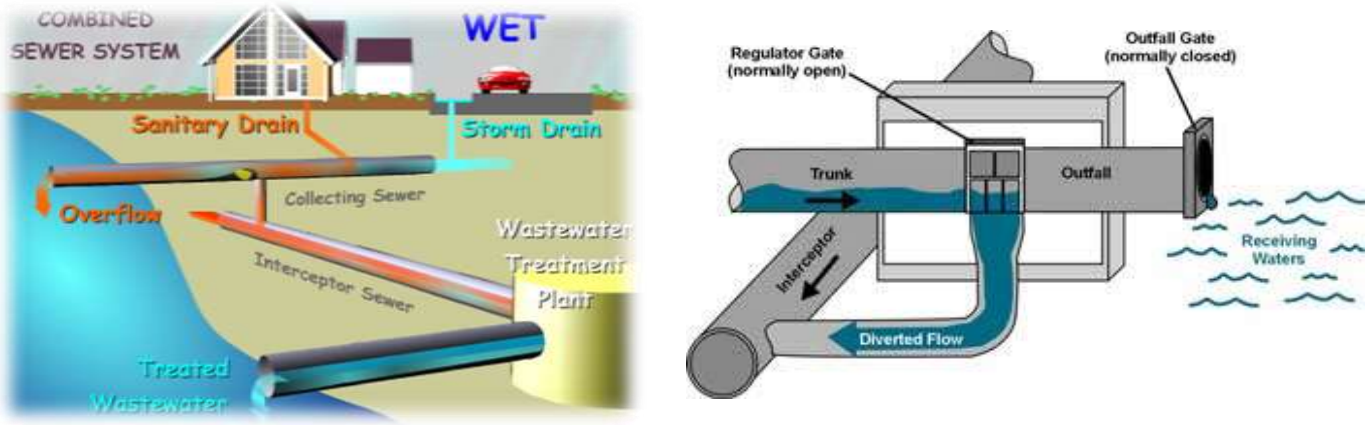


Diagram of a sanitary sewer system

- **Combined sewer** systems rely on septic tanks or common ABR systems for primary treatment and then the effluent is discharged to existing subsurface or open channel storm drains. Storm drains are connected with larger interceptor sewers which are equipped with combined storm water overflows for peak rain periods. The interceptor pipelines collect the dry weather flows and convey the combined wastewater to treatment plants.

Figure 11: Example of combined sewer

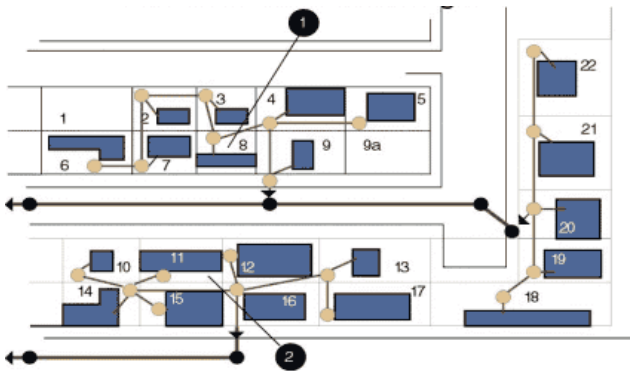


- **Small diameter effluent sewers** collect septic tank effluent and convey it to larger sewer mains which eventually lead to treatment systems. These may be variable grade, or include effluent pumping stations as needed to overcome gravity.

Figure 12: Example of small diameter effluent sewers

- **Condominial sewers** incorporate shared branches that connect groups of homes to sewer mains at strategic locations. Condominial branches are often installed and owned by the homeowners and locally maintained in exchange for reductions in sewerage fees. Local ownership helps achieve sustainability.

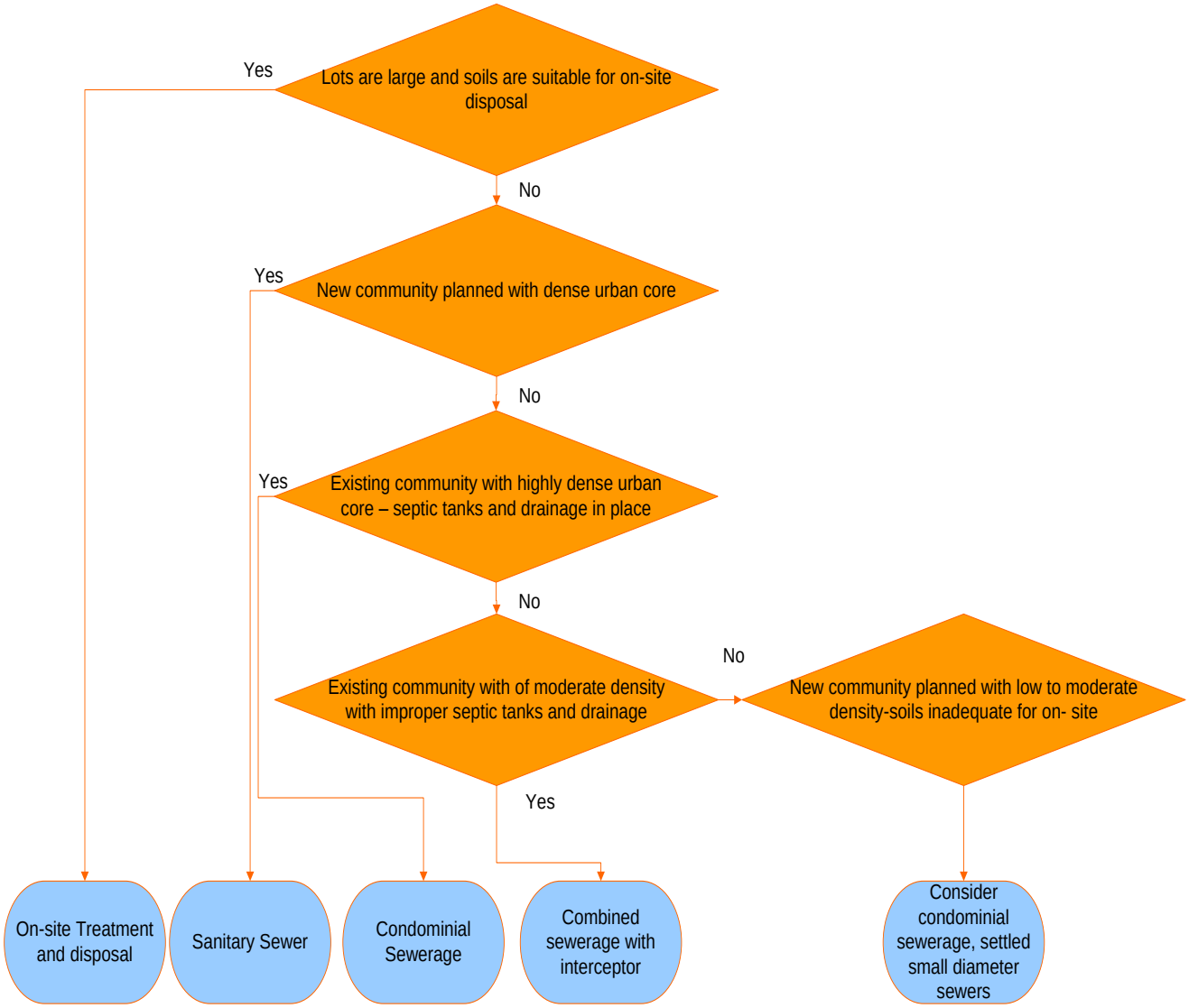
Figure 13: **Example of condominial sewers**



For the design and dimensioning of sewerage systems, population size is the main factor, more options are available where the population is lower.

The following Decision Tree will assist local implementers to select the most suitable sewerage technology.

Figure 14: Decision Tree for Sewerage Technology Selection



The cost of sewer installations can often be more expensive than the wastewater treatment systems. Community planners should investigate decentralized sewer systems as well as centralized options. Placing smaller wastewater treatment systems in individual communities may reduce overall sewage collection costs, while making the treated wastewater more available for reuse near the point of generation. Additionally, there are many innovations in sewer line technology, from trenchless technology to new pipe materials. Consultants and engineers should be well versed in proper sewer line design and construction techniques, especially for larger projects.

Table 3: Sewerage Options

Sewer Type	From the House	At the Street	Sewer Network
For any population			
Combined sewer	Individual or cluster septic tanks or ABRs	Subsurface storm drains or open canals	Septic effluent mixes with stormwater, then to combined overflow and treatment
Sanitary sewer	House connection through building sewer	Pipes with manholes for maintenance	Sewage flows through pipes and lift stations to treatment plant
For populations of less than 200,000 people			
Small diameter sewers	Septic tank or common ABR	Small diameter pipes with cleanouts	Centralized or decentralized treatment systems
Condominial sewers	House connection through building sewer	Branches connect to sewer mains in the streets	Centralized or decentralized treatment systems

4.3.3 Treatment technology selection

The Decision Tree for Technology Selection will guide the local implementer in selecting the most appropriate technologies for the region. It asks question about the site where each technology will be implemented. The goal of **site evaluation** is to identify all of the constraints of a particular site as a preliminary step to designing the wastewater system, as well as fully understanding the nature of the site. The nature of the site will have a strong bearing on the type of wastewater system chosen for a particular project.

Site-related aspects to be considered when selecting the best technology are:

- availability of electricity
- topography or slope
- proximity to surface waters and flood plains
- depth of soils and bedrock
- location of underground utilities
- access roads to the site (ingress and egress)
- surrounding land uses.

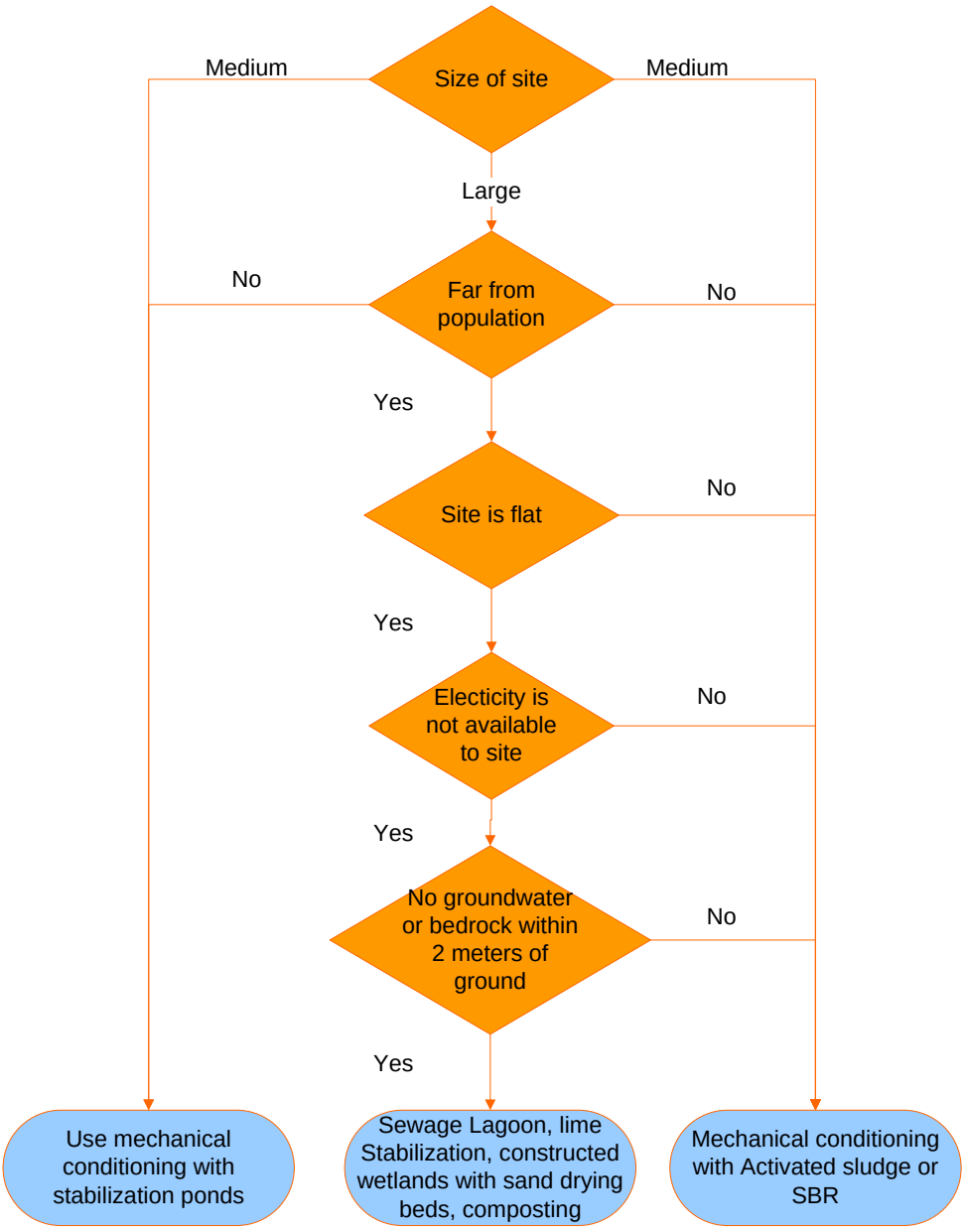
An understanding of surrounding land uses and long-term development plans is part of the site evaluation process and could have major impacts on wastewater decisions. For example, if the proposed site is in the middle of a densely populated residential area, certain technologies might be excluded from consideration, such as sewage lagoons that take up a lot of space and may produce nuisance impacts.

By using the Decision Tree, local implementers will have to answer questions regarding area characteristics to arrive at the **technologies available**, depending on terrain and population characteristics. The final selection will be based on team expertise and judgment. In order to help the decision-making process, Annex B of the NSSMP final report provides a description of **advantages and disadvantages** of technologies. This is also available at the NSSMP website.

This manual first describes the septage treatment technology options and then the wastewater treatment technology options.

The following decision tree is intended to assist in the selection of technology for septage treatment. In addition, a description of the different technologies presented by the NSSMP is provided.

Figure 15: Decision Tree for Septage Treatment



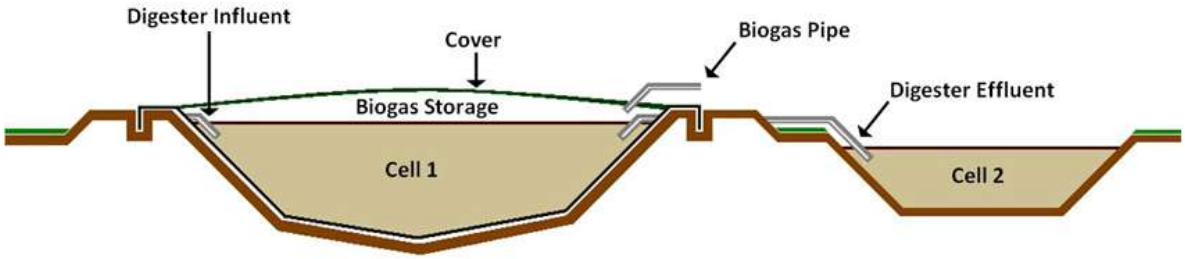
4.3.4 Septage treatment technologies

The NSSMP discussed four examples of configurations for septage treatment that have been successfully implemented, or are in the planning stages, in the Philippines:

Figure 16: Example of anaerobic digestion in treatment lagoons

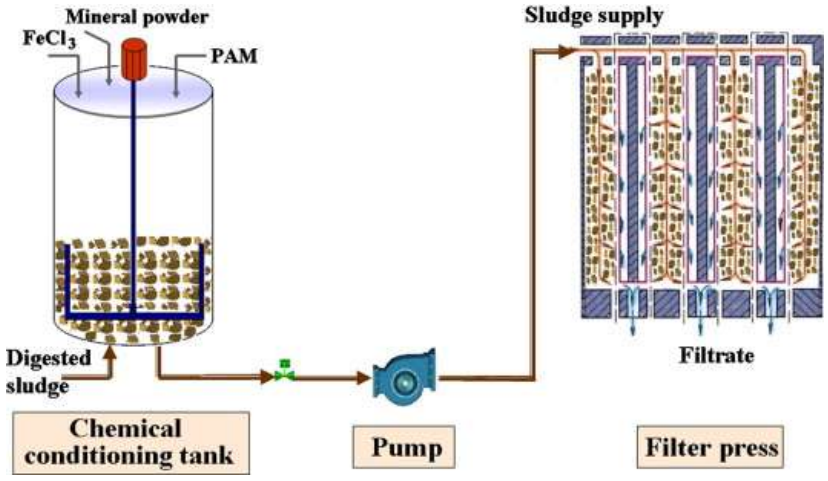
- **Anaerobic digestion in treatment lagoons**. Anaerobic lagoon cells provide a minimum of 15 days of storage for proper treatment. These are typically configured in series, with facultative and aerobic ponds to treat to meet discharge standards. Example: Alabel septage treatment facility.

Figure 17: Example of anaerobic digestion in treatment lagoons



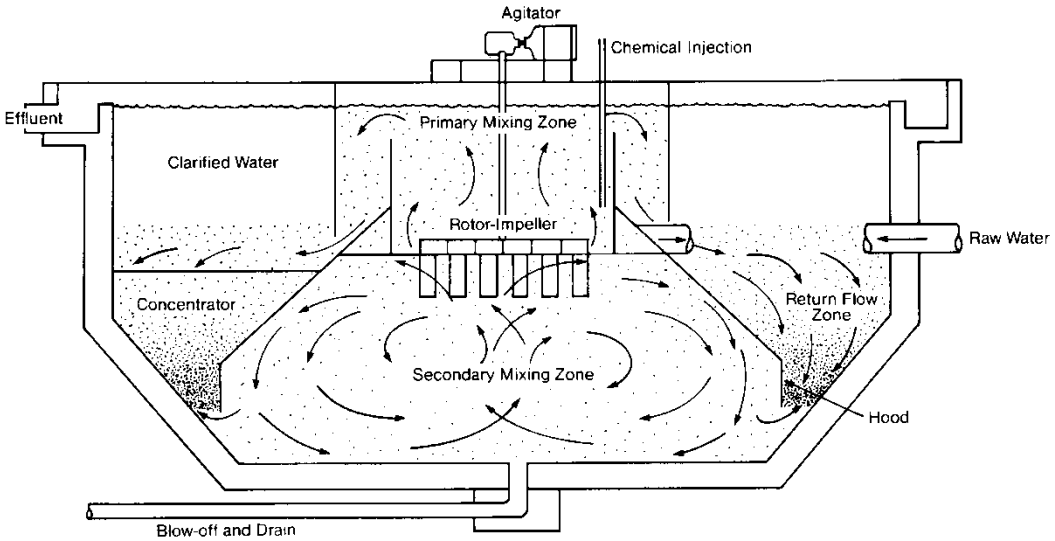
- **Chemical conditioning and dewatering with lagoon or activated sludge treatment**. Generally, this includes mixing septage with a polymer to chemically condition the septage, and then dewatering the mixture using screw or belt presses. The remaining effluent is treated with lagoons or activated sludge systems. Examples: Dagat-Dagatan Septage Plant (Maynilad Water) and South Septage Treatment Plant (Manila Water Company).

Figure 18: Example of Chemical conditioning and dewatering with activated sludge treatment



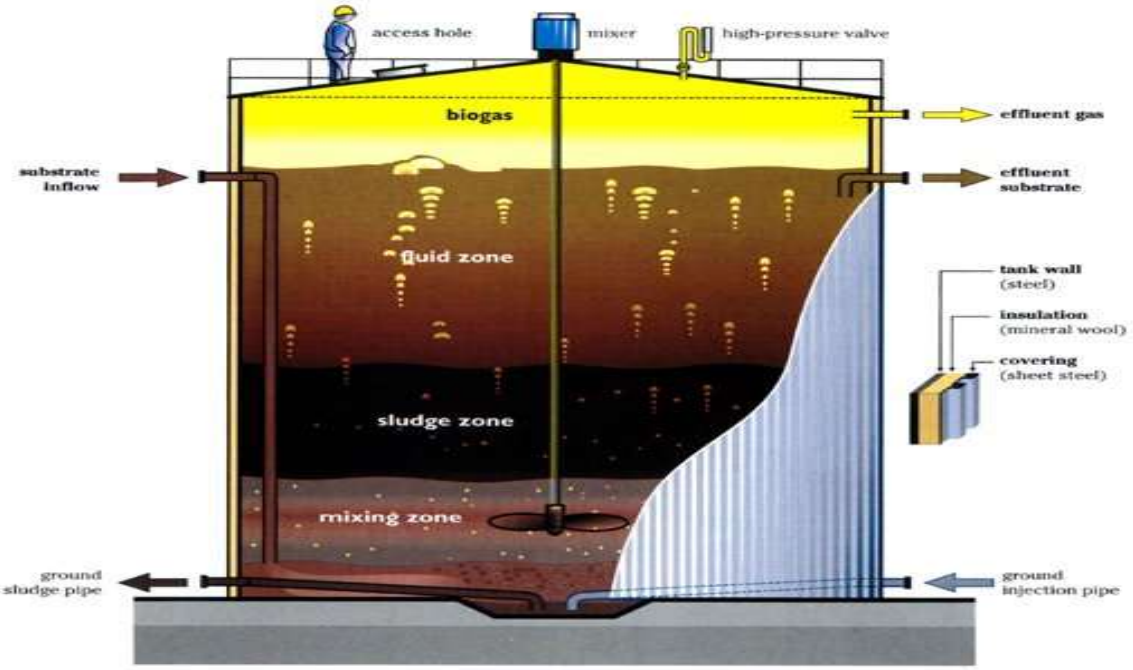
- **Chemical stabilization with hydrated lime and effluent treatment with lagoons**, sand filters or treatment wetlands. Example: San Fernando, La Union Septage Pilot Study.

Figure 19: Example of Chemical stabilization with hydrated lime and effluent treatment



- **Anaerobic digestion and composting with municipal solid waste**. Anaerobic digestion is a series of processes in which microorganisms break down biodegradable material in the absence of oxygen. Example: Bayawan City.

Figure 20: Example of Anaerobic digestion



4.3.5 Wastewater treatment technologies

Once the wastewater is collected through the sewer system and transported to the Wastewater Treatment Plant, it should be treated with the appropriate technology regarding several factors.

This sub-section first presents a description of infrastructure elements providing an overview of the system. Then, there is a decision tree similar to the previous ones. Finally, there is a description of the technologies available. There are two main categories for the technologies referring to the population of the municipality, the main factor which indicates the capacity required for the treatment plant.

A wastewater treatment infrastructure system is usually composed of the following elements:

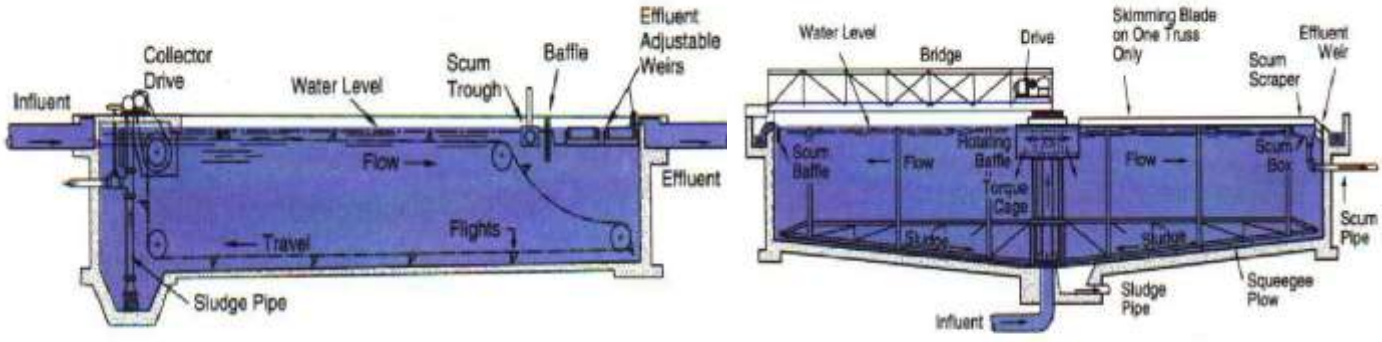
- **Headworks.** This is a **primary treatment** that will remove the majority of the suspended solids that are present**.** The **equipment that receives the incoming wastewater** includes:
  - bar screens to remove large solids such as rags and sticks
  - grit chambers to remove sand and debris that could harm pumps
  - flow measuring meters.
- **Primary settling.** Some treatment systems use primary settling basins to **remove settleable solids**. These are the large and heavy solids that can be removed very quickly.

Wastewater treatment plants will use either rectangular or circular primary clarifiers. Every clarifier can be divided into five zones.

The **Influent Zone** is the inlet to the clarifier. Water enters the end of a rectangular tank, or the center of a circular or square tank. The influent zone is equipped with a baffle. Circular tanks will have a collar-type circular baffle that directs the water down as it enters the center of the tank. Rectangular tanks will have a perforated wall that spreads the water laterally across the inlet end of the tank. The purpose of the baffle is to prevent short-circuiting. Short-circuiting reduces the detention time in parts of the tank causing solids to carry over into the secondary process, resulting in uneven sludge distribution.

The following pictures illustrates rectangular and circular clarifiers.

Figure 21: Example of rectangular and circular clarifiers



The **Settling Zone** represents the largest portion of the tank. The water velocity is reduced to 0.03-0.05 ft/sec and the detention time should be about 2 hours. The problem is that the flow rises and falls during a 24-hour period. As the flow increases the detention time decreases. Slowing the water down for this long allows the sludge to settle to the bottom while the water is removed from the top of the tank. Clarifiers are usually only about 8-12 feet deep and have a surface loading rate of about 800-1400 gpd/sq ft. This keeps the upward velocity of the water low enough to minimize solids carryover.

The **Skimming Zone** is at the surface of the tank. Solids and greases that have a specific gravity of less than 1.0 will float to the surface of the clarifier. A skimmer arm is attached to the rake assembly. It skims the surface as the rake rotates. In a rectangular tank the sludge rakes act as skimmers when the chain brings them to the surface. Floating scum is deposited in a grease or scum trough. This grease and scum must be properly landfilled to prevent odor problems.

The Effluent Zone is the part of the tank where the settled water leaves to go to secondary treatment processes. In rectangular tanks the water leaves at the end opposite the influent. In circular or square tanks the water leaves at the edge of the tank. A channel called the effluent launder collects the effluent flow and directs it to the effluent piping. Weirs are installed along the edge of the effluent launder channel to skim the water evenly off the surface of the tank. The most common type of effluent weir is a V-notch (or saw-tooth) weir. A V-notch weir is a plate that has notches, about 2-3 inches deep, cut in it every 6-8 inches. If the weir is clean and level, it will remove water evenly all the way around the edge of the tank. This minimizes the upward velocities near the effluent launder and improves removal efficiencies. If the weir plate is not level or part of the weir becomes clogged with slime or debris, short-circuiting will result because more water will pass over the low side or the clean notches of the weir. Short-circuiting will cause poor settling and uneven sludge blanket buildup. A baffle plate, a ring 6-8 inches inside the weir, is installed to prevent floating solids from going over the weir.

The design criterion for weirs is the weir overflow rate. The weir overflow rate determines how many gallons can pass over each foot of weir each day. The standard weir overflow rate is between 20,000-25,000 gpd/ft.

The **Sludge Zone** is the bottom of the tank where the settled sludge collects and compacts. The sludge blanket depth should be measured and sludge should be removed at least every shift. Sludge rakes push the sludge to one end or the center of the tank so that it can be pumped out. The rake drive is usually equipped with a torque indicator. The torque indicator resembles the indicator on a torque wrench. A needle moves across a graduated scale that indicates how much force is needed to move the rake through the sludge. If too much torque is applied, a shear pin in the drive shaft will break to prevent damage to the gearbox or drive shaft. A fluctuating torque reading indicates uneven sludge buildup in the sludge zone. Short-circuiting in the unit causes this uneven distribution of sludge.

Failure to remove sludge often enough will result in anaerobic conditions and gas buildup in the sludge. The sludge can become septic, releasing gas bubbles, and float to the top where it can be difficult to remove. It can also result in increased odor problems.

- **Secondary treatment**. This a biological form of treatment in which microbes contact wastewater and consume the organic material.
- **Secondary settling**. Some treatment systems use secondary settling to remove any remaining solids after secondary treatment.
- **Disinfection**. Either chemical disinfection (chlorine), physical disinfection (ozone), radiological disinfection (UV light) or natural disinfection (sunlight and detention time) may be used.
- **Sludge drying beds**. Often sand beds are used to dry biosolids so they may be easily transported for reuse (fertilizer) or disposal (landfilling).

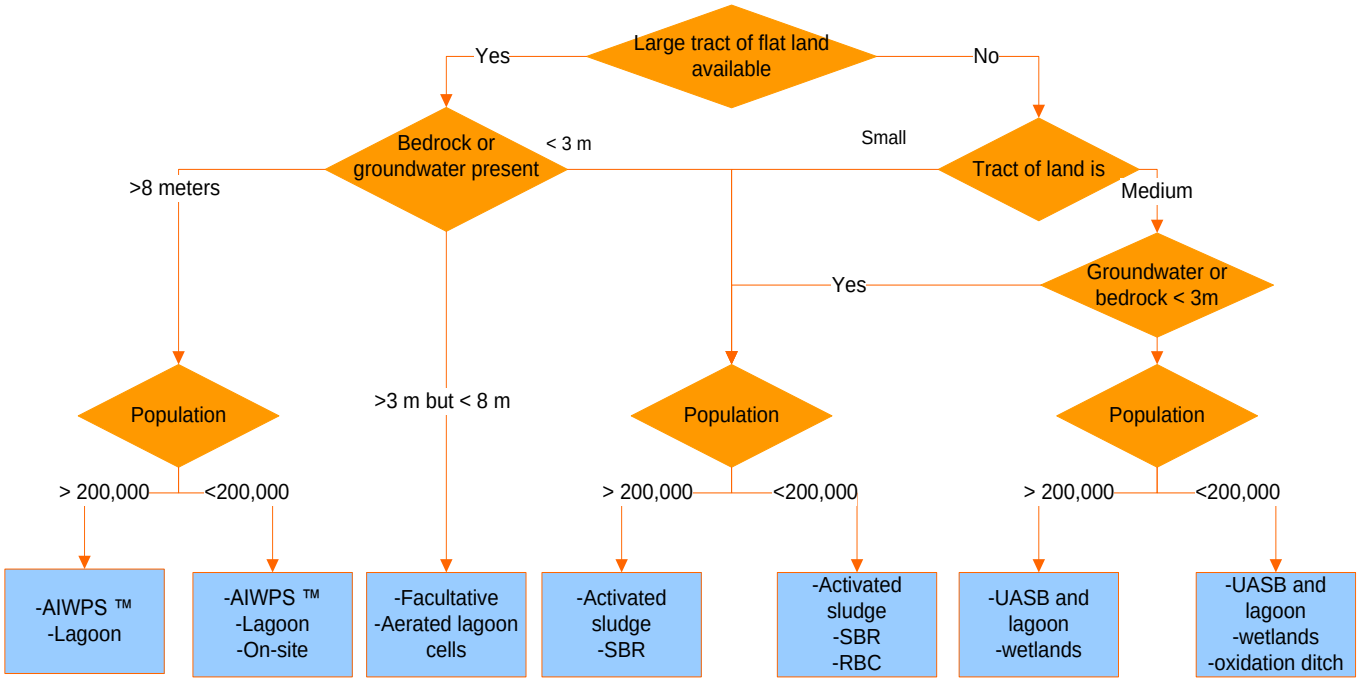
Local implementers need to select an appropriate wastewater treatment system. The design will be based on present and future (expected) demand of sanitation services and on the technical condition and capacilities of the LGU. A major factor in determining the suitability of infrastructure is the population. Some technologies are not able to treat wastewater in high amounts. Other key factors are the availability of land, the land itself, and the presence of bedrock or groundwater.

The NSSMP divides the consideration of treatment facilities into two categories:

- Division 1: with populations of more than 200,000
- Divisions 2, 3 and 4: with populations of less than 200,000.

The decision tree below is designed to assist decision making. A description and picture of each technology (following the decision tree table) provide an overview of the relevant equipment.

Figure 22: Decision Tree for Wastewater Treatment System



Wastewater Treatment for Division 1

Figure 23: Example of Sewage Lagoon Systems

Sewage Lagoon Systems. This approach may be used for large flows, provided there is ample open space and soils and groundwater aquifers are deep. If soils are at least nine meters deep, and there is no groundwater or bedrock, consider using the Advanced Integrated Wastewater Pond System (AIWPS™ system). This utilizes a deep fermentation pit, sized to reduce the volume of sludge through the process of fermentation at the rate of accumulation. Therefore, no sludge or biosolids processing is required.

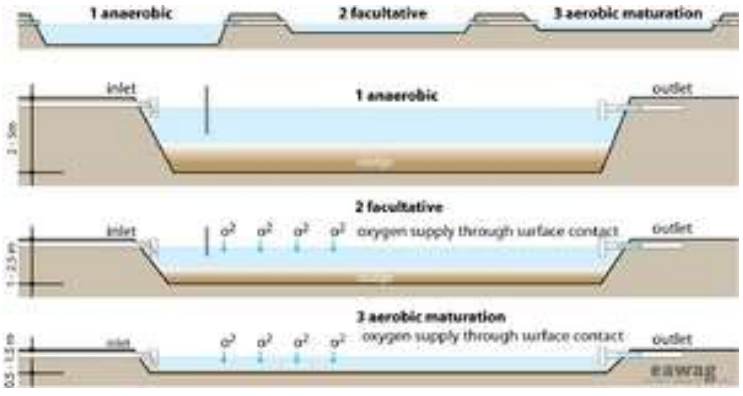
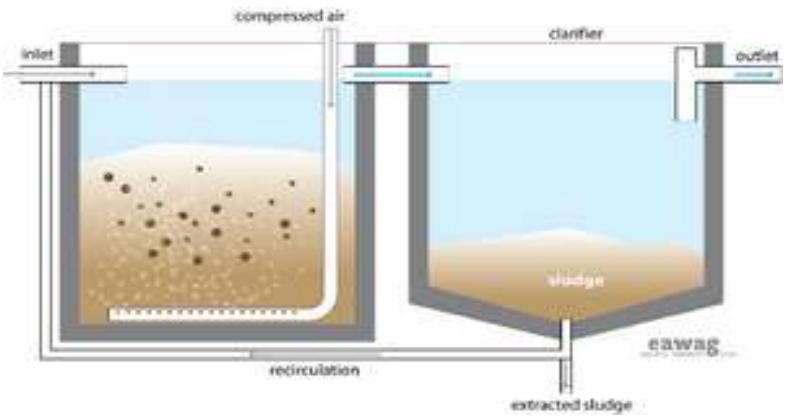
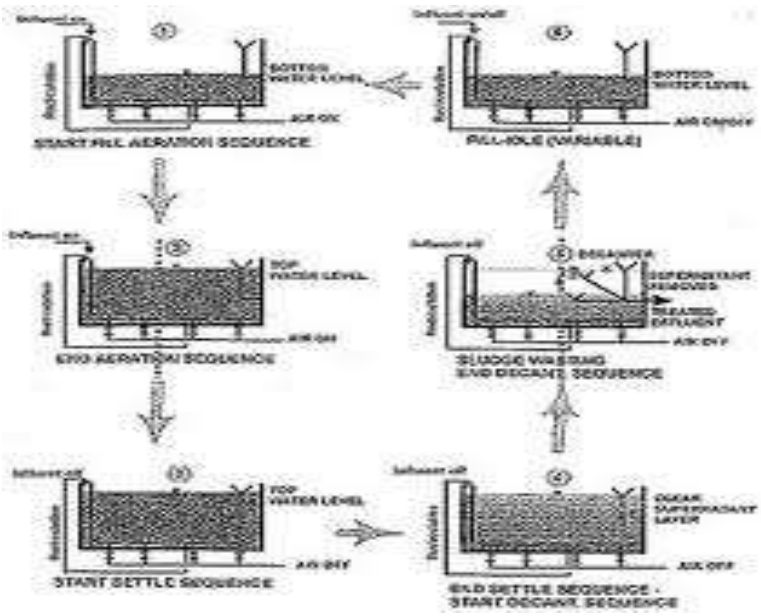


Figure 24: Example of Activated Sludge treatment



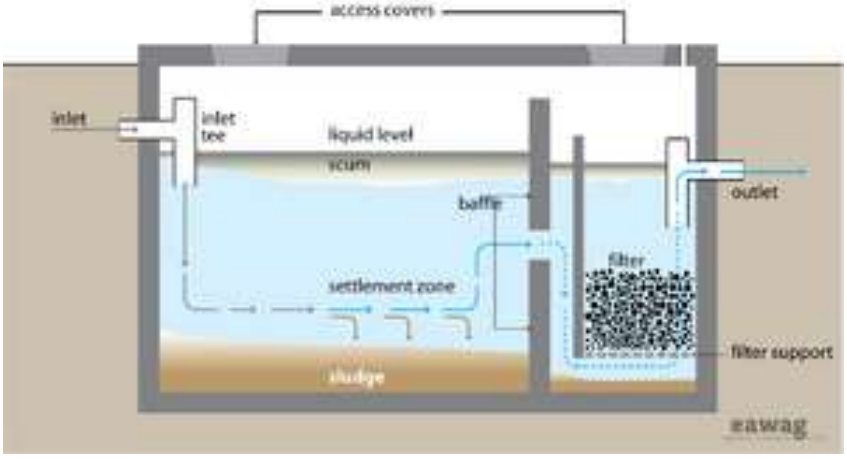
Activated Sludge. There are more activated sludge plants for municipal wastewater treatment than any other type of mechanized treatment system. Municipal planners may use these systems when space is limited, but electrical power is available and reliable. Activated sludge plants are maintenance intensive, requiring highly skilled operators, an on-site laboratory and some sophistication in instrumentation.

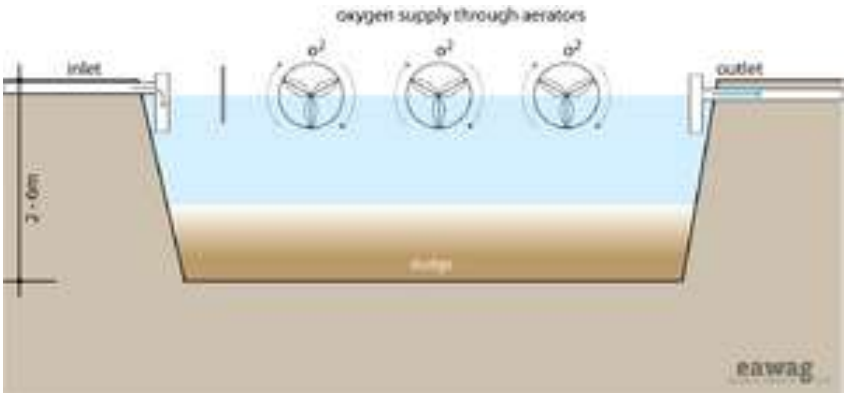
Figure 25: Example of Sequencing Batch Reactor (SBR)



The Sequencing Batch Reactor (SBR). The SBR approach uses a process similar to the activated sludge plant, but is based on a batch process rather than flow-through technology. The SBR utilizes one tank to perform the major treatment activities of filling, reacting, settling and decanting, as opposed to multiple tanks with the activated sludge system. Therefore, this may be a less expensive option. SBRs also have some benefits related to operational expenses. They are more energy efficient than activated sludge plants as blowers are required for only about 5 hours a day. Like activated sludge plants, SBR plants still require large capital expenditures and reliable sources of electricity, but smaller land areas.

Figure 26: Example of Anaerobic/aerobic System





Anaerobic/Aerobic Systems. These require more land than an activated sludge or SBR plant, but not as much as sewage lagoons. Anaerobic systems like the upflow anaerobic sludge blanket offer the advantage of being passive systems that do not require energy to operate. They are very efficient at reducing biochemical oxygen demand (BOD) and total suspended solids (TSS), e.g. by up to 70%. In an anaerobic/aerobic type of system, the effluent from the first stage (the USB anaerobic filter) flows to secondary treatment that could include aerobic or aerated lagoon cells.

The following table presents a summary of each technology discussed. This is useful for knowing the equipment needed for each technology.

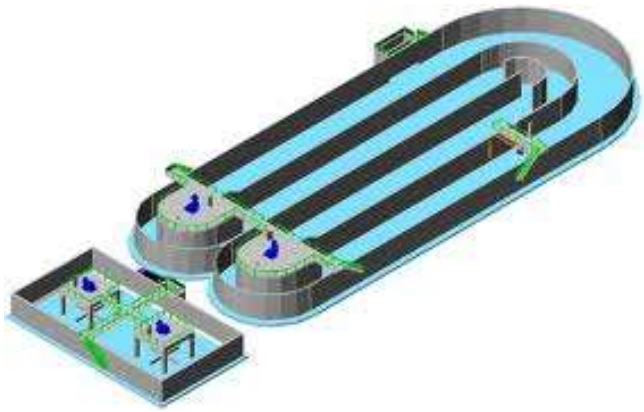
Table 4: Division 1 Wastewater Treatment Options

Treatment Technology	Headworks			Treatment			Disinfection & Biosolids
Sewage Lagoons	Bar Screen	Grit Chamber	Flow meter	Facultative lagoon cells	Maturation lagoon cells	Sand filtration	Chlorine disinfection
	Comminuter			Aerated lagoon cells			Ozone disinfection
				AIWPS ™ Lagoon cells			UV disinfection
Activated Sludge	Bar Screen	Grit Chamber	Flow meter	Primary settling	Secondary biological treatment	Secondary settling	Chlorine disinfection
	Comminuter						Ozone disinfection
							UV disinfection
Sequencing Batch Reactor	Bar Screen	Grit Chamber	Flow meter	SBR Process tanks			Chlorine disinfection
	Comminuter						Ozone disinfection
							UV disinfection
Anaerobic/aerobic	Bar Screen	Grit Chamber	Flow meter	UASB	SBR		Chlorine disinfection
	Comminuter						Ozone disinfection
							UV disinfection

Wastewater Treatment for Divisions 2, 3 and 4

The lower population will allow three more wastewater treatment systems/approaches to be considered in the technology selection process.

Figure 27: Example of Oxidation Ditch



Oxidation Ditch. This is a process where screened and degritted raw sewage is mechanically aerated. It uses a ring or oval-shaped ditch or tank where aerators impart oxygen to the wastewater. Oxidation ditches are efficient and relatively easy to maintain compared to other aerated systems like activated sludge or the SBR. These systems do utilize mechanical equipment such as blowers, aerators, pumps and controllers, so skilled operators are required.

Figure 28: Example of Rotating Biological Contactors

Rotating Biological Contactors. This is a series of closely spaced circular disks of polystyrene or other plastic material that is submerged in wastewater. The disks slowly rotate and the action of submerging and re-emerging the media helps to grow a film of microorganisms on the plastic media. These microorganisms play a major role in the reduction of the organic matter in the wastewater.

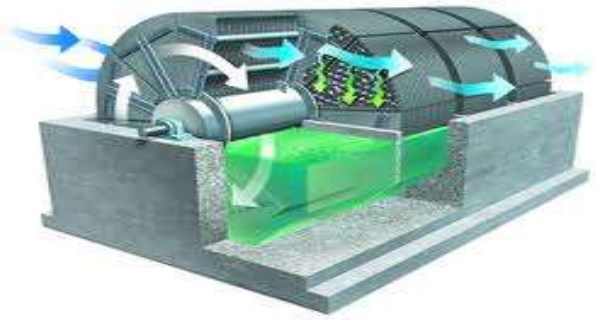
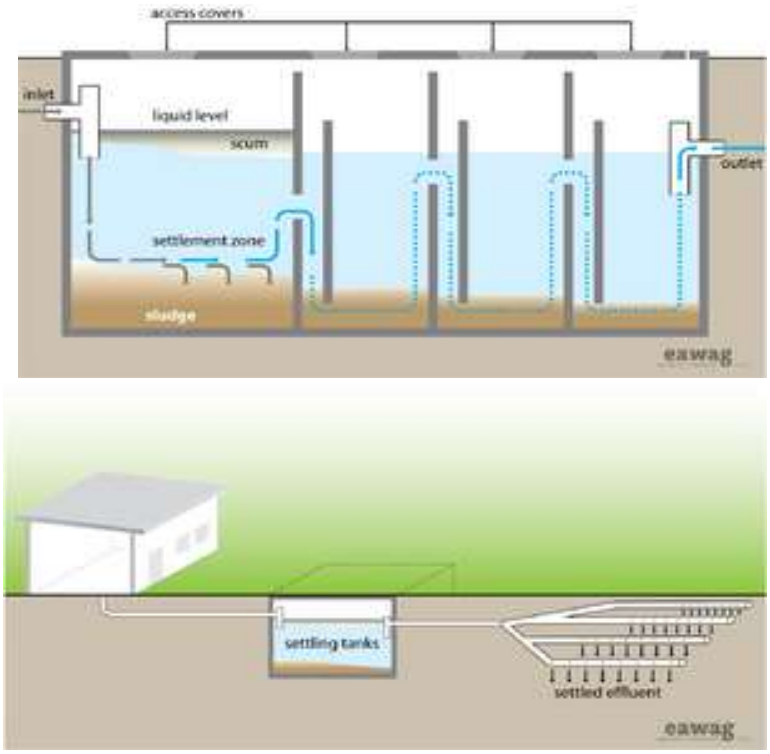


Figure 29: Example of On-Site Systems for Point Sources



On-Site Systems for Point Sources. Point sources may include hospitals, slaughterhouses, public markets, schools, houses, hotels and resorts. In rural areas, or where lots are large and well-spaced, on-site treatment, disposal and reuse technologies may be a preferred option for individual houses. On-site treatment systems include the treatment component, typically septic tanks or anaerobic baffled reactors, and soil-based disposal devices such as leach trenches and mound systems. Soils should be relatively free of hard rock, clay and groundwater for effective on-site systems. In some areas it may be beneficial to use on-site treatment devices, and send treated effluent off-site for reuse, recycling or disposal.

Table 5: Divisions 2, 3 and 4 Wastewater Treatment Options

Treatment Technology	Headworks			Treatment		Biosolids Management & Disinfection	
Oxidation ditch	Bar Screen	Grit Chamber	Flow meter	Oxidation raceway	Secondary clarifier	Chlorine disinfection	Sludge drying
	Comminuter						
Rotating Biological Contactor	Bar Screen	Grit Chamber	Flow meter	Primary settling	Contact Chamber	Chlorine disinfection	Sludge drying
	Comminuter						
On-site				Septic tank	Leach field	Chlorine disinfection	Reuse
				ABR	Mound		
					Wetlands		

Local implementers will need to review the factors that affect decision making, such as:

- land area required;
- electricity supply;
- relative cost of installation;
- relative ease of operation; and
- relative cost of operation.

The next table presents relevant technology factors for decision-making. The awareness of local implementers regarding the conditions of the community will assist to select the proper technology.

Table 6: Comparison of Wastewater Treatment Technologies

Wastewater Treatment Technology	Land Area Required	Electricity	Relative Cost of Installation	Relative Ease of Operation	Relative Cost of Operation
For any population					
Sewage Lagoons	Large	Low	Low	Easy	Low
Activated Sludge	Small	High	High	Complex	High
Sequencing Batch Reactor	Small	High	High	Complex	Medium
Anaerobic/Aerobic	Medium	Medium	Medium	Moderate	Medium
For populations of less than 200,000 people					
On-site Treatment	Small	Low	Medium	Easy	Low
Oxidation Ditch	Small	High	Medium	Moderate	Medium
Rotating Biological Contactor	Small	High	High	Moderate	Medium

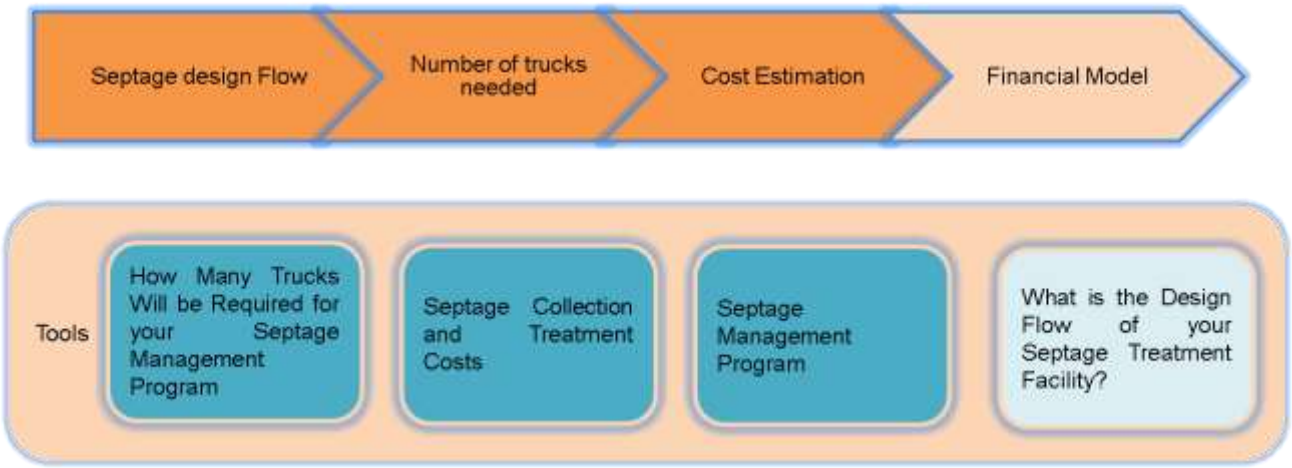
Once the most appropriate technology, having regard to the objectives of the Local Sustainable Sanitation Plan, has been selected, it is time to establish the dimensions of the project. The toolkits described in this manual will assist in this process.

4.3.6 Septage management design toolkit

The NSSMP developed a number of interactive computer-based toolkits. These can be used to derive initial estimates of some key parameters affecting project design and development. For example, using the septage management toolkit will allow estimation of the following:

- septage design flow,
- number of trucks needed,
- septage treatment plant size, and
- cost estimates.

Figure 30: Septage Management Design Tool



4.3.6.1 Design flow

Data about the local community should be entered in the toolkit's spreadsheet. This can be obtained from a survey designed to provide information about the prevalence of septic tanks, their volumes and accessibility. Knowing the design flow is required to adequately size the treatment facilities and plan for septage collection. Adjusting the figures in the spreadsheet changes the estimated design flow.

Input	Data from the community obtained from surveys
Output	Cubic meters to be collected

Table 7: Design Flow for Septage Treatment Facility

What is the Design Flow of your Septage Treatment Facility?						
Instructions	Type in the information in the yellow boxes below. Find the calculated values for the septage management program in the blue boxes.					
	Name of the LGU_____	*Number of people within the coverage area:*		100,000	people	
1	How many households are there in the coverage area?			20,000	households in service area	
2	How many commercial/institutional establishments are in the coverage area?			2,500	businesses/ institutional users	
3	What is your compliance target? As a percentage of the homes in the target area, what percentage do you think will participate?			90%	percent of the homes are likely to participate.	
4	From the survey data, what percent of homes have septic tanks?			70%	percent of homes have septic tanks.	
5	From the survey, of the homes that have septic tanks, what is the percent of the tanks that are desludgeable?			85%	percent of the septic tanks are desludgeable.	
6	From the survey, what is the average desludge volume of residential septic tanks in the target community?**			3	cubic meters (desludge capacity - residential)	
7	From the survey, what is the average volume of commercial/institutional septic tanks in the target community?			10	cubic meters (capacity commercial / institutional)	
8	Septic tanks should be desludged every 3 to 5 years. What is the target desludging frequency for your program?			5	years	
9	How many days a week will your program operate?			5	days per week	
Answer:	**The design flow of your septage treatment facility is**	**47**	**cubic meters per day***	Working days per month		20
				Working days per year		245
		952	**cubic meters per month**	# Weeks in a year		52
		11,426	**cubic meters per year**			
* note: calculations on this and other tabs are rounded up for convenience						
** average desludge volume estimated 2/3 of the septic tank capacity						
Daily residential flow	26					
Daily commercial flow	20					

The information to be introduced into the yellow boxes will be gathered in the baseline study.

4.3.6.2 How many trucks

This spreadsheet in the toolkit uses the estimated design flow to determine how many trucks and their optimal capacity (tank volume). The user will be able to estimate the number of loads per day. Since no trucking operation is 100% efficient, the user inputs an efficiency factor (newer trucks are usually more efficient). This sheet may be used to vary the volume of the truck to minimize collection costs (larger trucks mean fewer trips and fewer trucks).

Input	Cubic meters to be collected (obtained from spreadsheet *What is the Design Flow of your Septage Treatment Facility?*) Time estimated for operations (obtained from surveys and work-field)
Output	Number of trucks needed

Table 8: Trucks Required for Septage Management Program

How Many Trucks will be Required for your Septage Management Program?							
Instructions	The figures in the blue boxes are copied automatically from the previous page or automatically calculated. Fill in the yellow boxes to the best of your ability to see the number of trucks required.						
Design flow (from Tab 1):				47	cubic meters per day		
Average septic tank volume (from Tab 1):				3	cubic meters		
Number of septic tank volumes accommodated in the truck				3.3			
Capacity of the truck*				10	cubic meters		
Number of Loads Per Day per Truck (Fill in the yellow boxes to estimate loads per day)							
	Estimated drive time to the home or business			0.5	hours		
	Estimated time to pump the tank			0.5	hours		
	Estimated drive time from collection site to treatment plant			0.5	hours		
	Estimated unloading time at the treatment facility			0.5	hours		
	Estimated drive time to the next home or business			0.5	hours		
	Hours of operation per day			8	hours		
Number of loads per day per truck				3			
Efficiency of trucking operation				90%	***		
Adjusted loads per day per truck				2.9			
	Answer: Number of trucks needed:			**2**	**trucks***		
Distance Calculator							
	Average Distance (km) per round trip (worksheet)						
	Number of Barangays served by the program	20					
	Distance from Barangay center by road to treatment plant (km) one way	5	Calculate for each Barangay and average				
	Distance from septage truck yard to Barangay center	5	Calculate for each Barangay and average				
	Distance from treatment plant to septage truck yard	5	km				
	Average distance (km) per round trip	13					
	* This spreadsheet assumes all of the trucks for your program will have the same capacity or volume. If your program uses trucks with different volumes, use average volume (add up all the truck volumes and divide by the number of trucks)						
	** Number of trucks is calculated by dividing the design flow by the capacity of the truck (volume) and then dividing by the likely number of loads per day						
	*** Efficiency of the trucking operation. No trucking operation is 100% efficient. Use 80% efficiency for new trucks. Older trucks are less efficient and this can be reflected by lowering the efficiency value.						
	**** The user should experiment with the spreadsheet by varying the capacity of the truck and the number of hours per day of operation to minimize the number of trucks required.						

4.3.6.3 CAPEX and OPEX Estimation

This spreadsheet tab calculates the estimated costs for the treatment system, the trucks, and the operation and maintenance of both. Then it calculates the estimated tariff based on the number of service connections, loan payment and operational expenditures.

Input (yellow boxes)	Number of trucks needed (obtained from spreadsheet *How Many Trucks Will be Required for your Septage Management Program*?) Data from the community (obtained from spreadsheet *What is the Design Flow of your Septage Treatment Facility?*) Estimated costs of trucks units and O&M (PhP) and water consumed (obtained from technicians)
Outputs (green boxes)	Total cost of treatment and collection truck (PhP) Estimated annual billed volume (in m3.) Estimated O&M costs (in PhP)

Table 9: Septage Collection and Treatment Costs

Septage Collection and Treatment Costs				
Number of people living within the coverage area		100,000	people in coverage area	175,000.00
Per person cost estimate for treatment facility		163.23	PhP	
Estimated cost of treatment facility		**16,322,857**	PhP	
Estimated cost of septage truck per unit	7,000,000		PhP	
Total cost of septage truck		**14,000,000**	PhP	
Total cost of treatment and collection truck		**30,322,857**	PhP	
Estimated O&M Costs & Billed Volume				
Total cost of treatment and trucks	30,322,857		PhP	
O&M Cost per annum to operate treatment facility	5%	816,143	PhP/year	
O&M Cost per annum to operate septage collection truck	20%	2,800,000	PhP/year	
O&M Cost per annum to operate treatment plant & septage collection truck		3,083,206	PhP/year	
Estimated Billed Volume				
Number of households within coverage area		20,000		
Number of commercial and institutional users		2,500		
Estimated residential water consumption per month per service connection (in m3.)		30	cu. m./month	
Estimated residential water consumption m3 per month		6		
Estimated commercial water consumption per month per service connection (in m3.)		50	cu. m./month	
Estimated annual billed volume (in m3.)		8,700,000	cu. m./year	

4.3.7 Sewerage design toolkit

The interactive sewerage toolkit is designed to help local implementers better understand the costs and resources required to develop and implement sewerage projects.

It provides rough estimates of capital costs (CAPEX) and operating costs (OPEX) for sewerage systems, based on population figures. From the CAPEX and OPEX, the spreadsheet calculates the National Government subsidy, and then the annual and monthly payments. Based on the number of people connected to the system, and the monthly payments, the spreadsheet can then calculates the required tariff.

Input (yellow boxes)	Population Debt conditions, Interest rate and tenor
Outputs (green boxes)	CAPEX, OPEX, Debt Repayment Monthly tariff required per household

Table 10: Sewage Collection and Treatment Costs

				Year 1	Year 35
How many people will be connected to the sewerage system?				300,000	599966.8658
		Scenario	1	4065	pesos per person
CAPEX				1,219,500,000	pesos
OPEX for treatment			1	94,500,000	pesos per year
OPEX for Collection			1	10,500,000	pesos per year
National subsidy for CAPEX			40%		
Remaining Funds to be Sourced				731,700,000	pesos
Principal Amount		731,700,000			
Interest Rate		10%			
Number of years for loan		15			
Interest and principal expense per month		-7,862,885.65	per month		
Annual loan payment		94,354,627.76			
		Year 1		Year 35	
	Plus annual OPEX treatment	94,500,000		94,500,000	
	Plus annual OPEX collection	10,500,000		10,500,000	
Total annual payment		199,354,628		105,000,000	
Monthly payment		16,612,886		8,750,000	
Monthly tariff/ Per cubic meter		**9.23**		**2.43**	
Monthly tariff/ Per person		55.38	pesos	14.58	pesos
Monthly tariff/ Per family		276.88	pesos*	72.92	pesos*
* This is the median tariff for a typical sewerage project for the indicated number of people. The actual tariff may be as much as 30% more or less depending upon the specific nature of the program.					

Table 11 Sewerage Scenaria

		Scenaria					
	Sewerage	1 Sanitary sewer	2 Combine Sewer	3 Sanitary sewer	4 Combine Sewer	5 Sanitary sewer	6 Combine Sewer
	Treatment	Activated sludge	Lagoon	Lagoon	Activated sludge	BRC	BRC
				CAPEX			
Collection	PHP person	665	345	665	345	665	345
Treatment	PHP person	3400	1025	1025	3400	2750	2750
Total CAPEX	PHP person	4065	1370	1690	3745	3415	3095
				OPEX			
Collection	PHP/ Person year	35	15	15	35	35	15
Treatment	PHP/ Person year	315	50	50	315	265	265
Total OPEX	PHP/ Person year	350	65	65	350	300	280

4.3.8 Training requirements

Organization	Unit	Knowledge and Skills Required
LGUs	NSSMP Project Office	• use of NSSMP toolkits • budget planning and implementation • septage treatment technologies • wastewater treatment technologies • sewerage technology
WDs	Project Office	• use of NSSMP toolkits • budget planning and implementation • septage treatment technologies • wastewater treatment technologies • sewerage technology

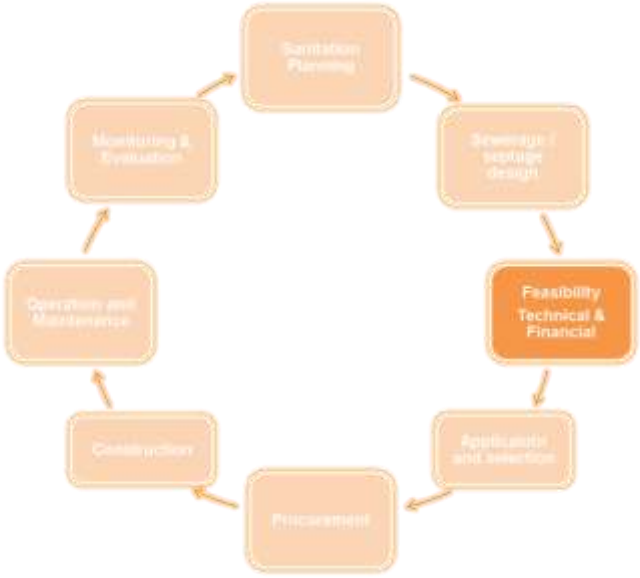
After the initial design concept work has been done and preliminary (pre-feasibility) assessments conducted, the local implementer should prepare a project concept note (see Annex).

4.3.9 Supporting organisations

The design of the project requires technical expertise. The implementer can receive assistance from several organizations and entities:

- DPWH actually designs and implements drainage projects.
- The NSSMP office can provide technical knowledge and advice - and financing - for design and feasibility studies.
- LWUA provides consulting assistance and training on technical designs.
- MWSS can share their experience in wastewater systems planning and design in Metro Manila.
- The PWRF finances feasibility studies for septage and sewerage systems.
- Private companies - LGUs and WDs can contract private specialised engineering or construction companies to develop designs and carry out feasibility studies.

4.4 Project Feasibility



After designing the project and estimating the relevant costs the Local Project Office will assess the feasibility of the project. Project feasibility study should automatically be undertaken if external financing is required.

The Local Project Office should also evaluate the possibility of a public-private partnership (PPP), as an alternative to accessing funds entirely from public sources.

In order to evaluate the feasibility of the project, it is necessary to gather and/or derive the following information:

The **dimensions** of the project, e.g. the wastewater volume quantity to be treated, which affects the determination of technology and the financing requirement.

The **financial resources** needed (i.e. the amount of money that the project needs to start operations).

The **LGU/WD budget** and **NSSMP funding** provision (i.e. the funds available from local implementers and the NSSMP).

The **proposed tariff** (i.e. the amount that households have to pay for the service), which should be high enough to allow debt servicing but not so high that it causes social unrest. This tariff will differs among cities, it depends on factors such as (population to be served, volume of septage to be handle, etc)

The **affordability** of the project (e.g. the willingness to pay of service users).

The **financial model** and **financing structure,** to be analysed in the feasibility study for the project.

The project's **"bankability"** (based on the above information, the financial analysis must show that the external financing can be paid back, and that the financial risks are acceptable).

The project's **social and environmental feasibility**.

4.4.1 Process workflow and description

After defining all of the technical aspects of a project, it is necessary to evaluate its technical and financial feasibility and social and environmental acceptability and sustainability. Based on estimates of the willingness to pay of the population to be served, and the estimated costs of the project, financial modeling will generate the tariff needed for construction, operation and maintenance of the project.

This tariff may need to be revised as a result of the baseline survey. The community's capacity to pay the tariff will determine the feasibility of that version of the project, and the financial structure of the project may need to be redesigned.

Where possible, alternative ways of implementing (and funding) the project should be analysed. As a result of the feasibility study, it may be necessary to redesign some aspects of the project, including the financial structure, before a decision to proceed can be reached.

The LGU/WD may seek funding assistance to LWUA, DOH, DENR and DPWH for the conduct of FS. In addition, LGUs/WDs may hire external consultants to undertake the feasibility studies.

LGUs and WDs can also require assistance to the Water Revolving Fund Support Program (PWRF). A water fund from USAID and JICA who provides technical guidance among others assistance activities. Notice that the program concludes on 2013.

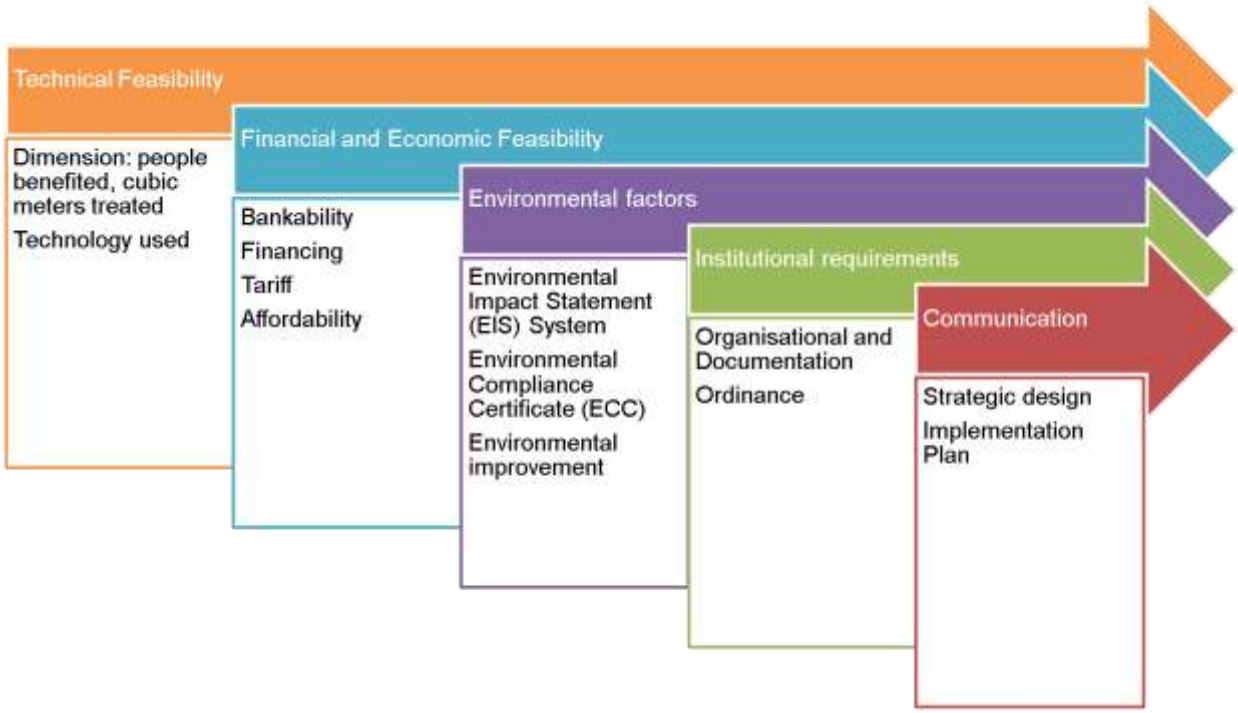


Figure 31: Feasibility Process Workflow Chart

Technical feasibility

Dimension: people benefited, cubic meters treated

NSSMP Office will evaluate the dimension of the project using the tables of part *C1.1. Technical description* of the application form submitted by local implementers. NSSMP will assure that data is reliable with the community and with the technology proposed. It is important to check

- the coverage area of the project
- people benefited
- cubic meters treated
- Reasoning between septage or sewerage implementation

Technology used

Based on previous chapters related with technology selection and on previous projects implemented on The Philippines, the NSSMP Office will analyse the capacity of the technology selected to manage the project

Financial and Economic feasibility

Bankability

The NSSMP Office will analyse the bankability of the project. The financial analysis must showed that the external financing can be paid back, and that the financial risks are acceptable. NSSMP Office will review the data founded on part *C.1.2. Financial Feasibility,* and ensure they are reliable in terms of proper project dimensioning and realistic assumptions. Bankability factors include:

- investment cost
- O&M cost
- life time cost

- project IRR
- project NPV
- debt service ratio.

Financing

NSSMP Office will also evaluate the financing plan. This aspect is explained deeper on *Part D: Financing*. The factors that will be measured are:

- creditworthiness
- capacity to finance 60% of the project.

Tariff

The Project Financial toolkit will give a Tariff as output. This **tariff will allow repayment the financing debt and provide the required return to capital**.

Affordability

After a tariff estimation, it is necessary to evaluate the capacity of the community to pay it. For this reason it is necessary to identify the financial situation of the community and review the Baseline Study which will allow the project proponent to identify the community's affordability and willingness to pay.

According to OCDE "Water supply and sanitation services are considered economically affordable if households can pay the water bill without a significant reduction of expenses for other essential goods and services."

It is important to distinguish between the households' "**ability to pay**" and their "**willingness to pay**". The ability to pay is a more objective indicator based on statistical data and estimates whether or not household income is sufficient to pay the increased price of services without serious prejudice for its ability to pay for other essential goods and services. On the other hand, the "willingness to pay" indicator is based on subjective statements of households and aims to identify the maximum amount a consumer would be willing to pay for a given number of units of the service of given quality. See annexes to understand how tariff will affect families' expenditure.

Website of National Statistics Office will provide further information on capacity of families to pay the tariff under the Family Income and Expenditure Survey (FIES).

Once the tariff is considered as bankable and affordable LGU can start the process to launch the Ordinance. This Ordinance will also serve as an IEC process. This Ordinance should content law enforcement and punishment to people who do not pay.

Environmental factors

The Environmental Impact Statement (EIS) System in the country originated in 1977 with the promulgation of Presidential Decree (PD) 1151, known as the Philippine Environmental Policy. This decree established the requirement for all proponents, including the public and private sectors, to prepare an EIS for any proposed action, project or undertaking that may significantly affect the quality of the environment.

The septage and sewerage projects under the NSSMP are not classified as environmentally critical projects (ECPs) but are most probably located in environmentally critical areas (ECAs) such as watershed reserves or aquifer recharge areas and/or near waterbodies, etc. Thus, they will be covered by the EIS system which will require application for an Environmental Compliance Certificate (ECC).

The type of document to be submitted to the DENR-EMB Regional office with an ECC application will depend on the operating capacity of the domestic Wastewater Treatment Facility (WWTF). For a WWTF with an operating capacity of < 5,000 m^3/day, an Initial Environmental Examination (IEE) is required while an Environmental Impact Statements (EIS) is applicable if the WWTF capacity is ≥ 5,000 m^3/day. The IEE is an abbreviated version of the EIS applicable to projects that are considered non-critical but that will be located in an environmentally critical area.

The EIA Report should focus on the environmental aspects of the project that have a scientific basis and are verifiable. The possible impacts on the four major environmental components (land, water, air and people) and their applicable subcomponents should be investigated and evaluated. In addition, related environmental concerns as expressed by the local community or stakeholders through public scoping, public consultation or any other form of public participation during the conduct of the EIA study should also be considered. The EIA Report should present

the projected impacts and the proposed environmental management and monitoring plan to minimize these impacts within acceptable levels.

The EIA Report should be supported by the following documents:

- proof of compatibility with the existing Land Use Plan, if necessary
- proof of ownership or authority over the project site
- accountability statements of the proponent and the EIS preparers
- photographs or plates of the project site, impacted or affected areas and local communities
- duly accomplished Project Environmental Monitoring and Audit Prioritization Scheme (PEMAPS) questionnaire.

Additionally, these are required for co-located projects:

- copy of existing ECCs
- latest Self-Monitoring Reports.

The IEE or EIS for a project may be prepared by the proponent's technical staff or by an EMB-accredited professional group commissioned by the proponent.

For further information refer to Annexes.

Environmental improvement

The NSSMP Office will evaluate the expected impacts that the project will have on the environment, based on part *B.4.4. Environmental objectives* of the application form, where there is a table which indicates the expected improvements for Color, pH, COD, BOD, TSS, Oil & Grease and Heavy Metals.

Institutional Requirements

This refers to the administrative aspects of planning and conducting the project. Annex 8.1.7 summarises the organisations with an interest in the project feasibility assessment processes, together with associated project inputs, outputs and supporting documentation. Key administrative requirements and measures include:

- an Executive Order establishing a TWG (see Annexes for guidance material)
- a Resolution to adopt a Local Sustainable Sanitation Plan (Annex)
- an Ordinance for Septage Management (Annex)
- an MoU for a partnership with a private firm (Annex).

Ordinance

The Municipal Ordinance should create an enabling environment to encourage the implementation of sanitation projects, and establish the mandate and authority for key potential implementers to do so. Annexes contains a Sample Ordinance for Septage Management.

Communication

Strategic design

The NSSMP Office will check that the strategy to communicate the project to the community is applicable and relevant to the project proposal that has been developed. In particular the Office will review the proposed publicity and promotion activities, the contents of the materials, the program of public meetings, the proposed timelines, and the availability of staff and resources for implementation.

4.4.2 Financial Toolkit

In addition to the septage management and sewerage toolkits, an additional NSSMP tool is available to evaluate the financial feasibility of the project. This is an excel which states the tariff and capacity to pay Capital expenses, Operational Expenses and debt. Following pages show snapshots from the tool.

This spreadsheet tab calculates some financial data that can be used to determine the feasibility of the project. It will also calculate the Internal Rate of Return (IRR) [2] and the Net Present Value (NPV) [3] of the project.

However, it should be recognized that using this tool will only give a preliminary assessment of financial feasibility. The final feasibility assessment will be based on a more refined project proposal/design.

Input	Total cost of treatment and collection trucks (obtained from spreadsheet *Estimated Cost*) Financing Mix (obtained from LGU Budget, WD budget and NSSMP funding) Increase in costs and population (obtained from experts)
Output	Project IRR and NPV

Table 12: Septage Management Program Financial Tool

Septage Management Program							
Type information into the yellow cells. The calculated values will appear in the blue cells.							
Amounts in thousand pesos		1,000					
Cost of treatment plant (in thousand pesos)		**16,323**		**Financing Mix**			
Cost of collection trucks (in thousand pesos)		11,335		**Bank loan**			
Total		**27,658**		Principal	80%	of project capital costs	
Average water consumption in m3. per annum		8,700,000		Interest	10%	per annum	
Collection efficiency		90%		Tenor	10	years inclusive of grace period	
Estimated user fee per m3. of water consumed (in pesos)		0.95		Grace period	3	years	
Proposed margin to cover for other expenses		0%		Cost share (in%)	0	from (name of agency)	
Proposed tariff		0.95		**Equity (in%)**	20%		
Average annual population growth rate		2.0%		Other fees	1%		
Average increase in O&M costs		5%					
Estimated costs for recovery		83,040.81					

Project IRR	**14%**
Project NPV	**3,191**

In the same spreadsheet is possible to find other financial data, as presented below. Even if users do not need to introduce any data to these cells, they are encouraged to become familiar with these tabular tools.

[2] Internal Rate of Return (IRR) is the discount rate that makes the Net Present Value (NPV) of all cash flows from a project equal to zero. A project is considered financially feasible if its IRR is greater than the Weighted Average Cost of Capital (WACC).

[3] Net Present Value or NPV is the difference between the present value of the benefit stream and the present value of the cost stream for a project. The NPV calculated at WACC should be greater than zero for a project to be financially feasible.

Table 13: Weighted Average Cost of Capital (WACC)[4].

Weighted Average Cost of Capital (WACC)				
Financing Sources	Amount	Mix	Rate	Cost of Capital
Equity	5,532	20%	15.00%	3.0%
Loan proceeds	22,127	80%	10.00%	8.0%
Total	27,658	100%		
WACC				**11.00%**

Table 14: Loan Payment Schedule

Year	Period	Total Yearly Payments	Interest	Principal	Balance
0	0				22,127
1	0	2,213	2,213	0	22,127
2	0	2,213	2,213	0	22,127
3	0	2,213	2,213	0	22,127
4	1	4,545	2,213	2,332	19,794
5	2	4,545	1,979	2,565	17,229
6	3	4,545	1,723	2,822	14,407
7	4	4,545	1,441	3,104	11,303
8	5	4,545	1,130	3,415	7,888
9	6	4,545	789	3,756	4,132
10	7	4,545	413	4,132	-0

Table 15: Income Statement and Cash Flow

Projected Income Statement (in thousand pesos)	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenues	7,474	7,623	7,776	7,931	8,090	8,252	8,417	8,585	8,757	8,932
Operations and maintenance costs - treatment facility	816	857	900	945	992	1,042	1,094	1,148	1,206	1,266
Operations and maintenance costs – collection trucks	2,267	2,380	2,499	2,624	2,756	2,893	3,038	3,190	3,349	3,517
Depreciation	1,950	1,950	1,950	1,950	1,950	1,950	1,950	1,950	1,950	1,950
Earnings before interest and taxes	2,441	2,436	2,427	2,412	2,392	2,367	2,335	2,297	2,252	2,199
Interest expense	2,213	2,213	2,213	2,213	1,979	1,723	1,441	1,130	789	413
Other costs	277									
Earnings before income tax	(48)	223	214	200	413	644	894	1,167	1,463	1,786
Income tax										
Net Income (Loss)	**(48)**	**223**	**214**	**200**	**413**	**644**	**894**	**1,167**	**1,463**	**1,786**
Projected Cash Flow										
Net Income (Loss)	(48)	223	214	200	413	644	894	1,167	1,463	1,786
Plus depreciation	1,950	1,950	1,950	1,950	1,950	1,950	1,950	1,950	1,950	1,950
Less: Principal repayments	-	-	-	2,332	2,565	2,822	3,104	3,415	3,756	4,132
	1,901	2,173	2,164	(183)	(203)	(228)	(260)	(298)	(344)	(396)
Loan Proceeds	22,127									
Equity Contribution	5,532									
Less capital investment	(27,658)	-	-	-	-	-	-	-	-	-
Net cash flow	**1,901**	**2,173**	**2,164**	**(183)**	**(203)**	**(228)**	**(260)**	**(298)**	**(344)**	**(396)**
Cumulative cash flow	1,901	4,074	6,238	6,055	5,852	5,624	5,364	5,065	4,722	4,325

[4] Weighted Average Cost of Capital (WACC) is the weighted average of the cost of debt and the required return to equity.

4.4.3 Sustainability checklist

The following checklist can be used to determine the sustainability of a project technology.

Technical

1. Can the technology be repaired easily by the user if it breaks down? If not, is there an infrastructure that can do that at an affordable cost?
2. Can users maintain the technology? If not, is there an infrastructure that can do that at an affordable cost?
3. Does implementation include training on operation and maintenance?
4. Can the technology be reproduced by the local private sector with local materials and skills?
5. Is the frequency of maintenance and repairs acceptable to the user?
6. Does the technology have the potential for replication and upscaling?
7. Does the project include the monitoring of proper functioning, usage and consumer satisfaction?

Financial

1. Can the target group afford to buy the service? Can they afford the cost of use, maintenance, and repairs?
2. Does the technology save on expenditures? Does it generate income? Does it save time?
3. Do people pay the real cost, or is the service subsidized? If it is subsidized, will the subsidy go on after the project stops?
4. Is there profit-based sustainability? Do the actors involved in production, transport and sales, all make a profit so activities will go on after the project stops?

5 What is the expected market for the product or service? Has a market study been performed? Is the expected market sufficient to start a supply chain?

Social

1. Is the service to be introduced ``better`` than existing options? Is it cheaper, simpler, more effective, more attractive?
2. Who will own and manage the technology? Individuals, committees, schools, institutes, organisations, NGOs, government?

4.4.4 Training requirements

Organization	Unit	Knowledge and Skills Required
LGUs	NSSMP Project Office	• use of NSSMP toolkits • project feasibility assessment • financial and economic analysis • budget planning and implementation
WDs	Project Office	• use of NSSMP toolkits • project feasibility assessment • financial and economic analysis • budget planning and implementation

4.5 Project Application and Selection

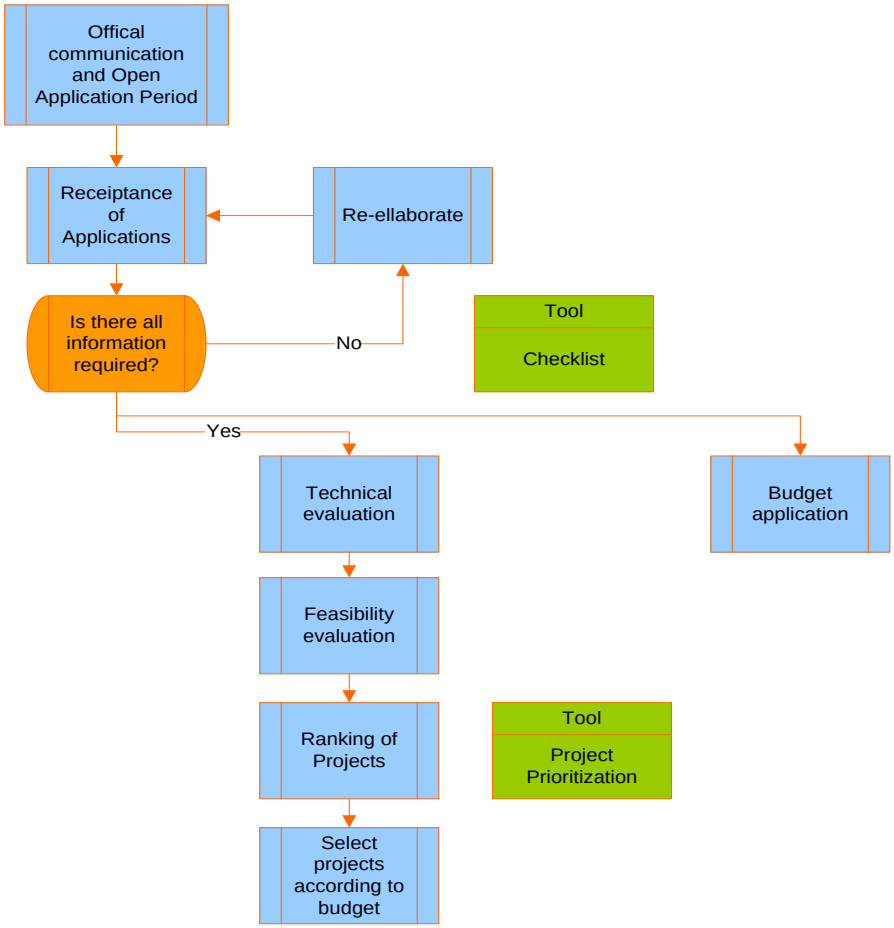
After defining the project and evaluating its feasibility, local implementers should **apply for financing to the DPWH**.

The project selection, design and feasibility assessment processes lead to the list of projects requiring funding. It is important that these processes are transparent and properly documented, so they can support the funding applications that follow.

This section describes the processes for deciding which projects have **DPWH approval** and **merit Government funding support.** It is a guide to facilitate the decision making of authorities and, at the same, a checklist for local implementers.

4.5.1 Process workflow and description

Figure 32: Project Selection Process Workflow



The process should start with the official communication of an **Open for Application period**. Attached to this communication should be a description of the application and selection process and its timeframes, and the documentation required to make an application.

Once authorities have received applications they will check whether the application is complete and if all required documents have been submitted. There is a checklist on the NSSMP website for this purpose. If some information is missing, a letter will be sent to the applicant.

DPWH and its NSSMP Office will analyse the technical and financial aspects of each project, evaluate its feasibility and significance, and establish a project ranking. There is a Project Prioritization Tool on the NSSMP website which can rate a project according to relevant aspects such as population benefited, project sustainability, etc.

4.5.2 Application form

Application form, available at the NSSMP website and attached as annex is formed by seven parts:

A. **Addresses and references**. It contents the contact details of Local Implementers in charge of the application.

B. **Project details**. This part, divided into four sections, describe the characteristics of the project. Applicant must indicate the technical factors of the project design such as number of trucks needed for septage management, number of interceptors, main collectors, pumping stations among others. Applicant will also indicate the entity or entities that will be in charge of operation, supervision, and communication.

C. Another section refers to the main beneficiaries of the project. This will be a comparison between people benefited before and after project implementation

D. There is a section which states the project objectives. In this section the applicant will indicate the region benefited by the project and different objectives of the project related to socio-economic, significance and environmental aspects.

E. **Results of feasibility studies**. This part measures the pre-feasibility of the project taking into account technical, financial, sustainability of the project through local revenue per capita, performance and customer service standards and administrative aspects.

F. **Timetable**. This part illustrates the estimated schedule for project implementation and after that, several tables indicate how advanced the project is. Applicant will state whether or not any required document / authorization has been issued or if any agreement on financing scheme has been signed

G. **Analysis of the environmental impact**. Applicant will explain how the project contributes to different aspects of environmental issues. There is a section to indicate the estimated date for the Environmental Impact Assessment (EIA) or to indicate the results of it depending on whether or not an EIA has been conducted already.

H. **Justification for the public contribution**. This section explains the financing structure of the project and the private participation on the project. Applicant will indicate the requirement of NSSMP assistance and how this will impact the project.

I. **Endorsement of competent national authority**. This is a formal section to be completed by local implementers mentioning the accuracy and veracity of all data presented

4.5.3 Project Prioritization Tool

Once NSSMP Office collects the application form it will analyze the reliability of data presented and rank the project according to the prioritization tool. The NSSMP Office will prepare a long list of priority projects

The Project Prioritization Tool measures seven aspects of the project (a screenshot of the tool is provided below):

A. **Project Focus.** The extent of sanitation already in place.

B. **Beneficiaries.** The percentage of the population that would benefit from the project.

C. **Local revenue per capita.** How much a citizen contributes to LGU revenues.

D. **Debt Service Ratio.** This measures the capacity to repay a loan.

E. **Environmental Sensitivity.** DENR has determined some regions as environmentally sensitivity areas.

F. **Significance.** This measures the scale or dimension of the project.

G. **Project-specific standards.** This measures the project sustainability in relation to customer service.

Figure 33: Project Prioritization Tool

Project Prioritization Tool		
Name of LGU:		
Name of Project:		
Total Score:		
Indicators		**Score**
A. Project Focus		**5**
1. Is this a sewerage project with septage management already in place? - 5 points 2. Is this a sewerage project without septage management in place? - 3 points 3. Is this a septage management project within years 1 - 4 of planning cycle? - 5 points 4. Is this a septage management project for years 4 -10 of planning cycle? - 3 points		
B. Beneficiaries (Divide the total population of the LGU by the number of direct beneficiaries. Then rank accordingly.)		**5**
1. If 100% of total population benefits directly - 5 points 2. If between 75% and 100% of total population benefits directly - 4 points 3. If between 50% and 75% of total population benefits directly - 3 points 4. If between 25% and 50% of total population benefits directly - 2 points 5. If less than 25% of total population benefits directly - 1 point		
C. Local revenue per capita. This ratio measures the average amount that each citizen of the LGU contributes to the LGU's internally generated revenues, such as local business and property taxes, tariffs, licenses, and fees. This ratio reflects the LGU's orientation towards public service. It can serve as an indicator for the cost recovery of future projects. A high indicator is desirable. A low indicator means that the LGU should consider increasing its fees and taxes by either improving its efficiency and reach or adding more taxes, licenses and fees.(units in PHP / year)		**5**
1. If over 30,000 - 5 points 2. If between 25,000 and 30,000 - 4 points 3. If between 15,000 and 25,000 - 3 points 4. If between 10,000 and 15,000 - 2 points 5. If less than 10,000 - 1 point		
D. Debt Service Ratio: In general, it is calculated by: DSR = (Annual Net operating income + Depreciation + other non-cash items)/(Principal Repayment + Interest payments). The higher this ratio is, the easier it is to obtain a loan. Higher priority is giving to LGUs with less borrowing capacity.		**5**
1. If DSR < 0.8, assign a value of 5 2. If DSR ≥ 0.8 but < 1.0, assign a value of 4 3. If DSR ≥1.0 but < 1.2, assign a value of 3 4. If DSR ≥1.2 but < 1.5, assign a value of 2 5. If DSR ≥ 1.5, assign a value of 1		
E. Environmental Sensitivity. Agency identifies regions that are environmentally sensitive. If the project is in such a region it will receive a higher priority.		**2**
1. If in a DENR identified region of environmental sensitivity - 2 points 2. If not in an environmentally sensitive region - 1 point		
F. Significance. The national agency will prioritize projects that have a wider scope. Projects of national significance will receive a higher priority than those with only regional or local significance. Projects rank higher if they are in World Heritage sites, are significant tourist destinations, or otherwise are of national significance.		**3**
1. Nationally significant projects - 3 points 2. Projects of regional significance - 2 points 3. Projects of local significance - 1 point		
G. Project-specific standards. Rate the adequacy of design, performance and customer service standards. Projects designed with standards to improve long-term sustainability will have a higher priority.		**3**
1. The project-specific standards will add significantly to sustainability - 3 points 2. The project specific standards will adequately address sustainability - 2 points 3. The project lacks sufficient standards to ensure sustainability - 1 point		
Total Score	Maximum score is 28	**28**

4.5.4 Organisation and documentation requirements

The table below summarizes the organizations involved in the Project Application and Selection process together with associated project inputs, outputs and supporting documentation.

Table 16: Project Application-Selection Organisation Summary

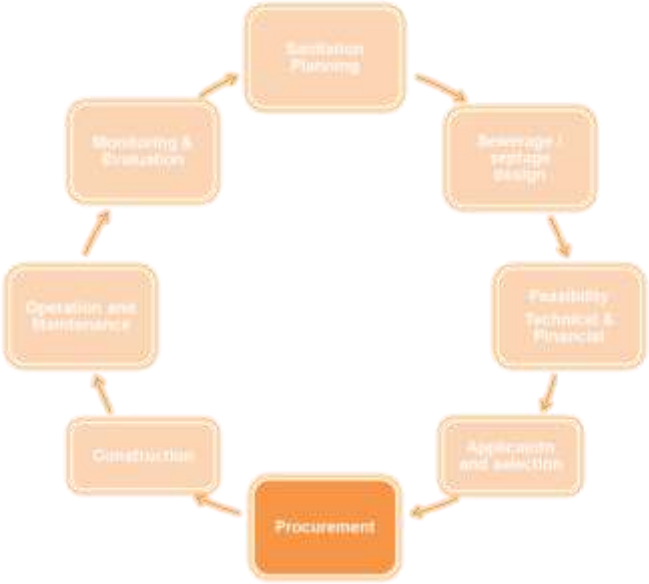
Organisation	Task Description	Input/Output	Timing	Links & Documentation
1. DPWH	Receive & review project brief	**Input**: i) Project brief from LGU ii) Supporting evidence (e.g. MoU with financial institutions) **Output**: i) Decision regarding approval or non-approval of national government co-financing for project ii) If approval, then budget request needs to be made and LGU is informed of successful application iii) If non-approval, then project brief is returned to LGU with an explanation as to the reasons for non-approval	1 - 3 weeks	See sample approval/non-approval letters (Annex)
2. LGU	Develop project brief	**Input**: i) NSSMP Guide for Local Implementers (and toolkits) ii) DoH Operations Manual on the Rules and Regulations Governing Domestic Sludge and Septage **Output**: i) Project brief (technical, financial & organisational summary)	3 - 6 weeks	See NSSMP Guide (and sewerage/ financial toolkits) and DoH Operations Manual
	Produce sewerage Feasibility Study (FS)	**Input**: i) Identify who will conduct the FS ii) Gather technical, financial and operational data and produce options **Output**: i) Full Feasibility Study incorporating detailed technical design, financial analysis, operational plans and institutional framework	8 - 16 weeks	
	Produce local Ordinance	**Input**: i) Feasibility study data ii) Stakeholder consultation feedback iii) Public hearings **Output**: i) Ordinance	16 - 26 weeks	See guidance material on stakeholder consultation (Annexes) See sample Ordinance (Annex)
	Secure 30% financing share	**Input**: i) Present FS to financial institutions **Output**: i) Loan agreement (or MoU) with financial institution(s) for required financing	6 - 12 weeks	See sample MoU (for a private partner) (Annex)

Organisation	Task Description	Input/Output	Timing	Links & Documentation
	Apply for 40% national government grant	**Input**: i) Submit project plan and proof of financing to DPHW **Output**: i) Obtain funds from MDFO	24 - 48 weeks	See funds application process in Budgeting Section
	Obtain necessary regulatory approvals (in cooperation with WD)	**Input**: i) Submit regulatory applications and necessary supporting information **Output**: i) Obtain necessary permits	12 - 36 weeks	See list of required regulatory permits /planning docs (Annex)
3. WD	Assist in developing project brief	**Input**: i) NSSMP Guide for Local Implementers (and toolkits) ii) DoH Operations Manual on the Rules and Regulations Governing Domestic Sludge and Septage **Output**: i) Project brief (technical, financial & organisational summary)	3 - 6 weeks	See NSSMP Guide (and sewerage / financial toolkits) and DoH Operations Manual
	Initial financing approach	**Input**: i) Project concept (business plan) **Output**: i) Feedback from financial institutions on willingness to offer financing	2 - 4 weeks	
	Assist with production of sewerage Feasibility Study (FS)	**Input**: i) Identify who will conduct the FS ii) Gather technical, financial and operational data and produce options **Output**: i) Full Feasibility Study incorporating detailed technical design, financial analysis, operational plans and institutional framework	8 - 16 weeks	
	Secure 30% financing share	**Input**: i) Present FS to financial institutions **Output**: i) Loan agreement (or MoU) with financial institution(s) for required financing	6 - 12 weeks	See sample MoU (for a private partner) (Annex)
	Assist LGU in applying for 40% national government grant	**Input:** i) Provide any necessary support to LGU for DPWH funding application **Output:** i) Obtain funds from MDFO	24 - 48 weeks	See funds application process in Budgeting Chapter

4.5.5 Training Requirements

Organization	Unit	Knowledge and Skills Required
DPWH	NSSMP Project Office	• wastewater management / engineering • technical and financial evaluation of sanitation projects • use of the Prioritization Tool

4.6 Project Procurement



Once project funding has been approved by the NSSMP Office, the Local Project Office through the Bids and Awards Committee (BAC) will conduct the **procurement process**, e.g. for engaging an engineering contractor to build the project.

The objective of procurement is to **acquire services and goods as economically as possible**. This is best achieved through a **transparent, formal and competitive bidding process**.

At the procurement process the Local Project Office will evaluate diverse factors such as the **type and value** of the goods or services, the **potential bidders**, and the **cost of the process** itself. The Project Office will decide whether a tender process is needed, and what kind of process is desirable.

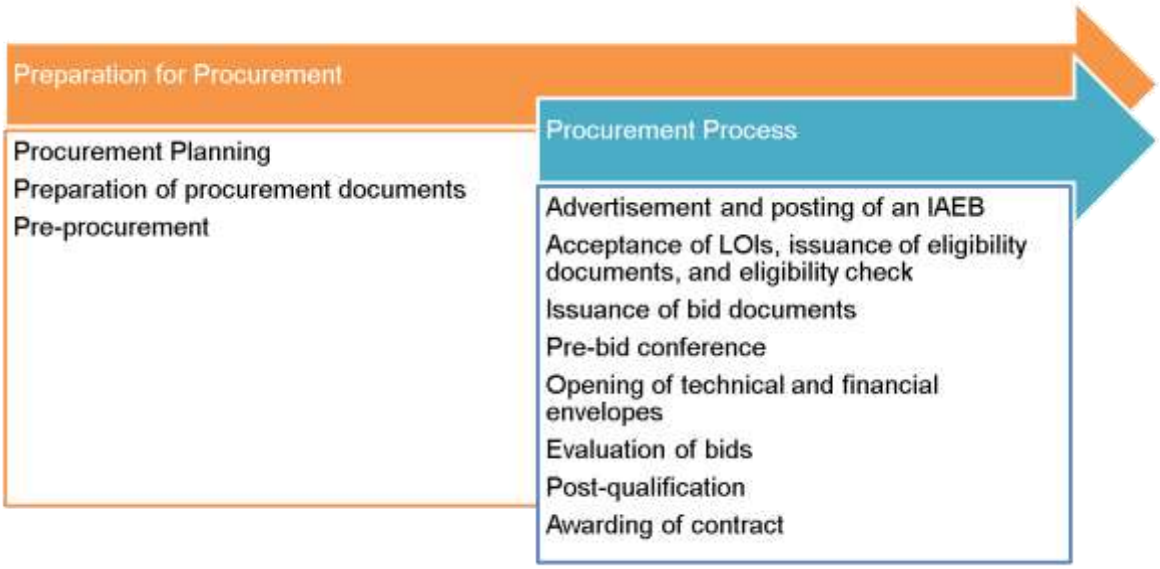
Local Project Office will decide if two separate tenders are launched for Construction and O&M or if just one tender is launched for the whole package (Construction +O&M).

4.6.1 Participating agencies

Institution	**Expected Role**
LGUs Project Office	As local project implementers: • design and preparation of procurement process
WDs	As local project implementers (or implementing partners): • review the scope of work
Construction companies	• review of project design • construction plan • design of sub-projects • project supervision • implementation

4.6.2 Process workflow and description

Figure 34: Procurement and Tendering Process



Preparation for Procurement

Procurement Planning

The objective of procurement planning is for the LGU to schedule its procurement activities in advance, consistent with its approved budget and its target implementation date.

Procurement planning involves the following activities:

- ensuring that detailed engineering investigations are conducted, and plans for procurement are linked to budgets;
- preparing the Project Procurement Management Plan (PPMP) and consolidating all PPMPs into the Annual Procurement Plan.

Formulating a PPMP entails **identifying project requirements**, writing the technical specification, determining the Approved Budget of Contract (ABC), identifying the schedule of milestone activities, and determining the method of procurement.

Detailed engineering investigations, surveys and designs have to be conducted prior to bidding and awarding of contract. These investigations must be duly approved in accordance with the standards and specifications prescribed by the Local Chief Executive (LCE) or his duly authorized representatives. The detailed engineering investigations should be based on a feasibility or preliminary engineering study that establishes the technical viability of the project and its conformance to land use and zoning guidelines

The Approved Budget for the Contract (ABC) may be equal to or less than the appropriation for the project/activity contained in the approved annual/supplemental budget and will be the ceiling of bid prices that shall be submitted by prospective bidders. It is also the amount of reference in computing the amount of bid security and performance security that shall be posted by the bidder.

Preparation of Bidding Documents

After procurement planning, the PPMP is transformed into bidding documents that should contain all **information a prospective bidder needs to prepare its bid**, and should accurately and comprehensively reflect the main elements of the PPMP. The bidding documents form part of the contract and define the following, amongst other things:

a) The **objectives**, scope and expected outputs and/or results of the proposed contract

b) The expected contract **duration**

c) The **obligations**, duties and/or functions of the winning bidder

d) The minimum **eligibility requirements** of bidders, such as track record, to be determined by the LCE.

LGUs are required to use the **Philippine Bid Documents issued by the Government Procurement Policy Board as the standard format** in the preparation of its bidding documents. The contents of the bid documents are shown in Annexes

The bid documents should include explicit requirements for the successful bidder to collect all of the data that will be needed for the monitoring and evaluation of the project and its performance (see Section 4.9).

Conduct of Pre-Procurement Conference

In the pre-procurement conference called by the Bids and Awards Committee (BAC), all LGU officials involved in the project meet to discuss all aspects of the said project to determine the readiness of the LGU to undertake the procurement. It focuses on the technical specification, the ABC, the appropriateness and applicability of the recommended method of procurement, and the availability of pertinent budget releases, among others.

The pre-procurement conference is conducted prior to the advertisement or issuance of the IAEB, preferably at least 7 days, to give the technical staff sufficient time to incorporate the necessary changes, amendments or revisions. The following items are usually discussed during the pre-procurement conference:

1. SOW
2. ABC
3. applicability and appropriateness of the recommended method of procurement and the related milestones
4. bidding documents
5. availability of the pertinent budget release for the project.

The conduct of the pre-procurement conference is mandatory for projects with ABCs of more than PhP 5.0 million, to determine the readiness of the LGU to procure infrastructure projects in terms of the legal, technical and financial requirements.

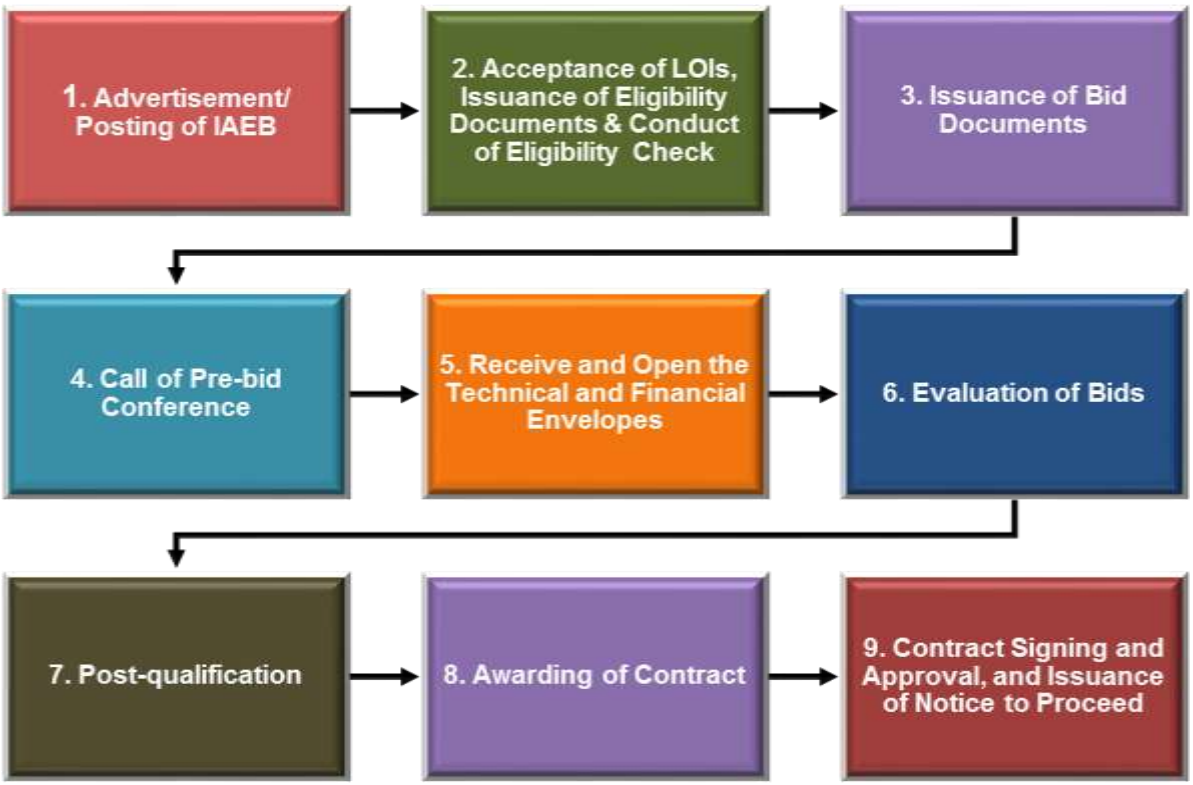
For projects with ABCs of PhP 5.0 million and below, the conduct of a pre-procurement conference is optional. However, the BAC is encouraged to conduct a pre-procurement conference if the circumstances (e.g., complexity of the technical specifications) warrant the holding of such a conference before the LGU proceeds with the procurement.

Procurement of Infrastructure Projects

The procedure outlined below applies when competitive or public bidding is used as the mode of procurement. The detailed procurement procedures are shown in Annexes.

In competitive bidding, bidders are treated equitably and fair grounds are provided for competition among them, thereby ensuring that no single bidder significantly influences the outcome of the bidding. All procurement should be done through public bidding except in cases wherein the LGU is allowed to resort to an alternative method of procurement. It has to be noted that, for infrastructure projects, negotiated procurement is the only alternative method of procurement that may be used.

Figure 35: Infrastructure Projects Procurement Process



Advertisement and Posting of IAEB

The Invitation to Apply for Eligibility and to Bid (IAEB) serves as the **notice to the public** and all interested parties of the procurement and bidding opportunities of the LGU. The advertisement and the posting of the IAEB ensure widest possible dissemination of the procurement opportunity and, hence, increase the number of prospective bidders and intensify competition among them in order that the LGU will get the best possible proposals, in terms of quality and cost, for the proposed infrastructure project.

Acceptance of LOIs, Issuance of Eligibility Documents, and Conduct of Eligibility Check

Prospective bidders should submit their written Letters of Intent (LOIs) and Application for Eligibility to the BAC and have these received not later than seven (7) calendar days after the last day of the period for advertising and/or posting of the IAEB. Upon receipt of these documents, the BAC must immediately give the prospective bidders the list of eligibility requirements, and inform them in writing of the date, time, and venue for the submission of such requirements.

Prospective bidders may also submit their LOIs and applications for eligibility electronically to the LGU through the PhilGEPS, likewise within the deadline set for the submission of written form of the documents.

Even if only one prospective bidder submits an LOI, the bidding process continues. If it is later declared eligible and its bid is found to be responsive to the bidding requirements, its bid will be declared as a Single Calculated and Responsive Bid (SCRB), and considered for contract award.

If no prospective bidder submits an LOI, the BAC should declare the bidding a failure, by way of a BAC Resolution. In such a case, the BAC shall issue a Resolution declaring a failure of bidding. The BAC then conducts a study on the possible reasons for the absence of interested bidders. If it is found that some of the terms and conditions of the contemplated procurement, as stated in the IAEB, need to be modified or adjusted, the LGU may do so, provided that a re-bidding is conducted.

The Eligibility Check is a procedure used to determine if a prospective bidder is eligible to participate in the bidding at hand. The BAC shall use non-discretionary “pass/fail” criteria wherein the absence, incompleteness or insufficiency of a document shall render a prospective bidder ineligible to bid for the particular procurement.

A prospective bidder is also required to submit the documents listed in Appendix A to the BAC to determine its eligibility to undertake the project:

Issuance of Bid Documents

Prospective bidders found eligible to participate in the bidding must be allowed to acquire or purchase bidding documents. The BAC Secretariat issues the bidding documents to eligible bidders that may wish to secure said documents. In the case that the bidding documents are sold, the LGU will only accept bids from those eligible bidders that have purchased the bidding documents. Bidding documents may be sold for a price as determined by the BAC and approved by the LCE based on the cost of its preparation and development.

The bidding documents, as a whole or individually, shall not be divulged or released to any prospective bidder prior to their official release to the contractors. Neither should these be divulged to any person with or without direct or indirect interest in the project being bid out, except those officially authorized to handle them. However, after its official release, it shall be made available to the public, unless the procurement at hand affects national security.

Pre-bid Conference

The pre-bid conference is the initial forum where the LGU representatives and the eligible bidders discuss the different aspects of the procurement at hand. Apart from discussing the technical and financial components of the contract to be bid, the pre-bid conference also provides an opportunity for eligible bidders to request clarification of the bidding documents.

If there is a request for clarification during the pre-bid conference or thereafter, the BAC of the LGU shall issue its response through a Supplemental/Bid Bulletin, to be made available to all those who have properly secured the bidding documents at least 7 calendar days before the deadline for the submission and receipt of bids.

Upon the LGU's own initiative, the BAC may issue Supplemental/Bid Bulletins for purposes of clarifying or modifying any provision of the bidding documents not later than 7 calendar days before the deadline for the submission and receipt of bids. Any modification to the bidding documents must be identified as an "Amendment".

Receive and Opening of Technical and Financial Envelopes

A Bid refers to a signed offer or proposal to undertake a contract submitted by a bidder in response to, and in consonance with, the requirements stated in the bidding documents. "Bid" is also equivalent to and may be used interchangeably with "Proposal" and "Tender". A Bid has two components, the Technical Proposal or the Technical bid, and the Financial Proposal or the Financial Bid.

Evaluation of Bids

Bid evaluation is done to determine the Lowest Calculated Bid which is done through:

- establishing the correct calculated prices of the bids, through a detailed evaluation of the financial component of the bids
- ranking of the total bid prices as calculated from the lowest to the highest. The bid with the lowest price shall be identified as the Lowest Calculated Bid (LCB).

Post-qualification

Post-qualification is the process of verifying, validating and ascertaining all the statements made and documents submitted by the bidder with the LCB, which includes ascertaining the said bidder's compliance with the legal, financial and technical requirements of the bid.

If its eligibility documents had been validated and verified, and its compliance with the legal, financial, and technical requirements of the bid had been ascertained, the bidder must be declared with the "Lowest Calculated Responsive Bid" (LCRB).

Awarding of Contract

The BAC shall issue a Resolution recommending to the LCE award of the contract to the bidder with the "Lowest Calculated Responsive Bidder" at its submitted bid price or its calculated bid price, whichever is lower. Should the LCE concur with the BAC recommendation for award, he/she shall approve the same and cause the issuance of the Notice of Award.

Contract Signing and Approval, and Issuance of Notice to Proceed

The contract awardee and the LGU must enter into a contract immediately after the former has submitted the performance security and all other documentary requirements within the period specified in the IRR-A. The parties must sign the contract within 10 calendar days from receipt by the winning bidder of the Notice of Award.

For infrastructure projects with an ABC of above PhP 50 million, the NTP must be issued together with a copy or copies of the approved contract to the successful bidder within 3 calendar days from the date of approval of the contract by the LCE. For infrastructure projects with an ABC of PhP 50 million and below, the maximum period is 2 calendar days. Unless otherwise specified in the contract, a contract is effective upon receipt of the NTP. If an effectiveness date is provided in the NTP by the LGU, such date shall not be later than 7 calendar days from issuance thereof.

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4.6.3 Supporting information

A range of forms and templates relating to procurement are provided in Annexes to the Manual.

8.4.1 Detailed Procurement Procedures

8.4.2 Documentary Requirements during Procurement

8.4.3 Sample Procurement Notice

8.4.4 Sample Letter of Acknowledgement of Receipt

8.4.5 Sample Shortlisting Notice

8.4.6 Sample Letter to Firms Not Shortlisted

8.4.7 Sample Letter Inviting Firms to Tender

8.4.8 Outline of Terms of Reference

8.4.9 Sample Notification Letter for Supply of Works

8.4.10 Sample Cover Letter Requesting Submission of Signed Contract

8.4.11 Sample Format for Negotiation Report

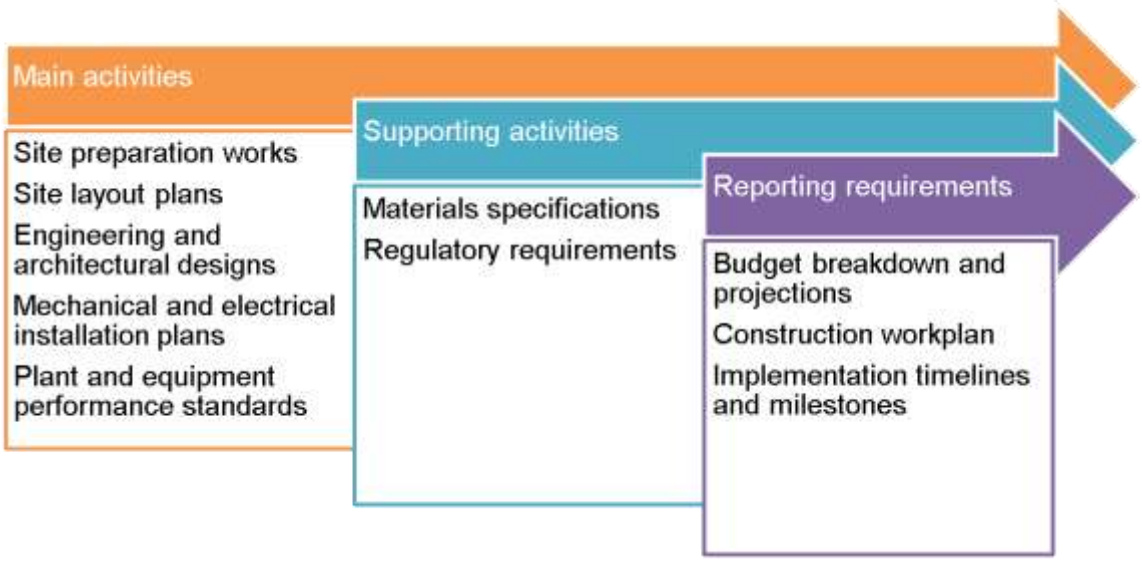
4.7 Project Construction

After completing the preceding processes, the Local Project Office will be ready to start the **implementation process**. If the Office has decided to establish a PPP, a new society will have to be created. If it has been decided that an **external contract manager** is required, a contractor will have been engaged separately through a parallel procurement process. The complexity of the project usually determines this requirement.

Effective **project management and monitoring** can assist the project to **accomplish its objectives** and meet its **performance targets** as efficiently as possible. This is equally relevant during the construction phase, when there is an opportunity to ensure that high standards of construction are employed. This section provides guidance on the construction management and monitoring process.

4.7.1 Process workflow and description

Figure 36: Project Management and Pre-Construction/Construction. Process Workflow



A technical contractor will prepare a detailed design for the project, which will be analysed by the technical staff of TWG/Local Project Office, with project timelines, construction phasing, and planned operation commencement date.

Prior to the commencement of construction work, the NSSMP Office and the local implementer (or the contracted construction supervisor, if engaged) shall develop a construction Monitoring Program. Once construction commences, the Local Project Office (or the contracted construction supervisor) will begin to collect data on a regular basis (in accordance with the Monitoring Program) to ensure that the project is constructed to meets technical standards and specifications and performance targets. In this phase the Project Office will be in charge of **assuring the correct implementation of the project according to the Technical Proposal** presented at the tender process. The design of the Construction Monitoring Program should consider the following elements, among others, relating to the construction phase of the project.

Main activities

Site preparation works

Construction site work includes clearing, grading, and preparing the site for built features like roads, utilities, buildings, parking lots, and the site drainage system.

Site layout plans

Local Project Office will conduct periodical visits to the construction site checking the:

- ***Engineering and architectural designs***
- ***Mechanical and electrical installation plans***
- ***Plant and equipment performance standards***

Supporting activities

Materials specifications

The constructor should present a plan indicating how they are going to guarantee the appropriate materials according to tender's ToR.

Regulatory requirements

The Local Project Office will check that the construction contractor has all of the documents necessary for initialising construction.

Reporting requirements

Budget breakdown and projections

The constructor should present the budget in a clear and transparent way to facilitate periodical reviews.

Construction work plan

The construction contractor will present a construction plan.

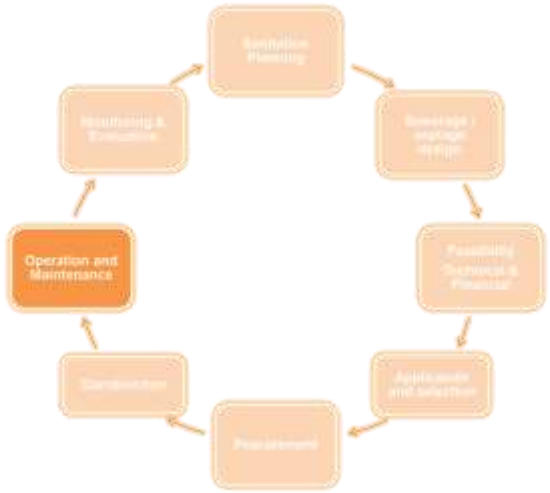
Implementation timelines and milestones.

The Local Project Office will check the completion of every milestone according to the Technical Proposal presented during the tender process.

4.7.2 Training requirements

Organization	Unit	Knowledge and Skills Required
LGUs	Local Project Office MPDO Local Health Office	• infrastructure planning and development • project management • construction performance data analysis and reporting • monitoring and reporting
WDs	All	• infrastructure planning and development • project management • construction performance data analysis and reporting • monitoring and reporting

4.8 Project Operation and Maintenance



Once the infrastructure project is successfully constructed, the operational phase can begin. For some septage management projects, there is no significant construction stage, so they can start very soon after procurement.

The operation consists on activities to make the system function correctly ensuring right sanitation service.

Maintenance involves all the activities needed for keeping in perfect conditions the system ensuring its right performance.

The importance of **obtaining the necessary permits and approvals** from regulatory authorities before commencing operations cannot be over-emphasized. These may include an Environmental Sanitation Clearance (ESC) from DoH, an Environmental Clearance Certificate (ECC) and a Discharge Permit from DENR/EMB, and local business, building and sanitary permits (see Annexes)

Failure to initiate the necessary actions (e.g. preparing and submitting applications) at the right time can lead to delays in project commencement and implementation. Obtaining such approvals and clearances will often require that the project complies with regulatory standards or technical specifications.

Project implementers should be aware of these requirements and consult the relevant authorities if they are unsure about any aspects.

4.8.1 System maintenance

System Maintenance

The operation and maintenance (O&M) of a sewerage system or sewage/septage treatment plant can be performed by the same company that constructed the system (as operator) or by a new entity that is contracted to be responsible for system or facility operation. This will have been decided in the procurement phase. The Local Project Office will have decided if one tender process is launched for the whole package – Construction + O&M- or if two separate tenders are needed. In addition, WDs can be responsible of O&M.

The monitoring and evaluation (M&E) of the operation and performance of these facilities will form part of the overall M&E program for the project. Section 4.9 provides detailed guidance on the formulation and implementation of such M&E programs for septage management and sewerage projects

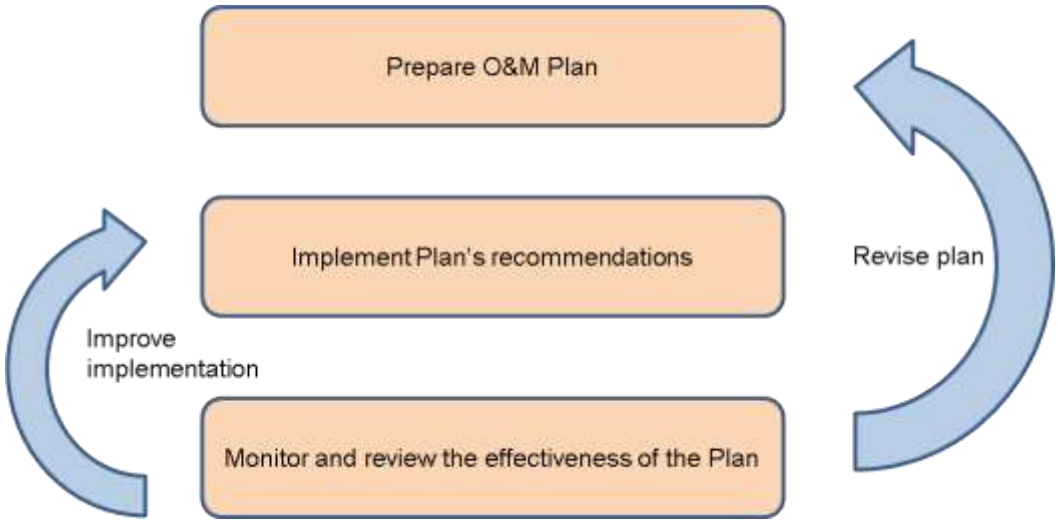
This section describes procedures for the effective maintenance of sewerage systems, and suggestions for maintaining good septage management practices and behaviors at the local level.

Maintenance activities include:

1. **Preventative maintenance**. This involves routine or scheduled activities performed before the failure of a facility or its equipment to extend equipment life, reduce overall maintenance costs, restore system performance and increase system reliability.
2. **Corrective (or reactive) maintenance**. This relates to the use of an asset until it fails and then requires repair or replacement. This approach is generally used for non-critical assets or when corrective maintenance cannot be scheduled.
3. **Emergency maintenance**. This is a form of corrective maintenance that is applied to a critical asset that has failed, resulting in a risk to human health or the environment.

4.8.2 Process workflow and description

Figure 37: O&M Workflow Process



Maintenance Planning

Elements to consider in maintenance planning include:

- an initial operational review;
- scheduling of routine inspections;
- scheduling of routine maintenance;
- emergency maintenance procedures;
- reporting and record keeping;
- formal procedures for maintenance activities; and
- training of maintenance staff.

If a sewerage system manager does not have a formal maintenance plan in place, an operational review of the system can be undertaken before a plan is prepared. This review can involve assessing existing facilities, operating conditions and maintenance practices.

The system manager should have maps or a mapping system, such as a GIS, of its sewerage system. The map should be based on work-as-executed plans, where available. It should include streets and other landmarks, so that maintenance crews can locate elements of the system when required.

A **schedule for routine** inspections of the sewerage system is mandatory. Priorities should also be clearly stated. In order to ensure that the schedule meets its goals, it needs to be periodically reviewed, and the results reviewed by management personnel to see if any further action is necessary. Reactive inspections are necessary to investigate the cause of any public complaints.

Routine or preventative maintenance of the system is also necessary. This is an important component of asset management, as it **reduces the rate of deterioration** and costly reactive maintenance of the asset. Problems identified during routine inspections should receive the necessary maintenance or repair actions.

Reactive or emergency maintenance occurs when a component of the system fails unexpectedly. In order to return it to service as soon as practical, the system manager will have written procedures for reactive maintenance. A record keeping system documenting the maintenance should be included in an Operational and Maintenance

Plan. These records, based on inspection reports should include information on when elements of the system were inspected and what, if any, maintenance was performed (including details of the problem, the action taken, whether any further action is required, and the personnel involved). Significant maintenance issues should be reported to management and, for larger systems, this information could be included in the GIS for the system.

System managers are encouraged to write policies, procedures or protocols for system operations and maintenance, to be used for personnel training and monitoring activities. These, reviewed and revised as necessary, will ensure consistency in maintenance activities, for cost-effectiveness and comparison purposes.

There are two main infrastructures that will be considered on the maintenance planning: the sewer and its pumping stations.

Sewer Maintenance

Maintenance programs may include a geological stability assessment around the infrastructure, e.g. to account for the washing away of sand lenses, which will affect structural stability. Assessments may also include sewer corrosion, externally by aggressive groundwater and internally by sulphates producing sulphuric acid. Inspections of sewers involves visual inspection of large diameter sewers to identify and record blockages, cracks, tree roots and accumulated sediment.

In areas where reports of leak are unlikely to be reported by the public, e.g., bushland areas, the route of the sewer can be walked to check for any leak. Maintenance are visually inspected for defects, possibly aided by mirrors on an adjustable pole. The pipes from overflow structures are checked for obstructions and the performance of any valve is also checked.

Sewer maintenance techniques include:

- root cutting using a remotely operated cutting tool inserted at maintenance holes;
- chemical cleaning to reduce root infestation;
- removal of blockages by rodding; and
- sewer flushing to remove accumulated sediment.

Maintenance of Pumping Stations

Sewage pumping station inspection and maintenance techniques include:

- inspection of telemetry and instrumentation;
- checking of valves and penstocks;
- mechanical and electrical inspection;
- pump capacity testing;
- removal of sediment/grit accumulated in wet wells; and
- cleaning of wet wells so that grease and fat build-up does not interfere with level control devices, as this can cause pump failures and overflows.

A sewer overflow causes or has the potential to cause harm to the environment or human health. The conditions of the receiving environment will dictate the degree of risk of such harm. The scale of the spill depends on the volume and duration of the overflow and the receiving environment's characteristics. It can be described in the context of the dispersion zone or attenuation distances necessary to disperse, dilute or contain a pollutant that affects the environmental values of that zone but does not go beyond it. The effect on both surface water and groundwater needs to be considered in the impact assessment.

4.8.3 Infrastructure rehabilitation

Sewer pipes that are broken or cracked need to be rehabilitated to minimize infiltration/inflow and leakage. The most common techniques involve "trenchless technology", which minimizes the costs and disruption compared with open excavation. There are two common approaches:

- grouting the sewer to fill cracks and joint defects; and

- lining sewers with a durable waterproofing liner material or inserting a new pipe (through an approach called pipe bursting).

In some circumstances, such as broken or collapsed sewers, open excavation and replacement may be required. This is also often required at the junctions with property sewer/drains on lined pipes.

Defective maintenance holes can be rehabilitated by:

- spraying the inside of the maintenance hole with a non-porous material;
- installing a durable waterproofing liner or insert; or
- reconstructing part or all of the maintenance hole.

Cracked maintenance hole lids and surrounds can be replaced, and leakage from surface runoff into maintenance holes should be prevented.

Property sewer/drains can be rehabilitated by lining or by replacement through open excavation. It should be noted that although private sewers may contribute significantly to wet weather overflows. property sewer/drain rehabilitation is only undertaken with the property owners' approval.

4.8.4 Maintenance of septage management at the local level

Community awareness and good practice for septage tank maintenance can be maintained through communication campaigns with the following messages:

- Follow your maintenance plan.
- Do not let any vehicles, drive or park on any part of the disposal system.
- Do not flush paints, solvents or any kind of toxic chemicals down the toilet.
- Do not plant large trees or shrubs nearby because the roots may affect the disposal field.
- Do not allow roof or perimeter drains, or any surface water, to discharge on or near the sewage disposal system.
- Do not overload the system with too much water. For example, a running toilet or dripping faucet, or by watering on or near the disposal area.
- Do not flush cigarette butts, filters, sanitary napkins, newspaper, disposable diapers, condoms, tissues, paper towels, hair, metal or metal items, coffee grounds, tea leaves, fats or grease. These can all plug a septic tank or a drain field.
- Establish a water conservation strategy for the house.
- Do not leave the system not working for long periods.
- If water pools up on a disposal area, seek advice from your environmental health officer and authorized person.
- Do not allow large livestock to graze on the disposal field.
- All roof, cellar and footing drainage, and surface water must be excluded from the system. This drainage water can be discharged to the ground surface without treatment; make sure it drains away from your sewage treatment system.

4.9 Project Monitoring and Evaluation

The last step in the overall process is **Monitoring**. It involves two kinds of monitoring tasks: **NSSMP Monitoring** and **Works & Operations Monitoring**. The first task measures the success of the Program as a whole on a continuing basis, for which the main objective is improved sanitation and water quality. The second task evaluates individual projects or related projects in a local area. It measures the success of the implementation phase of new systems and infrastructure. In both cases the process consists of determining the key factors for success and identifying issues which are not allowing objectives and targets to be reached.

The goal of the NSSMP is to improve water quality and protect public health in urban areas of the Philippines by 2020. Its primary focus is to encourage and support the implementation of sewerage infrastructure and septage management projects through public advocacy and the creation of the necessary supporting environment.

An effective monitoring and evaluation (M&E) program should be implemented as part of the NSSMP to evaluate the performance of these projects, and identify resulting water quality improvements. This will require a number of different types of performance and monitoring data to be collected by different stakeholders (see Figure 22 below). It is important that the overall design of the M&E program is accomplished well before project construction, implementation or operation. This will allow different types of baseline data to be collected, and responsibilities and arrangements for construction and operational data collection to be negotiated and agreed. In particular, requirements for the collection of data by private contractors should be incorporated in relevant bid documentation and contracts, and agreements should be reached between Government agencies (national and local) on data collection roles and responsibilities

Once a sanitation project has begun to operate, its operations and their impacts should be monitored to evaluate its performance, i.e. its technical effectiveness, its operational and financial sustainability, and the satisfaction of those using its services. Also, water quality in the project area should be studied to identify any positive impacts of the project on public health and the environment.

This section of the Manual provides guidance and recommendations for monitoring and evaluating a sanitation project's operations, performance and water quality impacts. In particular, the section describes a process for developing a monitoring, evaluation and reporting regime, including:

Clearly stated objectives (why we are monitoring);

- Indicators and targets (what we are monitoring);
- Standards of performance or compliance (the benchmarks for the evaluation);
- The monitoring programs themselves (what, where, how, and how often); and
- The roles and responsibilities of participants (who will monitor, assess and report).

As indicated above, NSSMP monitoring and evaluation should be undertaken at two levels:

- ***the overall performance* of the NSSMP**, and the progress made towards meeting its established goals and objectives; and
- ***the performance of individual projects*** that are implemented as a result of the NSSMP.

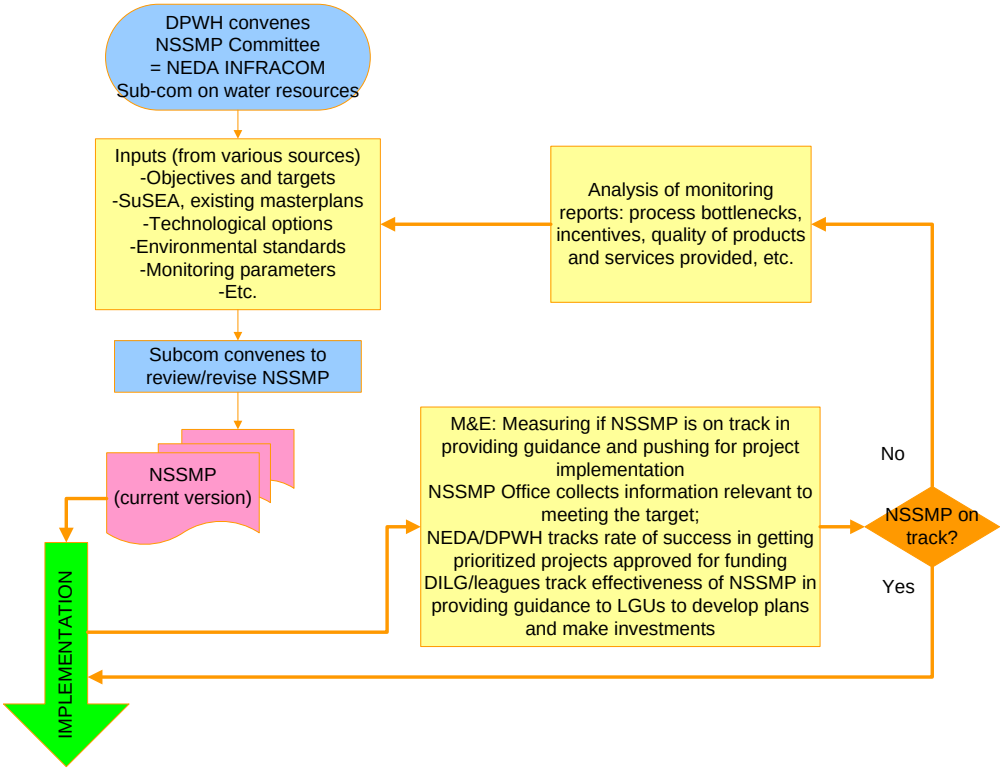
Figure 21 illustrates the process for overall M&E of the NSSMP. It includes sub-processes for revising both the implementation of the NSSMP, and the NSSMP itself, as the need arises. These processes will obviously run in parallel with the monitoring of individual projects, and continue on beyond the life of the Roll-Out Project.The key responsibilities for NSSMP evaluation and review process are as follows

Based on this diagram, the key responsibilities for NSSMP evaluation and review process are as follows:

- collecting performance and associated data, and analysing and reporting on the overall performance of the NSSMP (NSSMP Office);
- assessing and reporting to the NSSMP Committee on the effectiveness of the guidance and support provided by National Government agencies to local implementers (DILG, League of Cities, etc); and
- tracking the progress of the NSSMP, reviewing its success and effectiveness, and revising it where necessary (DPWH and NEDA, through NSSMP Committee).

4.9.1 Process workflow and description

Figure 38: Monitoring and Evaluation of the NSSMP



The long-term (2020) targets for the NSSMP are as follows:

Table 17: NSSMP targets

Septage Management Targets	Sewerage Infrastructure Targets
• All LGUs have a septage management program serving their urban barangays • 43.6 million people have access to these programs • Capital costs range from PhP 4 to 63 million per project • Total capital costs of PhP 12.4 billion • Pollution reduction of 260 million kg of BOD (24% of total generated)	• 17 HUCs have sewerage systems (interceptor type) serving 50% of urban barangays (to be done in 2 phases) • 3.2 million people have access to this new infrastructure • Capital costs average PhP 380 million per project per phase • Total capital costs of PhP 13.9 billion • Pollution reduction of 64 million kg of BOD (80% of total generated)

The broad goals of the NSSMP Roll-Out Project include:

- accelerating the achievement of the goals of the Clean Water Act;

- demonstrating the actual application of recommended NSSMP strategies;
- generating at least three pilot cities with feasibility studies;
- effective training and capacity building for program implementers and their partners; and
- effective communications and program promotion activities.

The remainder of this Section will focus on the *monitoring and evaluation of individual NSSMP projects*, and includes guidance on:

- the data and other information that should be collected (what should be monitored);
- devising and establishing the necessary monitoring programs (where, how and how often);
- setting performance targets (e.g. technical, financial and service targets);
- the roles of participating organizations in the conduct and resourcing of these monitoring programs, and performance evaluation and reporting;
- information on relevant standards and requirements; and
- recommended reporting templates.

The following six-step approach is proposed for performance monitoring and evaluation of a single project or a related set of projects:

1. **Selection of appropriate objectively verifiable indicators (OVIs) for a project.**
2. **Selection of performance targets or measures of success**
3. **Development of a suitable project performance monitoring program.**
4. **Assignment of specific roles and responsibilities for monitoring, data collection and analysis, and performance evaluation and reporting**
5. **Implementation of the monitoring and data collection program.**
6. **Performance evaluation and reporting.**

This six-step approach is explained further in the following pages.

Selection of appropriate objectively verifiable indicators (OVIs) for a project.

These should be the key measures of the **progress**, **success**, **effectiveness** and/or **efficiency** of the project. In the case of a sewerage or sanitation project, the OVIs should reflect its **technical and financial performance**, and public satisfaction with the service delivered. They may be quantitative or qualitative in nature, but should be as **specific and measurable** as possible.

Selection of performance targets or measures of success.

For many OVIs it is desirable to establish a **performance target**, i.e. a measure or value of the OVI that is considered to reflect acceptable performance, or to indicate successful implementation in relation to that indicator. In some cases this target will be a regulatory standard or requirement that is already established (e.g. an effluent standard that applies to a treatment plant). Depending on the nature of the OVI, these targets should be set in consultation between local implementers and the relevant National Government agencies (e.g. DPWH, DoH and DENR).

Development of a suitable project performance monitoring program.

This program may include sampling, measurement, survey or other **forms of data collection**. In some cases relevant data will already be collected (e.g. water quality data, or treatment plant performance data), but may need to be supplemented. The program should address each of the selected OVIs, and should consider:

- The **types and amounts of data needed** for a reliable assessment of the value of each OVI;

- The **sources and location** of these data (e.g. these data may come from within the project, from the monitoring the surrounding environment, or from surveying local communities),
- The **methodology**, **equipment** and **resources** required to collect these data,
- The **frequency and timing** of data collection (e.g. to allow trends to be detected, or to address seasonal factors), and
- Importantly, the scope and timing of a baseline survey to establish **OVI benchmarks** (to which project-related data will ultimately be compared).

Assignment of specific roles and responsibilities for monitoring, data collection and analysis, and performance evaluation and reporting.

It is important that **roles and responsibilities** for these tasks and functions are clearly defined and understood. Although general roles in relation to project monitoring and evaluation are defined in the table above, each project will have its own particular arrangements. Once a program and the roles of its participants have been defined and agreed, it may be desirable for those involved to sign a joint **Memorandum of Understanding**.

Implementation of the monitoring and data collection program.

This would start with the **baseline survey work**, which must be completed before the project has begun to operate. The task of data collection would include responsibility for data validation and organization, and the conversion of raw data into results or formats that can be compared with the targets set for the OVIs.

Performance evaluation and reporting.

Local project implementers would be primarily responsible for data **analysis and interpretation**, **evaluating project performance**, and submitting **regular evaluation reports** to the NSSMP Project Office. Where local implementers and National Government agencies are both involved in data collection (e.g. customer surveys and water quality testing), or where local authorities needs some help with data interpretation, national agencies should assist them with the evaluation and reporting process.

The main parameters for water quality monitoring are biological oxygen demand (BOD), dissolved oxygen (DO), total suspended solids, and plant nutrients (phosphorus and sulphur compounds). These reflect the key constituents of sewage, namely organic materials, suspended impurities, and soaps and detergents. The key parameter is BOD, a measure of the amount of oxygen required for decomposition of the organic matter. The more organic material there is, the higher the BOD level, and the lower the DO in the receiving waters.

The following table should be used as the basis of the monitoring program established for a project.

Table 18: Performance Monitoring and Evaluation Program

Objectively Verifiable Indicator	Performance target	Data source (s)	Data collection methodology	Baseline value(s)	Responsible for data collection & analysis	Responsible for evaluation & reporting

Objectively Verifiable Indicators

The choice of OVIs is obviously a very important part of the monitoring and evaluation process. These indicators ought to be chosen on the basis that they link closely with the overall objectives and goals of the NSSMP, and give a clear indication of **how the project is progressing towards achieving a high level of operational performance and service delivery**.

For a typical sewerage infrastructure or septage management project, the OVIs will fall into three categories:

- indicators of the operational performance of the project
- public health and environmental quality indicators
- indicators of the behavior and satisfaction in the local community served by the project.

Each category has several OVIs which measure different aspects of performance that, together, should help provide a comprehensive picture of sanitation conditions. Example OVIs for each category of indicator are presented below.

Indicators of the operational performance of the project

1.1 Number/percentage of households in a HUC connected to sewerage infrastructure

These are households with an operating sewerage connection. WDs or sewerage system operators should be requested to provide data to the LGU, probably on a quarterly basis.

1.2 Number/percentage of households with access to septage collection services

These are households with a septic tank which also have access to a desludging service. Data on access to these services can be derived by LGUs or WDs from the local septage management plan and projected coverage of tank desludging.

1.3 Engineering indicators of treatment plant performance

Data for this indicator should be collected monthly by the LGU or WD from the treatment plant operator. Engineering indicators may include things such as volume of wastewater actually treated, utilization of treatment capacity, treatment efficiency, incidences of plant breakdown, etc.

1.4 Indicators of the financial performance of the project

The overall financial performance and sustainability of the project can be derived from a consideration of wastewater collection costs, O&M costs, revenue from fee collections, etc. These data can be collected from the treatment plant operator.

Public health and environmental quality indicators

2.1 Compliance (or otherwise) of local water quality with DENR water quality guidelines (for relevant parameters such as BOD)

This can be determined from the results of regular (usually monthly) monitoring of water quality in local water bodies (by LGUs/WDs and/or DENR/EMB), with reference to established water quality guidelines. As with drinking water, the availability of useful baseline water quality data is very important. Of course, an individual sewerage or septage management project will only be able to address a part of the water pollution problem in the project area.

2.2 Incidence of water-related illness and disease in the project area

This is the number of cases of water-related diarrhea reported at barangay level, and consolidated by the local health authority.

2.3 Compliance with DoH guidelines and local ordinances

Septage tank dislodging and septage treatment require the service provider to obtain an Environmental Sanitation Clearance from DoH and a sanitary permit from the LGU. Service providers must also comply with the DoH Operations Manual on Septage Management and the provisions of local ordinances.

2.4 Compliance with DENR effluent standards and permitting requirements

This can be determined from the effluent testing data submitted by treatment plant operators to DENR/EMB on a quarterly basis. Treatment plant operators are also required to obtain Environmental Clearance Certificates and comply with the conditions of wastewater discharge Permits issued by EMB or LLDA.

2.5 Estimated reduction in BOD and Coliforms discharged to local water bodies

Local implementers should work with DENR/EMB to develop a methodology for estimating overall BOD and Coliforms reductions, based on the volume of tank desludging work conducted, progress with the building of sewerage infrastructure, and the performance of operational sewerage and septage treatment plants.

Indicators of the behavior and satisfaction in the local community served by the project

3.1 Number/percentage of households actually utilizing some form of sanitation service

Utilization is usually defined as tank desludging at least every five years. Detailed operational data should be collected monthly by LGUs from desludging service providers. This indicator is closely related to treatment plant utilization under Indicator 1.5 above.

3.2 Level of customer satisfaction with the sanitation project (e.g. septage collection service)

This can be established by conducting surveys at LGU and barangay levels in the coverage areas. The intensity' seriousness of user satisfaction or dissatisfaction should be identified.

3.3 Number of complaints registered with the service provider

This is a measure of the quality and reliability of the service or system provided, and the extent of annoyance/ nuisance/inconvenience caused by system failures or shortcomings.

3.4 Number of customers who have discontinued service

This is a measure of system/service users' response to dissatisfaction or annoyance.

3.5 Percentage of eligible households that paying the relevant service fee

This indicator can be derived from water bills (where it is expected that fees would be charged) and fee collection data from local water service providers. An alternative indicator could be the percentage of expected/projected fees that are actually collected.

Performance Targets

While OVIs may be used to indicate the performance, progress, results and impacts of a project, they cannot by themselves indicate whether that performance and those outcomes are **acceptable**, **comply with external requirements**, or **meet project expectations.**

Therefore, **targets** should be set to express what is expected or required of a project (e.g. to comply with regulations or standards), and whether its progress, accomplishments and results are acceptable. These targets can then be compared with the values of the OVIs obtained or derived in the monitoring process.

For the sewerage and septage management projects to be conducted under the NSSMP, the following guidance is provided on the setting of targets for the OVIs.

Numerical performance targets

Numerical targets should be set for the extent of system coverage or penetration that is achieved over time, as a project or series of projects is progressively implemented towards reaching its maximum capacity.

OVIs 1.1, 1.2 and 1.3 require targets of this type relating to the number or percentage of households with access to basic sanitation, septage collection services and new sewerage infrastructure. Targets should also be set for the number/percentage of households that actually avail themselves of desludging services (OVI 3.1), and the percentage of households that actually pay the service fees (OVI 3.3). These targets should be derivable from historical survey data, local sanitation plans and project briefs.

A numerical target should also be set for the expected progressive reductions in BOD and Coliforms discharges to the surrounding water environment through the implementation of a project or projects (OVI 2.6). Setting this type of target is a relatively complex exercise that will require specialist input from water quality specialists (e.g. DENR/EMB personnel). However, it is considered important that the projects have a target that is directly related to pollution reduction, as improved water quality is a primary objective of the NSSMP.

Technical and financial targets

The targets for OVIs 1.4 and 1.5 (engineering indicators and financial performance indicators) can be drawn from the project design and feasibility studies, and its performance specifications.

Regulatory compliance targets

The targets for OVI 2.1 will be based on the Philippine National Standards for Drinking Water, although compliance with these standards in a particular area may need to accomplished progressively over time.

A target of full (100%) compliance with DoH and DENR requirements should be set for OVIs 2.3 and 2.4. Instances of non-compliance with either administrative (e.g. permit, clearance) or technical (septage handling, effluent standards) requirements should be referred immediately to DoH and DENR for appropriate enforcement action.

Water quality guidelines have been established for various types and classifications of water bodies under the Clean Water Act. In many cases, compliance with these guidelines (OVI 2.5) will be a long-term goal that cannot be achieved solely through the implementation of projects under the NSSMP. Local implementers should consult DENR/EMB about whether it is necessary to establish some kind of target for this OVI (e.g. a compliance timeframe or progressively tighter targets).

Qualitative measures of effectiveness

The DoH should set progressively reducing targets for the number of reported incidences of water-related illnesses (OVI 2.2), based on historical data and realistic expectations.

Targets should also be set for the desired levels of customer satisfaction with sewerage projects and desludging services (OVI 3.2), which could then be established through periodic user surveys. The PAWS and PASS programs of MWSS in Metro Manila provide examples of these kinds of assessments, which could assist local implementers to set appropriate targets.

Performance Evaluation and Reporting

The objective in collecting data on a project's performance, progress and compliance is to ensure that it is operationally and financially self-sustaining, that it is making satisfactory progress towards meeting external objectives (e.g. health and environmental goals), and that its customers are receiving an appropriate quality of service.

The evaluation of these data should include:

- A comparison of actual performance or outcome (as indicated by the OVI data) with project goals and expectations (as reflected in the performance targets)
- The assignment of a performance rating for each OVI, and an overall project rating
- An analysis of any identifiable issues or factors adversely affecting project performance or service delivery, or reasons for the non-attainment of targets
- A highlighting of any positive lessons learned from the evaluation, such as any good practices or successful experiences that could be shared with other project implementers.

The generalized framework provided below is proposed for inclusion in the M&E Report to DPWH/NSSMP Office. This systematic recording of the results of the evaluation process should be supplemented in the Report with explanatory material that:

- provides an overall evaluation of the project, facility, system or service that is being monitored, and more specifically -
    - the report should be structured so that it addresses each of the OVIs and targets in turn
    - summaries of the results of monitoring programs, surveys and other data collection activities should be provided
    - the report should deal (where applicable) with operational aspects, project/facility/system performance, and observable impacts of the project on health, the environment and community satisfaction/behavior
- identifies and discusses issues and concerns with the implementation of the project, facility or service
    - this should include (i) an analysis of the reasons or causes of failure to meet targets, inadequate performance, regulatory non-compliance, adverse external impacts, etc and (ii) an explanation of actions or measures that have been, or should be, taken to remedy or rectify these problems

- highlights positive observations and **lessons learned** from the monitoring program, e.g. practices, measures and approaches that have been successful or effective, which can be shared with other project implementers and stakeholders and/or used for future reference.

Each project or service will require an M&E Report that is tailored to the particular concerns that are reflected in the selection of its OVIs, and structured accordingly.

Table 19: Performance Monitoring, Evaluation and Reporting Framework

Objectively verifiable indicator	Performance target(s)	Measured value(s) of OVI (current period)	Performance evaluation	Performance rating	Reason(s) for unsatisfactory performance	Proposed remedial measures

For some OVIs it will be possible to indicate in quantitative terms the level of performance, degree of satisfaction of a target, or extent of compliance, e.g. a shortfall in fee collections, a reduced number of households provided with desludging services, instances of effluent standards being exceeded, or an increase in operating costs.

In other cases a qualitative rating system may be employed, in which the project's performance and accomplishments can be rated as:

- Fully satisfactory, acceptable or totally compliant;
- Partially satisfactory, acceptable or compliant, with some indication of the *seriousness* of the shortfall in performance; or
- Unsatisfactory, unacceptable or non-compliant.

These ratings may need to be qualified by the text in the evaluation report, including the reported reasons for any unsatisfactory performance or non-compliance.

Table 20: Performance Monitoring and Evaluation Program

Objectively verifiable indicator	Perf. target(s)	Data sources	Data collection methodology/ frequency	Baseline value(s)	Responsible for data collection & analysis	Responsible for evaluation & reporting
Operational performance indicators						
Number of HUC households connected to sewerage infrastructure	(no.)	WD Sewerage system operator	Analysis of historical and plant operational data Annually	(no.) in baseline year (2013)	WD/LGU	LGU
Percentage of households in HUC connected to sewerage infrastructure	(no.) %	WD Sewerage system operator	Analysis of historical and plant operational data Annually	(no.) % in	WD/LGU	LGU
Number of households with access to septage collection services	(no.)	WD Septage system operator(s)	Analysis of service coverage Annually	(no.) in 2013	WD/LGU	LGU
Percentage of households with access to septage collection services	(no.) %	WD Septage system operator(s)	Analysis of service coverage Annually	(no.) % in 2013	WD/LGU	LGU
Volume of wastewater treated	(no.) ML	Sewerage and septage system operator(s)	Analysis of plant operational data Quarterly	(no.) ML in 2013	WD/LGU	LGU/WD
Treatment plant capacity utilization	(no.) %	Sewerage and septage system operator(s)	Analysis of plant operational data Quarterly	(no.) % in 2013	WD/LGU	LGU/WD

Objectively verifiable indicator	Perf. target(s)	Data sources	Data collection methodology/ frequency	Baseline value(s)	Responsible for data collection & analysis	Responsible for evaluation & reporting
Revenue from sewerage/septage system fee collections	(no.) PhP	WD	Data from water bill payment system Quarterly	(no.) PhP in 2013	WD	LGU
O&M costs for sanitation system(s)	(no.) PhP	Sewerage and septage system operator(s)	Data from septage operator(s) Analysis of plant operational data Quarterly	(no.) PhP in 2013	WD/LGU	LGU
Public health and environmental quality indicators						
Compliance (or otherwise) of local water quality with DENR water quality guidelines	Yes	DENR-EMB LDWQMC	Water sampling and analysis for key indicators Monthly		DENR-EMB LGU	LGU/DENR
Incidence of water-related illness and disease in the project area	(no.) % reduction in reported cases	Health care clinics/ facilities DoH-Regional Office	From local data or surveys on reported illinesses Quarterly	(no.) in 2013	DoH/LGU	LGU/DoH
Compliance with DoH guidelines and local ordinances	Yes	DoH-Regional Office LGU	From DoH and LGU field monitoring of contractors Quarterly		DoH/LGU	LGU/DoH
Compliance with DENR effluent standards and permitting requirements	Yes	Sewerage and septage system operator(s)	Self-Monitoring Reports Quarterly		Sewerage and septage system operator(s) DENR-EMB	LGU/DENR
Estimated reduction in BOD discharged to local water bodies	(no.) tonnes/yr	Sewerage and septage system operator(s)	Analysis of plant operational data Self-Monitoring Reports Annually	(no.) tonnes/yr in 2013	Sewerage and septage system operator(s) DENR-EMB	LGU/DENR
Indicators of behavior/satisfaction of local community						
Number of households utilizing some form of sanitation service	(no.)	Households	Local surveys of household behavior Annually	(no.) in 2013	LGU/barangays	LGU
Percentage of households utilizing some form of sanitation service	(no.) %	Households	Local surveys of household behavior Annually	(no.) % in 2013	LGU/barangays	LGU
Level of customer satisfaction with the sanitation project	(no.) %	Households	Local surveys of user satisfaction Annually	(no.) in 2013	LGU	LGU
Number of complaints registered with the service provider	(no.) % reduction in complaints	Sewerage and septage system operator(s)	Monthly	(no.) % in 2013	WD	LGU/WD
Number of customers who have discontinued service	(no.)	WD Sewerage and septage system operator(s)	Annually	(no.) % in 2013	WD	LGU/WD
Percentage of eligible households paying their relevant service fee	(no.) %	WD	Quarterly	(no.) % in 2013	WD	LGU/WD

4.9.2 Supporting information

The NSSMP Office in DPWH and the local/regional offices of DoH and DENR/EMB will be important sources of information and advice on the development of a monitoring and evaluation program. Also, MWSS can be consulted about surveying customer satisfaction in relation to sanitation services.

Key DoH guidance materials include:

- the Guidebook for Monitoring and Evaluation (part of DoH's Sustainable Sanitation Knowledge Series); and
- the DoH Operations Manual on Septage Management; and
- the Philippine National Standards for Drinking Water.

DENR requirements of relevance to this work include:

- the Implementing Rules and Regulations of the Clean Water Act (RA 9275), including its permitting and standard setting provisions (Rules 13 and 19);
- national water quality guidelines (in DENR Administrative Order 34); and
- industrial effluent standards (in DAO 35).

Project implementers should also familiarize themselves with NEDA's reporting requirements for the monitoring of the NSSMP.

4.9.3 Training requirements

The table below summarises the skills required of the staff employed at the key organizations responsible for NSSMP Operations Monitoring.

Organization	Unit	Knowledge and Skills Required
DPWH	NSSMP Project Office	• understanding of water pollution and domestic wastewater issues • knowledge of DoH and DENR permitting/clearance/enforcement practices • analysis of performance data and M&E reports
LGUs	Project Office Municipal Planning & Development Office Local Health Office & LDWQMCs	• understanding of water pollution and domestic wastewater issues • appreciation of DoH and DENR water quality standards • knowledge of DoH and DENR permitting/clearance/enforcement practices • septic tank design, installation and desludging • septage management system planning • design and conduct of household surveys • collection of data from barangays regarding ODF status • collection/analysis of performance data (e.g. technical and financial) • preparation of performance monitoring and evaluation reports • monitoring of desludging activities and waste treatment facilities • monitoring of incidences of water-related disease
WDs	All	• understanding of water pollution and domestic wastewater issues • appreciation of DoH and DENR water quality standards • knowledge of DoH and DENR permitting/clearance/enforcement practices • septic tank design, installation and desludging • collection/analysis of performance data (e.g. technical and financial) • preparation of performance monitoring and evaluation reports • monitoring of desludging activities and waste treatment facilities
DoH	DoH Regional Office	• monitoring of drinking water quality • monitoring and analysis of data on incidences of water-related disease
DENR	EMB Regional Office and/or WQMAs	• monitoring of drinking water quality • monitoring and analysis of data on incidences of water-related disease

5 Part C: Budgeting

5.1 Local Budgeting

After the inclusion of the sewerage or septage project in the Local Sanitation Plan and the formulation of the project's feasibility study, the next crucial stage is the **provision of the LGU budget for the project**. This can be in the form of: a) providing an **annual allocation** from the local budget for the capital investment; b) **allocating a certain amount annually** for the project's loan repayments; and c) a **combination** of a) and b). In any case, the budgetary allocation for the sewerage project and all the other infrastructure projects should not go beyond the 20% Development Fund5 of the HUC for a particular year.

This chapter focuses on the local budgeting process and, in particular, how the budget for the proposed project is allocated and approved, and which institutions/ persons are involved in the LGU budgetary process.

The national budget process is also included as Annex National Budget Process since LGUs and/or Water Districts generally would not be able to finance these projects on their own. The NSSMP was conceived in order that the National Government would support the implementation of sewerage projects by providing a 40% cost share, particularly for the 17 HUCs. LGUs and Water Districts are expected to provide the remaining 60% of the total project cost. This cost sharing will be in place for a limited period of ten years to encourage investments in a timely manner.

5.1.1 Participating Agencies

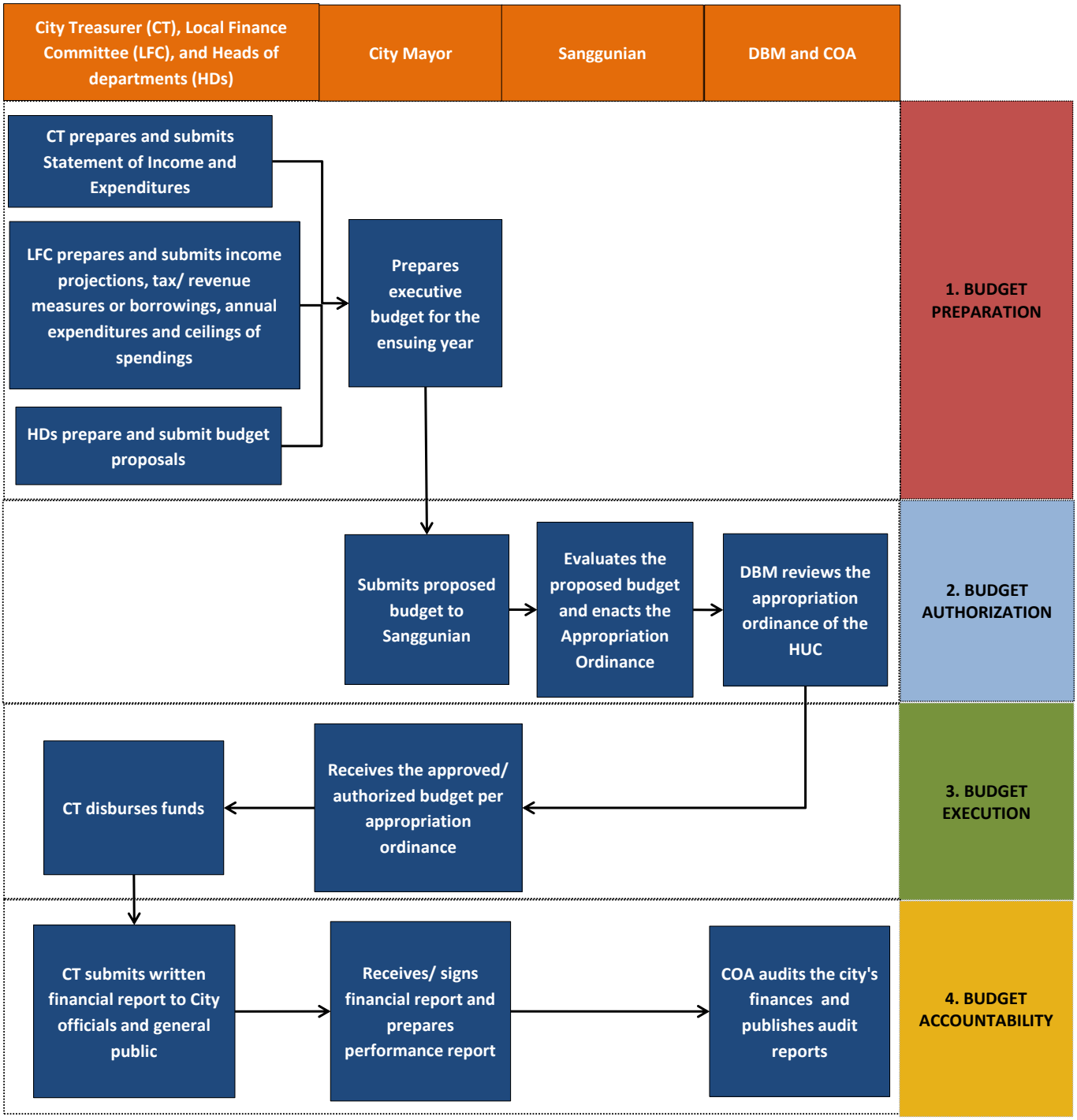
Table 21: Local Budget Process

Action	Action Description	Institutions/ Persons Responsible	Timeframe
Budget preparation	Preparation of Statement of Income and Expenditures	City Treasurer	On or before July 15
	Preparation of income projections, tax/ revenue measures, annual expenditures, and ceilings of spending	Local Finance Committee	July to October
	Preparation of budget proposals	Heads of departments and offices	July to October
	Preparation of executive budget for ensuing year	LCE	July to October
Budget authorization	Submission of executive budget to Sanggunian	LCE	Not later than October 16
	Budget legislation	Sanggunian	November
	Review of appropriation ordinance	DBM	November
Budget execution	Implementation of the budget to achieve LGU goals and objectives	LGU	January to December (ensuing year)
Budget accountability	Recording and reporting of incomes and expenditures	LGU	January to December (ensuing year)
	Monitoring and evaluation of financial performance	DBM, COA	January to December (ensuing year)

[5] Section 287 of the Local Government Code of 1991 specifies that each LGU shall appropriate in its annual budget no less than 20% of its annual internal revenue allotment for development projects, including infrastructure projects.

5.1.2 Process Workflow and Description

Figure 39: Process Workflow for Local Budgeting



Local budgeting involves four phases: budget preparation, budget authorization, budget execution, and budget accountability. Presented below is a description of each phase:

Budget Preparation.

This phase involves the formulation of the **estimates of income and a budget proposal** to be submitted by the City Mayor to the Sanggunian for deliberation and approval. The preparation phase consists of three major activities.

1. On or before July 15th of each year, the City Treasurer is required to submit to the City Mayor a **certified statement** containing the following:
    - Actual income and expenditures during the immediately preceding year;
    - Actual income and expenditures of the first two quarters of the current fiscal year; and
    - Estimated income and expenditures for the last two quarters of the current fiscal year.
2. **A Local Finance Committee, composed of the City Planning and Development Officer**, City Budget Officer and the City Treasurer, is convened. The Committee is tasked to deliberate and submit to the City Mayor the following:
    - Estimation of a reasonable income projection for the ensuing year;
    - Recommendations on the appropriate tax and revenue measures or borrowing appropriate to support the budget;
    - Recommendations on the level of annual expenditures and the ceilings of spending for economic, social and general services based on the LGU's approved local development plan; and
    - Recommendations on the amount to be allocated for capital outlay under each development activity or infrastructure project.
3. **Heads of the city's departments and offices prepare and submit budget** proposals for the ensuing year to the City Mayor. It is at this stage that the office charged with leading the proposed sewerage project (probably the City Planning and Development Office or the City Engineer's Office) submits the proposed budget for the project for the ensuing year.

Based on these submissions, the City Mayor prepares and submits the executive budget for the ensuing year to the Local Legislative Council (*Sanggunian*) not later than October 16th of the current year. The Local Government Code (LGC) requires the Local Chief Executive (LCE) or the City Mayor to submit the budget on the date prescribed or he/she shall be subject to such criminal and administrative penalties as provided for under the LGC and other applicable laws.

Budget Authorization.

The budget authorization phase starts when the City Mayor submits the proposed budget to the *Sanggunian* for legislative deliberation. The *Sanggunian* is tasked to enact, through an appropriation ordinance, the annual budget of the LGU for the ensuing fiscal year before the end of the current year. Ideally, the *Sanggunian* should **study, scrutinize and deliberate the estimated income and proposed budget**. Legislative approval is important because it is the *Sanggunian* that has the power to appropriate the budget. Appropriation refers to an authorization made by ordinance, directing the payment of goods and services from local government funds under specified conditions or for specific purposes.

Once the budget is passed by the *Sanggunian*, the **Appropriations Ordinance** is subject to **review by the Department of Budget and Management (DBM).** The DBM reviews the appropriation ordinance of provinces, HUCs, independent component cities, and municipalities within Metro Manila. For component cities and municipalities, the *Sangguniang Panlalawigan* (provincial council) is tasked to review the appropriation ordinance. The review process ensures that the budgets prepared and approved by the LGUs and within the budgetary requirements and general limitations prescribed in the LGC.

Budget Execution.

This phase involves the release of funds appropriated for the performance of functions and for the implementation of projects and activities. The LCE releases the allotments to the departments and offices of the LGU.

Budget execution also involves the activities related to the actual disbursement of funds to be used for pre-identified programs, projects, and activities contained in the approved budget. It involves the exercise of the LCE of mechanisms to program and control cash disbursements. An important mechanism for control is the power to issue allotments by the LCE. Allotments are essentially authorizations to departments/offices to incur obligations of specific amounts to be paid out of local government funds.

Budget Accountability.

This involves the accurate recording and reporting of the LGU's income and expenditures and the evaluation of the LGU's physical and financial performance. The fundamental principle on accountability affirms that fiscal responsibility must be shared by all those exercising authority over financial transactions and operations of the LGU.

The Commission on Audit (COA) has promulgated accounting rules and guidelines for LGUs under the New Government Accounting System. It contains detailed guidelines for LGUs in accounting for all incomes, disbursements and budgetary accounts. It also specifies in detail a financial reporting system that requires, among others, the preparation of year-end financial statements such as balance sheet, statement of income and expenses, and statement of cash flows. The COA also conducts audits of LGU finances and publishes the LGU audit reports on its website.

A typical sewerage/septage project would require a multi-year budget. The initial annual budgetary estimates can be gleaned from the local sanitation plan or the 3-year infrastructure program of the LCE. However, the budget for the project has to be updated annually during the budget preparation phase to reflect the more accurate cost estimates during project implementation.

For more information on the national budget process see Appendix 8.26. The significance of the national budget process is in the submission by the LGU of the budget request to DPWH for the 40% national government share, as discussed in Section 5.1.

5.1.3 Supporting Information

See the Department of Budget and Management website (http://www.dbm.gov.ph).

Padilla, A. 2010. *Understanding Income and Expenditures of Local Government Units.* (http://www.transparencyreporting.net)

5.2 National Budgeting

Table 22: National Budget Process

Action	Action Description	Institutions Responsible	Timeframe (for 2013 budget)
Budget preparation	Setting of overall budget policy	DBCC	March-April 2012
	Agency-level budget formulation	Agencies	Issuance of Budget Call (April 2012)
	Executive review, deliberation & approval	DBM, OP	May 2012
	Budget document preparation & submission to Congress	DBM, OP	Submission of President's budget 1 day after SONA (July 2012)
Budget legislation	Congress deliberations	House of Representatives, Senate	August-October 2012
	Ratification & enrolment	House of Representatives, Senate	Approval at the House of Representatives (October 2012), and Senate (November 2012)
	President's enactment & veto	DBM, OP	December 2012
Budget execution	Appropriations	DBM	
	Allotment	DBM	
	Obligations	Agencies	
	Disbursements	Agencies	April 2013
Budget accountability	Performance targets & outcomes	Agencies	
	Budget accountability reports	Agencies	
	Quarterly agency performance review	DBM	
	Year-end budget performance assessment review	COA, DBM	December 2013

The national budget process consists of four phases, namely: (i) **budget preparation** (or formulation); (ii) **budget legislation** (or authorization); (iii) **budget execution** (or implementation); and (iv) **budget accountability**. During the preparation phase, the Executive Branch prepares the National Budget. In the legislation phase, Congress authorizes the General Appropriations Act. This is followed by the execution phase wherein agencies utilize their approved budgets. During the accountability phase, the Executive monitors and evaluates the use of the budget

5.2.1 Budget Preparation

This phase involves the formulation and consolidation of the national budget which will eventually be proposed by the President for approval by Congress. The preparation of the annual budget for a particular year is done in the preceding year.

The major activities in this phase consist of:

a) Setting of overall budget policy

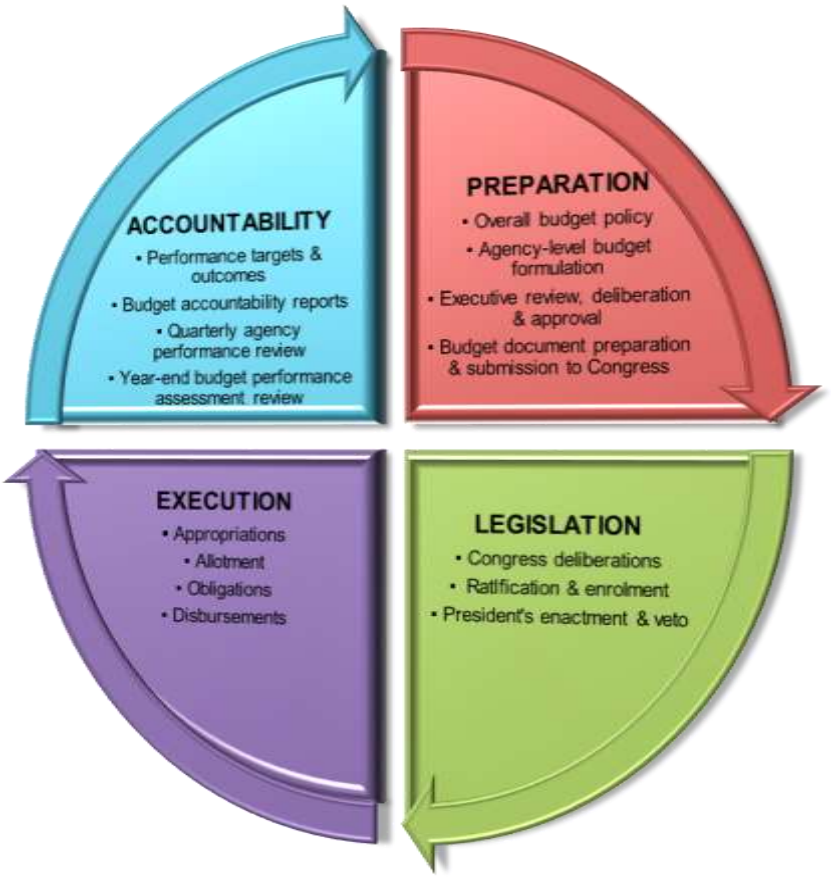
b) Agency-level budget formulation

c) Executive review, deliberation and approval

d) Preparation of budget documents and submission to Congress.

The Constitution provides that the President "submits to Congress within 30 days from the opening of every regular session, as the basis of the general appropriations bill (GAB), a budget of expenditures and sources of financing including receipts from existing and proposed revenue measures".

Figure 40: National Budget Process Workflow



5.2.2 Budget Legislation

Upon transmittal by the President of the proposed budget to Congress, budget legislation commences. Congress plays a central role in this phase which involves the process of securing an appropriation for the budget being implemented. An appropriation is essentially an authorization made by law or other legislative enactment, directing payment out of government funds under specified conditions for specified purposes.

The General Appropriations Bill (GAB) goes through roughly the same legislative process as the passage of any other bills. The GAB undergoes three reading first at the House of Representatives before transmission to the Senate. Committee-level deliberations are conducted through public hearings at the Committee of Appropriations at the House of Representatives and the Committee on Finance at the Senate.

In the course of Congressional deliberations and approval, legislators can make changes in the allocation of the budget for the various expenditure items. However, this prerogative is not unrestricted.

The Constitution provides limits to this prerogative of Congress. Among the restrictions are:

- Congress may not increase the appropriations recommended by the President. This implies that any budget items which Congress wants to increase would have to be accompanied by concomitant cuts in other items.
- The budget of the Judiciary, which enjoys fiscal autonomy, may not be reduced to a level below the amount appropriated for the previous year.
- Education shall be assigned the highest budgetary priority.

Bicameral Conference Committee. After deliberations in both Houses of Congress, the two chambers form a Bicameral Conference Committee which is tasked to discuss and harmonize conflicting provisions of the House and Senate versions of the GAB. A Harmonized Version of the GAB is then produced. Once submitted to the President for his approval, the GAB is considered enrolled.

President's Enactment and Veto. The budget bill (GAB) is sent to the President for signature for it to become the General Appropriations Act (GAA). The President is given thirty (30) days to review and sign the appropriations bill into law. If the President fails to take action after the said period, the appropriations bill is deemed approved and enacted.

The President can sign the bill as is or can exercise veto power before signing. Line-item veto power is granted to the President which allows him/her to strike out specific budget items or special provisions in the budget bill and thus approve all other items which he/she does not object to. When veto power is exercised, a President's Veto Message is issued wherein budget items subjected to direct veto or conditional implementation are identified, and where general observations are made.

When the GAA is not signed before the start of the fiscal year, the previous year's GAA is automatically re-enacted until a GAA is signed for the new year. Re-enacted budgets means that the agency budgets for programs, activities and projects remain the same while funding for programs or projects that have already been terminated is realigned for other expenditures.

5.2.3 Budget execution

The GAA serves as the legal basis which allows for the use of funds from the national treasury for specified expenditure items provided therein. However, the existence of a GAA alone does not imply that agencies can start utilizing and drawing funds to finance their programs and activities. Agencies need to secure an allotment to be able to obligate amounts specified in their budgets; cash allocation should be secured before disbursements can be made to settle these obligations. The budget execution phase is concerned with these operational aspects of budgeting which facilitates the translation of appropriations to disbursements, or more specifically the release of funds through allotments and Notice of Cash Allocation (NCA).

Allotments. The DBM issues an allotment to implementing agencies which authorizes them to incur obligations for specified amounts contained in the legislative appropriation, e.g. GAA. The DBM requires agencies to submit documents it would review and would be part of the basis for releasing allotments. These requirements include the Agency Budget Matrix, and work and financial plans as contained in the Budget Execution Documents (BEDs).

Not all of the amounts appropriated to agencies are included in one allotment. Allotment releases are spread out throughout the year and are issued based on the cash requirements of agencies and the availability of funds in the national treasury. Succeeding release of allotments necessitates continuous performance review of agencies by the DBM and the submission of periodic Budget Accountability Reports (BARs).

Obligations and Disbursements. Obligations are liabilities legally incurred and committed to be paid for by the government immediately or in the future. Examples of obligations incurred are salaries due to agency employees or when the agency enters into contracts for the purchase of goods or services. Allotments issued to agencies essentially sets the ceiling of how much the agency can obligate.

Disbursements, on the other hand, refer to the actual withdrawal of cash from the National Treasury due to the encashment of checks issued by the agencies as payment for obligations. Agencies are issued the NCA which specifies the amounts that can be withdrawn out of the allotments released for to the same.

The head of agency and the financial officers have the responsibility of ensuring that obligations incurred and the disbursement of cash satisfy legal requirements as prescribed in pertinent budgeting, procurement and accounting laws, rules and regulations.

5.2.4 Budget accountability

Performance and Target Outcomes. Government agencies are held accountable not only for using public funds ethically, but also on how agencies attain performance targets and outcomes using available resources. These performance measures are set alongside the preparation of the national budget; and these are indicated in the Organization Performance Indicator Framework (OPIF) Book of Outputs. Performance targets are firmed up during the preparation of Budget Execution Documents (BEDs).

Budget Accountability Reports. BARs show how agencies used their funds and identify their corresponding physical accomplishments, including:

- quarterly physical and financial reports of operations
- quarterly income reports
- monthly statement of allotments, obligations and balances
- monthly report of disbursements.

Review of Agency Performance. The DBM regularly reviews the financial and physical performance of agencies. Actual utilization of funds and physical accomplishments are evaluated against their targets as identified in the OPIF and in the BEDs. Agency Performance Reviews are conducted quarterly or every semester. Meanwhile, an annual Budget Performance Assessment Review determines the agency's accomplishments and performance.

Audit. The Commission of Audit (COA) and the DBM ensure that government agencies comply with the New Government Accounting System (NGAS) and that these agencies are subjected to audit. The DBM uses COA's audit reports to confirm agency performance, determine budgetary levels for agencies, and address issues in fund usage.

6 Part D: Financing

6.1 Project Financing

This section covers the financial and procurement procedures and regulations associated with administering the program fund. This includes the procedures involved in **obtaining financing** for the proposed sewerage/septage project that starts with the identification of financing requirements, followed by the process of s**ecuring equity and loan financing** and, finally, the implementation of **cost recovery mechanisms**.

Guidelines on procurement planning to identify the sequence of contractual inputs are articulated in a draft procurement plan template. This includes defining roles and responsibilities in the procurement cycle, and specifications and bid documents for specific facility projects. The procurement procedures are in conformity with the GOP guidelines and typical donor requirements.

Sewerage projects require huge capital investments and LGUs cannot implement them on their own. As such, the National Government through the NSSMP will provide financial support up to 40% of the total project cost. This chapter of the Manual will **provide the LGUs and WDs with options for financing sewerage projects**.

The objectives of the Financing Module are as follows:

- to define the steps in financing sewerage projects to be implemented by LGUs and WDs; and
- to describe how LGUs can access the national government cost share through DPWH.

Three (3) major steps are involved in the financing of sewerage projects:

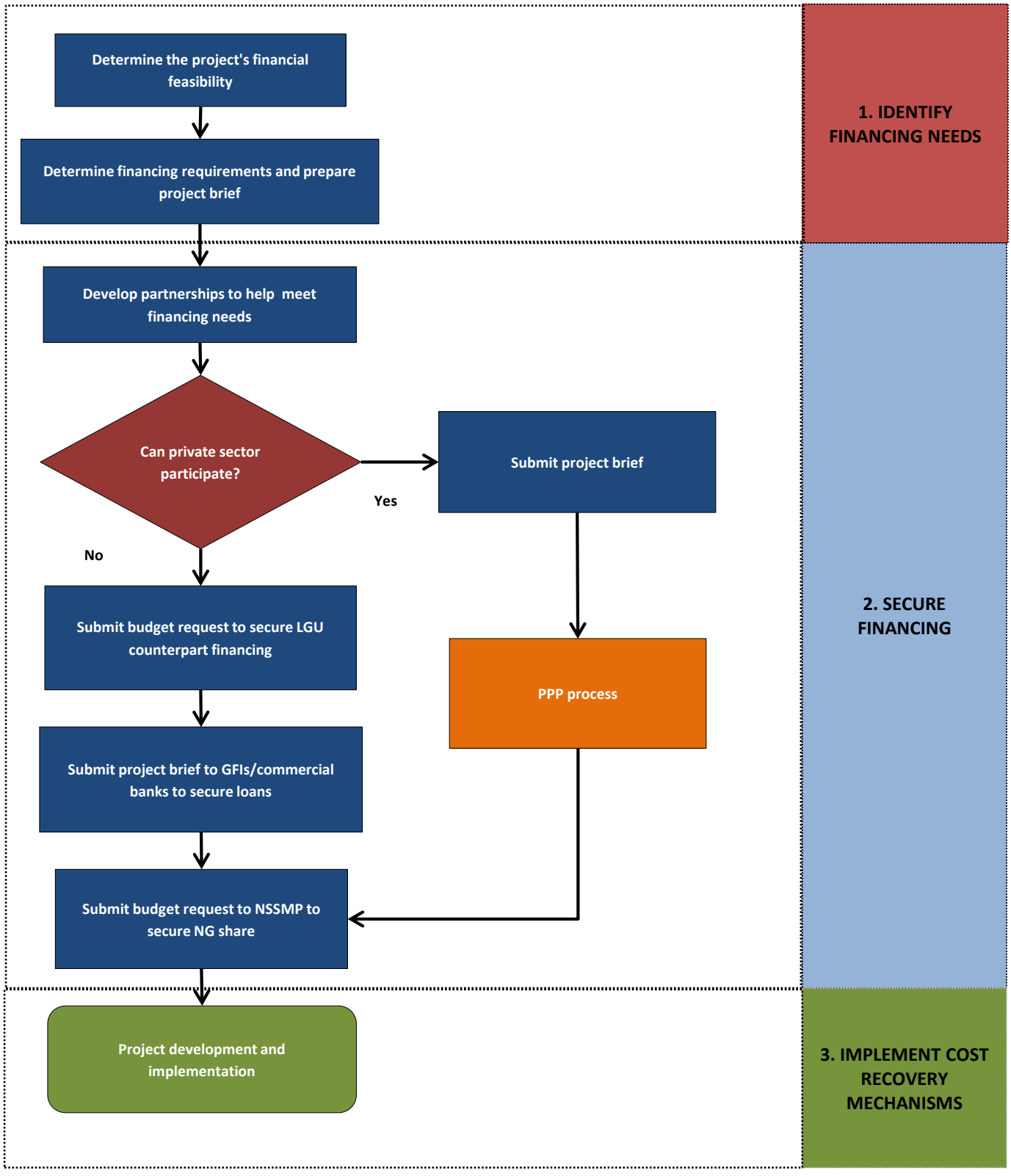
a) identifying financing needs

b) securing finance

c) implement cost recovery mechanisms.

6.1.1 Process workflow and description

Figure 41: Financing Process Workflow



Identifying financing needs

Determine the project's financial feasibility

The first step involves the determination of the project's **financial feasibility** and its **financing requirements**. Initially, the NSSMP financial toolkit described in Section 4.4. (Project Feasibility) can be used to conduct a preliminary assessment of financial feasibility in which the financial spreadsheet is used to calculate the financial data, including the project's Internal Rate of Return (IRR) and the Net Present Value (NPV), to prove that the project is financially viable. The NSSMP Local Project Office, through the Economic/ Financial Specialist, should be able to undertake this preliminary financial assessment.

Determine the financing requirements

The project's financing requirements can be determined through the use of the financial toolkit. The **appropriate financing mix** (equity and loan financing) can be established. The financing mix should result in financial indicators that will show the project's financial viability, e.g., the project's **Internal Rate of Return** (IRR) greater than the **Weighted Average Cost of Capital** (WACC).

In case a full-blown feasibility study of the proposed sewerage project is already available, the Local Project Office can validate the results of the feasibility study and recommend the appropriate equity and loan financing mix. The financial model used in the feasibility study has to be examined, and the assumptions and the resulting financial indicators validated.

Prepare project brief

After determining the financing requirements, the Local Project Office should prepare a project brief. A project brief is a standard way of **communicating project details** with stakeholders, elected officials and potential funders. It is more detailed than the project concept note and has more in-depth discussion about the project goals, components and budgetary requirements. It is generally a three to five page document (plus attachments) that summarizes the proponent information, project objectives, major features of the project, project beneficiaries, and the anticipated project budget. A standard format ought to be used as this makes it easier for reviewers and evaluators to quickly identify the main features of the project. A suggested outline of the project brief is shown in the Project Concept Note in Section 8.3.1.

The project brief should be submitted and presented to the following:

- LGU officials/ Local Sanggunian – to secure approval of the LGU counterpart financing
- Government financial institutions (GFIs) and commercial banks – to obtain loans from these institutions
- NSSMP Project Office – to secure approval of the NG share for the project
- Private sector investors and Water Districts – to convince and invite them as potential partners in implementing the sewerage project.

Secure financing

Develop partnerships to help meet financing needs

LGUs are expected to spearhead the implementation of sewerage projects in highly urbanized cities (HUCs). However, since water supply and sanitation services in most of these LGUs are managed by Water Districts (WDs), it is important that the LGU and the WD establish a partnership in order to successfully finance, construct, and operate the sewerage system. An example of an arrangement is that the LGU will acquire the land for the sewerage treatment plant, pass the local sewerage/septage ordinance, and secure the NG financing share for the project, while the WD will manage the construction, operation, and maintenance of the sewerage system.

To formalize their partnership in implementing the sewerage or septage project, the **LGU and the WD may enter into a Memorandum of Understanding (MoU)** that defines, among other things, the r**esponsibilities** of each party, **cost and risk sharing** arrangements, **revenue allocation**, and other relevant provisions.

The LGU and the WD may also establish **partnerships with private sector investors**. These can be in the form of a concession agreement, management contract, joint venture agreement or any other BOT scheme that would be suitable and acceptable to the parties involved. The PPP scheme for LGU sewerage projects is described in more detail in Section 6.2.

It has to be noted that even if the PPP scheme is selected, the LGU may still avail of the NG cost share but the level of NG subsidy may be lower depending upon the requirements to make the project financial feasible. In effect, the NG subsidy will be in the form of a viability gap fund (VGF).

Submit budget request

With the project concept and feasibility study in place, the proposed sewerage investment should be considered as a priority project of the LGU. Hence, the City Planning and Development Office (CPDO) or the City Engineer's Office will **include the sewerage project in the Local Expenditure Program** which the Local Chief Executive (LCE) will consolidate and **submit to the Local Sanggunian for approval**. The local budgeting process is discussed in Part 5.

Submit project brief to GFIs/commercial banks to secure loans

In most cases, the LGU and the WD are unable to provide equity financing for sewerage projects. They will require **loan financing** from various sources. In the case of the LGUs, they can source their loan financing from the Municipal Development Fund Office (MDFO), from government banks such as DBP and Land Bank, and commercial banks. For WDs, they can borrow from the Local Water Utilities Authority (LWUA). In the event that LWUA cannot provide loan financing to the WD, the WD should get an exemption from LWUA (if the WD has existing loans from LWUA) to be able to access loan financing from government or commercial banks. Possible sources of financing are discussed in Annexes.

Submit budget request to NSSMP to secure NG share

To apply for the national government cost share, LGUs will need to **first secure financing for the local portion**, which can include counterpart financing from the Water District and loans from MDFO, government or private financing institutions. The LGU will then **submit their plan and proof of financing to DPWH**, which will review and rank the projects according to a simple ranking system discussed in Section 4.5 (Project application and selection). Once approved in principle by DPWH, the project will be included in the **department's annual budget request** and go through the budget process for Congressional then Presidential approval. When the budget is approved, it will be released to the LGU according to the implementation schedule approved by DPWH.

The DPWH reviews the proposal and approves those that are found to be eligible for NG cost sharing. When national cost share has been approved and budgeted, the LGU will develop a financial plan with the NSSMP Office to determine when drawdowns and disbursement will be made, and how the project will be implemented. Subsequently, the DPWH endorses the fund release to LGUs according to the schedule of drawdowns and disbursements specified in the submitted financial plan.

Implement cost recovery mechanisms

Cost recovery is essential for **ensuring that wastewater services will be sustainable**. Local implementers may charge user fees not just to meet cash flow needs but also to achieve full cost recovery over the long term.

For effective pricing, the local implementer will need to consider affordability, willingness to pay, and the effects of the pricing scheme on the revenues. They can establish user willingness to pay by conducting surveys.

A common way to **collect user fees is through the water bill**. Each property owner **pays for both water and sewerage or septage management** services through their monthly utility bill. This minimizes the need for another administrative structure and system to implement the program. **This approach works well if a Water District is present and involved in providing sanitation services**.

An alternative approach is the **collection of environmental fees** from residential and commercial water consumers. An ordinance has to be passed to enable the LGU to collect the environmental fees. Environmental fees are also collected in tourism areas where tourists are required to pay a certain amount before they can enter a resort or a tourist attraction.

6.1.2 Participating agencies

Action	Action Description	LGU Institutions/ Officers Responsible	Timeframe
Identify financing needs	Determine the project's financial feasibility	City Planning and Development Office (CPDO) NSSMP Local Project Office	1 month
	Determine financing requirements and prepare project brief	CPDO NSSMP Local Project Office	1 month
Secure financing	Develop partnerships to help meet financing needs	LGU	1 to 2 months
	Submit budget request to secure LGU counterpart financing	CPDO LCE	1 to 3 months (including approval)
	Submit project brief to GFIs/commercial banks to secure loans	LGU	3 to 6 months (including approval of loan)
	Submit budget request to NSSMP to secure NG share	LGU	1 to 3 months (including approval)
Implement cost recovery mechanisms	Project development and implementation	LGU	

6.1.3 Training requirements

Organization	Unit	Knowledge and Skills Required
DPWH	NSSMP Project Office	• financial structure possibilities • concession agreement
LGUs	Project Office MPDO Local Health Office	• financial structure possibilities • concession agreement
WDs	All	• financial structure possibilities • concession agreement

6.2 PPP Option

Proposed sewerage and septage projects can be undertaken through three modes of implementation: (i) an LGU can implement the project alone; (ii) the LGU and a Water District can form a partnership to implement the project; or (iii) the LGU can implement the project with a private sector partner. In the case of the latter, the evaluation and implementation of PPP projects has to be consistent with RA 7718, also known as the "Amended BOT Law".

The objectives of this section of the Manual are:

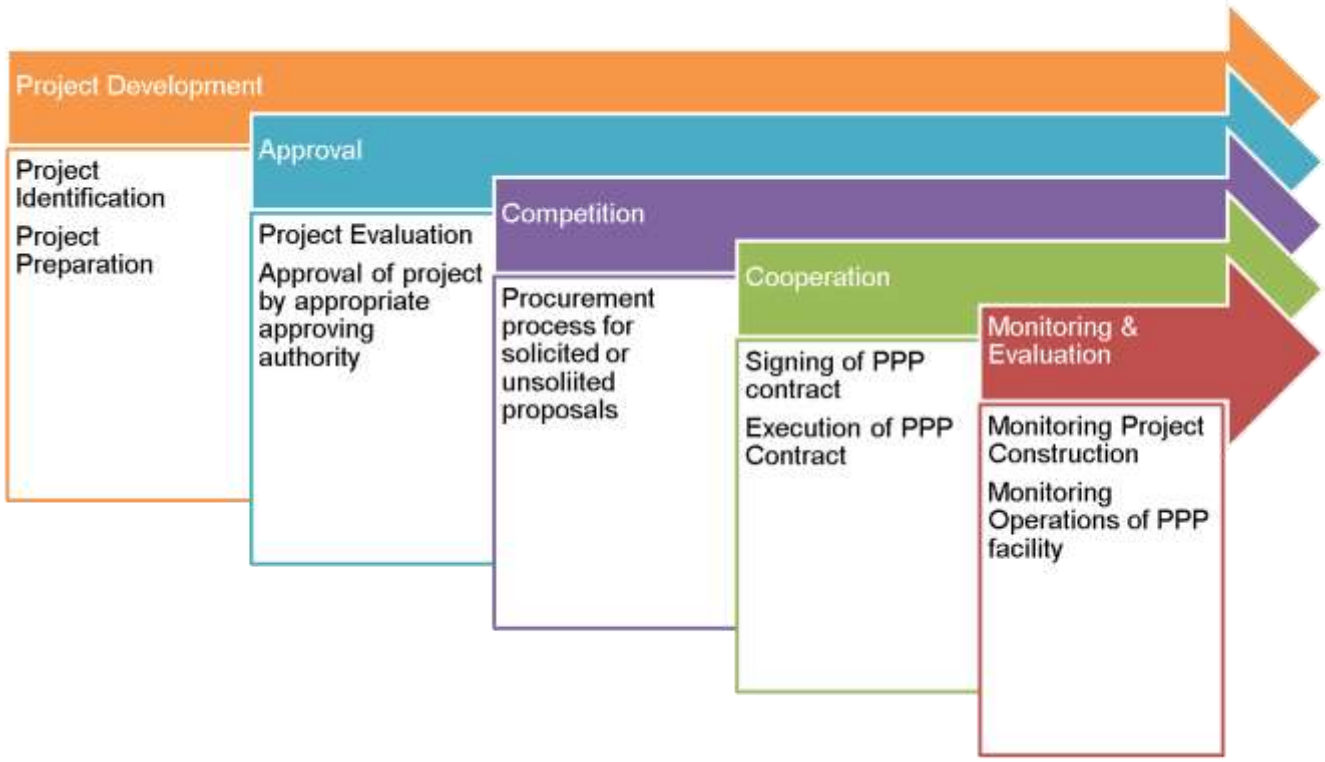
- to provide a better understanding of the project development and evaluation process for PPP projects; and
- to describe the steps to be undertaken in evaluating solicited and unsolicited PPP proposals

6.2.1 Participating agencies

Action	Action Description	LGU Institutions/Officers Responsible	Timeframe
Development Phase	Project identification	City Planning and Development Office *or* LGU End User Unit	varies
	Project preparation	City Planning and Development Office *or* LGU End User Unit	varies
Approval Phase	Evaluation and approval by appropriate authority of the proposed PPP project	President, Investment Coordination Committee Regional Development Council, City Development Council, Provincial Development Council, Municipal Development Council	30 calendar days
Competition Phase	Procurement process for solicited or unsolicited proposals	End User Unit LGU Prequalification Bid and Awards Committee (PBAC)	Solicited proposals: ▪ Option 1: 304 - 349 calendar days ▪ Option 2: 244 - 274 calendar days Unsolicited proposals: 416 calendar days
Cooperation Phase	Parties adhere to provisions of PPP contract	End User Unit LCE	varies
Monitoring and Evaluation	Monitoring the construction and operations of the PPP facility	End User Unit	varies

6.2.2 Process workflow and description

Figure 42: PPP Process Workflow



Project Development

The project development phase undertaken by the LGU commences as soon as development targets and programs have been identified by the LGU, based on the goals and strategies of its development plans approved by the local development council. During this phase, an LGU identifies priority projects that will be programmed for implementation during the three-year administration of the Local Chief Executive (LCE) and subsequently selects the projects that are most appropriate for PPP implementation.

The LGU then undertakes an in-depth **due diligence analysis** of these projects for the following reasons:

- The LGU **must be assured** that the proposed **project is technically, economically and financially viable** and has no major risks or negative social and environmental impacts. Most LGU projects are multi-user projects, hence, the project revenues, costs and cash flow available for debt service are interrelated metrics that are difficult to forecast and are subject to business cycle risks.
- The LGU **must be cognizant** of all possible **risks and how best to allocate and mitigate those risks**. The scope and content of any financial support from the LGU must be clearly defined for such projects, all possible options analysed and the impact on local budget ascertained.
- The LGU **must be assured** that the **bid documentation** components will lead to a **successful and competitive PPP tender**.

Project Identification

This phase involves **classifying PPP and non-PPP projects**. It may coincide with the beginning of each new administration, when the local development plans are prepared together with annual investment programs. PPP projects should be identified for potential inclusion in the local development plan, based on the following criteria:

- commercial sustainability
- potential development impact

- moderate complexity
- high operating costs relative to total project costs
- other planning and policy inputs.

Various PPP contract types are available, including: a) service contracts; b) management contracts; c) lease contracts; d) concessions; e) BOT; and f) joint ventures. The basic features of these PPP options are shown in Annexes.

Project Preparation

A well-prepared PPP project proposal should consists of 5 components:

- Technical Assessment Study
- Demand/Market Study
- Social Cost-Benefit Analysis
- Environment, Social and Gender Impact Analysis
- Financial Analysis.

Approval

After the development stage, projects undergo the appraisal and approval process. Depending on their scale, **proposed projects are evaluated** by various local and national approving bodies, as described below.

Table 23: Evaluation and approval of projects

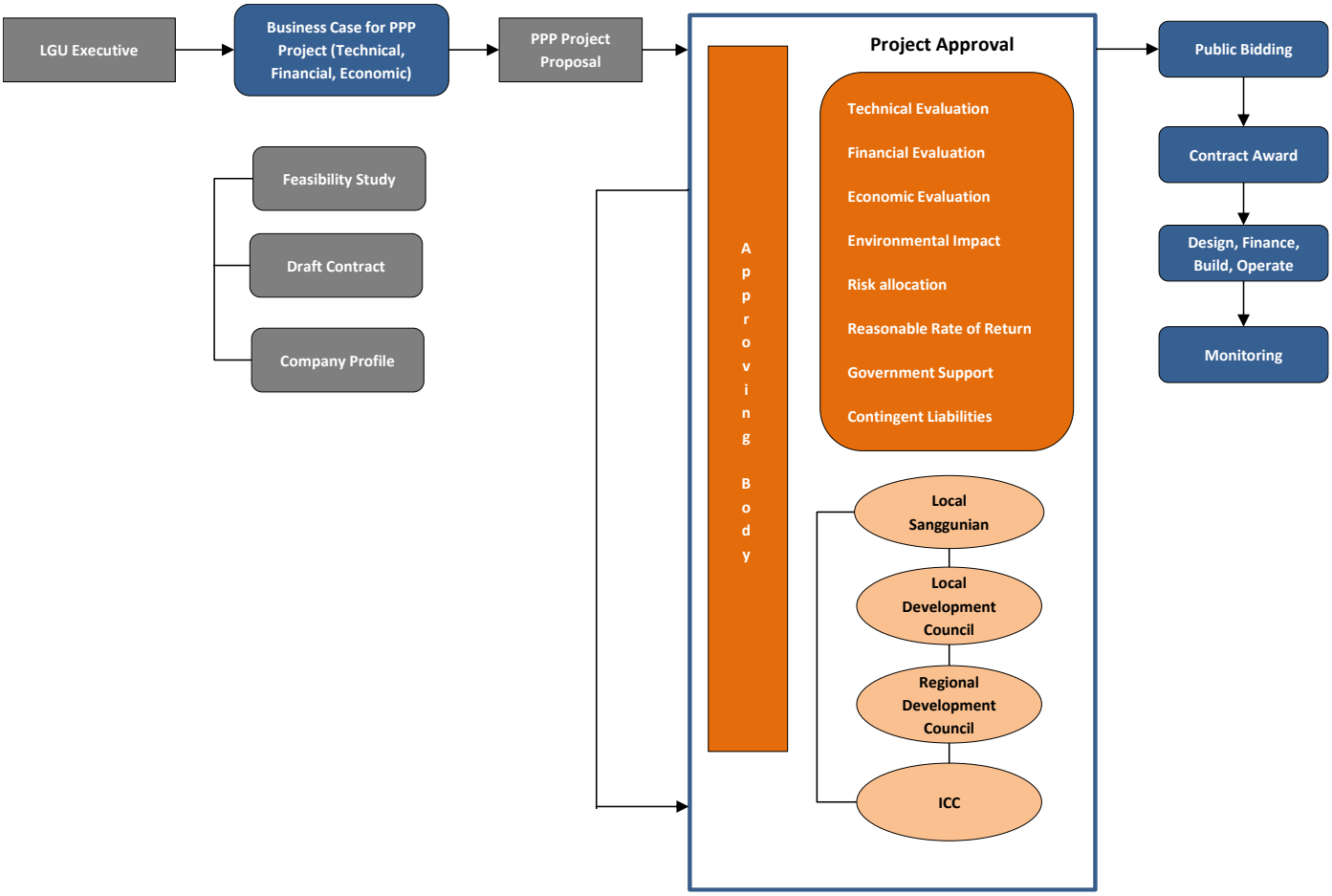
Project Type/ Cost	Approving Authority
All Build-Operate-Own projects and other schemes not defined in Section 2 of RA 7718, subject to the recommendation of the NEDA Board's Investment Coordination Committee	President
Local projects costing above PhP 200 million All unsolicited proposals regardless of project cost	Investment Coordination Committee (ICC)
Local projects costing above PhP 50 million up to PhP 200 million	Regional Development Council
Local projects costing up to PhP 50 million	City Development Council
Local projects costing above PhP 20 million up to PhP 50 million	Provincial Development Council
Local projects costing up to PhP 20 million	Municipal Development Council

The BOT Law prescribes two implementation tracks: competitive bidding and unsolicited proposal. Each track has a distinct approval process.

Competitive Bidding.

On this track the LGU is required to **undertake identification** of the project and pr**eparation of the project proposal**, and is responsible for (i) determining project feasibility; (ii) securing project approval; (iii) packaging the PPP project arrangement and conducting the public tender; (iv) entering into the PPP contract; and (v) monitoring the contract execution. The process flow for competitive bidding is shown in the next figure.

Figure 43: Approval Process for Competitively-bid Projects

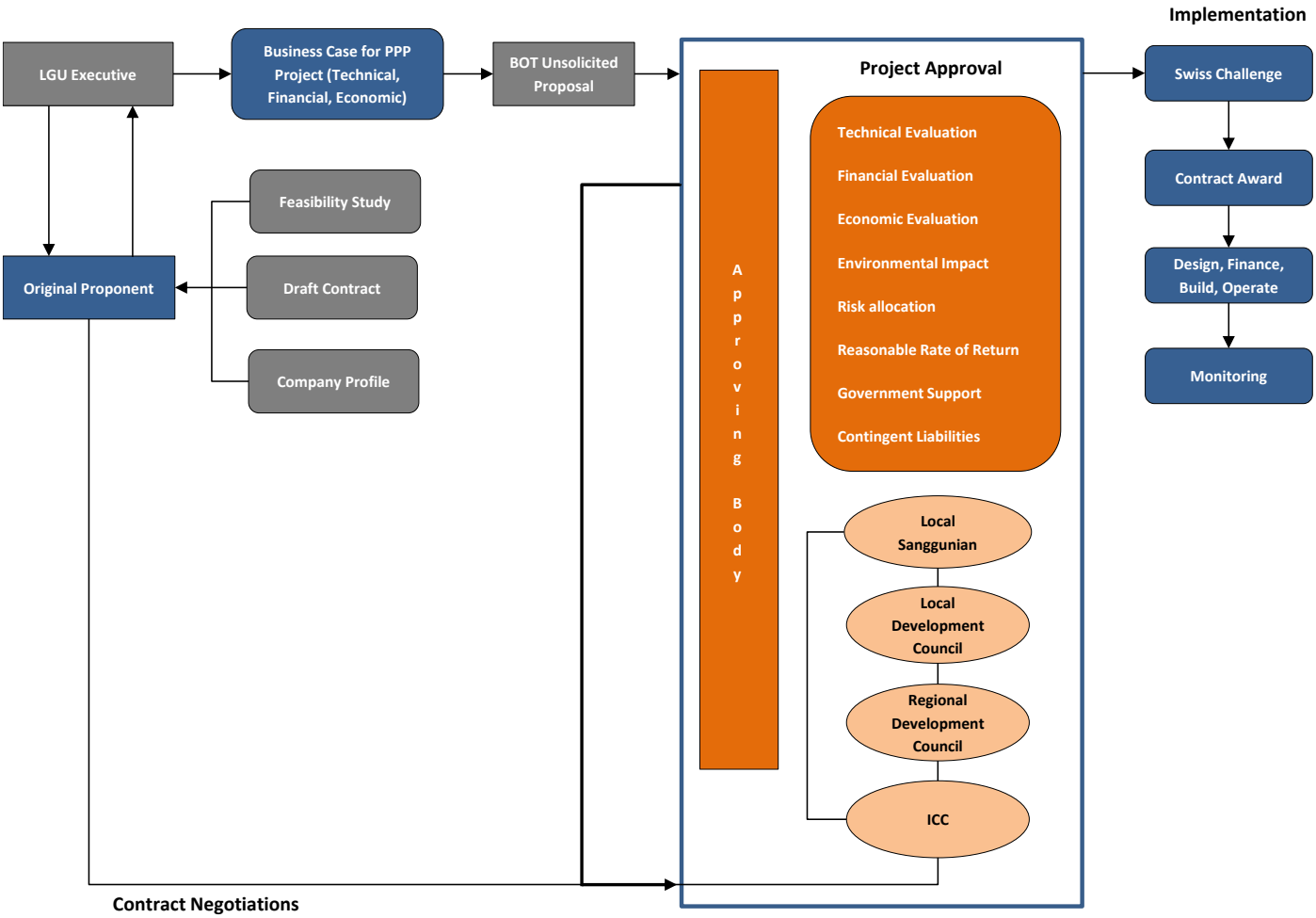


(Source: PPP Manual for LGUs)

Unsolicited Proposals.

The process for unsolicited proposals also starts with **project identification** and preparation of the **feasibility study**, but these are **undertaken by a private project sponsor**. The latter is expected to submit company information that will be used for qualification, a feasibility study and the proposed contractual arrangement that will be used to evaluate whether to accept or reject the proposal. If the proposal is accepted, the LGU will secure project approval. The approving authority sets a reasonable rate of return and the negotiation parameters. The LGU then negotiates the project scope, implementation arrangements and terms of contract with the private sector sponsor. If negotiations are successful, the LGU goes back to the approving authority for final approval of the project. Upon approval, the LGU then launches a Swiss challenge or price test. The Swiss Challenge is akin to a competitive bid. The only difference is that the original proponent is given the right to match the winning bid. The proponent is automatically awarded the contract if it is the winning bidder or if it is able to match the challenger's bid. The process flow for unsolicited PPP proposals is shown in next figure.

Figure 44: Approval Process for Unsolicited Proposals



(Source: PPP Manual for LGUs)

Determining project feasibility

The review and appraisal of a project leading to an investment decision focuses on different aspects which should have been addressed by the feasibility study. Essentially, project appraisal is one of the mechanisms for check and balance in allocating scarce LGU resources for projects, e.g. in ensuring that the project is meritorious and will help achieve the government's goals and objectives. Items to be reviewed during project appraisal are shown in budget and financing annexes.

Competition

Procurement for Solicited PPP Proposals

Solicited proposals originate from the LGU. It follows the project preparation or feasibility study stage, and appraisal or project approval. Solicited proposals are projects that have been identified from the regional/provincial/local development investment programs and approved by the local Sanggunian and the appropriate local development councils or the Investment Coordination Committee for PPP implementation.

For a solicited proposal, the procurement may involve one of two options (as provided for under RA 7718):

- ***Option 1***. Under this option, the procurement process has four distinct steps: (1) prequalification; (2) tendering; (3) submission; and (4) receipt and opening of bids.
- ***Option 2***. Prequalification is incorporated in the tendering step and followed by the submission, receipt and opening of bids. In short, the qualification documents are simultaneously submitted together with the technical and financial proposals.

Under Option 1 the procurement process consists of the following steps:

- project identification and preparation
- approval by the approving body
- advertisement/invitation to pre-qualify and bid
- preparation of pre-qualification documents
- pre-qualification of bidders
- request for proposal/bid preparation
- bid submission and evaluation
- approval of contract award
- issuance of notice of award
- execution/approval of contract
- issuance of notice to commence implementation.

Option 2 is preferred in instances that need immediate action or intervention of government. Option 2 allows for qualification documents to be simultaneously submitted with the technical and financial proposals. The procurement process under Option 2 comprises the same steps as in Option 1, except that the preparation of pre-qualification documents and pre-qualification of bidders are no longer undertaken.

Procurement for Unsolicited PPP Proposals

Unsolicited proposals originate from the private sector. These are project proposals that involve a new concept or technology or a project that is not in the list of priority projects of the LGU. It is not in response to a formal solicitation or request issued by the LGU to undertake infrastructure or development projects. This type of proposal reflects the perception of the private sector on how it might address a development gap or a prevailing issue in the LGU. The procurement process involves the following steps:

- submission of a complete proposal
- evaluation of the proposal
- negotiation with original proponent
- approval of the project proposal and contract
- adjustments of fees/charges
- acceptance of terms and conditions by the original proponent
- issuance of invitation for comparative proposals
- preparation and submission of comparative proposals
- evaluation of proposals
- determination of the winning proponent
- approval of contract award
- issuance of notice of award
- execution/approval of contract
- issuance of notice to commence implementation.

Cooperation

Several elements need to be set in place to **ensure** a **synergistic environment for a PPP project**. These include:

- **Policies** should strike a **balance** between **public welfare** on the one hand, and **private investor interests** and **investment protection** on the other.
- **Risks** should be **identified and prudently allocated**.
- **Contracts** should be crafted in a way that **clearly delineates roles**, **responsibilities** and **deliverables** between the parties involved and assigns risk coverage.
- The establishment and implementation of the PPP facility should be pursuant to the provisions agreed upon by both the LGU and the private investor.

During the cooperation phase, both parties adhere to the arrangements specified in the signed PPP contract. It is therefore critical that the LGU ensures that the concession agreement is duly complied with in accordance to the identified roles and obligations of both parties. The LGU needs to be mindful of the provisions of the PPP contract, particularly the following:

- construction provisions
- operation provisions
- transfer of project, if applicable
- tariffs to the end-user
- the quantity and quality of contracted goods or services
- performance standards.

Monitoring and Evaluation

Monitoring and evaluation cut across the different phases of the PPP framework. Section 4.9 of this Manual provides detailed guidance on the monitoring, evaluation and reporting of a project's operations, performance and impacts.

As the PPP project is developed and approved, the LGU is responsible for ensuring that contract provisions are duly implemented from the start of construction to the operation of the proposed project. The issuance of Notice to Proceed by the local chief executive formally marks the beginning of the implementation phase. It is at this point that the LGU takes on the primary responsibility of coordinating PPP project-related activities, ensuring compliance by the private partner to the agreed upon technical specifications, and monitoring the construction and operations of the PPP facility.

6.2.3 Training requirements

Organization	Unit	Knowledge and Skills Required
DPWH	NSSMP Project Office	• financial PPP schemes • PPP evaluation • PPP monitoring • PPP procurement processes
LGUs	Project Office Municipal Planning & Development Office Local Health Office	• financial PPP schemes and processes
WDs	All	• financial PPP schemes and processes

6.3 Financing Schemes

Following table illustrates different manners to finance the sanitation project. There are five main parts to be financed namely pre-feasibility study, design, construction operation and debt repayment.

- The base-method to finance sanitation projects is by NSSMP grant, plus LGU budget, plus loan for the CAPEX and by the tariff for OPEX.
- By organizing a PPP.

Table 24: Financing schemes

Financial Source	Pre-Feasibility Study	Design	Construction	Operation	Debt Repayment
NSSMP	90%0	90%	40%		
LGU Budget	10%	10%	30%		
Loan			30%		
Tariff				100%	100%

With PPP Scheme

Financial Source	Pre-Feasibility Study	Design	Construction	Operation	Debt Repayment
NSSMP	40%0	40%	40%		
LGU Budget	10%	10%	10%		
Loan			30%		
Private Operator	50%	50%	20%		
Tariff				100%	100%

7 Part E: Communication

It is in the area of behavior change where communication forms a significant part of the support component of the NSSMP. Communication is conceived as a **social intervention** capable of **transforming the behavior** of the stakeholders from unfavorable to favorable ones that are consistent with the targets and objectives of NSSMP. Furthermore, communication can be designed **to help fulfill a directed social change**. This is reached by creating a **climate of acceptance of the program** and of **compliance to its requirements among the stakeholders**. When designed strategically, communication can:

- provide the stimulus to encourage stakeholders to learn more about the NSSMP;
- acquire more information about the various phases of program implementation and what it entails for them and other stakeholders; and
- help ascertain what they need and expect and, thus, **help program implementers manage such expectations**.

The communication component of NSSMP aims to help bring about behavior change among two groups of

stakeholders: the “doers or local implementers” and the “influencers”.

As mentioned earlier, the “local implementers” include the HUCs, LGUs, WDs and other private service providers. The “influencers” refer to the households and commercial or industrial firms in a given locality who are the “point sources” or generators of the septage that has to be treated and managed.

Dealing with these two groups of intended audience, the communication component of NSSMP will be divided into (a) a national communication strategy for HUCs, LGUs, WDs and private service providers as the intended audience, and (b) a local communication strategy for households and commercial/industrial establishments in a given locality. The one for the local level can only be developed once the pilot HUCs have been selected and the process will form part of the HUC's preparatory work in preparing their project proposals.

7.1 NSSMP National Communication Strategy

The national communication strategy aims to **encourage local implementers** to (a) “buy into” **the goals** of the NSSMP; (b) bring them to a stage where they would have the **necessary commitment**; and (c) take the **final action to invest in**, **build**, **operate** and **manage** on a **sustainable basis appropriate septage and sewerage infrastructure** in their respective localities.

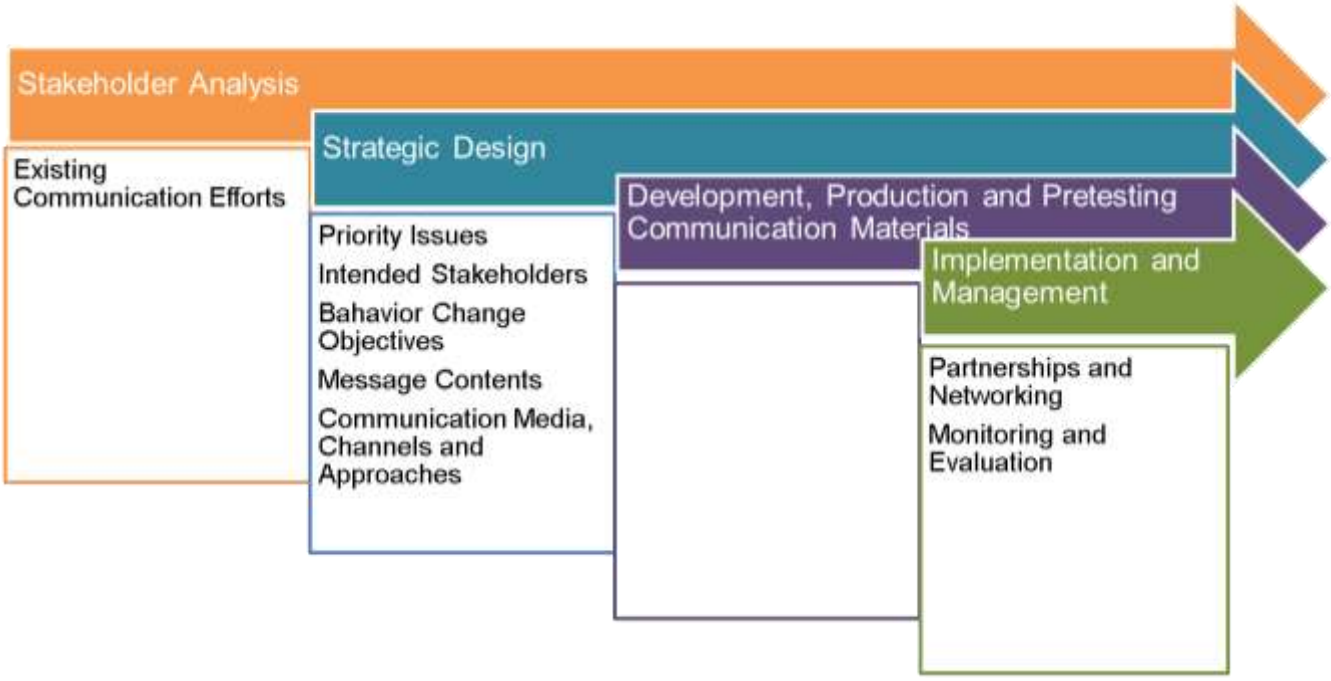
In summary, communication is a process that will need to continue throughout the life cycle of sanitation projects (see Section 2.1), from the first steps of encouraging potential local implementers to take an interest in the NSSMP, and its goal and opportunities, to involving local communities in the prioritization of sanitation concerns (stakeholder consultations), and through project conceptualization and development, to obtaining community feedback on the performance of sanitation facilities and systems, and the quality and cost of services. The recommended approach for the initial phase of the communication strategy, targeted at local implementers, is discussed and outlined in this chapter.

7.1.1 Participating agencies

Institution	Role
Department of Public Works and Highways (DPWH)	Oversee the overall planning and implementation of the communication strategy for NSSMP
Department of Health (DoH)	Administer health education programs Provide a training and promotion campaign for the NSSMP
Department of Education (DepEd) Commission on Higher Education (CHED)	Incorporate septage management and sewerage-related concepts and practices into the school curricula.
Public Information Agency (PIA)	Develop and implement IEC programs for development projects of the Government Incorporate the promotion of septage management and sewerage in Government information campaigns
Environment Management Bureau (EMB) of DENR	Conduct public information and education on water quality issues and practices
Local Water Utilities Administration (LWUA)	Assist in the dissemination of information to and capacity building of all water districts in the country concerning NSSMP
Department of Interior and Local Government (DILG)	Assist in the dissemination of information to and capacity building of HUCs/LGUs in the country concerning NSSMP; facilitate LGU compliance

7.1.2 Process workflow and description

Figure 45: Communication Strategy Process Workflow



Stakeholder Analysis

The behavior change continuum for the local implementers of NSSMP is patterned after the **Knowledge-Approval-Intent-Practice-Advocacy (KAIPA)** guide. It recognizes that people usually move through several intermediate steps before they change their behavior entirely. These steps are (a) acquiring **K**nowledge, (b) gaining

Approval or **A**cceptance of what is being offered or proposed, (c) reaching a point of **I**ntention to take up the offer, (d) adopting its proposed **P**ractice, and (e) eventually **A**dvocating to, and sharing the experience with, others. It is important to distinguish between these stages, as each requires different information or messages, treatment, communication channels and communication approaches.

Since NSSMP is a new program, it can be safely assumed that local implementers still have a low level of knowledge, approval, and interest; have not invested in infrastructure; and have no experience yet as basis for their advocacy on sewerage and septage management.

Table 25: KAIPA Analysis of Local Implementers

KAIPA	HUCs	WDs/other Service Providers
Knowledge	Low	Low
Approval	Low	Low
Interest	Low	Low
Practice	No investment in infrastructure yet	No investment in infrastructure yet
Advocacy	No experience as basis for advocacy	No experience as basis for advocacy

Existing Communication Efforts and Resources

The communication should build upon the existing communication initiatives of other programs and agencies in the locality as they relate to septage management and sewerage. For example, DoH has already developed a national communication plan for water quality and sanitation (WATSAN). These and other efforts listed in Table 22 should be incorporated into the strategy design process so that they reinforce NSSMP communication efforts. This integration also requires establishing a more formal working relationship with the agencies concerned

Table 26: Current Communication Efforts Related to the NSSMP

Agency	Communication Effort
DoH	DoH has already developed the "Health Promotion and Communication Plan for Water and Sanitation" (WATSAN), complete with prototype communication materials for specific stakeholders or audience. It has also developed toolkits for public awareness and promotion of sustainable sanitation for LGUs.
EMB	EMB's Environmental Education and Information Division (EEID) conducts campaigns focusing on safe/clean water and water quality management. Since 2005 EMB has been conducting numerous public awareness campaigns and has produced a considerable number of different types of communication materials to educate the public on the link between environment, health and livelihood.
DepEd	In partnership with DoH, DepEd has started incorporating concepts and practices in water quality, sanitation and hygiene (WASH) in the curriculum at various levels from kindergarten to grade 10. Teaching materials will be developed and produced and teachers trained on how to use the modules.
PIA	As a government communication agency, it provides assistance in conceptualizing communication materials, organizing press conference, distributing press releases, and TV airing of NSSMP plugs or advertisements in the government-owned TV channel.

For the feasibility of any formal partnership for the NSSMP communication effort, an analysis of the six institutions based on the five Cs as criteria was undertaken. The results are shown in Table 23. The 5 C's refer to competence, commitment, clout, coverage and continuity.

Table 27: Assessment of Strategic Partners Based on the 5 Cs

5 Cs	Assessment
Competence	All six agencies have relatively strong communication and management staff, a solid experience with similar activities, and a positive image and reputation for quality work. DoH is highly trained on communication and promotion.
Commitment	While all have indicated commitment to serve as communication partners for NSSMP, a unanimous concern was the provision of budget. They are willing to participate as long as there is clear budget support for NSSMP communication activities.
Clout	Among the agencies, PIA has strong clout with media networks, being the Government's information dissemination arm. It can help organize press conferences and gather the press and media practitioners at one time.
Coverage	Through their bureaucracy, all agencies have counterpart communication units at the regional and district levels. But they noted that the level of communication resources and expertise decreases downwards at the local level.
Continuity	All agencies have the institutional base and resources for sustainability, but expressed the desire that the communication budget be increased to help them in undertaking a more robust communication effort for the NSSMP.

Strategic Design

Based on the results of the situation analysis, the strategic design is configured to depict the overall communication strategy. This is done in terms of priority issues to addressed, stakeholders to be targeted, behavior change or objectives to be pursued, messages to be communicated, channels and media to be used, and communication approaches to be employed.

Priority Issues

The national issues to be addressed by NSSMP include (a) a low level of awareness and demand from the public, (b) low technical capacity among service providers, (c) lack of enforcement of regulations by Government agencies, and (d) the limited resources of service providers.

This communication strategy is primarily focused on the issue of low level of awareness and demand, and the related issue of the public's willingness to pay for these services.

Intended Stakeholders

In the context of NSSMP, those whose behaviors, decisions and actions would directly influence the outcome of the program are considered the primary intended stakeholders. These are the local implementers: HUCs/LGUs, WDs and private service providers.

Behavior Change Objectives

Behavior change is a process or a continuum, and does not happen overnight. Guided by KAIPA, the desired behavior change must be hinged on the issues. As such, the objectives of the communication strategy should focus on what the stakeholders should be able to do *after* exposure to the communication activities.

Table 28: Behavior Change Objectives for Intended Stakeholders

Behavior Change Objective	HUCs, LGUs, WDs, Private Service Providers (Local Implementers)
Knowledge	• Identify the environmental, economic and social losses of poor septage and sewage management. • Recognize the environmental, economic and social benefits of improved septage and sewage management. • Identify NSSMP services or offers which they can avail of.
Approval/Acceptance	• Acknowledge their mandates and roles in septage and sewage management. • Appreciate the benefits derived from improved septage and sewage management for their institutions and the general public.
Intent	• Apply for government assistance (technical, financial, etc.) through DPWH to establish proper septage management and /or sewerage infrastructure.
Practice	• Build, operate, manage and sustain the sanitation facilities and services.
Advocacy	• Share lessons learned and benefits with other HUCs/LGUs, WDs and private service providers.

Message Contents

Preferably, message contents should correspond one-to-one with behavioral objectives. The following table identifies the key message contents for each stage in the KAIPA guide.

Table 29: Message Contents for Local Implementers

Behavior Change Objective	Message Content
Knowledge	Environmental, economic, and social losses of poor septage and sewerage management Environmental, economic, and social benefits of improved septage and sewerage management NSSMP as government's response to maximize health and environmental benefits of improved septage and sewerage management (goals, objectives, scope, targets, strategies, roll out)
Approval/Acceptance	Mandates and roles of HUCs, LGUs, WDs, and private service providers in septage and sewerage management in the country Benefits derived from improved septage and sewerage management that would accrue to the institutions and the general public Qualifications for application to NSSMP grant and assistance
Intent	Government assistance (technical, financial, etc) for septage management and/or sewerage infrastructure [technical requirements, project planning, project financing, PPP evaluation] Step-by-step process for grant application [project selection, procurement and tendering]
Practice	Guidelines for the construction, operation, management and sustainability of facilities and services [project management, budgeting and expenditure, operations monitoring, water quality impact monitoring, environmental and social safeguards]
Advocacy	Lessons learned and benefits from NSSMP Best practices in septage and sewage management

Communication Media, Channels and Approaches

The choice of communication media and channels to be used at each KAIPA stage is guided by the general rule: "there is no single best medium." Communication is always more effective if a combination of media or channels are used. However, in terms of cost-effectiveness, more mass media should be used at earlier stages of KAIPA (i.e. for awareness raising and approval) and more interpersonal or face-to- face communication in the latter stages (to concretize intent and guide correct practice or adoption).

Figure 46: Media Mix and Complementation Guide

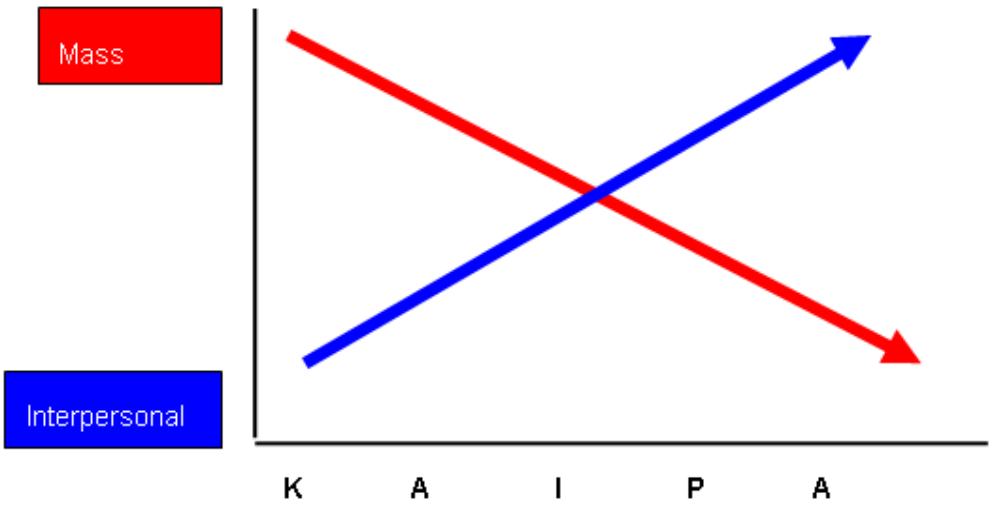


Table 30: Menu of Communication Approaches

Communication Approach	KAIPA Stage where appropriate	Description
Information	K, A	Transmission of data to provide objective facts *Example: Informing the community that poor sanitation leads to 55 deaths per day*
Persuasion	K, A	Communicating to influence others *Example: Crafting messages that focus on individual, household and community benefits*
Promotion	K, A	Informing to make people aware with and familiar with new concepts or practices *Example: Campaign to inform households of septage and sewage management as Government's priority for promoting sustainable sanitation and total human development*
Advocacy	K, A, A	Seeks to generate support of policy makers and decision makers *Example: Demanding septage services from all LGUs as a human right and a public good*
Education	K,A	Communicating to increase knowledge, change attitudes and develop correct practices *Example: Integration of sanitation concepts and practices in school curriculum*
Training	I, P	Imparting practical skills to facilitate the new practice *Example: Training among commercial firms on proper waste water disposal and on management of septage facilities*
Networking and Partnership	K, A, I, P, A	Joining or working together with other groups or associations having the same interest and commitment in pursuing program goals *Example: Partnership with DILG and DoH in implementing NSSMP*
Group Formation	I, P	Formation of a group of people to address specific issues *Example: Organization of women's groups to monitor community members violating the "no open defecation policy"*
Community mobilization	I, P	Deliberate effort to bring together sectors in the community with stake in a particular development intervention to take part in project activities *Example: Organization of multi-agency working group to oversee implementation of local sanitation plan*

Development, Production, and Pretesting of Communication Materials

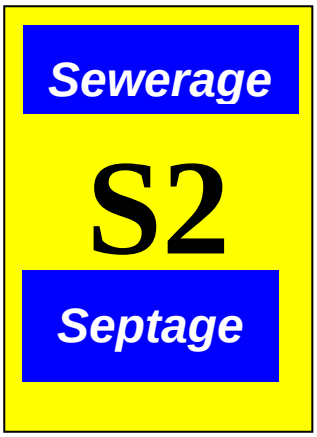
Message contents need to be transformed into carefully crafted messages for various communication media and channels (brochures, posters, tarpaulins, Frequently Asked Questions, billboards, websites, press releases, newspaper ads, and radio/TV plugs). The messages crafted should be guided by the 7 Cs as indicated in the next table.

Table 31: Tips and Principles for Crafting Key Messages

Tip	Principle	Specific Message
Command attention	Messages should be noticeable, easily remembered, stand out from the clutter and are sensitive to cultural context, social values, and political priorities.	*Who wants feces and coliforms in their water?*
Cater to the heart and head	Emotional value is as important as facts; make an emotional connection before attempting to convey information.	*To address your water quality and health, DPWH launches its S2 (sreptage & sewerage) program .*
Clarify the message	Keep the message simple and free from clutter. It will not be remembered if it is not understood.	*Neglect of wastewater treatment leads to 55 deaths per day.*
Communicate a benefit	What's in it for me? A benefit is a strong motivator for people to change their behavior.	*Government can save PhP 78 billion a year through proper septage and sewage management.* *Proper sanitation leads to good health. Good health is a basic capital for livelihood.*
Create trust	People usually act on messages from people they can trust. The message must ring true.	*Government is investing PhP 26.3 billion to build and operate wastewater treatment systems your urban centers.*
Consistency counts	Repetition of messages is essential for message recall and for better understanding. Say the message over and over in all media.	*Safe and clean water is your right.* *Safe and clean water is attainable.* *Safe and clean water is worth demanding.*
Call for action	Tell the stakeholders what to do, where to go and who to call when they need to know something more.	*Inquire more about S2 service!* *Call 304-3000; hotline 165-02; or visit www.dpwh.gov.ph*

It is important for the strategy to have its **positioning message**. This is a "label or brand" associated with the project and the services it stands for. Initially, the NSSMP is being proposed to be labeled as **S2** project in line with the C4, C5 projects which DPWH has become known for through the years.

Figure 47: Label of Brand



The **communication materials** will be produced in accordance with the KAIPA guide and the message contents identified for each stage, bearing the S2 brand for identity. At the initial stage, only prototypes will be produced for pretesting. Then they will be finalized for mass reproduction after revision based on pretesting results.

Table 32: List of Communication Materials

KAIPA Stages	Message Content	Communication Media and Channel
Knowledge	Environmental, economic and social losses of poor management practices Environmental, economic and social benefits of improved practices NSSMP as Government's response to maximize health and environmental benefits	Brochure/project brief, primer, poster, tarpaulin, billboard, NSSMP web site, press releases, radio/TV plugs, video
Approval/ Acceptance	Mandates and roles of service providers Benefits of improved septage and sewage management for institutions and the general public Qualifications for applications for NSSMP funding assistance	Brochure, primer, frequently asked questions, poster, radio/TV plugs, web sites, seminars
Intent	Government assistance (technical, financial, etc.) for establishing new infrastructure and systems Step-by-step process for grant application	Manual, toolkits, booklet on process flow, web site, training, advisory services (social media and interpersonal)
Practice	Guidelines for construction , operation, management and sustainability of facilities and services [project management, budgeting and expenditure, operations monitoring, water quality impact monitoring, environmental and social safeguards]	Manuals (print, CD, download from NSSMP web sites), video, toolkits, training, advisory services
Advocacy	Lessons learned and benefits from NSSMP Best practices in septage and sewage management	Video (3-minuter for presentation and 60-seconder for uploading to YouTube and web site), policy briefs

Implementation and Management

Implementation of the communication strategy for NSSMP is a task that needs to be institutionalized as part of DPWH's operation. Following the proposed NSSMP Office at the national level (see Section 1.2 on Lead Agency and NSSMP Office), the suggested communication professional to be hired fulltime to lead the implementation of the communication strategy will be assigned to carry out the tasks spelled out in next table.

Table 33: Implementation Tasks

Role	Tasks
Coordinator (Communication Professional under the NSSMP Office in DPWH)	Oversee implementation of the NSSMP national communication strategy
NSSMP web page	Create an NSSMP link in the DPWH web site Prepare contents for uploading Animate the NSSMP web page regularly
Materials production and distribution	Coordinate the conceptualization and production of materials Prepare a distribution plan for the materials Monitor how these materials reach the intended stakeholders
Liaison with mass media and partners	Map out partners and maintain a directory Establish and maintain partnerships Liaise with partners where their participation and assistance is needed
Organization of trainings, seminars, workshops	Develop the training plan, schedule and budget Coordinate the conduct of different trainings Compile training reports and materials
M&E and documentation	Document (through photos and video) the communication activities Conduct regular monitoring of activities Submit evaluation reports to DPWH
Technical Advisory services	Provide technical advice to inquiries received from stakeholders

Partnerships and Networking

Table 34: List of Potential Institutional Partners for Strategy Implementation

Name of Group/Institution	Role in NSSMP Communication Strategy
Government Agencies DoH, DENR, PIA, DepEd, DILG, LGUs, WDs	Integrate NSSMP message contents in their ongoing communication campaigns and activities
Media ABS-CBN, TV5, GMA National Broadsheets Community newspapers in HUCs	Provide air time for NSSMP radio/TV plugs at discounted rates Help publish press releases and feature articles in their Sunday magazine at minimal cost
Academe College of Mass Communication UP Diliman College of Development Communication, UP Los Banos St. Scholastica other state colleges and universities in HUCs offering communication courses	May tap their students for conceptualization and development of communication materials for free or at minimal cost They can help organize contests related to production of materials (logo, poster, jingle, etc)
NGOs PWWA	Provide services in organizing consultations and trainings at reasonable cost Link up the project with the WDs at the local level

Monitoring and Evaluation

Table 35: List of M&E Indicators for Communication Strategy

Behavior Change Targets	HUCs, LGUs, WDs, Private Service Providers (National Level)	Indicators
Knowledge	Identify environmental, economic and social losses Recognize environmental, economic and social benefits Identify NSSMP services offered	No. of HUCs/LGUs, WDs and private service providers inquiring about NSSMP No. of HUCs/LGUs, WDs and private service providers attending seminars and workshops No. of hits on NSSMP in DPWH website
Approval/Acceptance	Acknowledge mandates and roles in septage and sewage management Appreciate the benefits of derived improved sanitation for institutions and the general public	Local ordinances and WD board resolution prioritizing sanitation improvements Inclusion of septage and sewage management in the local development plans
Intent	Apply for government assistance to establish proper septage management and /or sewerage infrastructure and systems	No. of applications received for NSSMP grant and other assistance No. of requests for technical assistance
Practice	Build, operate, manage and sustain septage management and sewerage facilities and service	No. of projects/facilities constructed No. of projects/facilities well operated and maintained
Advocacy	Share lessons learned and benefits with other HUCs/LGUs, WDs and private service providers	No. of cases depicting best practices in septage and sewage management LGUs sharing their experiences in seminars, workshops and other venues

7.2 NSSMP Local Communication Strategy

The communication strategy intended for the local or HUC level essentially follows the same process as that of the national (please refer to Figure 28). But it would differ in terms of coverage, target stakeholders, behavior change objectives, messages, media and channels, and approaches.

The local communication strategy is one that focuses on the HUC or LGU where the septage and/or sewerage project will be established. The HUC and/or WD district concerned will be the planner and implementer of such communication strategy. Hence, it will have a well defined and limited area of coverage. Using the data per HUC that have yet to be generated or drawn from secondary sources, the most that can be done at this rollout stage is to demonstrate how the process should proceed.

7.2.1 Process description

Stakeholder Analysis

Table 36: Guide for Undertaking Stakeholder Analysis

Key Question to Ask	Action to Take
Who are the stakeholder groups whose behavior change will be targeted by the communication strategy? - Households - Industrial firms	1. Identify percentage of households that exhibit undesirable behaviors: - open defecation - poor sanitation and maintenance of toilets - do not practice desludging of septic tanks - do not practice sewage collection and treatment systems 2. Identify percentage and map out the different industrial firms that do not comply with waste water treatment requirement Those that will be identified will be the priority targets of the communication effort.
What is the KAP level of households and industries?	1. Determine the KAP level of households on septage and sewerage management (classify qualitatively as low, moderate and high based on the undesirable behaviors stated above): - Low, if they exhibit all four undesirable behaviors - Moderate, if they do not exhibit any two of the four items - High, if they do not exhibit all four items 2. Determine level of compliance of local industries with water treatment requirement and/or in terms of BOD level of their waste water. - Low, if they do not have waste water treatment - Moderate, if they have water treatment facility but BOD level still exceeds the standard - High, if they have waste water treatment facility and BOD level is maintained at or below the standard
What behavior change among the households and industries should be targeted by the communication strategy?	In line with the goals of NSSMP, the local communication strategy shall aim at enabling the households and industrial firms to: - minimize their wastewater - from economic, social and environmental viewpoints, realize the need and demand for waste water treatment in their locality - be willing to pay for these services in exchange for the benefits derived

Existing Communication Efforts

At the local level, the HUC/WD need to tie up with already existing communication efforts on sanitation, hygiene, water quality and others related to septage and sewerage being carried out by other agencies and groups. The most likely agencies will include DOH, DepEd, DENR, local schools and other civil society organizations. These groups are also potential partners in the actual implementation of the local communication strategy. Criteria for assessing potential partners listed in Table 23 can also be a useful guide for this task.

Strategic Design

Using the KAIPA guide and based on the data generated in the stakeholder analysis, the communication strategy may now be designed using the sample template below. The HUC/WD can start off with this strategic design and they can just modify based on their own assessment of the actual situation.

Table 37: Summary Table for the Strategic Communication Design

Implementer	**HUC/WD with DPWH, DoH, DENR**				
Primary Targets	**Households & Industries**				
Behavior Change Continuum	**Knowledge**	**Acceptance**	**Interest and Intent**	**Practice**	**Advocacy**
Behavior Change Targets (Objectives)	1. Households - Explain and appreciate importance or benefits of household level sanitary toilet practices and proper sewage management (in terms of health, economic, social, environmental benefits) 2. Industries - Explain legal requirements for wastewater treatment - Appreciate economic, environmental, and social benefits of proper wastewater treatment to industries and local community		1. Households - Illustrate or demonstrate proper installation of household sanitation facilities (toilets, septic tanks, drainage for wastewater) 2. Industries - Inquire about possible installation of wastewater treatment facility; or - Inquire how to access service providers for wastewater treatment	1. Households - Install household sanitation facilities 2. Industries - Install or get connected to wastewater treatment facility 3. Both households and industries : - Minimize wastewater generation - Demand for septage and sewerage services - Willing to pay for such services	1. Households - Champion the cause of sanitation at household level among their neighbors and friends 2. Industries - Champion the cause for industries compliant to water quality standard among fellow industries
Key Messages	1. Households - Minimize health cost. - Be sanitary at your own home - Clean toilets and good sanitation practices add prestige to your home (Note: Tie up this activity with DoH WATSAN (water and sanitation) communication campaign) 2. Industries - Proper wastewater treatment ensures continued clean and affordable water in the future. - Laws pertinent to wastewater treatment		1. Households - Technology options for sanitary toilets and/or sewage management technologies with estimated costs - Related local ordinances 2. Industries - Laws pertinent to wastewater treatment - Technology options for waste water treatment facility with estimated costs - List of water treatment service providers with price offers	1. Households - Guidelines for maintaining septic tanks - List of service providers for desludging of septic tanks 2. Industries - Updates on water quality standards	1. Households - Manageability of improved household sanitation and hygiene, as well as sewage treatment - Savings and prestige generated from good sanitation practices 2. Industries - Compliance with water quality standard enhances business credibility to the public - Compliance with the law is good business

Implementer	HUC/WD with DPWH, DoH, DENR				
Primary Targets	**Households & Industries**				
Behavior Change Continuum	**Knowledge**	**Acceptance**	**Interest and Intent**	**Practice**	**Advocacy**
Approaches, Media and Materials	Local public awareness raising a. For high visibility, use tarpaulins, and posters and install them in strategic areas (barangay halls, municipal service centers, market bulletin boards, jeepneys, tricycles, and sari-sari stores, etc) b. Plugs for airing in local radio stations and cable TV, Press releases or features for publication in community newspapers c. Speakers bureau		- Community meetings for actual demonstrations in collaboration with LGU officials - Leaflets - Websites - SMS - Door-to-door campaign by barangay health workers	- On site-monitoring - Leaflets - Hotlines	Share good practices - Community meetings organized by barangays, school PTAs, rural health clubs, women's clubs, and other community-based organizations - Informal peer sharing (occupational groups, neighbors, friends, etc)
M&E Key indicators	Number of requests for additional information Expressed willingness to pay for the services		Number of requests for assistance received	Households - Number of households with improved sanitation (toilet) facilities - Demand among households for improved sanitation facilities and for sewage treatment - Payment rate to septage and sewerage services Industries - Reduction in BOD in treated wastewater - Number of industries complying with water quality	- Increased number of households with improved sanitation facilities and practices (toilets and sewage management) by 2020 -Increased number of industries compliant to water quality standard after treatment

Knowledge and Acceptance

Before the households can be expected to adapt the desired behaviors needed for NSSMP to succeed, they must first learn to view septage and sewage management as important enough to justify their payment of the necessary user fees and their investment in improving their household sanitation facilities. For this to be achieved, considerable effort must be given to communication activities that will increase their understanding of the important link between septage and sewage management and the continued availability of clean, affordable domestic water as well as the avoidance of additional health care costs.

Caring for the environment is generally seen as an additional, low-priority cost and future problems that may result from environmental degradation are often viewed as less important than immediate survival needs. Thus, conveying the importance of septage and sewerage system by focusing on how it can help households avoid problems that they can relate to instead of loftier ideals (i.e. clean water, better public health) will more likely produce the behavioral response needed to better ensure NSSMP's success.

All communication materials and activities at this stage of behavior change should therefore communicate the following key messages:

1. **Minimize health care costs. Be sanitary at your own home.** Open defecation, makeshift toilet facilities, inadequate septic tanks (e.g. open bottom, inadequately sized and installed), and reactive and irregular desludging of septic tanks are unsanitary. Such practices ensure that pathogens from human excreta make their way to the surface and groundwater sources. This increases the incidence of diseases, requiring households to appropriate a greater percentage of their budget to health care.
2. **Wastewater treatment will ensure continued clean and affordable domestic water.** Untreated domestic, commercial, agricultural and industrial wastewater pollutes drinking water aquifers and can increase the incidence and spread of disease. Households should make it their business to know how their LGUs manage the city's wastewater to ensure the health of their family. These key messages can be conveyed through the following communication materials:

    - **Posters.** A poster series can be produced to discourage open defecation and promote household septage management. These should be displayed in clinics and other high foot traffic areas (e.g., market places, local business waiting rooms, local government offices, etc.). The posters should highlight how pathogens from human excreta can contaminate surface and groundwater sources and contribute to the spread of disease. All posters in the series will include the action statement: *Iwasan ang gastos sa sakit. Linisin ang sariling dumi.* **(NOTE: The concerned HUC/WD should coordinate first with local DOH about these messages and materials because these are parts and parcel of DOH health promotion and campaign on water and sanitation or WATSAN.)**
    - **Local radio/TV trivia or plug.** A one-minute radio trivia and/or plug series can be produced to educate the households and industries on wastewater treatment through septage and sewerage management. These can be played in local or community radio AM and FM radio stations at least every one to two hours. The following topics are suggested:

    a) **Bakit importanteng regular na ipalinis ang inyong septic tank? (Why is it important to regularly desludge septic tanks?)** Should end by encouraging the households to regularly get their septic tanks cleaned and well-maintained.

    b) ***Bakit importante ang pagkakaroon ng maayos na septic tank? (Why is it important to have a well constructed septic tank?*** Should end by encouraging the public to make sure their septic tanks are up to code. Mentioning local laws and ordinances on building standards for septic tanks and penalties for non-compliance would increase the effectiveness of such a plug/trivia.

    c) ***Saan pumupunta ang gamit na tubig mula sa bahay mo?(Where does your waste water go?)*** Should emphasize the importance of sewerage system construction and the importance of user fees in making this happen.

The radio trivia/plug series would be most effective if they describe the current local septage and sewerage scenario using actual data/information on the HUC (e.g. number of households connected to sewerage systems and those with septic tanks, plans of the local government in installing or expanding the sewerage system, possible user fee levels, etc.) instead of simply describing a generic system.

The radio trivia requires only one narrator and would be cheaper to produce while the radio plug, which usually uses the dramatized format, would require more voice talents but may be easier to relate to. Cable TV plugs/trivia would be much more expensive to produce but has the added visual component, which may increase public appreciation of the issue.

- **Speakers' bureau.** Barangay health workers (BHWs), youth leaders, teachers, and other community leaders can be trained as speakers on the city's septage and sewerage system. Their training should provide useful and practical information about how families can take simple steps to improve sanitation. This can include general information on how families can participate in the city septage management program, how to properly use and desludge septic tanks, and how to reduce odors, flies and other nuisances that result in poor wastewater management practices. The trained speakers can share the information they learned in their own circles of influence.
- **Hotline.** The local DoH and/or DPWH unit should have a hotline that interested citizens can call for assistance in starting the necessary improvements in their household sewage management.

Interest and Intent

Once informed, the households' interest and intent to participate in the program should be sustained and further encouraged by providing them with information that will allow them to take action. The HUC/WD should provide interested households with the following:

- **List of technology options** to improve their toilet facilities and/or household septage management. The list should clearly describe each technology and provide an estimated cost.
- **List of government-accredited local contractors**. The contractors' contact details and address should be clearly indicated along with the services they can provide (i.e. installation of septic tank or toilet facilities, septic tank desludging).
- **Local laws and ordinances**. Local laws and ordinances on building standards for septic tanks and penalties for non-compliance should be reiterated as a reminder.

A link can be established in the NSSMP website sharing the information above. These information can also be summarized into a one-page leaflet, which can lead readers to the website if more information about each technology option is sought. The leaflet and webpage can be supplemented by the local DPWH and DoH hotline, which interested citizens can call for further assistance.

For areas with space and monetary constraints wherein a multi-household toilet facility is most applicable, a door-to-door campaign by barangay health workers can be conducted wherein they can discuss technology options for community toilet and septage management facilities with community leaders. Non-government organizations that specialize in helping small communities set up their own toilet and septage management facilities can be tapped by the LGU as partners in improving the sanitation facilities of such areas.

Practice

To sustain public participation, enforcement of local laws and ordinances and compliance monitoring should be kept efficient and effective. A leaflet indicating the guidelines in efficient household septic tank management can be produced and distributed to households through community organizations and homeowners' associations and/or with water bills. A poster of this leaflet may also be produced and displayed in high foot traffic areas.

Advocacy

The positive testimony of those who took part in a development initiative can encourage others to also participate. Early adopters can be included in the speakers' bureau to help attract more adopters. Some can also be tapped in the production of testimonial plugs for airing in local radio and cable TV through which they can share information about their experience (i.e. ease of the adoption process because of DPWH/DoH assistance, ease in changing sanitation practices at home, etc.) and the benefits they are reaping because of adoption (i.e., savings in the long run, lower incidence of disease, cleaner environment, etc.) as well as enhanced social prestige.

Also part of continuing advocacy is the inclusion of key sanitation and SSM messages in the K-12 health curriculum. Open defecation and its role in increasing disease incidence can be incorporated in grades 2 and 3 discussion of *disease prevention*. The importance of clean water to public health can be expanded on in the grade 5 discussions of *community and environmental health*. Lastly, the importance of wastewater treatment through sewerage and septage management can be discussed in grades 7 and 8 during discussions on *disease prevention and control* and *community and environmental health*.

Localizing the Strategy

It should be noted that the communication strategy detailed above need not be implemented by the HUC/WD in its totality. The strategy must first be localized to better suit the needs and characteristics of a specific public. The following can serve as an informal checklist in further localizing the communication strategy:

- **Start with what your public knows and believes.** In some HUCs, majority of the public including the households may already know the importance of septage and sewerage management and are already willing to pay for these services and invest in improving their household sanitation facilities. If such is the case, strategy implementation can start with activities that encourage ***interest and intent*** instead of ***knowledge and acceptance***. Thus, local strategy implementation can start at the behavior change stage where the majority of the public is at.
- **Disseminate the information based on the specific communication habits of your public.** There are suggested materials and methods for each stage of behavior change indicated in the strategy. However, these can be enhanced or replaced by methods that have been proven effective in previous campaigns in the locality. So review these past activities and derive lessons from them.
- **Use existing communication materials. Previous communication materials on sanitation, if any, can be reused** or enhanced whenever applicable. DOH and DENR have existing communication materials which can be adopted or enhanced for the local communication strategy of NSSMP.

7.3 Training Requirements

Organization	Unit	Knowledge and Skills Required
DPWH	NSSMP Project Office	• strategic communication planning • positioning/branding • monitoring & evaluation
HUCs / LGUs	Project Office Municipal Planning & Development Office Local Health Office/ LDWQMC	
WDs	All	

7.4 Supporting Information

The Communication Strategy presented by the Consultants will provide further explanation of the process and present templates for implementation. Its name is NSSMP National Communication Strategy. Other toolkits available online are: (a) the Guidebook for a Local Sustainable Sanitation Promotion Program (part of the DOH Philippine Sustainable Sanitation Knowledge Series, (b) USAID's Ten Steps to Bringing About Positive Change Through Your Water and Sanitation Promotion Program, and (c) DoH's Development and Implementation of Urban Sustainable Sanitation Awareness Raising Campaigns.

8 Supporting Documents, Guidelines and Templates

This Chapter contains a variety of supporting or sample documents, guidance, formats and templates to assist project implementers and supporting agencies to implement the processes described in the main body of the Manual.

8.1 Institutional Organization and Support

8.1.1 Tasks, Inputs, Outputs and Timing for Responsible Organizations

Organization	Task	Sub-Tasks	Inputs & Outputs	Unit Involved & Timing/Duration	Links & Documentation
1. Department of Public Works and Highways (DPWH)	**Sewerage Project Development Support**	**Project Review** Review project brief	**Input**: i) Project proposal/brief and business/financing plan from LGU ii) Supporting evidence (e.g. MoU with financial institution) **Output**: i) DPWH approval or non-approval of the project (subject to Government co-financing) ii) If approved, budget request made by DPWH and LGU is informed of successful application iii) If not approved, project brief is returned to LGU with reasons for non-approval	NSSMP Office (ESSO) 1 - 3 weeks	See Section 3.3 regarding project design. See Sections 4.5 and 6.1 on applications for funding. See Section 6.1 on project financing. See the Annexes (supporting documents and guidelines) for sample letters regarding approval or non-approval of funding applications.
		Project Financing Request Include approved projects in the DPWH budget submission to DBM	**Input**: i) List of DPWH-approved sewerage projects **Output**: i) Budget request to central Government	NSSMP Office (ESSO) At least annually	See Sections 4.5 and 6.1 on applications for funding.
		Project Financing Received Distribute funds released by DMB for approved sewerage projects	**Input**: i) Release of Government funds for approved projects **Output**: i) Disbursement of funds to project developers	NSSMP Office (ESSO) At least annually	See Sections 4.5 and 6.1 on applications for funding.

Organization	Task	Sub-Tasks	Inputs & Outputs	Unit Involved & Timing/Duration	Links & Documentation
	Sewerage and Septage Management Project Monitoring	**Monitoring Report Received** Review project progress/monitoring report received from LGUs (and other relevant parties) Submit summary progress report to NEDA	**Input**: i) Receipt of LGU (and other) reports on sewerage/ septage management projects. Depending on the stage of project development, these reports will cover: a. construction progress b. funds disbursement/utilization c. water quality d. operations metrics (customers connected, waste treated, regulatory compliance, etc) e. financial performance f. customer satisfaction **Output**: i) Review and evaluation of reports ii) Preparation of summary progress report for all current/completed projects iii) Submission of report to NEDA	NSSMP Office (ESSO) Ongoing	See Section 4.9 on project operations, performance and impact monitoring.
	Communications	**Provision of information to partner agencies** Conduct ongoing communications and promotional support with LGUs, WDs and national government institutions	**Input**: i) Communications strategy **Output**: i) Sanitation awareness raising ii) Information exchange	NSSMP Office (ESSO) Ongoing	See Part E on communication.

Organization	Task	Sub-Tasks	Inputs & Outputs	Unit Involved & Timing/Duration	Links & Documentation
	Training and Capacity Building	**Provision of training and technical support to partner agencies** Provide training and knowledge dissemination to stakeholders including LGUs/WDs and national government institutions	**Input**: i) Resource and/or training applications received from LGUs/WDs/other stakeholders ii) Training plan for stakeholders (developed in cooperation with other key agencies such as DoH, DILG, LWUA, PWWA) iii) Training materials developed **Output**: i) Training courses that should include: a. Technical aspects of sewerage and septage management delivery b. Project and business planning c. Feasibility studies and financial analysis d. Project management and monitoring ii) Project information exchange	NSSMP Office (ESSO) Ongoing	
2. Local Government Units (LGUs)	**Sewerage and Septage Management Project Implementation**	**Project Concept** Conduct baseline assessment	**Input**: i) Survey design ii) Planning and conduct of survey **Output**: i) Completed survey ii) Analysis and presentation of survey results	6 - 10 weeks	See Section 4.9 on project monitoring. See the DoH "Guidebook for a Sustainable Sanitation Baseline Study".
		Conduct initial stakeholder consultations	**Input**: i) Stakeholder list ii) Meeting agenda iii) Development of survey (as needed) **Output**: i) Stakeholder consultations ii) Assessment of stakeholder commitment and willingness to pay	2 - 4 weeks	See Section 4.2 and the Annexes for guidance and documentation on stakeholder consultation. The Annexes also contain a format for a project concept note to be used in initial consultations. See also Section 4.9 on project monitoring.

Organization	Task	Sub-Tasks	Inputs & Outputs	Unit Involved & Timing/Duration	Links & Documentation
		Form a Technical Working Group (TWG)	**Input**: i) Selection of preferred TWG members **Output**: i) Invitations to join ii) Confirmation/nomination of members iii) Executive Order signed by Local Chief Executive iv) Inaugural meeting	2 - 4 weeks	See Section 4.2 on sanitation planning. See the Annexes for a sample Executive Order establishing a TWG (from the DoH "Guidebook for a Local Sustainable Sanitation Strategy")
		Develop Local Sustainable Sanitation Strategy (LSSS)	**Input**: i) Vision, goals and objectives for LSSS, using baseline survey and consultations as a basis ii) Priority sanitation issues areas for action **Output**: i) LSS Plan developed ii) Ongoing progress monitoring of LSSP implementation		See Section 4.2 on sanitation planning. See the Annexes for guidance on prioritizing sanitation issues and areas, and a sample resolution to adopt an LSSS. See the DoH "Guidebook for a Local Sustainable Sanitation Strategy".
		Develop a project brief/concept	**Input:** i) Priority projects or activities ii) Initial evaluations (pre-feasibility) **Output:** i) Initial project brief (technical, financial & organizational summary)	3 - 6 weeks	See Section 4.3 regarding project design. See NSSMP "Guide for Local Implementers", and NSSMP Toolkits See DoH "Operations Manual on the Rules and Regulations Governing Domestic Sludge and Septage"

Organization	Task	Sub-Tasks	Inputs & Outputs	Unit Involved & Timing/Duration	Links & Documentation
		Identify an initial financing approach	**Input:** i) Project concept (business plan) **Output:** i) Feedback from financial institutions on willingness/ability to offer financing	2 - 4 weeks	See Sections 4.3 and 4.4 on project design and feasibility. See Section 6.1 on project financing.
		Project Definition Produce Feasibility Study (FS)	**Input:** i) Resources to conduct the FS ii) Technical, financial and operational data iii) Implementation options **Output:** i) Full Feasibility Study incorporating detailed technical design, financial analysis, operational plans and institutional framework	8 - 16 weeks	See Section 4.4 on project feasibility assessment.
		Evaluate PPP option	**Input:** i) Consideration of whether a private partner could be sought, and the form of PPP preferred **Output:** i) Decision to commence a PPP selection process	10 - 20 weeks	See Part D on project financing and the PPP option.
		Produce local ordinance	**Input:** i) Feasibility study ii) Feedback from stakeholder consultation and public hearings **Output:** i) Local Ordinance	16 - 26 weeks	See the Annexes for a sample Local Ordinance for establishing a septage management system

Organization	Task	Sub-Tasks	Inputs & Outputs	Unit Involved & Timing/Duration	Links & Documentation
		Secure 30% financing share	**Input:** i) Feasibility Study **Output:** i) Presentation to financial institutions ii) Loan agreement (or MoU) with financial institution(s)	6 - 12 weeks	See Section 6.1 on project financing. See the Annexes for a sample MoU for partnering a private firm
		Apply for 40% national government grant	**Input:** i) Project brief/FS and business plan **Output:** i) Submission of funding application and proof of financing to DPWH	24 - 48 weeks	See Section 6.1 on project financing. See Section 4.5 on funding applications.
		Continue with ongoing stakeholder communications	**Input:** i) Results of surveys to assess current knowledge, attitudes and practices ii) Targeted messages developed **Output:** i) Ongoing communications activities ii) Changes in sanitation awareness and public acceptance	24 - 48 weeks	See Part E on communication.
		Project Implementation Agree construction contract (in cooperation with WD)	**Input:** i) Implementation of procurement process **Output:** i) Signed EPC agreement	12 - 36 weeks	See Section 4.6 and Part D on procurement and financing. See also the Annexes for relevant documents.

Organization	Task	Sub-Tasks	Inputs & Outputs	Unit Involved & Timing/Duration	Links & Documentation
		Obtain necessary regulatory approvals (in cooperation with WD)	**Input:** i) Regulatory applications and supporting information **Output:** i) Necessary permits and approvals	12 - 36 weeks	See the Annexes for a list of required documents, clearances and permits for sanitation projects.
		Authorize commencement of construction	**Input:** i) Construction plan **Output:** i) Commencement	75 - 150 weeks	See Section 4.7 on project construction.
		Monitor development progress (in cooperation with WD)	**Input:** i) Construction progress data ii) A comprehensive performance monitoring program iii) Results/findings of that program **Output:** i) Review and evaluation of monitoring program outputs and results against performance targets ii) Preparation of progress and evaluation reports iii) Submission of reports to DPWH	75 - 150 weeks	See Sections 4.7, 4.8 and 4.9 on project construction, operation, and performance and impact monitoring.
		Project handover (in cooperation with WD)	**Input:** i) Results of site testing **Output:** i) Signed release form acknowledging satisfactory project completion	2 - 4 weeks	

Organization	Task	Sub-Tasks	Inputs & Outputs	Unit Involved & Timing/Duration	Links & Documentation
	Communications	**Provision of information to local stakeholders** Conduct ongoing communications and promotional support with WDs and national government institutions	**Input:** i) Communications strategy **Output:** i) Increase in sanitation awareness ii) Information exchange	Ongoing	See Part E on communication.
	Training and Capacity Building	Access training in technical and financial matters, and project planning, development, management and monitoring	**Input:** i) Assessment of human resource skill and knowledge requirements, e.g. a. Wastewater engineering b. Community consultation and surveys c. Project/business planning and financial analysis d. Project management and monitoring e. Water quality monitoring and assessment ii) Submission of resource and/or training applications to DPWH and/or DILG **Output:** i) Training courses ii) Project information exchange	Ongoing	
3. Water Districts (WDs)	**Sewerage and Septage Management Project Implementation**	Assist LGU with baseline assessment Conduct or participate in initial stakeholder consultations Join Technical Working Group	See above information for LGUs		

Organization	Task	Sub-Tasks	Inputs & Outputs	Unit Involved & Timing/Duration	Links & Documentation
		Assist LGU with development of Local Sustainable Sanitation Strategy (LSSS) Assist LGU with ongoing progress monitoring of LSSP implementation	See above information for LGUs		
		Develop project brief/concept (with LGU) Identify an initial financing approach (in consultation/ collaboration with LGU)	**Input:** i) Project concept (business plan) **Output:** i) Assist LGUs in discussions with financial institutions	2 - 4 weeks	See Section 4.3 on project design.
		Project Definition Collaborate with LGU in production of sewerage Feasibility Study (FS)	**Input:** i) Contribute resources to conduct the FS ii) Assist in gathering technical, financial and operational data **Output:** i) Full Feasibility Study	8 - 16 weeks	See Section 4.4 on project feasibility assessment.
		Evaluate PPP option (in collaboration with LGU)	**Input:** ii) Consideration of whether a private partner could be sought, and the form of PPP preferred **Output:** i) Assist in reaching a decision on whether to commence a PPP selection process	10 - 20 weeks	See Sections 6.1 and 6.2 on project financing and the PPP option.
		Secure 30% financing share with LGU	See above information for LGUs		

Organization	Task	Sub-Tasks	Inputs & Outputs	Unit Involved & Timing/Duration	Links & Documentation
		Assist LGU in applying for 40% national government grant	**Input:** i) Support for LGUs in preparing project brief/FS and business plan **Output:** ii) Submission of funding application and proof of financing to DPWH	24 - 48 weeks	See Sections 4.5 and 6.1 on funding applications.
		Continue with ongoing stakeholder communications program	**Input:** i) Results of surveys to assess current knowledge, attitudes and practices ii) Targeted messages developed **Output:** i) Ongoing communications activities ii) Changes in sanitation awareness and public acceptance	24 - 48 weeks	See Part E on communication.
		Project Implementation Agree construction contract (in cooperation with LGU)	See above information for LGUs		
		Assist project to obtain necessary regulatory approvals (in cooperation with LGU)	**Input:** iv) Regulatory applications and supporting information **Output:** ii) Necessary permits and approvals	12 - 36 weeks	See the Annexes for a list of required documents, clearances, permits, etc for sanitation projects.

Organization	Task	Sub-Tasks	Inputs & Outputs	Unit Involved & Timing/Duration	Links & Documentation
		Monitor development progress (in cooperation with LGU) Assist LGU to review progress and monitoring data Assist LGU to prepare evaluation reports	**Input:** i) Construction progress data ii) Results/findings of comprehensive performance monitoring program **Output:** iv) Progress and evaluation reports v) Submission of reports to DPWH	75 - 150 weeks	See Sections 4.7, 4.8 and 4.9 on project construction, operation, and performance and impact monitoring
		Project handover (in cooperation with LGU)	See above information for LGUs		
	Communications	**Provision of information to local stakeholders** Conduct ongoing communications and promotional support with LGUs and national government institutions	See above information for LGUs		
	Training and Capacity Building	Conduct training and knowledge dissemination	See above information for LGUs		
4. Department of Health (DoH)	**Septage Project Implementation**	**Project Concept** Assist LGUs/WDs with baseline assessment (e.g. through financial support for surveys from regional offices)	**Input:** i) Contributions to survey design ii) Assistance with conduct of surveys **Output:** i) Completed baseline surveys	DoH Central and Regional Offices Ongoing	See Section 4.3 on project design.

Organization	Task	Sub-Tasks	Inputs & Outputs	Unit Involved & Timing/Duration	Links & Documentation
		Monitor program performance (in cooperation with LGUs/ WDs, and LDWQMCs)	**Input:** i) Guidance and assistance to units/agencies conducting drinking water quality monitoring and sanitation surveys, and collecting data on water-related illness ii) Results of monitoring program and surveys **Output:** i) Review and evaluation of monitoring and survey data ii) Assistance to LGUs in preparing evaluation report	DoH Central and Regional Offices Ongoing 75 - 150 weeks	See Section 4.9 on project performance and impact monitoring.
	Communications	**Provision of information through regional DoH offices to LGUs/ WDs/others** Ongoing communications, information exchange and promotional support with implementers and stakeholders	**Input:** i) Communications strategy **Output:** i) Increase in awareness of health impacts of improved sanitation ii) Information exchange	DoH Central and Regional Offices Ongoing	See Part E on communication.

Organization	Task	Sub-Tasks	Inputs & Outputs	Unit Involved & Timing/Duration	Links & Documentation
	Technical Support , Training and Capacity Building	**Provision of training and technical support by regional DoH offices to LGUs/WDs/ others** Provide training and knowledge dissemination to implementers and stakeholders Provide technical support to LGUs/WDs through wastewater engineers located in regional offices	**Input:** i) Resource and/or training applications received from LGUs/WDs/other stakeholders ii) Training plan for stakeholders (developed in cooperation with other key agencies such as DPWH, DILG, LWUA, PWWA) iii) Training materials developed **Output:** i) Training courses that should include: a. Technical aspects of sewerage and septage management b. Project planning/feasibility studies c. Financial analysis d. Project management e. Water quality monitoring ii) Project information exchange	DoH Central and Regional Offices Ongoing	

Organization	Task	Sub-Task	Input / Output & Timing	Dept. Involved & Timing	Links & Documentation
1. Department of Environment and Natural Resources (DENR) and Environmental Management Bureau (EMB)	**Sewerage and Septage Management Project Development Support**	**Project Review** Review water quality data to identify need/priority for sanitation infrastructure Enforce CWA provisions requiring sewerage and septage management Implement permitting system and enforce effluent standards Develop WQMA Action Plans	**Input**: i) Water quality data ii) WQMA Action Plan iii) Technical support to LGUs for project selection and preparation of project brief **Output**: i) Project brief prepared by LGUs	DENR central office EMB regional offices WQMAs Ongoing	See Sections 4.2 and 4.3 on project planning and design. See Section 4.9 on project performance and impact monitoring.
	Sewerage and Septage Management Project Monitoring	**Progress Reporting** Assist LGUs/WDs, DoH and other agencies to monitor and evaluate the progress and performance of NSSMP sanitation projects Obtain project progress reports from regional EMB offices and WQMAs on the impact of sanitation projects on water quality and other environmental concerns	**Input**: i) Performance data and information on projects from LGUs/WDs, EMB and other agencies a. Water quality and effluent data b. Operations metrics and compliance data **Output**: i) Review and evaluation of monitoring and performance data ii) Assistance to LGUs in preparing evaluation reports	DENR central office EMB regional offices WQMA Ongoing	See Sections 4.8 and 4.9 on project operation, and performance and impact monitoring.

Organization	Task	Sub-Task	Input / Output & Timing	Dept. Involved & Timing	Links & Documentation
	Communications	**Provision of information to partner agencies** Ongoing communications, information exchange and promotional support with implementers and stakeholders	**Input**: i) Communications strategy **Output**: i) Increase in awareness of impacts of improved sanitation on environmental factors ii) Improvements in water quality (and other environmental factors)	DENR central office EMB regional offices WQMA Ongoing	See Part E on communication.
	Training and Capacity Building	**Provision of training support to partner agencies** Provide training and knowledge dissemination to implementers and stakeholders	**Input**: i) Resource and/or training applications received from LGUs/ WDs/ other stakeholders ii) Training plan for stakeholders (developed in cooperation with other key agencies such as DPWH, DILG, LWUA, PWWA) iii) Training materials developed **Output**: i) Training courses that should include: a. Links between sanitation and the environment b. Technical aspects of sewerage and septage management c. Water quality monitoring and assessment d Feasibility studies and financial analysis	DENR central office EMB regional offices WQMA Ongoing	

Organization	Task	Sub-Task	Input / Output & Timing	Dept. Involved & Timing	Links & Documentation
2. Department of Interior and Local Government (DILG), Local Water Utilities Administration (LWUA), LoC & PAWD	**Sewerage and Septage Management Project Development Support**	**Project Concept** Provide technical support and guidance (and, in the case of LWUA and DILG, possibly also financial assistance) to LGUs/WDs in relation to baseline assessments and LSSS development	**Input:** i) Advice on household survey, technology options, etc. ii) Possible provision of financial support **Output:** i) Initial project concept/design	DILG, LWUA , LoC and PAWD regional offices Ongoing	
		Progress Reporting Project progress report received from regional offices concerning sanitation project development Obtain project progress reports from regional offices on sanitation project development	**Input:** i) Receipt of data and information on project progress from LGUs/WDs. **Output:** i) Review and evaluation of data ii) Assistance to LGUs in preparing evaluation reports iii) Summary progress reports on all ongoing/completed projects to DILG central office/ LWUA /LoC office**s**	DILG, LWUA , LoC and PAWD regional offices Ongoing	See Sections 4.7, 4.8 and 4.9 on project construction, operation, and performance and impact monitoring.
	Communications	**Provision of information to LGUs/WDs** Ongoing communications, promotional support and information exchange with local implementers	**Input:** i) Communications strategy **Output:** i) Increase in sanitation awareness	DILG, LWUA , LoC and PAWD regional offices Ongoing	See Part E on communication.

Organization	Task	Sub-Task	Input / Output & Timing	Dept. Involved & Timing	Links & Documentation
	Training and Capacity Building	**Provision of training to LGUs/WDs** Provide training and knowledge dissemination to implementers	**Input:** i) Resource and/or training applications received from LGUs/ WDs ii) Training plan for stakeholders (developed in cooperation with other key agencies such as DPWH, DoH, DENR, PWWA) iii) Training materials developed **Output:** i) Training courses that should include a. Links between sanitation and the environment b. Technical aspects of sewerage and septage management c. Water quality monitoring and assessment ii) Project information exchange	DILG, LWUA , LoC and PAWD regional offices Ongoing	
3. Department of Finance (DoF)	**Sewerage and Septage Management Project Implementation**	**Project Financing** Support the funding of sanitation projects	**Inputs:** i) Applications for funding of projects approved by DPWH ii) Financial resource mobilization and fiscal management (ensure DBM has resources to meet DPWH requests) **Output:** i) Monitoring of fund utilization ii) Adjustments to funding as necessary	DoF central office At least annually	See Part D on project financing.

Organization	Task	Sub-Task	Input / Output & Timing	Dept. Involved & Timing	Links & Documentation
4. Metropolitan Waterworks and Sewerage System (MWSS)	**Sewerage and Septage Management Project Development Support**	**Project Concept** Provide technical support and guidance to LGUs/WDs in relation to baseline assessments, client surveys and sanitation strategy development	**Input:** i) Request from LGU/WD for advice on household survey, technology options, infrastructure development, etc. **Output:** i) Initial project concept/design ii) Project management and implementation practices	MWSS central office Ongoing	See Sections 4.2 and 4.3 on project planning and design.
5. Department of Education (DepEd)	**Communications**	**Provision of information to LGUs/WDs** Ongoing communications, information exchange and promotional support in relation to NSSMP implementation with LGUs/WDs	**Input:** i) Communications strategy **Output:** i) Increase in awareness of NSSMP program and sanitation issues	DepEd central and regional offices Ongoing	See Part E on communication.
6. Donor Agencies	**Sewerage and Septage Management Project Development Support**	**Project Concept** Provide technical support and guidance plus financial assistance to LGUs/WDs in relation to baseline assessments and sanitation strategy development	**Input:** i) Requests from implementers for technical assistance in relation to project development, and financial support for baseline and feasibility studies, capital development, etc. **Output:** i) Project design and development	Donor water & sanitation teams Ongoing	

Organization	Task	Sub-Task	Input / Output & Timing	Dept. Involved & Timing	Links & Documentation
	Communications	**Provision of information to LGUs/WDs** Provide technical support and guidance plus financial assistance to LGUs/WDs to design and implement communications, information exchange and promotional programs in relation to NSSMP implementation	**Input:** i) Communications strategy **Output:** i) Increase in awareness of NSSMP program and sanitation issues	Donor water and sanitation teams Ongoing	See Part E on communication.
	Training and Capacity Building	**Provision of training support to LGUs/WDs** Provide technical support and guidance plus financial assistance to LGUs/WDs for training and knowledge dissemination in relation to sewerage and septage infrastructure development	**Input:** i) Resource and/or training applications from LGUs / WDs ii) Training plan for stakeholders iii) Training materials developed **Output:** i) Training courses as required ii) Information exchange	Donor water and sanitation teams Ongoing	

8.1.2 Sample Baseline Survey Form

1. Please insert the appropriate BOD / DO average concentration figures for all the water bodies (i.e. rivers, bays, lakes) in the vicinity of your HUC.

Name of Water Body	BOD (2010)	DO (2010)	BOD (2011)	DO (2011)
1.				
2.				
3.				

2. Please indicate (✓ / **X**) which of the following factors has a **significant** presence in your HUC.

Tourist Industry	Fishing Industry	Mangroves	Coral	Aquifer

3. Please indicate (✓ / **X**) whether any of the following plans have been developed for your HUC.

Sanitation Plan as part of the Municipal Development Plan	Feasibility Study(s) for Sanitation Asset Development	Sanitation related Ordinance

4. Has your HUC made any funding allocation for sanitation (i.e. septage / sewerage) asset development? If so, how much has been allocated?

Sanitation Budget	Funding Allocation (2011)	Funding Allocation (2012)
YES / NO		

5. Please complete the following table in relation to your HUC.

Population	Per Capita Income (Php)

6. Please complete the following table in relation to sanitation (i.e. septage / sewerage) assets in your HUC.

Waste Treatment Facilities		Septage Collection Trucks		Sewerage Network	Septage Tank
Number	Total Capacity	Number	Total Capacity	Km	% population with tank

7. Please complete the following table in relation to the Water District(s) and LGUs present in your HUC.

LGU / WD Name	LGU Fund Balance Available	WD Profitability Internal Cash Ratio	WD Cost Control Operating Ratio	WD Outstanding Loans as of December 2010

8. In relation to sanitation asset development, please indicate (✓ / X) which (if any) of the following statements is true.

We would be interested in partnering with a private company to finance / operate sanitation assets	We have already spoken with a private company in relation to water / sanitation asset development

8.1.3 Prioritization of Sanitation Needs

Instructions: Based on all of the information and inputs gathered (e.g. baseline data, and discussions with elected officials, stakeholder consultations and TWG discussions), rank each statement from 1 to 5 with 1 being the least important and 5 being the most important. Add the total score for each section heading (e.g. 'Septage Management') and compare the section scores to determine priority rankings.

[Note: this approach could also be used in stakeholder consultation exercises]

		Ranking
Toilets		
• Informal settlers have inadequate access to toilets, resulting in open defecation		0
• Informal settlers are located on riverbanks or shorelines		0
• Community members report open defecation is occurring		0
• There are inadequate public toilets resulting in open defecation		0
	Total	0
Non-Point Sources		
• Pit toilets or Antipolo style latrines are common (polluting groundwater)		0
• Open bottom septic tanks are common (polluting groundwater)		0
• Soil erosion during heavy rains muddies rivers and streams		0
• Manure from animal farms is discharged directly to streams and rivers		0
	Total	0
Point Sources		
• Restaurants do not remove grease by using commercial grease traps		0
• Wastewater discharges from public markets do not meet DENR standards		0
• Wastewater discharges from slaughterhouses do not meet DENR standards		0
• Wastewater discharges from hospitals do not meet DENR standards		0
	Total	0
Septage Management		
• There are no programs to ensure septic tanks are properly designed		0
• Septic tanks are not routinely desludged every 3 to 5 years		0
• There is no proper septage treatment facility within one hour's drive of the LGU		0
• Septage is being improperly discharged on agricultural land or in streams		0
	Total	0
Sewerage		
• There are urban areas without adequate drainage systems		0
• Septic tank effluent discharges to open drains		0
• Wastewater from drainage outfalls is not treated		0
• New housing development uses septic tanks only		0
	Total	0
Ecological Sanitation		
• Most households have private farms or gardens where waste-derived fertilizer could be useful		0
• The LGU has the ability to sustain projects through continuous training or financial inputs		0
• There is a lack of water for pour-flush toilet systems		0
• Open defecation is a problem in the LGU		0
	Total	0

8.1.4 Guidance on Stakeholder and Partner Consultation

Why the need for partner consultation?

Consultation with partners and stakeholders gives you the opportunity to discuss ways to maximize benefits based on their expressed needs, experience and feedback. Consultation also allows all parties to understand the potential impacts of a proposed activity (project or program) on the community. It is also a good opportunity to identify the key players and stakeholders in your activity, discuss with them their likely roles, organize them, and prepare them to participate proactively in your planned program o project.

What does a consultation framework look like?

Your consultation will most likely involve the following:

1. Consultation with voluntary and community sector stakeholders at the earliest opportunity, on all issues likely to affect them.
2. Consideration of the availability of resources to allow partners to engage in the consultation process. Remember that everyone's contribution is important.
3. Adherence to a consultation timeframe, i.e. a minimum period for responses to be given (timing will also depend on the extent of work or areas of coverage involved).
4. Preparation of consultation documents that are clear, concise and in simple language (it is better to use the local language/dialect).
5. Analysis of responses received and appropriate feedback, showing in clear terms the impact of the consultation process on the activities to be implemented.
6. Evaluation of all consultations undertaken with a view to identifying and adopting good or best practices.

What are the expected roles of partners?

Partner consultation is a gathering of minds and efforts. Everyone is expected to do or contribute something to make the partnership meaningful and effective.

The objective is to develop consensus and clarity on an appropriate way forward for implementing a sanitation strategy or a particular project.

What are the methods to be used in partner consultation?

There are many ways to conduct your partner consultation. There is no "perfect formula". Partners need to consider the needs of those to be consulted and apply the most appropriate method. In addition to the tried and tested methods of distributing questionnaires, focused group discussions or barangay forums, other modes can still be considered.

Using more than one method is usually a good idea. Wherever possible, a consultation should start with a background session on the activity or program to be implemented, outlining in short presentations what and who are involved. The timelines and contact persons or institutions should also be made available.

An open forum or Q&A session should always follow. Always avoid a "Yes/No" format of questioning. Honesty and openness should be promoted at every opportunity. Stakeholders should be encouraged to offer all their views and be given details of how and when feedback will be given.

Who should be consulted?

The easy answer is to say that this includes all stakeholders who are expected to benefit from, work for, or be affected by the proposed program or activity. For example, if a baseline study is being conducted, it is desirable to involve all Government agencies and NGOs involved in health, sanitation and environment, as well as private sector service providers such as water utilities, hospitals, scientists and technical/engineering consultants.

Consultations need to be relevant to all of the stakeholders in the community, so it is wise to publicize upcoming consultations widely and seek the help of local groups in identifying potential partners.

8.1.5 List of Potential Stakeholders

A wide range of stakeholders may need to be consulted as part of the process of developing a sustainable sanitation strategy and implementing specific sanitation projects. The list below is designed to illustrate the kinds of organizations, groups and individuals who may need to be targeted.

A. Community Level:
   a. BHW
   b. Barangay Kagawad for Health/Environment
   c. Barangay Captains
   d. Mothers with child/children below 5 years of age
   e. Leaders of Barangay Youth Organizations

B. Institutions
   a. Influential people at local/barangay level
      - Church leaders
      - NGO leaders
      - People's Organizations
      - Public teachers
      - Businessmen
      - Hospitals/clinics
   b. Businessmen (e.g. resort and fish pen owners, commercial establishments, major restaurants and eateries, etc)

C. LGUs
   a. Mayor
   b. Adviser to the Mayor
   c. Members of the City/Municipal Council
   d. Municipal/City Engineer
   e. SP/SB Health/Environment
   f. Sanitary Inspectors
   g. Inter-agency specialists
      - Health officers
      - Agriculture officers
      - Engineers
      - Information officers
      - Market administrator
      - Environment officers
      - Water District officers
      - DSWD officers
      - School superintendents
      - SK Federation

D. Other key stakeholders/informants:

   a. Residential building contractors
   b. Doctors
   c. Influential Businessman
   d. Environmental activists
   e. Supplier of sanitation equipment/facilities
   f. Septic tank desludgers
   g. Youth leaders

8.1.6 Sample Executive Order Establishing a TWG

Republic of the Philippines
Province of South Cotabato
MUNICIPALITY OF POLOMOLOK
-ooOoo-

OFFICE OF THE MUNICIPAL MAYOR

Executive Order No. 9
Series of 2008

AN ORDER CREATING THE COMPOSITION OF THE TECHNICAL TEAM TO FORMULATE THE MUNICIPAL SANITATION PLAN.

WHEREAS, Presidential Decree No. 856, otherwise known as the Code on Sanitation of the Philippines serves as a significant landmark in the history of our country's health and sanitation efforts;

WHEREAS, Section 11, Article XIII of the 1987 Constitution provides that the State shall adopt an integrated and comprehensive approach to health development by making quality and adequate health care available and accessible to everybody;

WHEREAS, Republic Act No. 9275, otherwise known as the Philippine Clean Water Act of 2004 is a piece of legislation that was designed to address the interlinked problems of water quality, pollution prevention and control and sanitation;

WHEREAS, guided by the intent of these national laws on health and sanitation, the Municipality of Polomolok desired to formulate the Municipal Sanitation Plan;

NOW, THEREFORE, I, ENGR. ISIDRO D. LUMAYAG, by virtue of the powers vested in me by law as Mayor of the Municipality of Polomolok, South Cotabato, to hereby order the creation of the composition of the Technical Team to formulate the Municipal Sanitation Plan.

Section 1. Composition

1.	DR. EDWIN DIPUS Municipal Health Officer	-	Team Leader
2.	SANITARY INSPECTORS	-	Member
3.	ENGR. AGUSTIN P. VALENCIA, JR. Municipal Engineer	-	Member
4.	MS. MIGUELITA S. ESCOLANO Municipal Nutrition Officer	-	Member
5.	REPRESENTATIVE Heramil's Maternity & Children's Clinic	-	Member

6.	REPRESENTATIVE Howard Hubbard Memorial Hospital	-	Member
7.	REPRESENTATIVE Bontuyan Medical Clinic	-	Member
8.	REPRESENTATIVE Polomolok Municipal Hospital	-	Member
9.	MR. LORY N. ASILO Administrative Officer II	-	Member
10.	Representative, SWM	-	Member
11.	PRESIDENT Meat Vendor's Association	-	Member
12.	PRESIDENT Fish Vendor's Association	-	Member
13.	PRESIDENT General Merchandise	-	Member
14.	MS. DYNA ENAD Pollution Control Officer Dole Philippines, Inc.	-	Member
15.	PRESIDENT Polomolok Hog Raiser's Association	-	Member
16.	Barangay Kagawad, Committee on Health Barangay Poblacion	-	Member
17.	Barangay Kagawad, Committee on Health Barangay Cannery Site	-	Member
18.	Barangay Kagawad, Committee on Health Barangay Magsaysay	-	Member
19.	ENGR. SOLITO J. TORCUATOR Polomolok Water's District	-	Member
20.	Representative, MAHINTANA Foundation	-	Member
21.	Representative, Department of Education East & West District	-	Member
22.	MR. ALFONSO M. DAFLIN Pollo Fresco	-	Member
23.	ANGELITA CALVA President Barangay Health Worker's Federation	-	Member

Section 2. Functions

2.1 The Municipal Technical Team shall fulfill the following functions:

2.1.1 Hold a planning workshop through the assistance of the Technical Assistance Management Services (TAMS) and the Department of Health.

2.1.2 Initiate the review and consolidation of the workshop output as an integral part of the Municipal Sanitation Plan.

2.1.3 Submit the consolidated Municipal Sanitation Plan to the Office of the Municipal Mayor for its approval within five (5) days from the final review of the generated output.

2.1.4 Should there be a required local legislative enactment, the Team shall lobby to the Sangguniang Bayan the approval of the Municipal Sanitation Plan.

Section 3. Effectivity. This Executive Order shall take effect immediate and shall remain in full force unless revoked in writing by the undersigned.

Done this 5th day of May, 2008 at Polomolok, South Cotabato.

ENGR. ISIDRO D. LUMAYAG, PME
Municipal Mayor

8.1.7 Feasibility Assessment Tasks and Documentation

The Table below summarizes the organisations involved in the Project Feasibility process together with associated project inputs, outputs and supporting documentation.

Org'n	Task Description	Input / Output & Timing	Timing	Links & Documentation
1. LGU	Conduct baseline assessment	**Input**: iii) Refer to Guidebook for a Sustainable Sanitation Baseline Study iv) Survey design v) Carry out survey **Output**: iii) Completed survey iv) Analyse and present survey results	6 – 10 weeks	**See sample survey form (Annex)** **Use DoH's "Guidebook for a Sustainable Sanitation Baseline Study"**
	Initial stakeholder consultation	**Input**: iv) Stakeholder list v) Meeting(s) agenda vi) Develop survey (as needed) **Output**: iii) Stakeholder consultation(s) iv) Indication of stakeholder commitment v) Indication of willingness to pay	2 – 4 weeks	**See stakeholder consultation guidance (Annex)**
	Form Technical Working Group (TWG)	**Input**: ii) Potential group member list iii) Invitations to join TWG distributed **Output**: v) TWG members confirmed vi) Executive Order signed by Local Chief Executive confirming TWG membership vii) Initial TWG meeting held	2 – 4 weeks	**See sample Executive Order establishing the TWG that also contains a suggested Group membership list (Annex)**
	Develop Local Sustainable Sanitation Strategy (LSSS)	**Input**: iii) Produce vision, goals and objectives for LSSS using Baseline Survey as a basis iv) Translate strategy into action **Output**: iii) LSS Plan developed iv) Carry out progress monitoring of LSSP	6 – 10 weeks	**See guidance on prioritizing sanitation needs, and sample resolution for LSSP adoption (Annexes)** **See DoH "Guidebook for a Local Sustainable Strategy"**
2. WD	Assist with baseline assessment	**Input**: i) Refer to Guidebook for a Sustainable Sanitation Baseline Study ii) Contribute to survey design iii) Assist with survey **Output**: i) Completed survey ii) Analyse and present survey results	6 – 10 weeks	**See sample survey form (Annex)** **Use DoH's "Guidebook for a Sustainable Sanitation Baseline Study"**
	Initial stakeholder consultation	**Input**: i) Help develop stakeholder list ii) Help design consultation survey (as needed) **Output**: i) Stakeholder consultation(s) ii) Indication of stakeholder commitment iii) Indication of willingness to pay	2 – 4 weeks	**See stakeholder consultation summary (Annex)**
	Join Technical Working Group (TWG)	**Input**: i) Commit to join TWG **Output**: i) Initial TWG meeting held	2 – 4 weeks	**See sample Executive Order establishing the TWG that also contains a suggested Group membership list (Annex)**

Org'n	Task Description	Input / Output & Timing	Timing	Links & Documentation
	Assist with development of Local Sustainable Sanitation Strategy (LSSS)	**Input**: i) Assist in production of vision, goals and objectives for LSSS using Baseline Survey as a basis ii) Help translate strategy into action **Output**: i) LSS Plan developed ii) Assist with progress monitoring of LSSP	6 – 10 weeks	**See guidance on prioritizing sanitation needs, and sample resolution for LSSP adoption (Annex 8.4.3 and 8.4.4)** **See DoH "Guidebook for a Local Sustainable Strategy"**
3. DoH	Assist LGUs / WDs with baseline assessment which could include financial support provided through regional DoH offices to help fund survey	**Input**: iii) Contribute to survey design iv) Assist with survey v) Provide financial support **Output**: ii) Completed survey	Ongoing	**See sample survey form (Annex)**
4. DENR & WQMAs	DENR water quality data provides support for need for sanitation infrastructure development (i.e. DENR enforces CWA provisions requiring development of sewerage and septage management) WQMA Action Plan contains sanitation development requirements that LGUs translate into proposals	**Input**: iv) Water quality data v) WQMA Action Plan vi) Technical and (possibly) funding support to LGUs **Output**: ii) Sanitation project brief prepared by LGUs	Ongoing	
5. DILG , LWUA, LoC & PAWD	Provide technical support and guidance (and, in the case of LWUA and DILG, possibly also financial assistance) to LGUs / WDs in relation to baseline assessment and sanitation strategy development	**Input**: iii) Advice on household survey, technology options, etc. iv) Possible provision of financial support **Output**: ii) Project Concept	Ongoing	
6. MWSS	Provide technical support and guidance to LGUs / WDs in relation to baseline assessment and sanitation strategy development	**Input**: ii) Request from LGU / WD for advice on household survey, technology options, infrastructure development, etc. **Output**: iii) Project concept iv) Project implementation	Ongoing	
7. Donor Agencies	Provide technical support and guidance plus financial assistance to LGUs / WDs in relation to baseline assessment and sanitation strategy development	**Input:** ii) Technical assistance in relation to sewerage / septage project development iii) Financial support for surveys, feasibility studies, monitoring, capital development, etc. Output: ii) Sanitation project design and development	Donor water & sanitation teams Ongoing	

8.1.8 List of Required Documentation, Permits and Clearances

The main forms of documents and regulatory approvals and permits required to implement a septage management or sewerage project are summarized in the following table below.

	Document	Description
1	Sanitation Plan	A document produced by each LGU that sets out its strategy with respect to sanitation infrastructure development and service delivery.
2	Local Ordinance	Sets out the sanitation rationale, user fees, operation, management and penalties for the locality.
3	Feasibility Study and Business Plan	Single or separate documents that set out the technical and financial specifications for the design, construction and operation of the sanitation infrastructure.
4	Memorandum of Understanding (MoU)	Where a partnership is proposed, such as between a city government and a utility builder/operator, a MoU is needed to set out the obligations and responsibilities of all parties, e.g. billing, collection, operations management, fee sharing, etc.
5	Loan Agreement(s)	This is the contract signed between the project owner(s) and the bank(s) providing loans to (partly) finance the project
6	Building/Occupancy Permit	These are ancillary regulations that relate to the nature and amount of sewerage/septage produced by different dwellings
7	Sanitation Code	These are design and construction regulations relating to septic tanks and other sanitation infrastructure development
8	Discharge Standards	The sludge and septage treatment processes as well as the disposal of treated sludge and septage are prescribed in the DoH Operations Manual (2008)[6]. Wastewater generated by a treatment facility and discharged into water bodies must comply with DENR effluent standards under the Clean Water Act.
9	Environmental Permit(s) and other regulations	An Environmental Sanitation Clearance must be secured by the project proponent from the Centre for Health Development (CHD) of the DoH. In addition, an Environmental Compliance Certificate and Discharge Permit must be obtained from DENR for proposed waste treatment facilities.
10	Building Code and Sanitation Code	The technical specifications and design of septic tanks and septage infrastructure must comply with the Sanitation and Building Codes.
11	LWUA Exemption	Water Districts that have existing loans with LWUA are required to obtain a waiver from LWUA before they can avail of loans from other lenders.
12	TWG & Community Participation Mandate	Successful projects will typically have a TWG established to oversee the project and assist with its implementation, as well as some formal community engagement process.
13	Capacity Building Plan	A Training Needs Assessment should be carried out during the project feasibility stage to assess the skills and capabilities needed for effective operation of a sanitation project, and the extent of capacity building required for facility staff and local officials.

[6] Department of Health. 2008. *Operations Manual on the Rules and Regulations Governing Domestic Sludge and Septage*.

8.1.9 Sample Resolution for Adopting a Local Sustainable Sanitation Plan

Republic of the Philippines
Province of South Cotabato
Municipality of Polomolok
Office of the Sangguniang Bayan

NOEL M. TAJALE
Secretary to the Sangguniang Bayan

EXCERPT FROM THE MINUTES OF THE 39th REGULAR SESSION OF THE 14th SANGGUNIANG BAYAN OF POLOMOLOK, SOUTH COTABATO HELD AT THE SESSION HALL ON OCTOBER 23, 2008.

Present:

Hon. Ligaya R. Orbesido	Vice-Mayor *(Presiding Officer)*
Hon. Eliazar G. Jovero	Councilor
Hon. Leo J. Cordova	Councilor
Hon. Jude G. Bontuyan	Councilor
Hon. Rhyolite A. Balili	Councilor
Hon. Naomi C. Baitus	Councilor
Hon. Ofelia N. Limos	Councilor
	Ex-Officio Member:
Hon. John Edward L. Lumayag	SK Fed. Chairman

Absent:

Hon. Nilda B. Almencion – *O.B., TESDA Graduation*	Councilor
Hon. Rodolfo E. Doctolero – *O.B., Children's Festival*	Councilor
Hon. Edgardo C. Diazon, Sr. – *O.B., Children's Festival*	ABC President

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RESOLUTION NO. 144

Unanimous Sponsorship

RESOLUTION ADOPTING THE LOCAL SUSTAINABLE SANITATION PLAN OF THE MUNICIPALITY OF POLOMOLOK, PROVINCE OF SOUTH COTABATO.

WHEREAS, the Sangguniang Bayan resolution adopting the Local Sustainable Sanitation Plan of the Municipality is one of the deliverables of the LGU of Polomolok, Province of South Cotabato to the Water and Sanitation Program of the World Bank under the Sustainable Sanitation in East Asia (SuSEA) Philippines Program;

WHEREAS, Sanitation program is considered as one of the priority programs of the LGU as same is embodied in the Executive-Legislative Agenda for 2008-2010 with the goal of achieving a clean environment and healthy constituents of Polomolok; with all households having access to sanitary toilet facilities; the town people will have improved community economic condition through environment-friendly livelihood programs; and, in the overall perspective, a pollution-free Polomolok;

Republic of the Philippines
Province of South Cotabato
Municipality of Polomolok
Office of the Sangguniang Bayan

NOEL M. TAJALE
Secretary to the Sangguniang Bayan

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(Reso. No. 144, s-2008)

WHEREAS, towards that end, the drafted Local Sustainable Sanitation Plan needs to be adopted by the Sangguniang Bayan to make it binding and official;

WHEREFORE, premises considered, on unanimous sponsorship, the Body

RESOLVED, as it does hereby resolve, to adopt the Local Sustainable Sanitation Plan of the Municipality of Polomolok, Province of South Cotabato.

UNANIMOUSLY CARRIED.

ADOPTED by the Sangguniang Bayan on October 23, 2008.

I hereby CERTIFY to the correctness of the foregoing resolution.

NOEL M. TAJALE
Sangguniang Bayan Secretary

ATTESTED & CERTIFIED
TO BE DULY ADOPTED:

LIGAYA R. ORBESIDO
Vice-Mayor
(Presiding Officer)

APPROVED: 10-29-08

ISIDRO D. LUMAYAG
Municipal Mayor

NMT/jbc.doc

8.1.10 Sample Ordinance for Septage Management

REPUBLIC OF THE PHILIPPINES
City of Dumaguete
OFFICE OF THE CITY COUNCIL

EXCERPT FROM THE MINUTES OF THE REGULAR SESSION OF THE CITY COUNCIL HELD AT THE SESSION HALL ON APRIL 6, 2006

PRESENT:

HON. WILLIAM E. ABLONG, *Presiding Officer*	CITY VICE-MAYOR
HON. ROTELIO U. LUMJOD	CITY COUNCILOR
HON. MANUEL T. SAGARBARRIA	CITY COUNCILOR
HON. NOEL C. DE JESUS	CITY COUNCILOR
HON. FRANKLIN O. ESMEÑA	CITY COUNCILOR
HON. URBANO E. DIGA, JR.	CITY COUNCILOR
HON. SALETO J. ERAMES	CITY COUNCILOR
HON. ESPIRIDION V. CATAN	CITY COUNCILOR
HON. MANUEL C. PATRIMONIO	CITY COUNCILOR
HON. HARRISON K. GONZALES, *Liga President*	CITY COUNCILOR
HON. KARISSA FAYE R. TOLENTINO, *SK Chairman*	CITY COUNCILOR

ABSENT:

HON. SAMUEL D. DICEN	CITY COUNCILOR

RESOLUTION NO. 141
Series of 2006

WHEREAS, mandated by the new *Clean Water Act of 2004 (R.A. 9275)* and other existing laws and ordinances related directly or indirectly to wastewater and septage management, the City of Dumaguete, as a non-highly urbanized city, is establishing a septage management system;

WHEREAS, untreated wastewater affects health by spreading diseases, making water unfit for human consumption and other uses, contaminating groundwater, threatening biodiversity, and reducing the quality of life of the citizens;

WHEREAS, most of the residences, businesses and institutions in Dumaguete City use septic tanks for wastewater treatment and disposal;

WHEREAS, most of the septic tanks in the city are not properly designed, constructed or regularly desludged;

WHEREAS, groundwater is the city's water source;

WHEREAS, the construction and operation of a sewerage network and treatment system is beyond the financial capacity of the city government at this time;

WHEREAS, the City is committed to the improvement, maintenance and conservation of the ecosystem and the protection of public health;

WHEREAS, Section 7 of the Clean Water Act (RA 9275) provides, among others, that each LGU may raise funds to subsidize necessary expenses for the operation and maintenance of sewage treatment or septage facilities servicing their area of jurisdiction through local property taxes and enforcement of a service fee system;

WHEREFORE, on motion of ***Councilor Manuel C. Patrimonio***, duly seconded by ***Councilor Harrison K. Gonzales***, the City Council in session assembled.

RESOLVED, AS IT IS HEREBY RESOLVED, to enact the following ordinance:

ORDINANCE NO. 18
Series of 2006

AN ORDINANCE ESTABLISHING A SEPTAGE MANAGEMENT SYSTEM IN THE CITY OF DUMAGUETE.

Be it ordained by the City Council of Dumaguete that:

ARTICLE I
Title of the Ordinance

AN ORDINANCE ESTABLISHING A SEPTAGE MANAGEMENT SYSTEM IN THE CITY OF DUMAGUETE.

ARTICLE II
Scope

Section 1. This ordinance shall apply to all buildings and structures whether public or private, residential or commercial, proposed/planned or existing. However, properties or businesses that have onsite wastewater treatment facilities approved by the City Environment and Natural Resources Officer (CENRO) shall be exempted from this ordinance.

Section 2. ***Pretreatment for Commercial Facilities***. Septage from a commercial or other non-residential facility is acceptable if the septic tank only receives wastewater typical of a household (i.e., from toilets and sinks). If the wastewater contains substances of a commercial nature such as oil or fuel residue, metals, or high volumes of fats and grease, an appropriate pretreatment program, approved by the CENRO, must be in place.

ARTICLE III
Authority

Section 3. This ordinance is enacted to supplement the provisions and specifications of existing laws and ordinances related to septage management and complement existing laws on clean water and building and plumbing regulations.

ARTICLE IV
Definitions

Section 4. The words and phrases used in this Ordinance shall mean as follows:

Anaerobic ponds – are deep stabilization ponds used to treat high-strength organic wastewater that also contains high concentration of solids. Anaerobic treatment does not require the presence and use of oxygen and encourages the growth of bacteria, which breaks down the waste material, releasing methane and carbon dioxide.

Baffle – a device (as a wall or screen) to deflect, check or regulate the flow of sewage and septage. It promotes preliminary and primary treatment of the incoming sewage by allowing the physical separation of solid and liquid components in the sewage.

CENRO – City Environment and Natural Resources Office.

Chamber – an enclosed space, cavity or compartment of a septic tank.

Communal Excreta Disposal System – an excreta disposal system serving a group of dwelling units.

Desludging – the process of removing the accumulated sludge or septage from the septic tank.

Digestion – a microbiological process that converts the chemically complex organic sludge to methane, carbon dioxide, and inoffensive humus-like material.

Disposal Field or Leaching Bed – a soil-based effluent disposal system composed of pipes and shallow trenches leading from the outlet of the septic tank, consisting of open jointed or perforated pipes so distributed that effluent from a septic tank is oxidized and absorbed by the soil. The surrounding bedding material of the network of pipes should be of high enough permeability to effect treatment by seepage.

Domestic Sewage – sewage containing human excrement and liquid household waste. Also called sanitary sewage.

Effluent – a general term denoting any wastewater, partially or completely treated, or in its natural state, flowing out of a drainage canal, septic tank, building, manufacturing plant, industrial plant, treatment plant, etc.

Facultative Ponds – shallow rectangular ponds that stabilize wastes using a combination of anaerobic, aerobic, and facultative (aerobic-anaerobic) processes.

Freeboard or Airspace of a Septic Tank – the distance as measured from the maximum liquid level line to the underside of the septic tank slab or cover.

Individual Excreta Disposal System – an excreta disposal system serving a dwelling unit.

Maturation ponds – low-rate stabilization ponds that are designed to provide for secondary effluent polishing and seasonal nitrification.

"P" traps – traps used on plumbing fixtures, such as toilets and drains, to prevent sewage gases from entering the plumbing system or the atmosphere.

Scum – a slimy or filmy covering on the surface of the liquid in the septic tank.

Seepage pit – a loosely lined excavation in the ground that receives the discharge of a septic tank and designed to permit the effluent from the septic tank to seep through pit bottom and sides.

Septage – thickened and partially treated sewage that is removed from a septic tank.

Septic tank – a watertight receptacle, which receives the discharge of a sanitary plumbing system or part thereof, and is designed and constructed to accomplish the sedimentation and digestion of the organic matter in the sewage within the period of detention/retention and to allow the liquid to discharge to a leaching field, sewer lines, a combined sewerage network or directly to a secondary wastewater treatment facility in accordance with the standards set forth by the Revised National Plumbing Code of the Philippines.

Sewage – any wastewater containing human, animal or vegetable waste matter in suspension or solution including human excreta and urine and may possibly contain liquids consisting of chemicals in solution.

Sewer – an artificial pipe or conduit for carrying sewage and wastewater.

Sewerage – a comprehensive term, including all construction for collecting, transporting, and pumping of sewage. Usually refers to a buried system of underground pipes.

Sewage works – a comprehensive term for pumping, treating and final disposal of effluent via a centralized treatment plant.

Sludge – precipitated solid matter with a highly mineralized content produced by water and sewage treatment processes.

Stabilization pond – An artificial pond designed to treat wastewater in general using solely naturally occurring biological treatment processes, and without the need for an electro-mechanical energy input.

Subsurface Absorption Bed or Drain field – also called leaching bed, leaching field, or soak-away. An underground system of pipes embedded in a suitably porous soil medium leading from the outlet of the septic tank, consisting of open jointed or perforated pipes so distributed that the effluent from a septic tank is oxidized and absorbed by the soil. Must be located far from environmentally critical waterways or groundwater wells.

ARTICLE V
Septage Management System

Section 5. ***Excreta Disposal System***. All houses/buildings shall have an approved excreta disposal system for treatment of domestic sewage.

Section 6. ***Desludging and Transfer of Septage to the Septage Treatment Facility***. Liquid and/or solid materials removed from septic tanks shall be transported by a septage hauler/pumper to the Septage Treatment Facility in Barangays Camanjac and Candau-ay of this City following Department of Health regulations on desludging and transport of sludge. No septage hauler/pumper can unload or dispose of septage in other places, including bodies of water, agricultural fields, and the drainage system within the city until the implementing rules and regulations for proper land application have been issued by the authorized government agencies.

Section 7. ***Septage Treatment Facility***. The septage treatment facility shall use stabilization ponds or lagoons, composed of anaerobic, facultative, and maturation or aerobic ponds. All stabilization ponds shall be lined with high density polyethylene (HDPE) geomembrane on top of highly compacted soil. Jointing of adjacent sections of geomembrane sections shall be in accordance with manufacturers' jointing guidelines. Effluent from the last aerobic pond shall flow into a constructed wetland to ensure that the quality of the final effluent shall meet DENR standard for the receiving water body. Periodically, the solid material that accumulates in the receiving tank and ponds shall be removed and deposited in sludge drying beds. Dried

sludge shall be recovered as compost material, soil conditioner or landfill material. An operations and maintenance plan shall be developed, which shall include a vector control strategy to insure that no disease-causing elements shall thrive in the treatment facility and a maintenance schedule for clearing excess vegetation growth.

The operations and maintenance plan shall also include provisions for reducing system upset, including immediate actions to prevent the occurrence of foul smells and release of partially treated effluent from the system.

ARTICLE VI
General Design and Construction Requirements of Septic Tanks

Section 8. ***General Requirements.***

Section 8.1. *Buildings or Structures Proposed for Construction*

a. No building plan for residential dwelling units or commercial and institutional structures shall be approved unless the design of the sanitary plumbing and septic tank conforms to the specifications set herein and other pertinent regulations; alternative wastewater treatment systems shall be duly approved and endorsed by the CENRO. Further, per DENR regulations, all malls, restaurants, hotels, apartelles and other residential buildings, subdivisions, hospitals and similar establishments are required to utilize sewage treatment facilities as a condition to the granting of Environmental Clearance Certificates (ECCs) and permits to operate.

b. It shall be the duty of the owner, administrator or contractor to inform the concerned agency that the newly constructed septic tank, sewage treatment facility or alternative treatment system, with prior plan approval, is ready for inspection. The new system shall not be covered or used until inspected and approved by the City Engineer's Office.

Section 8.2. *Existing Buildings or Structures*

a. Owners of existing septic tanks that are not accessible for desludging are required to repair or upgrade their tank so it can be desludged. If repairs are not possible, such owners are encouraged to build a new septic tank that will comply with the provisions set herein.

b. The cost of repair and upgrading of septic tanks shall be borne by the owners.

sludge shall be recovered as compost material, soil conditioner or landfill material. An operations and maintenance plan shall be developed, which shall include a vector control strategy to insure that no disease-causing elements shall thrive in the treatment facility and a maintenance schedule for clearing excess vegetation growth.

The operations and maintenance plan shall also include provisions for reducing system upset, including immediate actions to prevent the occurrence of foul smells and release of partially treated effluent from the system.

ARTICLE VI
General Design and Construction Requirements of Septic Tanks

Section 8. ***General Requirements.***

Section 8.1. *Buildings or Structures Proposed for Construction*

a. No building plan for residential dwelling units or commercial and institutional structures shall be approved unless the design of the sanitary plumbing and septic tank conforms to the specifications set herein and other pertinent regulations; alternative wastewater treatment systems shall be duly approved and endorsed by the CENRO. Further, per DENR regulations, all malls, restaurants, hotels, apartelles and other residential buildings, subdivisions, hospitals and similar establishments are required to utilize sewage treatment facilities as a condition to the granting of Environmental Clearance Certificates (ECCs) and permits to operate.

b. It shall be the duty of the owner, administrator or contractor to inform the concerned agency that the newly constructed septic tank, sewage treatment facility or alternative treatment system, with prior plan approval, is ready for inspection. The new system shall not be covered or used until inspected and approved by the City Engineer's Office.

Section 8.2. *Existing Buildings or Structures*

a. Owners of existing septic tanks that are not accessible for desludging are required to repair or upgrade their tank so it can be desludged. If repairs are not possible, such owners are encouraged to build a new septic tank that will comply with the provisions set herein.

b. The cost of repair and upgrading of septic tanks shall be borne by the owners.

j. Access to the septic tank: There shall be at least one maintenance hole for each compartment, with a minimum side dimension of 500 mm. All maintenance holes shall extend through the tank cover and shall extend to finished grade. Manhole covers shall be designed with durable and fully coated or non-corrosive handles for easy lifting. Septic tank access covers should be secured from unauthorized entry, either through safety screws, locks or a tank lid that weighs 15 kg or more.

k. Outlet from the septic tank:
The design, construction, and location of structures receiving effluent from septic tanks shall conform to the National Plumbing Code of the Philippines. Effluent treatment is further required but will be covered by a separate ordinance and other infrastructure projects.

l. For clustered structures or houses that are highly dense and characterized by lack of or inadequate land space, there shall be designed a communal septic tank consistent with approved engineering and environmental standards.

ARTICLE VII
Administration and Enforcement

Section 10. The administration and enforcement of this ordinance for new buildings is hereby vested in the Building Official of the City Government of Dumaguete.

Section 11. There shall be created a City Septage Management Authority (CSMA) composed of representatives from the City Environment and Natural Resources Office, City Health Office, General Services, City Treasurer's Office, Dumaguete City Water District, City Legal Office, City Engineer's Office and a non-government organization who shall be appointed by the City Chief Executive from the NGO members of the City Development Council. Other persons may be invited to provide technical advice to the CSMA.

a. The CSMA shall conduct a survey of all properties and premises in coordination with barangay officials to determine if a septic tank is present, and if it is accessible for desludging.

b. If a septic tank is not present or it is inaccessible for desludging, the CSMA shall serve notices of non-conformance to the provisions of this ordinance to the owners/administrators, or occupants.

c. The CSMA or its authorized representatives shall be permitted to enter all properties for the purpose of inspection, observation, measurement, sampling and testing. A prior notice shall be given property-owners to facilitate inspection and provide assistance to the CSMA representatives.

d. For those property owners, administrators or occupants served with notices of non-conformance, a compliance period shall be set by the property owners, administrators or occupants and the CSMA. The compliance period shall be based on the proper installation of an acceptable septic tank of which design is specified in this ordinance

e. The CSMA shall issue a certificate of compliance to the property owners who are deemed to have met the minimum requirements for septic tanks.

f. For new developments, the occupancy permit issued by the building officials shall serve as certificate of compliance until the CSMA conducts another round of inspection.

g. The CSMA shall conduct a periodic survey of properties every 3 years or as determined by the CSMA to verify changes in septic tank accessibility or changes in tank capacity requirements. This shall be done in coordination with the barangay officials.

h. The CSMA shall plan and implement an information and education program on wastewater management and the city's septage management system.

Section 12. *Monitoring and Evaluation*. Close monitoring of all activities in the treatment facility shall be conducted by the CSMA in conjunction with the operations and maintenance plan that will be contained in the operational guidelines. Adverse effects of the project shall be mitigated and considered top priority in prevention and maintenance operations. Any environmental change/hazard attributed to the project implementation shall be immediately addressed.

Section 13. *Desludging*. Septic tanks require desludging on an average of every 3 to 5 years. Septic tanks shall be desludged when the sludge volume is 1/3rd of the total volume of the septic tank.

a. The CSMA shall keep a record of all owners/administrators of buildings and structures who have desludged their septic tanks, those that are inaccessible, those that do not have septic tanks, and those that do not have water-sealed toilets, and other data that may be deemed necessary by the CSMA.

b. The CSMA shall implement and adhere to the rules and regulations set forth by the Department of Health in handling, transporting, treatment and disposal of septage.

c. The CSMA shall strictly implement an accreditation system and operational guidelines for private desludging service providers that would like to operate in the city, including but not limited to securing an environmental sanitation clearance (ESC) which is discussed more thoroughly in the rules and regulations set forth by the Department of Health in handling, transporting, treatment and disposal of septage.

Section 14. ***Funding***. The City Government shall allocate necessary funds to support capital expenditures and operating and maintenance expenses of the septage management system.

Section 15. ***User fee***. All building or structure owners shall pay an amount for the desludging of their septic tanks and treatment of the septage equivalent to the following:

User Fees. A user fee of Two Pesos (P2.00) per cubic meter of water consumed shall be charged and added to the Dumaguete City Water District (DCWD) monthly water bill. The fee may be adjusted periodically following public consultations.

Section 15.1. Users of un-metered water and users with no history of billable water flow or water consumption shall have their user fee estimated by the Water District by averaging the billable flow of other households with the same number of members and toilets. Commercial establishments that have their own water source shall be required to install a production meter. The quantity of water produced shall be the basis for computing the cost of desludging the septic tank.

Section 15.2. Users who have their own onsite wastewater treatment system certified by the CENRO as functioning and compliant shall be exempt from paying the required user fee.

Section 15.3. Trust Fund. Monies collected from **users' fee** or the desludging and treatment fees shall be held in Trust by the City Treasurer's Office. Said Trust Fund shall only be disbursed upon proper authorization by the CSMA, subject to the usual accounting and auditing regulations.

Section 16. ***Violations and Penalties***. -

Section 16.1. *Issuance of Non-Conformity*. The CSMA shall issue a notice of non-conformity to property owners, administrators or occupants who do not have a septic tank, whose septic tank is not designed properly, or is inaccessible for desludging unless they have an alternative system approved by the CENRO.

Section 16.2. *Penalties*. The violator, or owner of a non-complying establishment or household, who fails to comply with the provisions of this Ordinance within one (1) year as provided by the Local Government Code, must pay the fines per violation set herein in lieu of prosecution:

a. For private residential buildings **P1,000.00**

b. For hotels, apartments, banks, offices, shops, lodging houses, malls, restaurants, and other commercial establishments **P2,000.00**

c. For hospitals, funeral parlors and similar operation **P3,000.00**

or by imprisonment of not less than one (1) day nor more than one (1) year, or both fine and imprisonment at the discretion of the court. Failure to comply with the provisions herein shall result in the cancellation of business permits for commercial establishments.

ARTICLE VIII
Final Provision

Section 17. All provisions of existing laws and ordinances are hereby supplemented and added to come up with a system that will work for the city.

Section 18. This Ordinance shall take effect upon its approval.

UNANIMOUSLY APPROVED.

o o o O o o o

I hereby certify to the correctness of the above quoted resolution with an ordinance.

RAMON A. VILLAROSA
City Secretary

ATTESTED:

WILLIAM E. ABLONG
City Vice-Mayor
Presiding Officer

APPROVED:

AGUSTIN R. PERDICES
City Mayor

8.1.11 Sample MoU between WD and LGU

MEMORANDUM OF UNDERSTANDING

KNOW ALL MEN BY THESE PRESENT:

This Agreement made and entered into by and between:

The **XXX Local Government Unit (LGU)**, with office address at XXX, represented herein by its **Mayor**, **XXX,** hereinafter referred to as the **"XXX LGU"**

- And -

The **YYY Water District**, a government-owned and-controlled corporation, with office address at XXX, represented herein by its **General Manager**, **YYY,** hereinafter referred to as the **"YYY WD"**

WITNESSETH, that:

WHEREAS, under the National Sewerage and Septage Management Program (NSSMP), the Government of the Philippines is prepared to provide funding support to qualified Highly Urbanised Cities (HUCs) to help defray the capital costs associated with sewerage infrastructure development;

WHEREAS, under the Clean Water Act, water utilities in highly urbanized areas such as the YYY WD, in coordination with local government units, are required to connect existing sewage lines to available sewerage systems;

WHEREAS, in areas where there are no sewerage systems, water utilities may adopt a sanitation improvement program that will regularly remove septage to increase the wastewater treatment performance of septic tanks;

WHEREAS, the XXX LGU and YYY WD, in cooperation, plan to develop a [sewerage / combined sewerage and septage / combined sewerage and drainage] project with the following objectives:

- Provide efficient and affordable sewerage services to XXX LGU residents and YYY WD customers that will reduce pollution attributed to untreated septage discharges or overflows from businesses and households;
- Comply with all existing local and national environmental laws and regulations on effluent and sludge disposal by the construction and operation of efficient sewerage network and treatment plants; and
- Improve water quality, sanitation and public health conditions to enhance economic productivity in the general areas of YYY WD and its neighboring municipalities;

NOW, THEREFORE, for and in consideration of the foregoing premises, the parties herein agree to work together for the implementation of the sewerage project through the following undertakings:

A. The **XXX LGU** shall:

A.1. Technical

1. Develop a local Sanitation Plan for the XXX LGU that incorporates a Project Brief for this proposed development in accordance with the template included in the NSSMP Program Operations Manual (POM).
2. Assist the YYY WD in preparing a Feasibility Study for the project and provide any financial support required as well as all necessary information and data.
3. Assist the YYY WD in undertaking a Willingness to Pay Study for the project and provide any financial assistance required as well as all necessary logistical support and data.
4. Assist the YYY WD in completing any other studies required to support the implementation of this project.
5. Provide all necessary support to ensure that the required permits, certificates and other documentation are secured in a timely manner to help implement the project within the expected timeframe.

A.2. Capital Finance

1. Agree to provide Ps._____ (XX% of the total project cost) in the form of equity and debt to help co-finance the project. The breakdown of this finance support is as follows:

   a. Loans _____

   [define total loan amount and its composition, terms and conditions]

   b. Equity _____

   [define total equity amount and its nature, terms and conditions]

   Disbursement and sharing of this loan and equity contribution with YYY WD shall be in accordance with the terms of a project financing agreement drawn up between and signed by the parties in relation to this project.
2. Agree to provide an in-kind contribution to the project in the form of land on which assets can be located, access roads to project sites as well as other forms of equity input.
3. Submit a project financing application to the Department of Public Works and Highways (DPWH) in order to secure NSSMP funding support for the project.

   Disbursement and sharing of this NSSMP contribution with YYY WD shall be in accordance with the terms of a project financing agreement drawn up between and signed by the parties in relation to this project.

A.3. Operational Finance

1. Undertake all steps necessary to ensure that approval is granted for the implementation of the tariff calculated to be necessary to support the financing of the project.
2. Provide all assistance necessary to ensure that implementation of these tariff arrangements is carried out in accordance with the project financing agreement.
3. Assist by all means possible with the collection of tariff payments owed by businesses and households.
4. Comply with the terms of the project financing agreement in relation to the mechanism for the sharing of collected tariff revenues between the XXX LGU and YYY WD.

A.4. Administrative

1. Ensure that an Ordinance in support of the project is passed in a timely manner (i.e. before the NSSMP project application is submitted). This Ordinance must contain all of the provisions necessary to enable the project to be implemented in an efficient and financially self-sustainable manner. These provisions will include, but not be limited to:
    a. Implementation of a sanitation-related tariff that will enable the project's capital and operational costs to be recovered.
    b. The requirement for all XXX LGU households and businesses planned to be covered by the development to pay for a connection to the infrastructure and to pay all ongoing relevant tariffs and charges.
    c. The necessary authority for staff and employees of YYY WD to access and enter business and household premises in order to facilitate implementation and operation of the project.
2. Assist by all means possible in ensuring that applications for all necessary permits, orders and administrative certificates related to the project are made and, if all related conditions are met, are promptly approved.
3. Ensure that all necessary changes are made in relation to city planning and land qualification to enable project development.
4. Establish a Technical Working Group (TWG) that shall be responsible for procuring, managing and overseeing the implementation of the project. The TWG shall be comprised of representatives from XXX LGU, YYY WD and other agencies and interest groups as deemed necessary by the XXX LGU.
5. Setting up a project specific joint bank account with nominated representatives from XXX LGU and YYY WD as account signatories. All monies raised in relation to the development and operation of the project shall be transmitted through this dedicated account.
6. Carry out all other necessary administrative arrangements as may be necessary to facilitate implementation of the project.

A.5. Communications

1. Conduct a comprehensive and ongoing public communications campaign in accordance with the framework set out in the POM in support of the project. The goal of this campaign should be to help secure public support for the project and to ensure that all businesses and households in XXX LGU understand and are aware of the justification for and importance of the project.

A.6. Monitoring and Inter-Agency Cooperation

1. Gather, collate and report all information and data requested by the DPWH in relation to the project to support NSSMP monitoring activities in a timely fashion.
2. Support, inform and cooperate with other agencies such as the Department of Health (DoH), Department of Environment and Natural Resources (DENR), the Local Water Utilities Administration (LWUA) and the Department of Interior and Local Government (DILG), as and when required for the effective implementation of the Program.

A.7. Other

B. The **YYY WD** shall:

B.1. Technical

1. Assist the XXX LGU in developing a local Sanitation Plan that incorporates a Project Brief for this proposed development in accordance with the template included in the POM.
2. Take the lead in preparing a Feasibility Study for the project which must include all technical, operational, financial, organizational, communications and administrative elements necessary to fully evaluate the project.
3. Take the lead in undertaking a Willingness to Pay Study for the project and provide any financial assistance required as well as all necessary logistical support and data.
4. Take the lead in completing any other studies required to support the implementation of this project.
5. Ensure that all required permits, certificates and other documentation are secured in a timely manner to help implement the project within the expected timeframe.
6. Take responsibility for supervising and managing the construction of the project.
7. Once completed, manage and operate the sanitation infrastructure assets for a period of ___ years;

B.2. Capital Finance

1. Agree to provide Ps._____ (XX% of the total project cost) in the form of equity and debt to help co-finance the project. The breakdown of this finance support is as follows:

    a. Loans _____

    [define total loan amount and its composition, terms and conditions]

    b. Equity _____

    [define total equity amount and its nature, terms and conditions]

    Disbursement and sharing of this loan and equity contribution with XXX LGU shall be in accordance with the terms of a project financing agreement drawn up between and signed by the parties in relation to this project.
2. Assist the YYY LGU in submitting a project financing application to the DPWH in order to secure NSSMP funding support for the project.

    Disbursement and sharing of this NSSMP contribution with XXX LGU shall be in accordance with the terms of a project financing agreement drawn up between and signed the parties in relation to this project.

B.3. Operational Finance

1. Undertake all steps necessary to ensure that approval is granted for the implementation of the tariff calculated to be necessary to support the financing of the project.
2. Provide all assistance necessary to ensure that implementation of these tariff arrangements is carried out in accordance with the project financing agreement.
3. Assist by all means possible with the collection of tariff payments owed by businesses and households including, if applicable, the proportion of the water bill allocated for sanitation cost recovery.
4. Comply with the terms of the project financing agreement in relation to the mechanism for the sharing of collected tariff revenues between the XXX LGU and YYY WD.

B.4. Administrative

1. Provide all necessary support to assist the XXX LGU to pass an Ordinance in support of the project in a timely manner (i.e. before the NSSMP project application is submitted).
2. Provide all necessary support to the XXX LGU to help ensure that applications for all necessary permits, orders and administrative certificates related to the project are made and, if all related conditions are met, are promptly approved.
3. Work with the XXX LGU in establishing a TWG and then fully participate in the operation of the Group so as to help ensure it acts as an effective manager of project implementation.
4. Assist the XXX LGU in setting up and managing a project specific joint bank account. All monies raised in relation to the development and operation of the project shall be transmitted through this dedicated account.

5. Carry out all other necessary administrative arrangements as may be necessary to facilitate procurement and implementation of the project.

B.5. Communications

1. Work with the XXX LGU in conducting a comprehensive and ongoing public communications campaign in accordance with the framework set out in the POM in support of the project. The goal of this campaign should be to help secure public support for the project and to ensure that all business and households in XXX LGU understand and are aware of the justification for and importance of the project.

B.6. Monitoring and Inter-Agency Cooperation

1. Gather, collate and report all information and data requested by the DPWH in relation to the project to support NSSMP monitoring activities in a timely fashion.
2. Support, inform and cooperate with other agencies such as the DoH, DENR, LWUA and DILG, as and when required for effective implementation of the NSSMP.

B.7. Other

IN WITNESS WHEREOF, the parties have hereunto set their hands this ___ day of _____ 20XX in _____.

XXX LGU

By:

_____

Mayor

YYY WD

By:

_____

General Manager

SIGNED IN THE PRESENCE OF:

_____

_____

ACKNOWLEDGEMENT

REPUBLIC OF THE PHILIPPINES)
_____) S.S.

BEFORE ME, this __ day of_____, 20XX, personally appeared:

NAME	PASSPORT NO.	DATE &/PLACE ISSUED
_____	_____	_____
_____	_____	_____

Known to me and to me known to be the same persons who executed the foregoing instrument and acknowledged to me that the same is their free and voluntary act and deed and the voluntary act and deed that of the entities they represent.

WITNESS MY HAND AND SEAL on the date and place above written.

NOTARY PUBLIC

Doc No.: _____
Page No.: _____
Book No.: _____
Series of 20XX.

PROJECT FINANCING AGREEMENT

This document will be project specific and will therefore vary according to the nature and scale of the development as well as the outcome of the negotiations between the LGU and WD with respect to how the project shall be financed.

The Agreement must as a minimum, however, contain the following elements:

1. Agreement on the sharing of capital cost between the project partners.
2. Agreement on how project financing will be obtained and its subsequent disbursement between project partners during the project development process.
3. Agreement on how operations, maintenance, debt financing and other ongoing costs will be financed (e.g. through a sanitation tariff increment to water bills, through a dedicated environmental fee, through local taxes, etc.) and how these financing arrangements will be managed between the project partners (i.e. who will be responsible for collection and disbursement of revenues related to this project).

8.2 Environmental

8.2.1 Philippine Environmental Impact Statement (EIS) System

Philippine Environmental Impact Statement (EIS) System

A. Legislative Framework

The Environmental Impact Statement (EIS) System in the country originated in 1977 with the promulgation of Presidential Decree (PD) 1151, known as the Philippine Environmental Policy. This decree established the requirement for all proponents, including those in the public and private sectors, to prepare an EIS for any proposed action, project or undertaking that may significantly affect the quality of the environment.

PD 1586 as promulgated in 1978 strengthened the EIS system by providing for the centralized administration of the system and other environmental management measures. It also gave the concerned authority the ability to assess penalties for non-compliance with the system.

DENR Administrative Order 21, Series of 1992 (DAO 1992-21) amended the Revised Implementing Rules and Regulations for PD 1586 by streamlining the EIS system while strengthening the process of its implementation. DAO 1996-37 further strengthened the EIS system and was designed to ensure that EIS occurs early in the project cycle. Moreover, DAO 1996-37 guarantees enhanced public participation in the EIS process. Furthermore, DAO 2000-05 established EIS Programmatic Compliance for projects subdivided into several phases and/or co-located projects in a designated area.

To facilitate the implementation of the EIS System, a Revised Procedural Manual of DAO 2003-30 was issued as quick reference for project proponents and concerned government agencies. The Manual integrates the new DENR-EMB policies of promoting EIA as a planning and decision-making tool, foremost of which is segregating the EIA process from the practice of prior submission of permits, clearances, licenses, endorsements, resolutions and other government approvals which could pre-empt the EIA evaluation process. It also simplified requirements by presenting application and review procedures in process flowcharts, tabulating all requirements with pro-forma documents for easy compliance.

Lastly, DENR Memorandum Circular No. 14 was issued in 2010 (DENR MC 2010-14). This is also known as the Standardization of Requirements and Enhancement of Public Participation in the Streamlined Implementation of the Philippine EIS System. The purpose of this regulation is to adopt an efficient, transparent, systematic and participatory implementation of the EIS System under PD 1586.

B. Coverage of the EIS System

Projects falling under the category of environmentally critical projects (ECPs) and/or located in environmentally critical areas (ECAs) are covered by the EIS system. The four (4) main categories of ECPs are (1) heavy industries; (2) resource extractive industries; (3) infrastructure projects and (4) golf course projects. On the other hand, there are 12 main categories of ECAs which are based on the physical/topographical, biological, climatological, land use, historical, and/or national importance characteristics.

The septage and sewerage projects under the NSSMP are not classified as ECP but most would probably be located in ECAs such as watershed reserves or aquifer recharge areas and/or near waterbodies. Thus, these will be covered by the EIS system and will require an Environmental Compliance Certificate (ECC). The type of document to be submitted to the DENR-EMB Regional office with the ECC application will depend on the operating capacity of the domestic Wastewater Treatment Facility (WWTF). For WWTFs with an operating capacity of < 5,000 m^3/day, an Initial Environmental Examination (IEE) is required while an Environmental Impact Statements (EIS) is applicable if the WWTF has a capacity of ≥ 5,000 m^3/day. The IEE is an abbreviated version of the EIS, and is applicable to projects that are considered non-critical but are located in an environmentally critical area.

C. Application Requirements

The main document required with the ECC application is the Environmental Impact Assessment (EIA) Report, either an EIS or IEE depending on the proposed capacity of the WWTF. The basic outline of the report is provided in Annex 1 of DENR MC 2010-14. For the NSSMP projects, the basic outline to be used could be for a Proposed (New) Single Project or Proposed (New) Co-Located Project. The first outline is applicable if it is an independent or stand-alone project while the second outline could be used if the proposed project will be located in a project area with an ECC already issued, e.g. for a Water Treatment Facility (WTF) of the WD.

The EIA Report should focus on the environmental aspects of the project that have scientific basis and are verifiable. The possible impacts on the four major environmental components (land, water, air and people) and its applicable subcomponents should be investigated. In addition, related environmental concerns as expressed by the local community or stakeholders through public scoping, public consultation or any other form of public participation methods during the conduct of the EIA study should also be considered. The EIA Report should present the projected impacts and the proposed environmental management and monitoring plan to minimize these impacts within acceptable levels.

The EIA Report should be supported by the following documents:

- proof of compatibility with the existing Land Use Plan, if necessary
- proof of ownership or authority over the project site
- Accountability Statements of the proponent and the EIS preparers
- photographs or plates of the project site, impact areas an affected areas and communities
- duly accomplished Project Environmental Monitoring and Audit Prioritization Scheme (PEMAPS) questionnaire.

Additionally, these are required for co-located projects:

- a copy of the existing ECC
- the latest Self Monitoring Report.

The IEE or EIS for a project may be prepared by the proponent's technical staff or by an EMB-accredited professional group commissioned by the proponent.

D. Review of ECC Application

The EIA Report and its supporting documents will be submitted to the concerned DENR-EMB Regional office for review and eventual issuance of ECC. Upon acceptance of the EIA Report by the concerned DENR-EMB Regional office, the latter is still authorized to one (1) request for additional information or clarification on the substance of the EIA Report from the project proponent, if necessary.

For these type of projects (non-ECPs), the decision on the ECC Application will be issued by the EMB Regional Director within twenty (20) working days after the official acceptance of application documents and payment of the required processing and review fees.

The ECC is a document **certifying** that the project under consideration will not **bring about an unacceptable environmental impact** and that the proponent has **complied with the requirements of the EIS**. The release of the ECC allows the project to proceed to the next stage of project planning, which is the acquisition of approvals from other government agencies and LGUs, after which the project can start implementation

Further information and assistance on Environmental Impact Statements can be found in the following documents:

DENR-EMB Memorandum Circular 2007-02. *Revised Procedural Manual for DENR Administrative Order No 30 Series of 2003*. 21 August 2007.

DENR Memorandum Circular 2010-14. *Standardization of Requirements and Enhancement of Public Participation in the Streamlined Implementation of the Philippine EIS System*. 29 June 2010.

DENR-EMB Memorandum Circular 2005-01. Procedural Manual for DENR Administrative Order No. 30 Series of 2003. 5 January 2005.

DENR Administrative Order 2003-30._Implementing Rules and Regulations of the Philippine EIS System. 30 June 2003.

DENR Administrative Order No. 2000-05. Revising DENR Administrative Order (DAO) No. 94-11, Supplementing DAO No. 1996-37 and Providing for Programmatic Compliance Procedures within the Environmental Impact Statement (EIS) System. 6 January 2000.

DENR Administrative Order 1996-37. Revising DENR Administrative Order No. 21,Series of 1992, to Further Strengthen the Implementation of the Environmental Impact Statement (EIS) System. 2 December 1996.

DENR Administrative Order No. 1992-21: Amending the Revised Rules and Regulations Implementing P.D. 1586 (Environmental Impact Statement System). 5 June 1992.

Presidential Decree 1586. Establishing the Environmental Impact Statement System including other Environmental Management and Related Measures. 11 June 1978.

Presidential Decree 1151. Philippine Environmental Policy. 6 June 1977.

8.3 Application Process

8.3.1 Application Form

[Title of project]

NSSMP application form

MAIN APPLICATION FORM

Instructions to complete the application form

The elements within [] brackets must be completed with the information indicated, as appropriate. Please delete all information on this brackets.
The cursive information provides support to complete the application form.
Where # appears please provide the appropriate number

[Date: Month and Year]

ADDRESSES AND REFERENCES

Local Implementer responsible for the application (operating structure)

LGU contact details

Name:

Address:

Contact:

Telephone:

Telex/Fax:

E-mail:

WD contact details

Name:

Address:

Contact:

Telephone:

Telex/Fax:

E-mail:

Other partner contact details

Name:

Address:

Contact:

Telephone:

Telex/Fax:

E-mail:

PROJECT DETAILS

Title of project

Categorisation of project activity [to be filled by the NSSMP]

Code for project registration *Code* _____

Project description summary

Technical description of the investment in infrastructure

Describe the proposed infrastructure and the work for which assistance is being proposed specifying its main characteristics and component elements.

[write yes for affirmative answers]

1. Is this a sewerage project with septage management already in place?	
2. Is this a sewerage project without septage management in place?	
3. Is this a septage management project within years 1 - 4 of planning cycle?	
4. Is this a septage management project for years 4 -10 of planning cycle?	

Septage system

Contract for # trucks

Sludge treatment plant

Proposed projects foreseen construction of Sludge treatment plant

Sewerage Network

System

- Construction of # new interceptors
- Construction of # km of new main collectors
- Construction of # km new pumping stations at the main collectors
- Construction of # km spillways on main collectors
- Construction of # crossing structures/siphons on main collectors
- Construction of # km of pressure pipes
- Construction of # km of secondary network
- Construction of # branches for new house connections

Wastewater treatment plant

Proposed projects foreseen construction of # new central WWTPs

Operator

[describe current situation and specify operator: it is already assigned or is going to be a tender process]

Supervision

[describe firm in charge of supervision: it is already assigned or is going to be a tender process]

Communication

[describe publicity programme activities , public meetings, press releases warning of advance works, customer relations office, adequate signs around the site, etc.]

Main beneficiaries of the infrastructure (i.e. target population served, quantified where possible)

Provide a summary of the demand analysis, including the predicted utilisation rate on completion and the demand growth rate.

Population and population growth rates

[explain sources for calculation]

Barangays / Municipalities of [Region]	Before Project: Inhabitants - 2012			After Project: Inhabitants - 2017		
	Served	Total	**% Coverage**	Served	Total	**% Coverage**
TOTAL SYSTEM						

Project objectives

Current infrastructure endowment and impact of the project

Indicate the extent to which the region(s) is/are at present endowed with the type of infrastructure covered by this application; compare it with the level of infrastructure endowment aimed for by target year 20…….(i.e., according to the relevant strategy or national/regional plans, where applicable). Indicate the foreseeable contribution of the project to the strategy/plan objectives and the impact on the sector concerned. Specify potential bottlenecks or other problems to be resolved.

Region:

Project Area:

[include map of the region]

[Description of the beneficiary region]

Add annex with site information drawn

Socio-economic objectives

Indicate the project's socio-economic objectives and targets.

Social benefits of the project

Significance objectives

What is the scope of the project? [select one]

National	☐
Regional	☐
Local	☐

Scope
[describe scope according to selection]

Environmental objectives

Is the region environmentally sensitive according to DENR?

Yes ☐ No ☐

Provide estimation of pollution improvement

Pollution measure	**Unit**	**Current Situation**	**Estimation after project**
Color	PCU		
pH	mg/L		
COD	mg/L		
BOD_5	mg/L		
TSS	mg/L		
Oil & Grease	mg/L		
Heavy Metals	mg/L		

RESULTS OF FEASIBILITY STUDIES

Feasibility

Technical description

Description of alternative technologies analysed
[Provide advantages and disadvantages of technologies]

CURRENT and FUTURE TOTAL WASTE WATER FLOW in SEWERAGE SYSTEM				
Year	Before Project 2010	After Project [2017 or which corresponds]	Increase of water treated	Project life period 2045
Municipality / Barangay	m3/year	m3/ year	%	m3/ year
[Title of Project]				
TOTAL SYSTEMS				

For Septage Projects

Design flow of septage treatment facility	
Item	**Amount**
Number of people benefited	
Cubic meters per day	
Cubic meters per month	
Cubic meters per year	
Number of trucks needed	
Costs and Tariff	
Total cost of Treatment and Collection Truck	
O&M Cost per annum	
Estimated annual billed volume in (m3	
Estimated costs for recovery	
Estimated user fee per m3. of water consumed (in pesos)	

For Sewerage Projects

Item	Amount
CAPEX	
OPEX for treatment	
OPEX for Collection	
Remaining Funds to be Sourced	
Interest Rate	
Number of years for loan	
Total annual payment	

Financial feasibility

Monthly payment	
Monthly tariff / person	
Monthly tariff / family*	
Willingness to pay (% estimated with baseline study)	

Affordability **[describe population capacity to pay]**

LIFE TIME COSTS in [Title of the Project]			
	Investment Cost (€)	**O&M Cost (€/year)**	**Life Time Cost (€)**
	Project IRR	**Project NPV**	**Debt Service Ratio**

Local revenue per capita

This ratio measures the average amount that each citizen of the LGU contributes to the LGU's internally generated revenues, such as local business and property taxes, tariffs, licenses, and fees. This ratio reflects the LGU's orientation towards public service. It can serve as an indicator for the cost recovery of future projects. A high indicator is desirable. A low indicator means that the LGU should consider increasing its fees and taxes by either improving its efficiency and reach or adding more taxes, licenses and fees. (units in PHP / year)

1. If over 30,000	
2. If between 25,000 and 30,000	
3. If between 15,000 and 25,000	
4. If between 10,000 and 15,000	
5. If less than 10,000	

Project specific standards

In this section rate the adequacy of design, performance and customer service standards. Projects designed with standards to improve long-term sustainability will have a higher priority.

1. The project-specific standards will add significantly to sustainability	
2. The project specific standards will adequately address sustainability	
3. The project lacks sufficient standards to ensure sustainability	

Administrative Feasibility

No.	Documentation	Status Date obtained / expected
1	Executive Order Establishing a TWG	
2	Resolution to Adopt a Local Sustainable Sanitation Plan	
3	Ordinance for Septage Management	
4	MoU for a Partnership with a Private Firm	

TIMETABLE

Project timetable

Give below the timetable for the development of the overall project.

Foresee a separate entry in the table for each contract or phase, where relevant. Where the application concerns a project stage, clearly indicate in the table the elements of the overall project for which assistance is being sought by this application:

	Start date (A)	Completion date (B)
1. Masterplanning and Feasibility studies		
2. Cost-benefit analysis (including financial /economic analysis):		
3. Environmental impact assessment		
4. Design studies:		
preliminary design		
– main designs		
5. Preparation of Tender documentation:		
Construction of sewerage system		
Construction of WWTP		
Supervision of works		
Equipment for Systems		
Publicity for Projects		
6. Expected launch of tender procedure(s)		
Construction of sewerage system		
Construction of WWTP		
Supervision of works		
Equipment		
Publicity		
7. Land acquisition:		
Construction of sewerage system		
Construction of WWTP		
8. Construction phase / contract:		
Construction of sewerage system		
Construction of WWTP		
Supervision of works		
Equipment		
Publicity		
9. Operational phase:		
Construction of sewerage system		
Construction of WWTP – 1 year trial period		
Construction of WWTP – operational phase		
Supervision of works		

Please attach a summary schedule of the main categories of works (e.g., a Gantt chart).

[indicate annexes]

Project maturity

Describe the project timetable (D.1) in terms of the technical and financial progress and current maturity of the project under the following headings:

Technical (feasibility studies, etc.)

Documentation	**Status**	Date obtained / *expected*
1. Feasibility Study		
2. Conceptual design of WWTP		
3. Conceptual design of sewerage network		
4. Preliminary design of WWTP		
5. Environmental Impact Assessment (no objection)		
6. Main designs of sewerage network		

Administrative

Administrative (authorisations, EIA, land acquisition, invitations to tender, permits, etc) [add or delete rows as necessary]

Work Component	**Municipality/ location**	**Conceptual Design** *Documentation Status*	**Location Permit** *Date obtained / expected*	**Main Design** *Documentation Status*	**Building Permit** *Date obtained / expected*
Construction of Sewerage system					
1. Collectors					
[Identify different collectors]					
2. Spillways					
[Identify Spilways for each collector]					
3. Pumping stations					
[Identify PS for each collector]					
4. Crossing Structures					
[Identify Crossing Structures]					
5. Pressured Pipeline					
[Identify PP for each collector]					
6. Sewerage networks					
[Identify SN for each collector]					

Financial (commitment decisions in respect of national public expenditure, loans requested or granted, etc. - give references):

[Indicate the financing scheme proposed to cover the project investment cost]

- Equity: %
- National contribution: %

The financing plan for the eligible cost in PhP (constant prices):	TOTAL	2013	2014	2015	2016	2017
	PhP	PhP	PhP	PhP	PhP	PhP
Equity						
National Contribution						
TOTAL						

ANALYSIS OF THE ENVIRONMENTAL IMPACT

.How does the project:

(a) contribute to the objective of environmental sustainability (climate change policy, halting loss of biodiversity, other …);

(b) respect the principles of preventive action and that environmental damage should as a priority be rectified at source;

(c) respect the "polluter pays" principle.

Environmental Impact Assessment

DEVELOPMENT CONSENT

Has development consent already been given to this project?

Yes ☐ No ☐

If yes, on which date

If no, when was the formal request for the development consent introduced:

By which date is the final decision expected? [Add or delete rows as necessary]

No.	Documentation	Location Permit	*Building Permit*
1			
2			
3			
4			
5			
6			
7			
8			

Provide results from EIA

JUSTIFICATION FOR THE PUBLIC CONTRIBUTION

The socio economic analysis set out above provides information on the internal rate of return of the project. The financial analysis demonstrates the financing gap and the impact of the Community assistance on the financial viability of the project. Please complete this information with the elements set out below

Financial structure[provides % for each item]

Equity	***Grant***	***Loan***

Equity	
LGU	
WD	
Other Partner	

Is the construction of the infrastructure to be delivered through a public-private partnership (PPP)}?

Yes ☐ No ☐

If yes, describe the form of the contract (i.e., legal framework enforced, selection process of the operator and when applicable, structure of PPP, infrastructure ownership arrangements, risks allocation arrangements, etc.):

Competition

Does this project involve NSSMP assistance? Answer if possible

Yes ☐ No ☐

Impact of NSSMP assistance on project implementation

For each affirmative answer, give details:

Will Community assistance:

a)Accelerate implementation of the project?

Yes ☐ No ☐

b)Be essential to implementation of the project?

Yes ☐ No ☐

[provide description of the importance of NSSMP funds]

ENDORSEMENT OF COMPETENT NATIONAL AUTHORITY

I confirm that the information presented in this form is accurate and correct [add or delete tables according to local implementers involved]

NAME:		
SIGNATURE:		
ORGANISATION:		
(OPERATING STRUCTURE):		
DATE:		

NAME:		
SIGNATURE:		
ORGANISATION:		
(OPERATING STRUCTURE):		
DATE:		

NAME:		
SIGNATURE:		
ORGANISATION:		
(OPERATING STRUCTURE):		
DATE:		

8.3.2 Format for Project Concept Note

After the initial design concept work has been done and preliminary (pre-feasibility) assessments conducted, the local implementer should prepare a project concept note.

The project concept note is used to quickly communicate the project in general terms to local officials and other interested parties. The concept note is a short description of the project that highlights the basic information. This will be especially useful when introducing the project to stakeholders, elected officials or potential funders.

Name of LGU	
Province	
Project proponent	
Project name	
Date	
Specific problem to be addressed	
Brief project description (one paragraph)	
Target beneficiaries (number of people, gender aspect if appropriate)	
Is a feasibility study required?	
Possible technology options to be explored	

The local implementer should fill the empty fields with clear and complete answers.

8.3.3 Sample Letters Regarding Approval or Non-Approval of Funding Applications

Sample Letters Regarding Approval or Non-Approval of Funding Applications

DPWH-ESSO
Bonifacio Drive
Port Area
Manila

HON. _____
_____
_____

Date:

Attention: City Planning and Development Office

Subject / Reference: NSSMP Project Funding

Dear Sir / Madam

In reference to your application for national government funding in support of your sanitation project entitled XXXX (reference letter dated XXXX, 20XX), we are pleased to inform you that your application has been accepted.

A budget request of PhP XXX million has been submitted on your behalf to the Department of Budget Management. Our expectation is that the first tranche of funding will be released on DATE. Please confirm the bank account name and number to which the funds should be remitted.

Very truly yours,

ROGELIO L. SINGSON
Secretary

DPWH-ESSO
Bonifacio Drive
Port Area
Manila

HON. _____
_____
_____

DATE

Attention: City Planning and Development Office

Subject / Reference NSSMP Project Funding

Dear Sir / Madam

In reference to your application for national government funding in support of your sanitation project entitled XXXX (reference letter dated XX, 20XX), we regret to inform you that your application was not successful.

The reason(s) for this are:

Incomplete / insufficient application ☐

Application ineligibility ☐

Other ☐

If you would like to follow up on this letter to receive further information regarding the reasons your application has not been successful and, potentially, to discuss how you may be able to revise your application to address the identified problems, then please do not hesitate to contact NAME, TITLE, through the following: TELEPHONE NUMBER, FAX NUMBER, MOBILE NUMBER or EMAIL.

Very truly yours,

ROGELIO L. SINGSON
Secretary

8.3.4 Number of Families and Family Disbursements by Income Class and by Region and Type of Disbursement

Type of Disbursements	Number of Families Reporting (In '000)	Total Dis-bursements (In millions)	Income Class									
			Under 40,000		40,000 - 59,999		60,000 - 99,999		100,000 - 249,999		250,000 and over	
			Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)
Philippines	18,452	3,634,238	759	25,270	1,605	87,892	4,107	338,093	7,571	1,173,926	4,409	2,009,057
Total Expenditure	18,452	3,239,186	759	25,026	1,605	86,158	4,107	328,288	7,571	1,112,161	4,409	1,687,553
Food Expenditure	18,452	1,380,329	759	15,458	1,605	52,865	4,107	192,410	7,571	552,084	4,409	567,513
Food consumed at home	18,450	1,183,906	758	15,262	1,605	51,283	4,107	181,978	7,571	482,815	4,409	452,569
Cereal and cereal prepn	18,432	389,853	754	6,936	1,603	23,404	4,102	77,891	7,566	165,860	4,406	115,762
Roots and tubers	17,470	15,914	669	401	1,468	1,000	3,849	3,020	7,178	5,930	4,306	5,562
Fruits and Vegetable	18,421	121,690	751	1,718	1,598	5,580	4,101	18,962	7,564	48,187	4,407	47,243
Meat and meat prep'n	18,200	188,900	682	913	1,562	3,637	4,051	16,537	7,520	73,509	4,386	94,305
Dairy products and eggs	18,232	98,716	663	536	1,552	2,091	4,063	9,269	7,552	36,274	4,401	50,547
Fish and marine products	18,356	166,328	742	2,352	1,593	8,081	4,093	28,539	7,541	69,080	4,388	58,276
Coffee cocoa and tea	18,270	33,932	686	422	1,570	1,506	4,075	5,576	7,541	14,472	4,398	11,955
Non-alcoholic beverages	17,660	44,361	508	160	1,397	826	3,893	4,046	7,467	16,987	4,395	22,341
Food N.E.C	18,447	124,213	758	1,823	1,605	5,158	4,105	18,138	7,571	52,516	4,408	46,578
Food consumed outside home	13,919	196,423	170	196	747	1,582	2,620	10,432	6,263	69,268	4,119	114,944
Alcoholic beverages	12,133	21,850	465	289	1,124	966	2,885	3,567	5,037	9,642	2,623	7,386
Tobacco	11,816	26,922	475	418	1,140	1,456	2,987	5,176	4,906	12,235	2,308	7,637
Fuel, light and water	18,452	228,914	759	1,850	1,605	5,817	4,107	22,113	7,571	81,887	4,409	117,247
Transport and Communication	18,198	249,788	652	704	1,538	2,889	4,048	14,366	7,553	72,494	4,407	159,335
Household operation	18,450	75,358	758	473	1,605	1,502	4,107	5,533	7,571	18,560	4,409	49,290
Personal care and effects	18,439	121,704	747	718	1,604	3,014	4,107	12,817	7,571	45,868	4,409	59,288
Clothing Footwear and other wear	17,920	71,481	653	364	1,510	1,504	3,978	6,522	7,412	24,307	4,366	38,783
Educational fees	13,278	137,753	221	117	899	784	2,843	4,875	5,762	32,286	3,554	99,691
Recreation	8,456	13,093	79	16	346	106	1,385	556	3,635	3,119	3,011	9,296
Medical Care	18,452	92,471	759	368	1,605	1,455	4,107	5,661	7,571	25,864	4,409	59,123
Non-durable furnishings	7,385	5,719	117	30	479	131	1,598	588	3,252	1,818	1,939	3,152
Durable furnitures and equipment	4,596	87,021	19	29	119	412	562	3,492	2,053	24,517	1,843	58,570
Taxes	11,315	65,817	204	55	649	104	2,084	578	4,718	6,771	3,660	58,309
House rental value	18,452	413,642	759	2,604	1,605	8,072	4,107	30,672	7,571	129,978	4,409	242,316
House Maintenance and repairs	2,831	17,835	67	87	214	324	612	1,486	1,168	5,776	770	10,161
Special Family occasion	13,122	88,481	233	225	759	1,218	2,530	6,256	5,730	28,023	3,870	52,759
Gifts and contributions	15,120	46,573	425	161	1,096	538	3,112	2,521	6,360	12,952	4,126	30,401
Other expenditure	14,839	94,435	692	1,059	1,444	3,000	3,429	9,101	5,592	23,978	3,682	57,296
Other Disbursements	8,791	395,052	92	244	327	1,734	1,297	9,806	3,617	61,765	3,457	321,503

Type of Disbursements	Number of Families Reporting (In '000)	Total Dis-bursements (In millions)	Income Class									
			Under 40,000		40,000 - 59,999		60,000 - 99,999		100,000 - 249,999		250,000 and over	
			Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)
National Capital Region	2,461	847,200	4	126	19	995	101	8,774	1,099	190,269	1,239	647,037
Total Expenditure	2,461	760,363	4	125	19	988	101	8,706	1,099	184,131	1,239	566,413
Food Expenditure	2,461	274,884	4	65	19	525	101	4,463	1,099	87,775	1,239	182,057
Food consumed at home	2,461	209,288	4	62	19	481	101	3,956	1,099	71,244	1,239	133,544
Cereal and cereal prepn	2,456	49,519	4	11	18	109	99	1,089	1,097	18,627	1,237	29,683
Roots and tubers	2,358	2,948	2	0	9	3	87	53	1,041	914	1,220	1,977
Fruits and Vegetable	2,455	22,665	4	4	18	41	100	417	1,095	7,503	1,237	14,700
Meat and meat prep'n	2,428	42,854	2	3	16	43	95	515	1,084	12,895	1,231	29,396
Dairy products and eggs	2,449	21,836	3	3	17	19	99	281	1,094	6,276	1,236	15,258
Fish and marine products	2,430	26,184	3	4	17	60	97	480	1,084	9,157	1,229	16,481
Coffee cocoa and tea	2,453	5,965	3	2	18	16	99	135	1,096	2,288	1,238	3,524
Non-alcoholic beverages	2,446	10,412	2	2	16	9	97	125	1,095	3,119	1,236	7,157
Food N.E.C	2,460	26,906	4	32	19	180	101	862	1,099	10,464	1,238	15,368
Food consumed outside home	2,306	65,596	1	3	7	43	65	507	1,022	16,531	1,210	48,512
Alcoholic beverages	1,427	4,087	1	2	4	4	41	76	662	1,558	719	2,447
Tobacco	1,281	4,020	1	1	7	9	50	104	599	1,645	624	2,261
Fuel, light and water	2,461	61,088	4	11	19	95	101	859	1,099	16,539	1,239	43,585
Transport and Communication	2,439	68,143	3	2	14	32	90	318	1,095	12,375	1,238	55,414
Household operation	2,461	20,217	4	1	19	12	101	156	1,099	2,655	1,239	17,393
Personal care and effects	2,461	27,464	4	4	19	35	101	399	1,099	7,960	1,239	19,066
Clothing Footwear and other wear	2,432	15,886	3	1	19	15	97	175	1,083	3,927	1,231	11,768
Educational fees	1,833	32,014	-	-	1	0	44	36	804	3,063	984	28,914
Recreation	1,600	3,732	-	-	2	1	41	15	633	530	923	3,186
Medical Care	2,461	14,191	4	0	19	14	101	146	1,099	2,786	1,239	11,245
Non-durable furnishings	1,056	1,337	1	0	4	1	26	8	470	256	556	1,072
Durable furnitures and equipment	907	16,617	1	0	1	2	11	24	364	2,692	530	13,898
Taxes	1,424	28,880	-	-	2	0	18	4	465	1,598	938	27,278
House rental value	2,461	140,967	4	35	19	231	101	1,660	1,099	29,925	1,239	109,116
House Maintenance and repairs	319	2,155	-	-	1	0	7	22	119	380	192	1,753
Special Family occasion	1,999	13,258	1	0	8	6	56	95	849	2,667	1,085	10,491
Gifts and contributions	2,110	14,022	2	0	9	3	53	117	903	3,187	1,143	10,715
Other expenditure	1,543	17,401	0	0	2	4	15	27	550	2,615	977	14,755
Other Disbursements	1,499	86,837	1	0	1	7	19	67	495	6,138	983	80,624

Type of Disbursements	Number of Families Reporting (In '000)	Total Dis-bursements (In millions)	Income Class: Under 40,000		40,000 - 59,999		60,000 - 99,999		100,000 - 249,999		250,000 and over	
			Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)
Cordillera Administrative Region	322	67,472	18	624	26	1,527	66	5,852	123	19,170	89	40,299
Total Expenditure	322	56,182	18	621	26	1,485	66	5,575	123	17,569	89	30,932
Food Expenditure	322	21,892	18	377	26	883	66	3,123	123	8,021	89	9,487
Food consumed at home	322	19,877	18	376	26	875	66	3,065	123	7,548	89	8,014
Cereal and cereal prepn	322	6,738	18	175	26	412	66	1,355	123	2,614	89	2,182
Roots and tubers	317	386	17	8	25	21	64	63	121	152	89	142
Fruits and Vegetable	322	2,667	18	54	26	120	66	410	123	1,026	89	1,058
Meat and meat prep'n	322	3,778	18	50	26	101	66	414	123	1,414	89	1,800
Dairy products and eggs	319	1,362	15	9	26	30	65	133	123	479	89	710
Fish and marine products	322	2,344	18	35	26	92	66	342	123	912	89	963
Coffee cocoa and tea	319	563	17	11	25	26	65	81	123	210	89	235
Non-alcoholic beverages	281	577	6	2	17	9	53	49	117	197	88	320
Food N.E.C	322	1,464	18	33	26	66	66	217	123	543	89	604
Food consumed outside home	174	2,015	0	1	3	8	19	59	73	473	78	1,473
Alcoholic beverages	223	342	12	5	18	14	49	54	89	135	55	134
Tobacco	194	356	12	11	18	21	47	71	78	159	39	93
Fuel, light and water	322	3,649	18	56	26	116	66	408	123	1,295	89	1,775
Transport and Communication	314	3,767	13	16	24	46	65	210	123	1,014	89	2,481
Household operation	322	895	18	12	26	23	66	85	123	227	89	548
Personal care and effects	320	1,819	17	15	26	46	66	192	123	626	89	939
Clothing Footwear and other wear	307	1,272	16	13	24	27	60	119	119	456	87	656
Educational fees	232	3,373	3	2	12	19	44	174	96	891	77	2,287
Recreation	137	239	1	0	5	2	16	9	53	49	63	179
Medical Care	322	2,526	18	4	26	18	66	122	123	408	89	1,974
Non-durable furnishings	116	108	2	0	6	2	19	9	48	35	41	62
Durable furnitures and equipment	61	1,117	0	0	2	5	6	19	21	199	31	894
Taxes	211	761	4	0	9	2	35	9	84	93	79	657
House rental value	322	9,666	18	63	26	159	66	591	123	2,711	89	6,141
House Maintenance and repairs	28	199	0	0	1	1	3	10	12	76	11	111
Special Family occasion	208	1,546	2	3	6	10	27	56	91	493	82	985
Gifts and contributions	254	563	9	5	16	8	46	40	102	181	82	328
Other expenditure	280	2,093	16	37	24	82	61	271	100	499	80	1,202
Other Disbursements	155	11,290	1	3	4	42	18	278	58	1,600	74	9,366

Type of Disbursements	Number of Families Reporting (In '000)	Total Dis-bursements (In millions)	Income Class									
			Under 40,000		40,000 - 59,999		60,000 - 99,999		100,000 - 249,999		250,000 and over	
			Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)
I - Ilocos	1,005	170,207	29	1,037	67	3,819	245	20,812	475	70,513	189	74,025
Total Expenditure	1,005	152,646	29	1,031	67	3,782	245	20,262	475	67,000	189	60,571
Food Expenditure	1,005	70,143	29	619	67	2,269	245	11,605	475	34,357	189	21,294
Food consumed at home	1,005	61,359	29	605	67	2,143	245	10,632	475	30,142	189	17,837
Cereal and cereal prepn	1,004	21,125	28	235	67	890	245	4,274	475	10,826	189	4,900
Roots and tubers	975	636	24	5	62	19	236	107	464	308	189	197
Fruits and Vegetable	1,004	7,174	29	83	67	280	245	1,292	475	3,478	189	2,041
Meat and meat prep'n	1,004	10,695	28	67	67	235	245	1,432	475	5,160	189	3,801
Dairy products and eggs	1,003	4,913	28	33	67	119	245	655	475	2,158	189	1,949
Fish and marine products	1,004	7,686	28	75	67	289	245	1,373	475	3,846	189	2,102
Coffee cocoa and tea	1,003	1,671	29	20	66	70	245	315	475	829	189	437
Non-alcoholic beverages	985	2,637	23	12	64	49	239	318	471	1,194	188	1,065
Food N.E.C	1,005	4,820	29	75	67	191	245	866	475	2,344	189	1,344
Food consumed outside home	765	8,784	5	14	35	126	159	973	393	4,214	172	3,457
Alcoholic beverages	635	1,360	11	11	33	33	151	227	318	674	122	413
Tobacco	560	1,171	14	13	33	52	144	243	280	604	89	259
Fuel, light and water	1,005	11,382	29	85	67	305	245	1,582	475	5,114	189	4,296
Transport and Communication	996	10,614	25	23	64	114	244	908	475	4,250	189	5,318
Household operation	1,004	3,436	29	20	67	75	245	329	475	1,167	189	1,844
Personal care and effects	1,005	6,265	29	40	67	157	245	887	475	2,829	189	2,352
Clothing Footwear and other wear	982	3,438	27	16	65	64	240	365	463	1,390	188	1,603
Educational fees	696	6,515	4	2	33	24	148	260	358	2,223	155	4,006
Recreation	408	599	3	1	15	6	64	35	207	215	119	341
Medical Care	1,005	4,483	29	19	67	69	245	382	475	1,543	189	2,470
Non-durable furnishings	330	267	2	0	16	4	67	23	163	104	82	136
Durable furnitures and equipment	207	3,366	0	1	4	19	27	174	96	1,127	79	2,044
Taxes	639	1,658	5	1	21	3	122	43	321	353	171	1,257
House rental value	1,005	15,212	29	117	67	357	245	1,900	475	6,696	189	6,141
House Maintenance and repairs	137	1,385	2	7	6	12	32	112	63	394	34	860
Special Family occasion	762	4,699	11	6	43	37	169	361	367	1,649	172	2,646
Gifts and contributions	810	1,594	14	3	46	17	192	122	386	443	172	1,008
Other expenditure	883	5,062	25	46	61	165	219	703	416	1,867	162	2,281
Other Disbursements	424	17,561	2	6	9	37	70	551	196	3,513	147	13,454

Type of Disbursements	Number of Families Reporting (In '000)	Total Dis-bursements (In millions)	Income Class									
			Under 40,000		40,000 - 59,999		60,000 - 99,999		100,000 - 249,999		250,000 and over	
			Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)
II - Cagayan Valley	653	110,232	23	812	65	3,601	177	14,730	272	39,124	115	51,964
Total Expenditure	653	92,306	23	803	65	3,493	177	14,164	272	35,778	115	38,068
Food Expenditure	653	41,156	23	503	65	2,096	177	8,366	272	18,150	115	12,041
Food consumed at home	653	37,308	23	498	65	2,023	177	7,827	272	16,500	115	10,459
Cereal and cereal prepn	652	11,539	23	161	65	760	177	2,811	272	5,176	115	2,631
Roots and tubers	632	479	21	8	62	32	171	106	265	213	113	120
Fruits and Vegetable	652	4,634	23	73	65	308	177	1,040	272	2,042	115	1,172
Meat and meat prep'n	650	7,086	21	61	64	247	177	1,167	272	3,155	115	2,456
Dairy products and eggs	649	2,939	22	27	64	98	177	464	271	1,239	115	1,112
Fish and marine products	650	4,904	22	65	65	267	177	1,076	271	2,188	115	1,308
Coffee cocoa and tea	652	1,093	23	21	65	77	177	246	272	481	115	269
Non-alcoholic beverages	616	1,304	14	7	51	31	168	206	269	566	115	495
Food N.E.C	653	3,330	23	76	65	204	177	711	272	1,441	115	897
Food consumed outside home	459	3,849	3	5	30	73	121	539	207	1,651	99	1,582
Alcoholic beverages	504	999	10	7	47	50	139	191	225	500	84	249
Tobacco	443	942	14	12	47	77	134	246	186	448	62	159
Fuel, light and water	653	5,988	23	59	65	270	177	1,017	272	2,511	115	2,131
Transport and Communication	641	5,298	18	18	61	74	176	519	271	1,883	115	2,804
Household operation	653	1,953	23	19	65	64	177	252	272	610	115	1,009
Personal care and effects	652	3,313	23	25	65	121	177	559	272	1,441	115	1,167
Clothing Footwear and other wear	629	2,070	19	10	60	47	172	264	265	823	114	926
Educational fees	450	5,416	4	2	29	28	118	277	204	1,537	95	3,572
Recreation	263	522	1	0	10	3	50	37	117	167	86	315
Medical Care	653	3,068	23	17	65	64	177	236	272	900	115	1,850
Non-durable furnishings	221	157	4	1	15	4	60	22	97	56	46	75
Durable furnitures and equipment	129	3,303	1	2	4	6	23	198	58	1,074	43	2,024
Taxes	385	1,539	3	0	17	2	80	23	180	159	105	1,355
House rental value	653	8,278	23	84	65	306	177	1,070	272	3,177	115	3,641
House Maintenance and repairs	62	651	1	0	3	7	15	55	29	217	14	371
Special Family occasion	462	3,022	8	5	35	50	106	204	209	902	104	1,860
Gifts and contributions	502	872	9	2	35	16	122	63	226	282	110	509
Other expenditure	604	3,759	19	36	65	207	170	565	246	941	105	2,011
Other Disbursements	326	17,926	2	9	16	108	68	567	140	3,346	99	13,896

Type of Disbursements	Number of Families Reporting (In '000)	Total Dis-bursements (In millions)	Income Class: Under 40,000		40,000 - 59,999		60,000 - 99,999		100,000 - 249,999		250,000 and over	
			Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)
III - Central Luzon	2,028	415,051	24	903	90	4,959	300	25,668	1,033	161,979	580	221,542
Total Expenditure	2,028	382,492	24	900	90	4,903	300	25,080	1,033	156,044	580	195,564
Food Expenditure	2,028	166,825	24	531	90	2,794	300	13,800	1,033	77,023	580	72,676
Food consumed at home	2,027	138,847	23	512	90	2,657	300	12,636	1,033	64,953	580	58,089
Cereal and cereal prepn	2,021	41,404	22	179	89	960	300	4,724	1,031	20,573	579	14,968
Roots and tubers	1,980	1,554	20	5	83	29	289	141	1,012	700	577	680
Fruits and Vegetable	2,023	13,363	22	57	88	285	300	1,243	1,033	6,160	580	5,619
Meat and meat prep'n	2,009	27,715	20	52	85	329	299	1,810	1,028	12,455	577	13,067
Dairy products and eggs	2,020	12,749	22	19	88	133	300	719	1,031	5,243	579	6,635
Fish and marine products	2,013	17,813	22	61	86	326	299	1,626	1,029	8,598	577	7,202
Coffee cocoa and tea	2,020	3,773	22	17	89	80	300	391	1,030	1,847	579	1,438
Non-alcoholic beverages	1,974	5,012	14	6	76	45	284	270	1,020	2,111	580	2,581
Food N.E.C	2,027	15,465	23	117	90	470	300	1,713	1,033	7,266	580	5,899
Food consumed outside home	1,692	27,978	5	19	34	137	202	1,164	905	12,071	546	14,587
Alcoholic beverages	1,119	1,948	11	10	46	54	159	166	584	949	320	770
Tobacco	1,318	4,016	12	15	65	100	207	428	695	2,109	338	1,365
Fuel, light and water	2,028	30,438	24	67	90	395	300	2,089	1,033	12,915	580	14,971
Transport and Communication	2,007	32,169	20	31	82	154	292	1,210	1,032	10,963	580	19,811
Household operation	2,028	8,534	24	16	90	85	300	434	1,033	2,778	580	5,221
Personal care and effects	2,028	16,801	24	36	90	214	300	1,176	1,033	7,396	580	7,978
Clothing Footwear and other wear	1,998	9,167	21	13	86	94	293	517	1,020	3,504	577	5,040
Educational fees	1,397	16,885	5	2	28	23	171	285	741	3,946	453	12,628
Recreation	877	1,137	2	0	14	5	71	38	450	315	340	779
Medical Care	2,028	11,186	24	8	90	87	300	416	1,033	3,613	580	7,062
Non-durable furnishings	674	441	3	0	20	5	86	35	367	168	199	231
Durable furnitures and equipment	472	9,443	-	-	3	12	30	128	227	2,706	213	6,598
Taxes	1,130	4,106	4	0	19	6	90	53	564	800	454	3,247
House rental value	2,028	42,495	24	126	90	636	300	3,117	1,033	18,269	580	20,347
House Maintenance and repairs	189	2,096	1	0	4	2	14	74	80	419	90	1,602
Special Family occasion	1,652	10,289	12	10	49	39	210	367	851	3,923	530	5,949
Gifts and contributions	1,658	5,887	5	3	42	40	201	220	860	2,010	549	3,616
Other expenditure	1,367	8,630	19	32	69	157	203	527	622	2,240	454	5,674
Other Disbursements	791	32,559	1	2	16	56	78	587	339	5,935	357	25,978

Type of Disbursements	Number of Families Reporting (In '000)	Total Dis-bursements (In millions)	Income Class: Under 40,000		40,000 - 59,999		60,000 - 99,999		100,000 - 249,999		250,000 and over	
			Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)
IVA - CALABARZON	2,406	569,056	34	1,203	89	5,027	369	32,064	1,121	184,844	792	345,917
Total Expenditure	2,406	511,515	34	1,189	89	4,883	369	30,898	1,121	177,360	792	297,186
Food Expenditure	2,406	214,098	34	653	89	2,660	369	16,964	1,121	87,649	792	106,172
Food consumed at home	2,406	172,091	34	636	89	2,526	369	15,231	1,121	72,048	792	81,649
Cereal and cereal prepn	2,404	50,601	34	234	89	946	368	5,855	1,121	23,044	791	20,523
Roots and tubers	2,238	1,740	25	12	73	27	321	149	1,050	690	768	863
Fruits and Vegetable	2,401	16,689	33	79	89	264	366	1,516	1,121	6,748	792	8,082
Meat and meat prep'n	2,383	32,696	28	35	87	230	363	1,659	1,117	12,487	788	18,285
Dairy products and eggs	2,393	15,389	29	26	88	111	365	826	1,120	5,746	790	8,679
Fish and marine products	2,391	22,671	32	102	88	426	364	2,276	1,118	9,694	788	10,173
Coffee cocoa and tea	2,397	4,879	33	23	89	92	366	497	1,118	2,122	790	2,146
Non-alcoholic beverages	2,286	6,779	12	4	64	31	330	308	1,093	2,504	787	3,933
Food N.E.C	2,405	20,646	34	121	89	401	368	2,145	1,121	9,012	792	8,967
Food consumed outside home	2,107	42,007	7	17	38	133	274	1,733	1,022	15,601	765	24,523
Alcoholic beverages	1,235	2,011	11	6	44	28	204	198	599	942	376	837
Tobacco	1,395	4,192	16	18	53	91	245	527	688	2,037	393	1,518
Fuel, light and water	2,406	37,221	34	103	89	402	369	2,411	1,121	13,960	792	20,346
Transport and Communication	2,388	45,242	30	41	85	185	364	1,614	1,118	12,884	791	30,518
Household operation	2,406	11,657	34	22	89	88	369	581	1,121	2,940	792	8,026
Personal care and effects	2,406	19,968	34	44	89	203	369	1,405	1,121	7,609	792	10,707
Clothing Footwear and other wear	2,333	10,556	27	18	79	86	355	645	1,093	3,463	778	6,345
Educational fees	1,707	23,233	3	1	29	21	225	330	822	4,447	628	18,433
Recreation	1,159	1,927	2	1	14	11	138	70	519	512	485	1,334
Medical Care	2,406	15,907	34	19	89	103	369	495	1,121	4,071	792	11,218
Non-durable furnishings	821	691	2	1	24	6	116	55	394	196	285	433
Durable furnitures and equipment	623	10,581	1	0	6	9	47	238	269	2,630	300	7,703
Taxes	1,551	12,460	13	1	37	4	182	54	671	1,152	648	11,249
House rental value	2,406	63,617	34	201	89	703	369	3,593	1,121	22,250	792	36,870
House Maintenance and repairs	302	2,278	-	-	7	39	38	94	134	777	123	1,367
Special Family occasion	1,710	14,205	14	8	48	87	246	710	764	4,417	640	8,983
Gifts and contributions	2,036	7,964	18	22	59	38	279	314	934	2,053	746	5,538
Other expenditure	1,747	13,707	26	30	66	118	246	600	771	3,371	638	9,588
Other Disbursements	1,297	57,541	3	14	19	144	112	1,166	548	7,485	615	48,731

Type of Disbursements	Number of Families Reporting (In '000)	Total Dis-bursements (In millions)	Income Class									
			Under 40,000		40,000 - 59,999		60,000 - 99,999		100,000 - 249,999		250,000 and over	
			Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)
IVB - MIMAROPA	590	79,866	39	1,242	73	3,878	183	14,667	226	32,130	70	27,950
Total Expenditure	590	71,121	39	1,236	73	3,767	183	14,109	226	29,631	70	22,378
Food Expenditure	590	32,025	39	744	73	2,224	183	8,166	226	14,090	70	6,801
Food consumed at home	590	29,507	39	734	73	2,162	183	7,783	226	12,856	70	5,972
Cereal and cereal prepn	590	12,116	39	335	73	987	183	3,680	226	5,303	70	1,811
Roots and tubers	573	399	36	25	69	60	177	115	222	133	69	66
Fruits and Vegetable	590	3,010	39	87	73	233	183	789	226	1,251	70	650
Meat and meat prep'n	586	3,014	37	30	71	127	183	531	224	1,346	70	980
Dairy products and eggs	587	1,813	36	20	72	74	183	325	225	821	70	574
Fish and marine products	589	4,524	38	103	72	353	183	1,234	226	1,928	70	906
Coffee cocoa and tea	587	968	37	25	72	79	182	258	225	433	70	173
Non-alcoholic beverages	554	763	26	5	64	24	172	123	222	347	70	265
Food N.E.C	590	2,899	39	105	73	226	183	729	226	1,293	70	546
Food consumed outside home	432	2,519	8	10	38	61	137	384	185	1,234	64	830
Alcoholic beverages	461	729	24	15	56	52	157	205	174	341	51	117
Tobacco	393	753	25	27	54	73	132	216	147	356	35	80
Fuel, light and water	590	4,566	39	103	73	250	183	877	226	1,986	70	1,351
Transport and Communication	578	4,430	32	35	70	140	180	606	225	1,848	70	1,801
Household operation	590	1,587	39	23	73	72	183	266	226	554	70	671
Personal care and effects	589	2,616	37	28	73	120	183	516	226	1,150	70	803
Clothing Footwear and other wear	583	1,868	36	21	72	83	181	346	224	827	70	591
Educational fees	449	2,729	11	8	41	26	148	236	192	1,069	57	1,390
Recreation	270	343	3	1	18	3	71	38	123	136	55	166
Medical Care	590	2,183	39	13	73	79	183	270	226	777	70	1,044
Non-durable furnishings	300	216	8	2	29	9	89	35	134	89	41	81
Durable furnitures and equipment	156	2,978	1	2	8	33	27	218	81	1,049	38	1,677
Taxes	398	638	9	0	31	4	112	20	179	141	67	473
House rental value	590	7,155	39	128	73	388	183	1,251	226	2,996	70	2,392
House Maintenance and repairs	119	500	5	7	12	21	36	95	51	208	15	169
Special Family occasion	398	1,945	10	4	32	28	106	200	186	901	64	812
Gifts and contributions	499	1,287	25	12	56	36	148	130	202	409	69	700
Other expenditure	511	2,571	35	62	65	127	163	421	183	702	65	1,259
Other Disbursements	296	8,745	4	6	22	111	70	558	140	2,499	60	5,572

Type of Disbursements	Number of Families Reporting (In '000)	Total Dis-bursements (In millions)	Income Class									
			Under 40,000		40,000 - 59,999		60,000 - 99,999		100,000 - 249,999		250,000 and over	
			Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)
V - Bicol	1,070	168,689	45	1,462	130	7,342	353	30,448	396	60,312	145	69,124
Total Expenditure	1,070	146,595	45	1,444	130	7,194	353	29,565	396	56,223	145	52,170
Food Expenditure	1,070	69,483	45	897	130	4,427	353	18,050	396	28,813	145	17,297
Food consumed at home	1,070	64,266	45	892	130	4,307	353	17,237	396	26,551	145	15,279
Cereal and cereal prepn	1,070	23,775	45	346	130	1,868	353	7,391	396	10,032	145	4,138
Roots and tubers	1,050	1,059	43	26	128	85	347	334	390	413	142	200
Fruits and Vegetable	1,069	7,336	45	114	130	523	353	1,956	396	2,952	145	1,792
Meat and meat prep'n	1,058	7,097	39	42	127	248	352	1,311	396	2,918	144	2,578
Dairy products and eggs	1,063	4,800	41	33	128	165	353	832	396	1,907	145	1,862
Fish and marine products	1,065	9,944	42	133	129	733	353	2,870	396	4,188	144	2,019
Coffee cocoa and tea	1,061	1,838	43	29	129	134	352	511	394	769	143	396
Non-alcoholic beverages	986	1,451	25	6	109	50	323	256	385	585	144	553
Food N.E.C	1,070	6,966	45	163	130	502	353	1,775	396	2,786	145	1,741
Food consumed outside home	705	5,217	6	5	53	119	215	813	302	2,263	129	2,018
Alcoholic beverages	798	1,041	24	10	91	56	277	285	303	440	103	251
Tobacco	767	1,310	32	31	91	117	272	445	283	527	89	190
Fuel, light and water	1,070	9,026	45	111	130	473	353	1,835	396	3,478	145	3,129
Transport and Communication	1,057	8,398	38	29	128	233	349	1,078	396	3,098	145	3,959
Household operation	1,070	3,367	45	32	130	132	353	530	396	1,049	145	1,625
Personal care and effects	1,070	5,272	45	41	130	247	353	1,091	396	2,168	145	1,725
Clothing Footwear and other wear	1,047	3,027	41	23	125	129	349	566	390	1,185	142	1,124
Educational fees	807	5,339	14	6	78	53	268	391	328	1,937	119	2,954
Recreation	520	577	5	1	35	7	164	54	212	191	105	324
Medical Care	1,070	5,073	45	25	130	130	353	475	396	1,410	145	3,033
Non-durable furnishings	506	338	9	3	43	14	165	65	216	118	74	139
Durable furnitures and equipment	281	4,431	0	0	13	53	65	269	131	1,822	71	2,288
Taxes	662	1,476	13	1	53	5	185	36	279	213	132	1,223
House rental value	1,070	15,621	45	161	130	714	353	2,642	396	5,698	145	6,405
House Maintenance and repairs	282	1,271	5	4	24	27	99	227	112	589	41	423
Special Family occasion	716	5,244	14	14	48	124	217	573	308	1,872	129	2,661
Gifts and contributions	869	1,936	22	9	91	51	272	212	344	546	141	1,119
Other expenditure	880	4,363	36	48	114	202	293	741	305	1,070	131	2,302
Other Disbursements	517	22,094	6	18	32	148	132	883	231	4,090	116	16,955

Type of Disbursements	Number of Families Reporting (In '000)	Total Dis-bursements (In millions)	Income Class									
			Under 40,000		40,000 - 59,999		60,000 - 99,999		100,000 - 249,999		250,000 and over	
			Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)
VI - Western Visayas	1,452	234,510	75	2,474	166	9,102	412	33,612	584	90,049	215	99,274
Total Expenditure	1,452	207,669	75	2,436	166	8,850	412	32,683	584	84,384	215	79,316
Food Expenditure	1,452	92,479	75	1,479	166	5,458	412	19,334	584	40,977	215	25,231
Food consumed at home	1,452	84,532	75	1,468	166	5,319	412	18,499	584	37,531	215	21,715
Cereal and cereal prepn	1,450	32,434	74	625	165	2,609	412	8,420	584	14,600	215	6,181
Roots and tubers	1,372	964	65	19	152	84	397	252	549	368	209	242
Fruits and Vegetable	1,448	8,274	73	162	164	565	412	1,842	584	3,512	215	2,193
Meat and meat prep'n	1,435	9,426	66	79	163	312	411	1,352	583	4,032	213	3,650
Dairy products and eggs	1,439	6,139	68	48	163	183	410	878	584	2,447	215	2,583
Fish and marine products	1,443	12,876	70	237	164	790	412	2,930	582	5,957	214	2,962
Coffee cocoa and tea	1,436	2,686	71	50	162	168	409	631	582	1,230	213	607
Non-alcoholic beverages	1,407	3,053	59	17	149	87	402	419	583	1,393	215	1,137
Food N.E.C	1,452	8,680	75	230	166	522	412	1,775	584	3,993	215	2,160
Food consumed outside home	946	7,947	11	12	67	139	245	836	435	3,445	188	3,516
Alcoholic beverages	1,159	2,522	51	46	126	132	346	558	487	1,242	149	545
Tobacco	1,059	2,183	51	46	125	151	328	526	434	1,056	121	404
Fuel, light and water	1,452	12,432	75	158	166	557	412	2,025	584	5,061	215	4,631
Transport and Communication	1,428	12,958	61	57	159	278	409	1,321	584	4,932	215	6,371
Household operation	1,452	4,559	74	41	166	139	412	498	584	1,372	215	2,510
Personal care and effects	1,452	7,349	74	62	166	277	412	1,180	584	3,264	215	2,565
Clothing Footwear and other wear	1,420	5,008	65	35	157	145	405	682	578	2,034	215	2,113
Educational fees	1,015	8,166	10	4	91	114	291	445	454	2,860	170	4,743
Recreation	595	844	6	1	27	13	126	40	279	235	157	556
Medical Care	1,452	8,018	75	37	166	142	412	634	584	2,880	215	4,324
Non-durable furnishings	610	372	14	3	50	13	167	57	266	158	112	141
Durable furnitures and equipment	356	7,711	3	6	17	50	63	330	173	2,608	100	4,718
Taxes	857	2,518	22	35	65	8	209	77	375	463	186	1,935
House rental value	1,452	22,684	75	260	166	811	412	2,849	584	9,019	215	9,744
House Maintenance and repairs	315	1,445	11	23	31	51	86	205	142	708	44	458
Special Family occasion	1,100	7,294	28	28	83	119	293	695	489	2,594	207	3,858
Gifts and contributions	1,126	2,259	42	16	112	52	292	173	477	729	203	1,289
Other expenditure	1,297	6,866	70	101	158	340	381	1,053	499	2,194	189	3,178
Other Disbursements	710	26,841	16	37	38	252	145	929	317	5,665	193	19,957

Type of Disbursements	Number of Families Reporting (In '000)	Total Dis-bursements (In millions)	Income Class									
			Under 40,000		40,000 - 59,999		60,000 - 99,999		100,000 - 249,999		250,000 and over	
			Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)
VII - Central Visayas	1,374	224,632	105	3,251	159	8,526	300	23,295	533	76,380	277	113,180
Total Expenditure	1,374	208,641	105	3,229	159	8,419	300	22,926	533	73,498	277	100,570
Food Expenditure	1,374	93,871	105	2,000	159	5,243	300	14,042	533	38,701	277	33,884
Food consumed at home	1,374	83,866	105	1,978	159	5,091	300	13,360	533	34,947	277	28,491
Cereal and cereal prepn	1,373	29,727	105	965	159	2,472	300	5,937	533	12,482	277	7,870
Roots and tubers	1,175	822	82	39	132	79	256	169	446	287	259	247
Fruits and Vegetable	1,370	7,004	103	180	157	442	299	1,114	533	2,739	277	2,530
Meat and meat prep'n	1,336	12,257	86	114	153	338	292	1,127	529	5,043	275	5,636
Dairy products and eggs	1,329	6,475	81	64	150	186	291	721	530	2,536	277	2,969
Fish and marine products	1,369	13,513	105	366	158	923	299	2,394	532	5,653	276	4,177
Coffee cocoa and tea	1,329	2,223	86	42	151	117	290	347	526	963	275	753
Non-alcoholic beverages	1,269	3,507	55	16	132	81	280	353	526	1,467	276	1,589
Food N.E.C	1,373	8,336	105	191	158	452	300	1,197	533	3,777	277	2,720
Food consumed outside home	973	10,005	25	22	80	153	191	683	429	3,754	248	5,393
Alcoholic beverages	975	1,598	59	29	120	94	231	279	396	751	170	445
Tobacco	849	1,295	57	43	113	85	213	258	338	629	127	280
Fuel, light and water	1,374	13,334	105	244	159	497	300	1,380	533	4,739	277	6,475
Transport and Communication	1,337	14,514	83	82	149	260	297	948	531	4,588	277	8,636
Household operation	1,374	5,164	105	62	159	145	300	389	533	1,348	277	3,220
Personal care and effects	1,368	6,623	100	80	158	245	300	728	533	2,552	277	3,017
Clothing Footwear and other wear	1,281	3,993	80	40	143	136	282	374	507	1,299	269	2,143
Educational fees	986	9,063	29	10	100	85	212	380	407	2,286	238	6,302
Recreation	488	541	11	4	27	6	86	15	198	89	167	427
Medical Care	1,374	6,664	105	50	159	206	300	376	533	1,521	277	4,511
Non-durable furnishings	489	326	10	2	37	11	106	29	210	126	126	159
Durable furnitures and equipment	285	5,207	1	1	11	31	34	250	130	1,364	108	3,561
Taxes	841	4,083	27	4	69	24	152	50	352	546	240	3,459
House rental value	1,374	26,193	105	387	159	824	300	2,211	533	8,279	277	14,493
House Maintenance and repairs	226	1,601	10	3	32	35	38	95	94	509	52	959
Special Family occasion	804	6,037	25	27	61	147	153	375	337	1,780	227	3,708
Gifts and contributions	1,132	1,780	61	13	124	44	241	113	452	563	255	1,047
Other expenditure	1,168	6,754	100	147	148	300	256	635	424	1,830	239	3,842
Other Disbursements	521	15,990	6	22	23	107	64	369	219	2,883	210	12,610

Type of Disbursements	Number of Families Reporting (In '000)	Total Dis-bursements (In millions)	Income Class									
			Under 40,000		40,000 - 59,999		60,000 - 99,999		100,000 - 249,999		250,000 and over	
			Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)
VIII - Eastern Visayas	865	131,144	66	2,178	137	7,440	272	22,508	261	37,724	128	61,294
Total Expenditure	865	110,885	66	2,171	137	7,295	272	21,867	261	35,196	128	44,356
Food Expenditure	865	50,406	66	1,345	137	4,594	272	13,047	261	17,648	128	13,773
Food consumed at home	865	48,163	66	1,335	137	4,533	272	12,777	261	16,964	128	12,554
Cereal and cereal prepn	865	19,175	66	642	137	2,258	272	5,837	261	6,762	128	3,676
Roots and tubers	825	949	61	45	132	116	262	302	250	326	121	160
Fruits and Vegetable	865	4,370	66	125	137	383	272	1,120	261	1,466	128	1,276
Meat and meat prep'n	849	5,615	61	66	131	267	269	1,044	261	2,017	128	2,222
Dairy products and eggs	845	3,187	60	39	129	148	268	544	261	1,057	128	1,399
Fish and marine products	864	8,419	66	234	137	812	272	2,322	261	3,036	128	2,015
Coffee cocoa and tea	861	1,273	65	35	136	121	272	352	261	461	128	305
Non-alcoholic beverages	805	1,152	47	12	118	60	256	216	256	404	128	460
Food N.E.C	865	4,023	66	137	137	368	272	1,041	261	1,436	128	1,042
Food consumed outside home	402	2,243	8	10	41	61	107	270	144	683	103	1,219
Alcoholic beverages	725	901	50	27	114	92	238	250	224	340	100	191
Tobacco	569	888	43	38	97	111	196	286	168	309	65	144
Fuel, light and water	865	7,088	66	169	137	509	272	1,430	261	2,257	128	2,723
Transport and Communication	843	6,634	57	48	132	237	266	815	260	1,962	128	3,571
Household operation	865	2,872	66	44	137	122	272	360	261	612	128	1,733
Personal care and effects	864	4,009	66	65	137	258	272	820	261	1,335	128	1,533
Clothing Footwear and other wear	823	2,375	56	29	125	115	259	390	256	723	127	1,118
Educational fees	642	4,292	23	12	92	63	212	395	213	1,401	103	2,421
Recreation	405	614	8	2	45	18	114	73	138	148	101	373
Medical Care	865	4,116	66	19	137	95	272	383	261	1,090	128	2,529
Non-durable furnishings	305	195	9	2	37	11	98	33	106	57	55	93
Durable furnitures and equipment	158	2,434	2	3	7	19	35	296	63	1,022	52	1,093
Taxes	497	1,702	15	5	47	6	135	24	180	157	119	1,511
House rental value	865	10,647	66	213	137	567	272	1,646	261	3,153	128	5,067
House Maintenance and repairs	184	1,033	9	17	23	28	56	111	65	307	31	570
Special Family occasion	645	5,179	25	27	79	151	199	770	220	1,568	121	2,663
Gifts and contributions	630	1,254	31	14	78	33	182	93	217	247	121	867
Other expenditure	783	4,247	64	92	132	265	247	645	223	861	118	2,383
Other Disbursements	364	20,259	6	8	21	145	87	641	138	2,528	112	16,937

Type of Disbursements	Number of Families Reporting (In '000)	Total Dis-bursements (In millions)	Income Class									
			Under 40,000		40,000 - 59,999		60,000 - 99,999		100,000 - 249,999		250,000 and over	
			Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)
IX - Zamboanga Peninsula	662	92,329	76	2,364	112	5,860	199	15,174	189	27,510	86	41,421
Total Expenditure	662	76,598	76	2,332	112	5,660	199	14,547	189	24,179	86	29,881
Food Expenditure	662	35,596	76	1,558	112	3,732	199	8,984	189	12,237	86	9,084
Food consumed at home	662	33,157	76	1,544	112	3,635	199	8,671	189	11,316	86	7,991
Cereal and cereal prepn	662	14,032	76	876	112	1,917	199	3,956	189	4,745	86	2,537
Roots and tubers	636	687	74	56	107	111	188	237	183	185	84	99
Fruits and Vegetable	662	3,364	76	157	112	357	199	901	189	1,149	86	801
Meat and meat prep'n	642	3,005	68	54	108	169	193	526	187	1,106	86	1,150
Dairy products and eggs	626	2,245	59	31	101	116	192	381	188	754	86	963
Fish and marine products	661	5,341	76	243	112	587	199	1,555	188	1,747	86	1,209
Coffee cocoa and tea	621	903	54	19	100	71	194	233	187	345	86	235
Non-alcoholic beverages	607	958	48	10	97	54	188	183	187	357	86	355
Food N.E.C	662	2,622	76	99	112	255	199	699	189	927	86	643
Food consumed outside home	455	2,438	26	14	67	97	122	313	158	921	80	1,093
Alcoholic beverages	491	570	65	32	92	63	154	172	126	188	54	114
Tobacco	492	787	61	37	87	83	155	268	136	262	53	137
Fuel, light and water	662	4,519	76	145	112	328	199	823	189	1,447	86	1,776
Transport and Communication	645	5,030	68	62	107	189	195	663	188	1,587	86	2,529
Household operation	662	1,621	76	42	112	100	199	229	189	415	86	835
Personal care and effects	661	2,568	75	59	112	172	199	502	189	886	86	949
Clothing Footwear and other wear	635	1,750	67	36	104	111	193	304	184	572	86	727
Educational fees	484	2,188	36	14	86	83	145	231	147	648	70	1,212
Recreation	294	359	12	2	35	8	78	23	106	87	62	240
Medical Care	662	2,104	76	30	112	72	199	180	189	550	86	1,272
Non-durable furnishings	258	163	13	5	32	8	84	30	84	41	45	78
Durable furnitures and equipment	171	3,946	3	1	16	35	39	239	62	840	51	2,830
Taxes	441	1,041	27	3	56	9	123	21	151	193	83	816
House rental value	662	7,851	76	161	112	372	199	1,089	189	2,396	86	3,833
House Maintenance and repairs	100	476	8	8	11	20	32	57	35	117	14	273
Special Family occasion	410	2,415	22	35	45	70	115	259	149	762	79	1,290
Gifts and contributions	528	975	57	17	87	28	150	101	159	253	74	576
Other expenditure	584	2,640	73	87	103	177	175	370	154	698	79	1,309
Other Disbursements	344	15,731	18	32	39	200	82	627	126	3,331	80	11,540

Type of Disbursements	Number of Families Reporting (In '000)	Total Dis-bursements (In millions)	Income Class: Under 40,000		40,000 - 59,999		60,000 - 99,999		100,000 - 249,999		250,000 and over	
			Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)
X - Northern Mindanao	839	133,403	71	2,348	123	6,498	229	18,143	274	40,889	143	65,525
Total Expenditure	839	116,690	71	2,324	123	6,376	229	17,516	274	37,984	143	52,490
Food Expenditure	839	52,196	71	1,447	123	4,019	229	10,341	274	18,672	143	17,717
Food consumed at home	839	48,623	71	1,430	123	3,930	229	9,928	274	17,498	143	15,838
Cereal and cereal prepn	839	18,407	71	720	123	1,831	229	4,627	274	6,735	143	4,494
Roots and tubers	769	642	59	28	109	83	208	137	254	210	138	185
Fruits and Vegetable	839	4,774	71	153	123	442	228	937	274	1,664	143	1,577
Meat and meat prep'n	828	6,513	67	76	121	281	226	807	271	2,311	142	3,039
Dairy products and eggs	833	4,145	69	62	121	194	227	570	273	1,415	143	1,903
Fish and marine products	836	6,637	70	208	123	589	227	1,519	273	2,363	143	1,956
Coffee cocoa and tea	826	1,395	63	32	121	101	227	287	272	534	142	440
Non-alcoholic beverages	810	1,756	62	19	114	69	222	225	270	633	141	810
Food N.E.C	839	4,356	71	132	123	339	228	818	274	1,632	143	1,434
Food consumed outside home	554	3,573	23	18	59	90	144	413	205	1,173	123	1,879
Alcoholic beverages	602	879	43	26	92	77	175	211	198	341	94	224
Tobacco	545	969	40	39	85	106	168	250	178	373	75	201
Fuel, light and water	839	7,267	71	167	123	413	229	1,115	274	2,437	143	3,135
Transport and Communication	834	8,684	68	92	122	243	228	808	273	2,476	143	5,064
Household operation	839	2,694	71	44	123	106	229	295	274	643	143	1,606
Personal care and effects	839	4,554	71	71	123	226	229	616	274	1,480	143	2,161
Clothing Footwear and other wear	813	2,944	65	37	116	111	222	353	269	1,002	141	1,442
Educational fees	617	5,615	29	16	74	45	174	355	216	1,360	124	3,840
Recreation	377	444	11	1	28	4	78	22	151	103	109	313
Medical Care	839	2,913	71	31	123	96	229	334	274	788	143	1,664
Non-durable furnishings	375	279	15	4	38	13	89	30	148	87	85	145
Durable furnitures and equipment	196	3,543	2	4	6	15	25	131	93	1,329	70	2,064
Taxes	598	1,536	25	3	66	8	147	38	226	193	134	1,293
House rental value	839	11,357	71	210	123	503	229	1,440	274	3,718	143	5,485
House Maintenance and repairs	147	969	5	6	16	28	32	85	54	312	40	537
Special Family occasion	607	4,123	22	23	70	101	153	411	226	1,155	136	2,432
Gifts and contributions	702	1,421	49	11	95	36	187	105	236	381	136	888
Other expenditure	751	4,303	65	93	111	223	208	576	234	1,132	134	2,279
Other Disbursements	411	16,713	13	24	30	122	96	627	154	2,905	118	13,035

Type of Disbursements	Number of Families Reporting (In '000)	Total Dis-bursements (In millions)	Income Class									
			Under 40,000		40,000 - 59,999		60,000 - 99,999		100,000 - 249,999		250,000 and over	
			Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)
XI - Davao	884	140,199	56	1,776	100	5,353	223	17,858	357	54,044	148	61,168
Total Expenditure	884	125,043	56	1,766	100	5,275	223	17,281	357	50,429	148	50,292
Food Expenditure	884	57,752	56	1,098	100	3,262	223	10,068	357	25,243	148	18,081
Food consumed at home	884	52,719	56	1,080	100	3,177	223	9,629	357	23,031	148	15,803
Cereal and cereal prepn	883	18,069	56	462	100	1,376	223	3,861	356	8,097	148	4,272
Roots and tubers	803	621	52	49	89	65	197	120	324	224	141	164
Fruits and Vegetable	881	5,384	56	129	100	362	222	999	355	2,252	148	1,641
Meat and meat prep'n	876	7,906	54	73	100	233	220	972	355	3,413	147	3,215
Dairy products and eggs	867	4,181	44	36	98	153	221	552	356	1,749	148	1,692
Fish and marine products	880	8,249	56	187	100	568	221	1,713	356	3,576	147	2,204
Coffee cocoa and tea	870	1,618	47	29	98	98	221	298	356	729	147	464
Non-alcoholic beverages	851	1,834	36	10	93	58	220	258	354	810	148	697
Food N.E.C	882	4,858	56	105	100	263	222	855	357	2,181	147	1,454
Food consumed outside home	635	5,033	11	18	51	85	151	439	288	2,212	134	2,278
Alcoholic beverages	664	1,253	38	28	78	72	176	256	272	577	100	320
Tobacco	598	1,378	33	26	76	112	166	323	238	660	84	257
Fuel, light and water	884	7,960	56	127	100	323	223	1,076	357	3,220	148	3,215
Transport and Communication	867	8,907	49	63	95	170	219	759	356	3,206	148	4,708
Household operation	884	2,340	56	35	100	95	223	281	357	797	148	1,133
Personal care and effects	883	4,454	56	44	100	160	223	605	357	1,794	148	1,851
Clothing Footwear and other wear	851	2,747	49	27	95	82	212	312	348	1,071	147	1,256
Educational fees	616	4,274	17	10	56	46	152	216	270	1,521	121	2,480
Recreation	386	454	4	2	21	10	74	29	182	133	104	280
Medical Care	884	3,885	56	19	100	105	223	282	357	1,610	148	1,869
Non-durable furnishings	382	236	8	1	29	6	92	30	176	97	77	102
Durable furnitures and equipment	204	4,329	2	1	5	53	35	428	104	1,609	58	2,238
Taxes	552	1,266	11	1	42	6	124	41	245	272	131	947
House rental value	884	14,010	56	164	100	430	223	1,530	357	5,159	148	6,728
House Maintenance and repairs	133	684	2	2	10	13	28	69	61	271	32	328
Special Family occasion	571	3,457	16	12	43	96	127	299	258	1,196	126	1,854
Gifts and contributions	727	1,347	25	13	73	36	179	151	308	491	141	655
Other expenditure	797	4,309	55	93	94	198	198	524	315	1,502	135	1,992
Other Disbursements	430	15,156	3	10	19	78	84	577	200	3,615	125	10,876

Type of Disbursements	Number of Families Reporting (In '000)	Total Dis-bursements (In millions)	Income Class									
			Under 40,000		40,000 - 59,999		60,000 - 99,999		100,000 - 249,999		250,000 and over	
			Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)
XII - SOCCSKSARGEN	801	123,797	50	1,837	120	6,714	240	19,792	287	43,341	105	52,112
Total Expenditure	801	105,539	50	1,798	120	6,640	240	19,083	287	39,707	105	38,310
Food Expenditure	801	48,368	50	1,168	120	4,190	240	11,350	287	19,591	105	12,069
Food consumed at home	800	44,589	49	1,152	120	4,056	240	10,818	287	18,057	105	10,506
Cereal and cereal prepn	800	17,232	49	509	120	1,861	239	4,867	287	7,066	105	2,929
Roots and tubers	763	663	46	38	112	83	227	195	276	238	102	109
Fruits and Vegetable	800	5,039	49	157	120	500	239	1,256	287	1,964	105	1,161
Meat and meat prep'n	793	5,019	48	60	116	262	238	845	287	2,101	104	1,749
Dairy products and eggs	783	3,381	43	46	113	186	237	558	286	1,270	104	1,320
Fish and marine products	799	6,410	48	164	120	595	240	1,535	287	2,667	104	1,449
Coffee cocoa and tea	795	1,333	48	38	119	129	239	343	285	541	105	282
Non-alcoholic beverages	778	1,529	41	18	113	87	235	278	284	634	104	512
Food N.E.C	800	3,985	49	122	120	354	240	941	287	1,575	105	993
Food consumed outside home	613	3,779	14	16	69	134	191	532	241	1,534	99	1,563
Alcoholic beverages	601	1,045	30	22	88	88	188	263	219	454	75	218
Tobacco	583	1,183	35	35	94	149	186	344	206	492	62	163
Fuel, light and water	801	5,767	50	119	120	404	240	1,082	287	2,240	105	1,922
Transport and Communication	793	7,639	44	56	118	256	239	889	287	2,700	105	3,738
Household operation	800	2,181	49	32	120	121	240	316	287	652	105	1,060
Personal care and effects	800	3,973	49	51	120	248	240	740	287	1,514	105	1,419
Clothing Footwear and other wear	790	2,814	45	28	116	137	238	433	286	1,033	105	1,183
Educational fees	588	4,464	17	19	71	65	184	384	232	1,496	83	2,501
Recreation	317	469	4	0	24	3	78	28	132	99	78	339
Medical Care	801	3,961	50	26	120	105	240	555	287	1,205	105	2,071
Non-durable furnishings	399	258	8	2	45	11	116	38	172	90	59	117
Durable furnitures and equipment	200	5,199	0	0	11	61	42	226	88	1,429	59	3,483
Taxes	506	1,079	16	1	53	6	129	29	215	228	94	816
House rental value	801	8,026	50	144	120	462	240	1,259	287	3,110	105	3,051
House Maintenance and repairs	130	542	5	6	17	13	34	65	57	244	18	215
Special Family occasion	527	2,970	14	10	61	72	142	334	213	1,117	96	1,437
Gifts and contributions	604	1,695	23	10	69	41	171	142	240	663	100	839
Other expenditure	735	3,906	46	68	111	209	218	608	262	1,351	98	1,669
Other Disbursements	372	18,258	6	40	17	74	76	709	176	3,633	97	13,802

Type of Disbursements	Number of Families Reporting (In '000)	Total Dis-bursements (In millions)	Income Class									
			Under 40,000		40,000 - 59,999		60,000 - 99,999		100,000 - 249,999		250,000 and over	
			Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)
XIII - Caraga	470	67,811	37	1,319	72	4,001	156	12,667	149	21,882	58	27,942
Total Expenditure	470	58,951	37	1,309	72	3,914	156	12,203	149	20,207	58	21,319
Food Expenditure	470	27,608	37	795	72	2,483	156	7,284	149	10,230	58	6,815
Food consumed at home	470	26,042	37	786	72	2,426	156	7,025	149	9,629	58	6,176
Cereal and cereal prepn	470	10,766	37	378	72	1,208	156	3,296	149	4,019	58	1,865
Roots and tubers	450	396	35	33	69	58	148	123	141	114	56	68
Fruits and Vegetable	470	2,490	37	78	72	223	156	637	149	907	58	645
Meat and meat prep'n	468	3,069	35	45	71	152	156	606	149	1,200	58	1,066
Dairy products and eggs	466	1,957	35	35	70	103	156	377	149	691	58	752
Fish and marine products	470	3,820	37	112	72	401	156	1,116	148	1,392	58	799
Coffee cocoa and tea	468	735	36	23	71	62	155	200	148	286	58	164
Non-alcoholic beverages	458	868	32	12	68	46	152	170	149	339	58	302
Food N.E.C	470	1,941	37	69	72	174	156	501	149	682	58	516
Food consumed outside home	321	1,566	11	9	41	57	105	259	113	601	50	640
Alcoholic beverages	353	451	23	10	53	42	123	126	114	180	40	93
Tobacco	320	463	24	18	53	55	117	161	97	175	28	54
Fuel, light and water	470	3,797	37	104	72	269	156	794	149	1,324	58	1,306
Transport and Communication	461	3,839	33	31	69	137	153	523	148	1,275	58	1,873
Household operation	470	1,354	37	23	72	71	156	194	149	350	58	717
Personal care and effects	470	2,194	36	40	72	140	156	448	149	828	58	739
Clothing Footwear and other wear	444	1,208	28	12	65	58	149	216	144	418	58	504
Educational fees	362	2,599	14	7	53	62	124	223	122	766	49	1,540
Recreation	162	220	3	0	13	3	42	11	66	75	38	130
Medical Care	470	1,636	37	48	72	46	156	218	149	492	58	832
Non-durable furnishings	202	135	7	2	22	6	60	25	79	50	34	52
Durable furnitures and equipment	102	2,319	1	7	3	7	23	257	49	788	27	1,260
Taxes	307	853	8	1	33	4	100	25	111	136	54	687
House rental value	470	5,008	37	112	72	294	156	927	149	1,619	58	2,056
House Maintenance and repairs	87	356	4	4	12	16	27	51	30	147	14	138
Special Family occasion	296	2,001	8	10	33	60	95	289	109	655	51	987
Gifts and contributions	418	735	28	8	59	16	138	80	136	145	57	485
Other expenditure	429	2,175	34	78	69	143	138	351	134	554	54	1,049
Other Disbursements	197	8,860	3	11	15	87	52	464	80	1,674	48	6,624

Type of Disbursements	Number of Families Reporting (In '000)	Total Dis-bursements (In millions)	Income Class									
			Under 40,000		40,000 - 59,999		60,000 - 99,999		100,000 - 249,999		250,000 and over	
			Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)	Families Reporting (In '000)	Dis-bursements (In millions)
Autonomous Region in Muslim Mindanao	572	58,641	9	313	59	3,251	282	22,029	192	23,764	31	9,283
Total Expenditure	572	55,950	9	313	59	3,235	282	21,825	192	22,841	31	7,736
Food Expenditure	572	31,548	9	179	59	2,005	282	13,421	192	12,909	31	3,033
Food consumed at home	572	29,672	9	175	59	1,940	282	12,905	192	12,000	31	2,652
Cereal and cereal prepn	572	13,195	9	83	59	939	282	5,912	192	5,158	31	1,103
Roots and tubers	554	966	8	4	56	46	273	417	189	455	29	44
Fruits and Vegetable	572	3,452	9	25	59	252	282	1,497	192	1,373	31	306
Meat and meat prep'n	534	1,158	7	6	55	64	263	418	179	455	31	215
Dairy products and eggs	563	1,205	9	6	57	72	276	452	190	487	31	188
Fish and marine products	572	4,997	9	23	59	270	282	2,176	192	2,177	31	351
Coffee cocoa and tea	572	1,016	9	7	59	66	282	451	192	404	31	88
Non-alcoholic beverages	546	768	6	4	53	36	271	291	186	327	31	110
Food N.E.C	572	2,915	9	17	59	193	282	1,291	192	1,164	31	249
Food consumed outside home	380	1,875	5	4	34	65	170	516	141	909	30	381
Alcoholic beverages	160	115	2	1	23	14	77	50	49	32	9	17
Tobacco	450	1,016	5	8	42	64	227	478	154	393	22	73
Fuel, light and water	572	3,391	9	22	59	213	282	1,311	192	1,364	31	481
Transport and Communication	570	3,525	9	18	58	142	281	1,175	191	1,453	31	738
Household operation	572	926	9	5	59	50	282	340	192	392	31	139
Personal care and effects	572	2,462	9	12	59	145	282	952	192	1,036	31	316
Clothing Footwear and other wear	552	1,359	8	6	58	66	272	462	184	580	31	245
Educational fees	395	1,586	3	3	27	27	181	256	155	834	28	466
Recreation	197	72	2	0	14	2	95	19	68	35	18	15
Medical Care	572	556	9	3	59	24	282	155	192	220	31	155
Non-durable furnishings	341	200	3	1	33	9	160	65	122	90	24	35
Durable furnitures and equipment	90	498	-	-	2	1	30	69	44	229	14	198
Taxes	316	219	2	0	29	7	141	33	118	75	25	105
House rental value	572	4,857	9	37	59	315	282	1,896	192	1,804	31	805
House Maintenance and repairs	71	195	0	1	4	8	34	59	29	101	4	26
Special Family occasion	256	797	1	2	15	20	115	257	103	374	22	145
Gifts and contributions	516	979	6	3	47	41	259	345	178	369	27	221
Other expenditure	479	1,648	8	10	51	83	241	483	156	550	24	523
Other Disbursements	136	2,691	1	1	6	16	44	204	61	924	24	1,547

8.4 Procurement Process

8.4.1 Detailed Procurement Procedures

1. Advertisement and Posting of IAEB

For projects with an ABC of more than PhP 5.0 million, the IAEB should be advertised and/or posted through the following:

a) *Newspaper advertisement.* At least once in one (1) newspaper of general nationwide circulation which has been regularly published for at least two (2) years before the date of issue of the advertisement.

b) *Internet posting*. Posting continuously on the website of the LGU concerned, if available, the website of the LGU's service provider, if any, and the Government Electronic Procurement System (G-EPS) for seven (7) calendar days starting on date of advertisement.

c) *Posting in a conspicuous place.* Posting at any conspicuous place reserved for this purpose in the premises of the LGU concerned for seven (7) calendar days, as certified by the head of the BAC Secretariat.

For projects with an ABC of PhP 5.0 million and below, the IAEB should be advertised and/or posted through the following:

a) *Internet posting.* Posting continuously in the website of the LGU concerned, if available, the website of the LGU's service provider, if any, and the Government Electronic Procurement System (G-EPS) for seven (7) calendar days starting on date of advertisement.

b) *Posting in a conspicuous place. P*osting at any conspicuous place reserved for this purpose in the premises of the LGU concerned for seven (7) calendar days, as certified by the head of the BAC Secretariat.

2. Acceptance of LOIs, Issuance of Eligibility Documents, and Conduct of Eligibility Check

Submission and Acceptance of LOIs

Eligible bidders with legal personality and capacity to undertake the contract shall include the following:

a) Duly licensed Filipino citizens/sole proprietorships

b) Partnerships duly organized under the laws of the Philippines and of which at least 75% of the interest belongs to citizens of the Philippines

c) Corporations duly organized under the laws of the Philippines and of which at least 75% of the outstanding capital stock belongs to citizens of the Philippines

d) Persons/entities forming themselves into joint venture, provided that Filipino ownership in the joint venture shall be at least 75% and each member of the joint venture shall submit the required eligibility documents

e) Cooperatives duly registered with Cooperative Development Authority.

In addition, all these entities must have the following:

- A license by the Philippine Contractors Accreditation Board (PCAB), in accordance with R.A. 4566
- The experience of having satisfactorily completed a single contract similar to that to be bid, and the value of which is at least 50% of the ABC of the contract to be bid
- The Allowable Range of Contract Cost per PCAB registration of contractor is based on the guidelines prescribed by PCAB
- A Constructors' Performance Evaluation System rating that is satisfactory and/or certificate of completion and owner's acceptance of the contract
- A certificate of commitment from a licensed bank to extend credit line if the bidder is awarded the contract.

3. Issuance of Bid Documents

Prospective bidders found eligible to participate in the bidding must be allowed to acquire or purchase bidding documents. The BAC Secretariat issues the bidding documents to eligible bidders that may wish to secure said documents. In the case that the bidding documents are sold, the LGU will only accept bids from those eligible bidders that have purchased the bidding documents. Bidding documents may be sold for a price as determined by the BAC and approved by the LCE based on the cost of its preparation and development.

The bidding documents, as a whole or individually, shall not be divulged or released to any prospective bidder prior to their official release to the contractors. Neither should these be divulged to any person with or without direct or indirect interest in the project being bid out, except those officially authorized to handle them. However, after its official release, it shall be made available to the public, unless the procurement at hand affects national security.

4. Pre-bid Conference

The following are specifically discussed during the pre-bid conference:

- The technical and financial components of the contract to be bid
- The different documents to be submitted by each bidder
- The requirements in the Instructions to Bidders (ITB), the replies to the bidders' queries about these requirements, specifications and other conditions of the project, the bid evaluation of all bidders and post-qualification evaluation of the lowest calculated bidder, the different warranty requirement of the project, and the different offences and penalties.

A pre-bid conference must be held for all contracts with ABCs of at least PhP 1.0 million and above. For contracts with ABCs of less than PhP 1.0 million, pre-bid conferences may or may not be held at the discretion of the BAC. The BAC may also decide to hold such a pre-bid conference upon the written request of a prospective bidder. The pre-bid conference must be held at least 12 calendar days before the deadline for the submission and receipt of bids.

The following may attend the pre-bid conference:

- The BAC
- The TWG members and consultants, if any
- The procuring unit/end-user unit
- The eligible bidders, including those ineligible bidders with pend
- The BAC Secretariat
- ing requests for reconsideration with the BAC or those with pending protests with the LCE (attendance of eligible bidders is not mandatory)
- Observers

5. Receive and Opening of Technical and Financial Envelopes

The procedures in the receipt, opening and preliminary examination of bids are as follows:

1. Eligible bidders submit their bids through their respective authorized representatives in 2 separate sealed bid envelopes, the first containing the Technical Proposal and the second containing the Financial Proposal.

2. The BAC convenes on the Bid Opening Date. The presence of the majority of the BAC members shall constitute a quorum, provided that the chairperson or the vice-chairperson is present.

3. The BAC receives the bids at the time, date and place specified in the bidding documents.

4. The BAC proceeds with the opening and preliminary examination of bids in public. For each bid, the BAC first opens the envelope containing the Technical Proposal to determine its compliance with the required documents for the technical bid and then checks the submitted documents in the Technical Proposal of each bidder against a checklist of required documents to ascertain if they are all present, using non-discretionary "pass/fail" criteria.

5. In case one or more of the required documents in the Technical Proposal is missing, incomplete or insufficient, the BAC rates the bid "failed" and immediately returns the Technical Proposal to the bidder concerned, together with the unopened envelope containing the Financial Proposal. Otherwise, the BAC rates the Technical Proposal "passed".

6. The BAC opens the envelope containing the Financial Proposal of each remaining bidder whose Technical Proposal (first envelope) was rated "passed". The Financial envelope of each complying bidder shall be opened within the same day. The BAC determines whether all the requirements/ documents in the Financial Proposal are complete and sufficient, and if the total bid price does not exceed the ABC. Only the bids that are rated "passed: for both the Technical and Financial Proposals shall be considered in the detailed evaluation and comparison of bids.

7. Foreign currency denominated bids shall be converted to Philippine currency, based on the exchange rate prevailing on the day of the bid opening.

8. The BAC reads the total bid prices of the bidders that are rated "passed".

9. All members of the BAC or their duly authorized representatives who are present during the bid opening, shall initial every page of the original copies of all received and opened bids.

10. The BAC members and the Observers (if they concur with the proceedings) shall also sign the "Abstract of Bids as Read" after the Preliminary Examination of Bids.

11. The BAC Secretariat shall record the proceeding using an electronic tape recorder or a video recorder. The minutes of the bid opening should be prepared within 3 calendar days after the bid opening date. Copies of the minutes shall also be made available to the public upon written request and payment of a specified fee to recover the cost of materials.

6. Evaluation of Bids

The evaluation of bids follows the following steps:

a. After the preliminary examination of bids, the BAC, through the TWG, shall immediately conduct a detailed evaluation of all bids rated "passed", using non-discretionary criteria stated in the IAEB and the ITB.

b. Based on the detailed evaluation of bids, those that comply with the requirements shall be ranked in the ascending order of their total calculated bid prices, as evaluated and corrected for computational errors, discounts and other modifications, to identify the LCB. Total calculated bid prices, as evaluated and corrected for computation errors, discounts and other modifications, which exceed the ABC shall be disqualified.

c. After all bids have been received, opened, examined, evaluated and ranked, the BAC shall prepare the corresponding Abstract of Bids. All BAC members shall sign the Abstract of Bids and attach thereto all the bids with their corresponding Bid Securities and the minutes or proceedings of the bidding.

d. The TWG, with the assistance of the BAC Secretariat, when directed by the BAC, should prepare the Evaluation Report, containing the details of the evaluation conducted, preferably within 3 calendar days from the date the evaluation from the date the evaluation was concluded.

7. Post-qualification

The following steps are followed in the conduct of post-qualification:

1. The BAC/TWG verifies, validates and ascertains the genuineness, validity and accuracy of the legal, technical and financial documents submitted by the bidder with the LCB, using the non-discretionary criteria as stated in the IAEB and ITB. These criteria shall consider, but shall not be limited to, the following:
   a. *Legal requirements* – PCAB license; SEC registration certificate or the DTI business name registration; Mayor's permit; BIR Certification; Authority of signatory; and Affidavit of compliance with the Disclosure Provision.
   b. *Technical requirements* – bidder's stated competence and experience as well as of its key personnel; availability and commitment, and/or inspection and testing, of its equipment units as well as its performance in its ongoing government and private contracts; and sufficiency of the Bid Security.
   c. *Financial requirements* – bid price proposal; the required bank commitment to provide credit line to the bidder; net worth and liquid assets; bill of quantities, detailed estimates and cash flow; NFCC, credit line or cash deposit; and audited financial statement.
2. In verifying the information contained in the foregoing documents, the TWG may make inquiries with appropriate government agencies and examine the original documents kept in the bidder's place of business.
3. The BAC/TWG inquires about the bidder's performance in relation with other contracts/transactions as indicated in its eligibility statement.
4. The TWG prepares a Post-qualification Report to be submitted to the BAC.
5. The BAC reviews the Post-qualification Report submitted by the TWG.
6. The BAC determines whether the bidder with the LCB passes all the criteria for post-qualification.
7. If the LCB passes the post-qualification, the BAC declares it as the LCRB.

After the BAC has determined the LCRB, the Secretariat, with the assistance of the TWG, if necessary, prepares the BAC Resolution declaring the LCRB and the corresponding Notice to the said bidder informing it of its post-qualification.

8. Awarding of Contract

The procedures for awarding the contract are as follows:

1. The BAC Secretariat drafts the BAC Resolution recommending award.
2. The BAC Secretariat consolidates all the documents and/or records of the proceedings of the BAC with regard to the procurement at hand, and attaches the same to the BAC Resolution.
3. The BAC approves and signs its resolution recommending award, and transmits the same to the LCE.
4. For infrastructure projects with an ABC above PhP 50 million, the LCE, or his/her duly authorized representative, acts on the recommendation for award within 7 calendar days from the date of determination and declaration by the BAC of the Lowest Calculated Responsive Bid (LCRB)/Single Calculated and Responsive Bid (SCRB).
5. In case of a disapproval of the recommendation of award, the LCE shall state the reason(s) for disapproval and instruct the BAC on the subsequent steps to be adopted. In case of approval of the recommendation, the LCE, through the BAC Secretariat, issues the Notice of Award to the bidder with the LCRB/SCRB, and notifies the losing bidders of the same.
6. The bidder with the LCRB/SCRB accepts the Notice of Award.

9. Contract Signing and Approval, and Issuance of Notice to Proceed

The procedures in contract signing and approval are as follows:

1. The winning bidder submits all the documentary requirements, including the performance security, and signs the contract.
2. The BAC Secretariat transmits the contract documents to the appropriate signing authority for signature, together with the following documents:
   - Duly approved program of work and cost estimates
   - Abstract of Bids as calculated
   - Resolution of the BAC recommending the award
   - Approval of award by the LCE
   - Other pertinent documents that may be required by existing laws and/or the LGU concerned.
3. The LCE or his duly authorized representative signs the contract provided that the winning bidder has complied with all the documentary requirements, if any.
4. The LCE or his/her duly authorized representative issues the NTP within 3 calendar days, for infrastructure projects with an ABC of over PhP 50.0 million, or within 2 calendar days, for infrastructure projects with an ABC of PhP 50 million and below, from the date of the approval of the contract.

8.4.2 Documentary Requirements During Procurement

A. Contents of the Bid Documents

The bid documents should contain the following

Document	Yes	No
a. Invitation to Apply for Eligibility and to Bid (IAEB)		
b. Eligibility Documents		
c. Eligibility Data Sheet		
d. Instruction to Bidders		
e. Bid Data Sheet		
f. General Conditions of Contract		
g. Special Conditions of Contract		
h. Scope of Work (SOW)		
i. Drawings		
j. Bill of Quantities		
k. Forms and Qualification Information.		

B. Invitation to Apply for Eligibility and to Bid (IAEB)

The IAEB must be in accordance with the form prescribed by the GPPB in the bid documents and should contain the following:

- the name and location of the contract to be bid
- the project background and other relevant information regarding the proposed contract works, including a brief description of the type, size, major items, and other important or relevant features of the works
- a general statement on the criteria to be used by the LGU for eligibility check/screening, preliminary examination and detailed evaluation of bids, and post qualification
- the date, time and place of the deadline for: the submission and receipt of the Letter of Intent (LOI) together with the application for eligibility; the submission and receipt of the eligibility requirements; notification of results of eligibility check/screening; pre-bid conference if any; the submission and receipt of bids; and the opening of bids
- the ABC
- the source of funding
- the period of availability of the bidding documents, the place where the bidding documents may be secured and, where applicable, the price of the bidding documents
- the contract duration
- the name, address, telephone number, facsimile number, e-mail and website addresses of the concerned LGU, as well as its designated contact person
- the Reservation Clause, which is normally located at the bottom of the notice
- such other necessary information deemed relevant by the LGU.

C. Documentary Requirements during Eligibility Check

A prospective bidder is also required to submit the following documents to the BAC to determine its eligibility to undertake the project:

1. Class "A" Documents
    - *Legal documents* – i) DTI business name registration (single proprietorships) or SEC registration certificate (partnerships or corporation); ii) Valid and current Mayor's permit/municipal license to operate business; BIR Registration Certificate; iii) Statement of the prospective bidder that it is not "blacklisted" from bidding by the government; iv) Tax Clearance Certificate; v) Other appropriate licenses as may be required by the LGU concerned; and vi) Certificate of PhilGEPS Registration.
    - *Technical documents* – i) Statement of the prospective bidder of all its ongoing and completed government and private contracts within the period specified in the IAEB, including contracts awarded but not yet started, if any; ii) Valid PCAB license and registration for the type and cost of contract to be bid; and iii) A statement on the availability of key personnel and availability of equipment.
    - *Financial documents* – i) Audited financial statements for the immediately preceding calendar year; ii) Proof of capacity to absorb the additional obligations in connection with the contract to be bid and to finance its implementation/completion.
2. Class "B" Documents
    - Valid Joint Venture Agreement (JVA), if the prospective bidder is a joint venture, with the name of the lawful attorney-in-fact to sign the contract (if awarded the project) and the lead representative of the joint venture.
    - Letter authorizing the BAC or his duly authorized representative/s to verify any or all of the documents submitted for the eligibility check.
3. Other Eligibility Documents
    - A notarized certification by the bidder or its duly authorized representative that each of the documents submitted in satisfaction of the eligibility requirements is an authentic and original copy, or a true and faithful reproduction or copy of the original, complete, and that all statements and information provided therein are true and correct.
    - The BAC may require that the bidder's authorized representative to initial every page of the documents it submits as originals in order to ensure that the documents reviewed by the BAC are authentic and to protect the BAC from any insinuation of tampering with said documents.

D. Documents that should form part of the contract

The documents that should form part of the contract shall include the following:

- the Contract Agreement
- conditions of Contract
- drawings/Plans, if applicable
- Scope of Work
- Invitation to Apply for Eligibility and to Bid (IAEB)
- bidding documents
- Addenda and/or Supplemental/Bid Bulletins, if any
- bid form including all the documents/statements contained in the winning bidder's two bidding envelopes, as annexes
- eligibility requirements, documents and/or statements
- performance security and CARI
- credit line issued by a licensed bank, if applicable
- Notice of Award of Contract with the winning bidder's "Conforme" thereto
- PERT/CPM approved by the LGU
- Other contract documents that may be required by existing laws and/or the LGU concerned.

8.4.3 Sample Procurement Notice

[Letterhead of the Procuring Entity]

REQUEST FOR EXPRESSION OF INTEREST FOR *[Insert name of Project]*

1. Select one of the two following paragraphs and delete the other depending on the Funding Source:

   a) If the Funding Source is GOP:

   The *[insert name of Procuring Entity]*, through the *[insert source of funding and year]*[7] intends to apply the sum of *[insert the approved budget for the contract]* being the Approved Budget for the Contract (ABC) to payments under the contract for *[insert name/no. of contract]*. Bids received in excess of the ABC shall be automatically rejected at the opening of the financial proposals.

   b) If the Funding Source is a foreign government/foreign or international financing institution:

   The Government of the Philippines (GOP) [has received/has applied for/intends to apply for] a [Loan/Credit/Grant] from the [state the foreign government/foreign or international financing institution,] toward the cost of [insert name of project], and it intends to apply part of the proceeds of this [loan/credit/Grant] to payments under the contract for [insert name/no. of contract].

2. The [insert name of the Procuring Entity] now calls for the submission of eligibility documents for [insert brief description of services to be procured]8. Interested consultants must submit their eligibility documents on or before [insert date and time of the opening of eligibility documents] at [insert address for place of submission]. Applications for eligibility will be evaluated based on a non-discretionary "pass/fail" criterion.

3. The BAC shall draw up the short list of consultants from those who have submitted [eligibility documents/Expression of Interest] and have been determined as eligible in accordance with the provisions of Republic Act 9184 (RA 9184), otherwise known as the "Government Procurement Reform Act", and its Implementing Rules and Regulations (IRR). The short list shall consist of [insert number of short list allowed]9 prospective bidders who will be entitled to submit bids. The criteria and rating system for short listing are:

   [Insert here a general statement on the criteria and rating system to be used for the short listing]

1. ***Select one of the two following paragraphs, and delete the other depending on the Funding Source:***

   a) If the Funding Source is GOP:

   Bidding will be conducted through open competitive bidding procedures using non-discretionary "pass/fail" criterion as specified in the IRR of RA 9184.

   In addition, select one of the two following paragraphs and delete the other depending on the existence of the condition under Section 24.3.3 of the IRR of RA 9184:

   I. Select this paragraph if Filipino consultants have sufficient expertise and capability to render the services required under the project: Bidding is restricted to Filipino citizens/sole proprietorships,

---

[7] *In the case of National Government Agencies, the General Appropriations Act and/or continuing appropriations; in the case of GOCCs, GFIs, and SUCs, the Corporate Budget for the contract approved by the governing Boards; in the case of LGUs, the Budget for the contract approved by the respective Sanggunian. (Section 5(a), R.A. 9184)*

[8] *A brief description of the terms of reference of the Consulting Service should be provided, including outputs/deliverables, location of project, and other information necessary to enable potential bidders to decide whether or not to respond to the invitation.*

[9] *For World Bank financed contract, the short list should be six (6) Consultants.*

partnerships, or organizations with at least sixty percent (60%) interest or outstanding capital stock belonging to citizens of the Philippines.

II. Select this paragraph if Filipino consultants do not have sufficient expertise and capability to render the services required under the project: Bidding is open to all interested bidders, whether local or foreign, subject to the conditions for eligibility provided in the IRR of RA 9184.

b) If the Funding Source is a foreign government/foreign or international financing institution:

Bidding will be conducted in accordance with relevant procedures for open competitive bidding as specified in the IRR of RA 9184 with some amendments, as stated in these bidding documents and is open to all bidders from eligible source countries as defined in the applicable guidelines of the *[state the foreign government/foreign international financing institution concerned]*.

The Procuring Entity shall evaluate bids using the [indicate if Quality Based Evaluation/Selection (QBE/QBS), Quality-Cost Based Evaluation/Selection (QCBE/QCBS), Fixed Budget Selection, or Least-Cost Selection] procedure. [In case QCBE is used, insert the following sentence here: The Procuring Entity shall indicate the weights to be allocated for the Technical and Financial Proposals]. The criteria and rating system for the evaluation of bids shall be provided in the Instructions to Bidders.

2. ***The contract shall be completed within [insert the expected contract duration in days or months].***

3. ***The [insert name of the Procuring Entity] reserves the right to reject any and all bids, annul the bidding process, or not award the contract at any time prior to contract award, without thereby incurring any liability to the affected bidder or bidders.***

4. ***For further information, please refer to:***

[Insert name of officer]

[Insert name of office]

[Insert postal address] and/or *[Insert street address]*

[Insert telephone number, indicate city code]

[Insert contact's email address]

[Insert facsimile number]

[Insert website address, if applicable]

[Date of Issued]

_____*[Insert Name and Signature of the BAC Chairperson or the Authorized Representative of the BAC Chairperson]*

>

8.4.4 Sample Letter of Acknowledgement of Receipt

Letterhead of Contracting Authority

ACKNOWLEDGEMENT OF RECEIPT – HAND DELIVERY

Name and address of the [Candidate/Applicant/Tenderer]:

.....

.....

.....

.....

.....

Call for [tender/proposals]: <reference number & title>

[Title of your action: <……> (one action only per acknowledgement of receipt)]

Your <application/concept note/tender> was received on <date and hour> [add, if relevant, the state of the envelope/package]

[You will be sent a formal acknowledgement of receipt following the opening session and administrative check. This acknowledgement letter will contain the reference number assigned to your <application/concept note>.]

Name:

Signature:

8.4.5 Sample Shortlisting Notice

Section I. Notice of Eligibility and Short Listing

[Insert Date]

[Name and Address of Short Listed Consultant]

Dear *[Addressee]*:

1. The *[insert name of Procuring Entity]* (hereinafter called "Procuring Entity" has received financing (hereinafter called "funds") from *[insert name of Funding Source]* (hereinafter called the "Funding Source") toward the cost of *[insert name of project]*. The Procuring Entity intends to apply a portion of the funds in the amount of *[insert amount of ABC]* to eligible payments under the contract for *[insert name of contract]* for which the Bidding Documents is issued.

2. The Procuring Entity now invites bids to provide the following Consulting Services: *[insert short description of objectives and scope of the project].* More details on the services are provided in the Terms of Reference (TOR) for the project.

3. The Consultant shall be selected and employed in accordance with *[insert evaluation procedure]* procedures as described in the Bidding Documents.

4. This notice has been addressed to the following short listed consultants:

   [Insert list of short listed consultants]

5. It is not permissible for you to transfer this invitation to any other consultant.

6. The Bidding Documents shall be available at *[indicate address]* during *[insert office hours, e.g. 8:00 a.m. to 5:00 p.m.]*.

7. ***Select one of the following two paragraphs, and delete the other:*** [10]

   a) If the Procuring Entity intends to open the Pre-Bid Conference to all interested Bidders:

   The *[insert name of the Procuring Entity]* will hold a Pre-Bid Conference on *[insert time and date]* at *[insert address for Pre-Bid Conference, if applicable],* which shall be open to all interested parties.

   b) If the Procuring Entity intends to limit the Pre-Bid Conference to Bidders who have purchased the Bidding Documents:

   The *[insert name of the Procuring Entity]* will hold a Pre-Bid Conference on *[insert time and date]* at *[insert address for Pre-Bid Conference, if applicable],* which shall be open only to all interested parties who have purchased the Bidding Documents.

Yours sincerely,

_____

[Insert signature, name, and title of the Procuring Entity's Representative]

[10] *May be deleted in case the ABC is less than One Million Pesos (PhP1,000,000) where the Procuring Entity may not hold a pre-bid conference.*

8.4.6 Sample Letter to Firms not Shortlisted

<Letterhead of Contracting Authority >

[Insert Date]

[Name and Address of Short Listed Consultant]

Dear *[Addressee]*:

Our ref: < Publication reference > / < Letter number >

Dear Sir / Madam

< Contract title >, < Location >, <Lot number and title>]

Thank you for your recent application to participate in the above contract. I regret to inform you that your application has not been short-listed to prepare a detailed tender for this contract for the following reason(s):

Delete rows not applicable

- your application was submitted after the deadline
- your application did not follow the standard application format and/or the instructions contained in it
- your application was not considered to satisfy the economic and financial standing criterion
- your application was not considered to satisfy the professional capacity criterion (in particular,
- your application was not considered to satisfy the technical capacity criterion (in particular,
- <other reason, to be specified, e.g. your application was considered to give rise to a conflict of interests due to your previous involvement in the project>

For your information, we received <number of applications> applications in response to the procurement notice of which <shortlist number> were short-listed.

Although we have not been able to pursue your candidature further on this occasion, I trust that you will continue to take an active interest in [NSSMP]-funded initiatives.

Yours faithfully,

< Name >

8.4.7 Sample Letter Inviting Firms to Tender

[Letterhead of the Procuring Entity]

Invitation to Bid for *[Insert name of Project]*

1. The *[insert name of Procuring Entity]*, through the *[insert source of funding and year]*[11] intends to apply the sum of *[insert the approved budget for the contract]* being the Approved Budget for the Contract (ABC) to payments under the contract for *[insert name/no. of contract]*. Bids received in excess of the ABC shall be automatically rejected at bid opening.
2. The *[insert name of* Procuring Entity*]* now invites bids for *[insert brief description of Works to be procured]*.[12] Completion of the Works is required *[insert the required completion date or expected contract duration]*. Bidders should have completed, within ten (10) years from the date of submission and receipt of bids, a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents,
3. Bidding will be conducted through open competitive bidding procedures using non-discretionary pass/fail criterion as specified in the Implementing Rules and Regulations (IRR) of Republic Act 9184 (RA 9184), otherwise known as the "Government Procurement Reform Act".

Bidding is restricted to Filipino citizens/sole proprietorships, partnerships, or organizations with at least seventy five percent (75%) interest or outstanding capital stock belonging to citizens of the Philippines.

4. Interested bidders may obtain further information from *[insert name of the* Procuring Entity*]* and inspect the Bidding Documents at the address given below from [insert office hours].
5. A complete set of Bidding Documents may be purchased by interested Bidders from the address below and upon payment of a nonrefundable fee for the Bidding Documents in the amount of [insert amount in Pesos].
6. It may also be downloaded free of charge from the website of the Philippine Government Electronic Procurement System (PhilGEPS) and the website of the Procuring Entity, provided that bidders shall pay the fee for the Bidding Documents not later that the submission of their bids.
7. Select one of the following two paragraphs, and delete the other: 13

    a) If the Procuring Entity intends to open the Pre-Bid Conference to all interested Bidders:

    The [insert name of the Procuring Entity] will hold a Pre-Bid Conference on [insert time and date] at [insert address for Pre-Bid Conference, if applicable], which shall be open to all interested parties.

    b) If the Procuring Entity intends to limit the Pre-Bid Conference to Bidders who have purchased the Bidding Documents:

    The *[insert name of the Procuring Entity]* will hold a Pre-Bid Conference on *[insert time and date]* at *[insert address for Pre-Bid Conference, if applicable],* which shall be open only to all interested parties who have purchased the Bidding Documents.

---

[11] *In the case of National Government Agencies, the General Appropriations Act and/or continuing appropriations; in the case of GOCCs, GFIs, and SUCs, the Corporate Budget for the contract approved by the governing Boards; in the case of LGUs, the Budget for the contract approved by the respective* Sanggunian*. (Section 5(a), R.A. 9184)*

12 A brief description of the scope of Works should be provided, including quantities, location of project, and other information necessary to enable potential bidders to decide whether or not to respond to the invitation.

[13] *May be deleted in case the ABC is less than One Million Pesos (PhP1,000,000) where the Procuring Entity may not hold a pre-bid conference.*

8. Bids must be delivered to the address below on or before [insert date and time] at [insert address for submission and receipt of bids]. All bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in ITB Clause

   Bids will be opened in the presence of the bidders' representatives who choose to attend at the address below. Late bids shall not be accepted.

9. [Insert such other necessary information deemed relevant by the Procuring Entity]

10. The [insert name of the Procuring Entity] reserves the right to accept or reject any bid, to annul the bidding process, and to reject all bids at any time prior to contract award, without thereby incurring any liability to the affected bidder or bidders.

11. For further information, please refer to:

    [Insert name of officer]
    [Insert name of office]
    [Insert postal address] and/or *[Insert street address]*
    [Insert telephone number, indicate city code]
    [Insert contact's email address]
    [Insert facsimile number]
    [Insert website address, if applicable]

_____*[Insert Name and Signature of the BAC Chairperson or the Authorized Representative of the BAC Chairperson]*

8.4.8 Outline of Terms of Reference

Following table is extracted from the Philippine Bidding Documents, Procurement of Infrastructure Projects elaborated by the Government of the Republic of the Philippines. The contents can be found on the NSSMP website and on the Government Procurement Policy Board website (www.gppb.gov.ph Clicking Downloadable ⟶ PBDs ⟶ 4th Edition ⟶ Infrastructure Projects)

TABLE OF CONTENTS

8.4.9 Sample Notification Letter for Supply of Works

[Letterhead of the Procuring Entity]

Letter to sign contract *[Insert name of Project]*

[Insert Date]

[Name and Address of Short Listed Consultant]

Dear *[Addressee]*:

Our ref: < Publication reference >

< Contract title >, < Location >

The recommendation for award for <Assignment/ Project Title> of your firm has been approved.

The above contract may be awarded to you subject to the eligibility of the proofs when requested, for the amount mentioned in your tender [, as corrected for arithmetic errors as follows: …] and on the basis of the conditions stipulated in the tender dossier. The contract value is <amount>.

Please complete a new financial identification form if your bank account details have changed since those submitted with your tender.

[*Where applicable depending on the amount of the contract:* To facilitate the contract preparation, could you please confirm that you will request the pre-financing of < amount of pre-financing >.]

Yours sincerely,

< Name **>**

8.4.10 Sample Cover Letter Requesting Submission of Signed Contract

Form of Contract Agreement

THIS AGREEMENT, made this *[insert date]* day of *[insert month]*, *[insert year]* between *[name and address of PROCURING ENTITY]*_(hereinafter called the"Entity") and *[name and address of Contractor]* (hereinafter called the "Contractor").

WHEREAS, the Entity is desirous that the Contractor execute *[name and identification number of contract]* (hereinafter called "the Works") and the Entity has accepted the Bid for *[insert the amount in specified currency in numbers and words]* by the Contractor for the execution and completion of such Works and the remedying of any defects therein.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.

2. The following documents shall be attached, deemed to form, and be read and construed as part of this Agreement, to wit:

   (a) General and Special Conditions of Contract;
   (b) Drawings/Plans;
   (c) Specifications;
   (d) Invitation to Apply for Eligibility and to Bid;
   (e) Instructions to Bidders;
   (f) Bid Data Sheet;
   (g) Addenda and/or Supplemental/Bid Bulletins, if any;
   (h) Bid form, including all the documents/statements contained in the Bidder's bidding envelopes, as annexes;
   (i) Eligibility requirements, documents and/or statements;
   (j) Performance Security;
   (k) Credit line issued by a licensed bank, if any;
   (l) Notice of Award of Contract and the Bidder's conforme thereto;
   (m) Other contract documents that may be required by existing laws and/or the Entity.

3. In consideration of the payments to be made by the Entity to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Entity to execute and complete the Works and remedy any defects therein in conformity with the provisions of this Contract in all respects.

4. The Entity hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects wherein, the Contract Price or such other sum as may become payable under the provisions of this Contract at the times and in the manner prescribed by this Contract.

IN WITNESS whereof the parties thereto have caused this Agreement to be executed the day and year first before written.

Signed, sealed, delivered by _____ the _____ (for the Entity)

Signed, sealed, delivered by _____ the _____ (for the Contractor).

Binding Signature of PROCURING ENTITY

_____

Binding Signature of Contractor

_____

[Addendum showing the corrections, if any, made during the Bid evaluation should be attached with this agreement]

8.4.11 Sample Format for Negotiation Report

[Letterhead of the Procuring Entity]

Letter to sign contract *[Insert name of Project]*

[Insert Date]

[Name and Address of Short Listed Consultant]

Dear *[Addressee]*:

Present:

Contractor Team:

<names of representatives>

Firm Representatives:

<names of representatives>

Background:

The <contractor> evaluation team called this negotiation to clarify key points on the technical and financial proposal of the firm. Overall, the task team finds the technical proposal to be responsive to the needs of the terms of reference, providing some innovative concepts which the program could explore.

Summary of discussions:

The task team provided these updates and insights for the firm:

<comments to TP and FP>

Feedback from the firms' representative

<comments of Firm representatives>

Agreements:

<commitments>

Conforme:

On behalf of <name of firm>:

<name of representative>

<position of representative>

On behalf of <contractor>

<name of representatives>

Task Team Leader

8.5 Budget and Financing

8.5.1 Information on Possible Finance Sources

Possible sources of financing can be grouped into two categories: (i) donor funded assistance; and (ii) commercial assistance.

1.0 Donor-Funded Assistance

The table below provides a comparison of the principal terms and conditions associated with donor-funded assistance (specifically those loans provided through Development Bank of the Philippines – DBP – and Land Bank of the Philippines – LBP – programmes) and, in contrast, commercial bank loans. The main difference is that donor-funded assistance typically offers longer term loans (up to 15 years) compared to only 7 years for commercial loans.

	DBP EDP	**LBP S2LDIP**	**Commercial Banks**
Repayment term	Up to 15 years, inclusive of a maximum grace period of 5 years	Up to 15 years, inclusive of 2 years grace period on the principal	5 to 7 years
Interest rate	Fixed throughout the loan (8 to 10%)	5 yrs – 8% 10 yrs – 9% 15 yrs – 10%	6 to 9%
Other fees	Front end fee & commitment fee (0.02%)	Front end fee & commitment fee	Guarantee fee if guaranteed by LGUGC
Equity requirement	Minimum of 10% based on total project cost (for LGU, Cooperative/Association, WD and GOCC)	25% for LGU or WD; but loan portion can be up to 100%	30% of total project cost
Eligible borrowers	LGUs/WDs, private corporations, GOCCs, cooperatives/ associations, and private financial institutions	WDs classified as creditworthy and semi-creditworthy by LWUA; LGUs that meet the lending criteria of LANDBANK	LGUs and WDs
Eligible expenditures	Capital investments, initial working capital, and FS preparation/ DE design	Capital investments, working/operating capital	Capital investments, working capital

Environmental Development Project (EDP)

The Development Bank of the Philippines manages the EDP which is a policy-based lending facility funded by the Japan International Cooperation Agency intended to support viable and environmentally-sound investment projects. Aside from water supply and sanitation, the EDP supports projects for industrial prevention and control, new and renewable energy, and solid hazardous/health care waste management.

Objectives. The EDP aims to:

- improve the quality of the environment
- enable LGUs to manage their environment and natural resources
- develop and manage natural resources in a sustainable manner
- establish the Philippine Water Revolving Fund (PWRF) as an innovative financing mechanism.

Terms and Conditions. The EDP loan has the following terms and conditions:

- repayment term of up to 15 years, inclusive of a maximum grace period of 5 and 3 years for non-water and water supply loans, respectively
- fixed interest rate throughout the loan period
- front end and commitment fees
- equity requirement of minimum of 20% based on total project cost for private corporations; and minimum of 10% based on total project cost for LGUs, Cooperatives/Associations, Water Districts and Government-Owned and Controlled Corporations (GOCCs).

Eligible Borrowers. The EDP provides LGUs, GOCCs, cooperatives, associations, water districts, private corporations and private water service providers with long-term funds to mobilize, encourage and support activities and investments in environment-friendly projects.

Eligible Expenditures. Loans can be availed for capital investments, initial working capital and interest during construction period if essential for project viability, and preparation of feasibility study and detailed engineering design.

Eligible Projects. For the sanitation sector, eligible projects include: (i) collection, treatment and disposal of wastewater; and (ii) development of sanitation services/facilities.

Support for Strategic Local Development and Investment Project (S2LDIP)

The Land Bank of the Philippines (LANDBANK) manages the S2LDIP, which is funded by the World Bank. It aims to improve public service provision and management intended for LGUs implementing strategic infrastructure investments. As of 2010, PhP 2.3 billion funded 64 projects for drainage/sanitation, water systems, shoreline protection, construction of slaughterhouse, public market, etc.

Loan Terms. The loan has a maximum term of 15 years inclusive of 2 years grace period on the principal. Interest rates vary depending on the loan repayment period, i.e., 5 years – 8%; 10 years – 9%; and 15 years – 10%. Up to 100% of the total project costs can be borrowed under S2LDIP.

Eligible Borrowers. Loans can be availed by Water Districts classified as creditworthy and semi-creditworthy by LWUA and LGUs (Province, City and Municipality) that meet the lending criteria of LANDBANK.

Eligible Projects. For the sanitation sector, eligible projects are the construction/improvement of sanitation facilities such as wastewater treatment facilities, sewerage systems, and septage treatment facilities.

2.0 Loans from Commercial Banks

The provision of financing for sanitation projects is a relatively new concept for private commercial banks. However, it should be noted that private banks had been involved in co-financing arrangements with government banks. For instance, the PWRF is designed as a co-financing arrangement between DBP (using JICA loan funds) and private banks (using their own resources). In this way, rather than competing, public resources are used to complement private funding.

Indeed, one feature of the PWRF is the use of public funds to provide standby credit line that will refinance the private bank loan component if it cannot lend beyond 10 years. This enhancement has allowed private banks to respond to long-term funding requirements of most water supply projects. Since the development of the PWRF scheme in 2007, there has been enthusiastic response from private banks and with the support of LGUGC, private banks have actively originated loans, are offering competitive rates, and expediently processing loans.

A number of private banks have co-financed some of the PWRF accounts of DBP while some have ventured into water supply and sanitation accounts on their own. Examples include the co-financing between DBP and the Bank of Philippine Islands for the water supply project of Puerto Princesa City Water District and the co-financing using the PWRF facility between DBP and Security Bank to expand the water supply and sanitation facilities in Boracay Island.

Private banks typically can offer loans of up to only 7 years (compared to up to 15 years for DBP and LANDBANK loans). They also usually require guarantee from LGUGC that could increase the interest rate by 1.5% to 2% per annum. Following table presents indicative interest rates charged by private banks.

Banks	Medium-term[1]		Long-term[2]	
	Low	High	Low	High
Bank of Commerce	7.500	21.229	5.980	8.800
East West Bank	5.188	26.578	5.188	11.820
Phil. Veterans Bank	7.680	13.000	4.631	8.500
Maybank	3.500	30.816	4.630	13.751
Hongkong & Shanghai Bank	5.250	26.000	2.364	5.250
Allied Banking Corporation	6.900	9.750	3.878	3.878
Banco De Oro Universal Bank	3.541	40.885	4.250	11.250
Bank of the Philippine Islands	3.000	3.000	4.500	7.750
China Banking Corporation	5.500	8.000		
Metropolitan Bank and Trust Company	3.500	6.334	3.000	10.000
Philippine National Bank	2.000	16.440	5.500	17.940
Rizal Commercial Banking Corporation	6.000	8.000	7.721	9.000
Security Bank Corporation	5.684	9.500	5.500	5.500
United Coconut Planters Bank	7.057	8.500	7.100	7.100
Union Bank of the Philippines	6.880	26.030	6.880	12.000

Source: Bangko Sentral ng Pilipinas, for the period of Sept. 17-21, 2012 (http://www.bsp.gov.ph/statistics/keystat/intrates.htm)

1 Medium-term interest rates on loan contracts with maturity period of more than one year to five years

2 Long-term interest rates on loan contracts with maturity period of more than five years

	Contact Information	Requirements/ Terms and Conditions
Government Banks		
Development Bank of the Philippines	Program Development I (02) 893-3548 (02) 893-9745 (02) 818-9511 loc. 2340	Basic technical requirements • Letter of intent • Company information/profile • Project description, including flowchart of production process/facilities • Detailed breakdown of estimated costs of the project and its component • Amount of loan requested and project timetable • Projected environmental and socio-economic benefits of the project • EIA report • ECC/CNC Term and conditions • Repayment term of up to 15 years, inclusive of a maximum grace period of 5 and 3 non-water and water supply loans, respectively. • Fixed interest rate throughout the loan period. • Front end and commitment fees. • Equity requirement of minimum of 20% based on total project cost for private corporations; and minimum of 10% based on total project cost for LGUs, Cooperatives/Associations, Water Districts and GOCCs.
Land Bank of the Philippines	Programs Management Group 405-7110 522-000 loc. 7476/ 2785	Documentary requirements • Certified list of directors and key officers • Feasibility Study, WD Development, and Program of Work approved by LWUA • Contract/ MOA with LGU authorizing the borrower to construct/develop the proposed infrastructure project • Other standard documentary requirements of LBP Term of the Loan • Maximum term of 15 years inclusive of 2 years grace period on the principal
Commercial Banks		
Phil. Veterans Bank	Corporate Loans (02) 902-1628 (02) 902-1698	Documentary requirements • Letter of intent/Application letter • Company profile • Duly accomplished Customer's Information Report • Audited Financial Statements for the past 3 years • In-house Financial Statements for the past 3 years • Income Tax Return for the past 3 years • Financial projections • Feasibility Study/Project Analysis • Articles of Incorporation and By-Laws • List of other creditors • Statement of account from financial institutions with existing loans
Metrobank	First Metro Investment Corp. 858-7900	Documentary requirements • Certificate of business registration with SEC or DTI • Articles of incorporation and by-laws • Audited financial statements for the last 2 years • Two years in-house financial statement and interim statement • Business background/company profile • Trade suppliers/customers

Source: Manila Third Sewerage Project (MTSP) Components 3 & 4 (Task 6 Report)

3.0 LGU or Municipal Bonds

An LGU or Municipal Bond is an **instrument-bearing obligation** by the LGU, the bond issuer, to finance project operating and/or capital cost. LGU bonds are **debt securities that LGUs issue to raise money for public projects.** Bond flotation requires a good sense of fiscal prudence and financial innovativeness. Ideally, project funded by bonds should be able to pay for themselves, or be self-liquidating. LGU projects for possible financing by bonds include: power plants, waterworks, toll bridges/roads, pier, reclamation project, sports complex, irrigation, telephone system, commercial building, housing project, bus terminal and park.

Among the advantages of LGU bonds compared to bank loans are as follows:

- accessible to wider capital market
- open to community investment
- longer repayment period
- more flexible repayment scheme
- lower interest rates, pricing based on margins over T-bills
- sinking fund arrangement, interest earning
- more widely established and developed credit standing in the financial market
- whenever possible, interest rates can be fixed
- allows members of the community to involve themselves in, and at the same time, earn from the project.

Examples of bond flotation by LGUs are the following:

a) Urdaneta City Municipal Bond (Abbattoir Upgrade) – PhP 25 million (bond issued on May 1999)

b) Boracay-Aklan Provincial Bonds (Jettyport and Terminal Building Construction) – PhP 40 million (July 1999)

c) Puerto Princesa Green Bonds (Socialized Housing Project) – PhP 320 million (February 2000)

d) Caloocan Katipunan Bonds (General Hospital, Public Market and City Hall) – PhP 620 million (December 2000)

e) Tagaytay City Bonds (Convention Center) – PhP 220 million (March 2001)

f) Iloilo City Bonds (Government Employees Housing Project) – PhP 130 million (March 2001)

g) Bulan Bonds (Bus Terminal and Municipal Slaughterhouse) – PhP 50 million (September 2007)

The LGU Bond issuance process[14] consists of the following steps:

1. ***Secure certification of maximum borrowing capacity*** – a certification on the LGUs maximum debt service capacity from the Bureau of Local Government Finance (BLGF-DOF) has to be secured.
2. ***Project identification*** – this step involves: i) identification of the revenue generating project; ii) evaluation of the project through a pre-feasibility study; iii) if found feasible, conduct full blown feasibility study to promote, technical, organizational and economic bases for an investment decision; iv) securing clearances from government agencies (ECC, BLGF-DOF certification, etc.); and v) hiring of a Financial Advisor (FA) who shall serve as consultant to the LGU to assist in the preparation and design of the financial plan for the project.
3. ***Sanggunian ordinance approving the project*** – consists of: i) approval of the project and certification that the project is in accordance with the approved local development plan and public investment program; ii) approval to float bonds to generate funds to finance the project; iii) authorization of the LGU to engage the services of a bond issuance team which includes the Trustee,

[14] Based on the Joint Memorandum Circular (JMC) 2007: Volume 4 links (http://www.jmc2007compendium.com/documents/Volume4Links/MunicipalBondIssuanceProcess.pdf)

Board, Counsel, Underwriter and Guarantor; and iv) designation of the LGU chief executive to represent the LGU in negotiations with financial institutions and government agencies.

4. ***Selection and appointment of a Bond Issuance Team*** – the Bond Issuance Team is composed of: i) Managing Underwriter – an investment house or a universal bank which shall sell all the bonds in a firm basis and assumes the marketing risk, including purchase of any unsold portion; ii) Trustee – the custodian of the Trust Fund, representative of bondholders, acts as bond registrar and paying agent; iii) Guarantor – the credit enhancer which shall pay the interest income and the principal of the bond issued to the bondholders in case of payment default by the LGU; and iv) Bond Counsel – a reputable law firm hired by the LG to render opinion on legal matters pertinent to the bond issue.
5. ***Designing the features of the LGU Bond*** – includes: i) features of the offering (size of the bond, security/collateral, interest rate, terms of the bond, and credit enhancements such as sinking fund and/or guarantee); and ii) terms and conditions of the offering (offering price, amount and terms of issue, interest rate, and debt service).
6. ***Sanggunian ordinance approving final bond terms***
7. ***Securing the guarantee for the LGU Bond*** – a guarantee may be arranged with the LGU Guarantee Corporation (LGUGC). LGUs must pass a maximum guarantee credit rating requirement under the LGUGC internal LGU Credit Screening and Rating System.
8. ***Sanggunian Panlalawigan approval of the LGU Bond issuance by a component city or municipality*** – a component city or municipality shall secure Sanggunian Panlalawigan approval of the municipal bond issuance in accordance with Sec. 237 of the Local Government Code. The authority of the Sanggunian Panlalawigan is confined to the questions of law and not questions of fact. The Sanggunian Panlalawigan cannot question the wisdom or propriety of an ordinance approving a bond flotation.
9. ***Bangko Sentral ng Pilipinas (BSP) approval*** – the LGU or Financial Advisor or Managing Underwriter shall secure a favourable opinion from the BSP on the probable effects of the proposed issuance of the municipal bond on monetary aggregates, price levels and balance of payments.
10. ***Preparation of the Official Statement, Primer and Bond Documents*** – the official statement that the LGU must issue is the offering prospectus by the Financial Advisor or Managing Underwriter to provide information regarding the LGU and bond offering. It is a full disclosure statement with the immediate objective of providing complete, timely and objective information that will allow investors to assess the bond issue and thus make an informed investment decision.
11. ***LGU Bond offering and issuance*** – the Managing Underwriter shall underwrite and manage the public offering, distribution and sale of the municipal bonds. The schedule of the offering must reconcile with the condition of the financial markets especially the prevailing interest rates of comparable investment instruments, the schedule of other securities offerings and the magnitude of the issue.
12. ***Debt servicing and payment of the principal to bondholders*** – the Trustee, as paying agent, shall make regular payments to all the bondholders in accordance with its registry list and interest payment schedule from the trust or sinking fund, as the case may be. In the event of a default situation when the LGU shall not be able to meet interest or principal payments from the trust/sinking fund, the Guarantor shall provide the funds to meet payment schedules in accordance with the guarantee agreement.

8.5.2 Basic Features of Public Private Partnership (PPP) Options

	SERVICE CONTRACTS	MANAGEMENT CONTRACTS	LEASE CONTRACTS	CONCESSIONS	BOT	JOINT VENTURE
Scope	Multiple contracts for a variety of support services such as meter reading, billing, etc.	Management of entire operations or a major component	Responsibility for management, operations, and specific renew als	Responsibility for all operations and for financing and execution of specific investments	Investment in and operation of a specific major component such as a treatment plant	Public and private sector partners can either form a new company or assume joint ow nership of an existing company through a sale of share to one or several private investors
Asset ownership	Public	Public	Public	Public/ Private	Public/ Private	Public/ Private
Duration	1-3 years	2-5 years	10-15 years	25-30 years	Varies	Varies
O&M responsibility	Public	Private	Private	Private	Private	JV company
Capital invesment	Public	Public	Public	Private	Private	JV company
Commercial risk	Public	Public	Shared	Private	Private	Shared
Overall level of risk assumed by private sector	Minimal	Minimal/ moderate	Moderate	High	High	High
Compensation Terms	Unit prices	Fixed fee, preferably w ith performance incentives	Portion of tariff revenues	All or part of tariff revenues	Mostly fixed, part variable related to production parameters	Profit sharing based on JV agreement
Competition	Intense and ongoing	One time only; contracts not usually renew ed	Initial contract only; subsequent contracts usually negotiated	Initial contract only; subsequent contracts usually negotiated	One time only; often negotiated w ithout direct competition	One time only; competitive selection or negotiated
Special features	Useful as part of strategy for improving efficiency of public company; Promotes local private sector development	Interim solution during preparation for more intense private participation	Improves operationala nd commercial; Develops local staff	Improves operational and commercial efficiency; Mobilizes investment finance; Develops local staff	Mobilizes investment finance; Develops local staff	Real partnerships of the public and private sectors that match the advantages of the private sector w ith the social concerns
Problems and challenges	Requires ability to administer multiple contracts and strong enforcement of contract law s	Management may not have adequate control over key elements, such as budgetary resources, staff policy, etc.	Potential conflicts betw een public body w hich is responsible for investments and the private operator	How to compensate investments and ensure good maintenance during last 5-10 years of contract	Does not necessarily improve efficiency of ongoing operations; May require guarantees	Government's dual roles as ow ner and regulator can lead to conflict of interest; Tendency to be directly negotiated or to follow a less formal procurement path, w hich can lead to concern for corruption

Source: ADB PPP Handbook and JV Guidelines

8.5.3 Items for Review During Evaluation of PPP Projects

Determining the feasibility of a proposed PPP project should focus on the following aspects:

- ***Market aspect***. Appraisal should be made of the demand of the project in terms of geographic coverage and target groups.
- ***Technical aspect***. The appraisal should determine whether the design is suitable in terms of capital expenditure per head, scale in relation to market, skills requirements, and input requirements against available domestic materials and products in relation to target markets. It should also show the superiority of this project design over other alternatives.
- ***Economic and financial aspects***. The validation of the economic and financial indicators is one of the most critical aspects of project appraisal. The validation should focus on the rationality of the assumptions used in estimating costs and benefits, the validity of the methodologies used applied, and the accuracy of the formulae and computations. The main objective is to ensure an acceptable degree of accuracy of the feasibility indicators.

  Economic analysis attempts to assess the overall impact of a project in achieving its larger social objectives. It builds on discounted cash flow analysis. With or without revenue sharing, the PPP project must be economically and socially desirable for the government to endorse it. The various indicators of project worth such as the NPV, IRR and benefit-cost ratio must be reviewed. For PPP, these indicators are often considered more important than the indicator of financial viability by the government. A project's IRR must meet the hurdle rate of 15%, whether it is for public or PPP implementation.
- ***Political acceptability and legality***. A major consideration in judging the operational feasibility of a project is the political acceptability of its activities, as well as the legal authority of the LGU or private proponent to execute them. Not only must the project enjoy the full support of local leadership, but the project proponents must also ensure that benefits accrue to its intended clients.
- ***Environmental impact, gender responsiveness and social soundness***. The LGU appraisal of social soundness of the project should consider:
  - compatibility of the project with the sociocultural environment in which it is to be introduced;
  - likelihood that practices or institutions introduced among the project's initial target population will be diffused among other groups;
  - social impacts or distribution of benefits and burdens among different groups, both within and outside the project area; and
  - the differential impact of the project on women and men due to gender-based roles, responsibilities, access to resources, and power relations, as well as needs and constraints.
- ***Organization and management aspects***. A person or organizational unit within the LGU should be given the responsibility for project management, and equipped with all the necessary manpower and logistical support to supervise project implementation. Lines of authority and responsibility should also be clearly defined. For some PPP projects, which tend to be large in scale, the demands on the existing structure and resources of LGUs may exceed their capacities. Planning for project implementation and operation should be flexible enough to include private sector inputs later on, but comprehensive enough to pinpoint relationships with other implementing agencies. Also important is the appraisal of operational aspects, which should consider non-quantifiable but equally important factors that may impinge on the project's implementation and operations.