



The Philippine Sustainable Sanitation Knowledge Series

Guidebook for a Sustainable Sanitation Baseline Study



Department of Health





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Guidebook for a Sustainable Sanitation Baseline Study

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The Philippine Sustainable Sanitation Knowledge Series:

- **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



For inquiries or comments, please contact the email address listed for the National Center for Disease Prevention and Control listed under this page:
http://www.doh.gov.ph/contact_us.html.



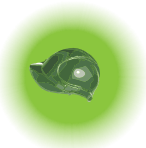
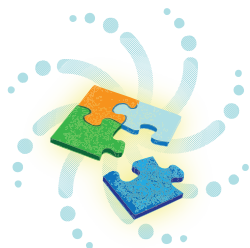
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FOREWORD



According to 2008 UN data, 2.6 billion people still do not have access to or have inadequate sanitation facilities.

Every 20 seconds, a child dies as a result of poor sanitation. That's 1.5 million preventable deaths each year. In the Philippines, 23% of Filipinos or roughly 19 million still do not have access to sanitary toilets.

These realities necessitate tangible and concerted efforts that are owned by the people through the local government units (LGUs). The United Nations has already declared access to water and sanitation as a human right in its July 28, 2010 General Assembly. With the synergistic efforts of both the public and private sectors, the Philippines is also making significant gains in raising awareness and accelerating progress towards the Millennium Development Goal (MDG) on sanitation: to reduce by half the proportion of the 2.6 billion people without access to basic sanitation by 2015.

Through this Guidebook, we also emphasize that the national government cannot do this alone. We need a stronger public-private partnership, and we need our partners in the local government units.

Attaining sustainable sanitation is a significant challenge. However, we believe that we have committed partners in the LGUs. Sustainable sanitation will happen because the LGUs are recognizing their roles and equipping themselves with the appropriate knowledge, tools, and skills.

This Guidebook is just one in a series of knowledge resource materials that we are developing towards our shared aspirations: Ensuring health and wellness for all Filipinos through clean, safe, and life-giving water and sanitation facilities. This specific Guidebook will serve as a "road map" for LGUs in the conduct of a baseline study, a basis in the implementation of a sustainable sanitation program.

This Guidebook is for the LGUs and the Filipino people. Use it well and then share it with other LGUs who may also find it useful in their pursuit of sustainable sanitation.

Enrique T. Ona, MD, FPCS, FACS
Secretary Of Health



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Definition of Terms

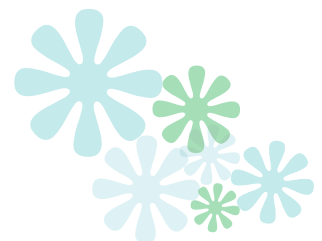
Annexes

Downloadable content from accompanying Compact Disc

- A. Directory of Contacts
- B. Sample Method on Determining Distribution (Sampling) Size
- C. Guide on the Selection of Sites and Mapping for Priority Barangays with Sample Sanitation Mapping Questionnaire
- D. Sample Staffing
- E. Sample Checklist in the Conduct of Partners Consultation Sample on Determining Distribution (Sampling) Size
- F. Sample Work Plan and Budget Estimates
- G. Sample Guide to Social Preparation
- H. Sample Baseline Study Questionnaire
- I. Sample Composition of FGD & KII Respondents and Questionnaire
- J. Guide for the Analysis of Data
- K. Sample Reporting Format (Powerpoint)
- L. Sample Cost Estimates

ACRONYMS AND ABBREVIATIONS

AGE		Acute gastro-enteritis
BFAR		Bureau of Fisheries and Aquatic Resources
BHW		Barangay Health Worker
CBA		Cost-benefit Analysis
CLTS		Community-Led Total Sanitation
DENR		Department of Environment and Natural Resources
DOH		Department of Health
EMB		Environmental Management Bureau
FGD		Focused group discussion
GIS		Geographic Information System
GO		Government Organization
KII		Key informant interview
LCE		Local chief executive
LGU		Local government unit
LNU		Lyceum-Northwestern University
LSSPP		Local Sustainable Sanitation Promotion Program
MDG		Millennium Development Goals
MSSC		Municipal Sustainable Sanitation Committee
NGO		Non-Government Organization
NSO		National Statistics Office
PHP		Philippine Peso
RHU		Rural Health Unit
SIDA		Swedish International Development Cooperation Agency
SPSS		Statistical Package for Social Sciences
STF		Septage Treatment Facility
STH		Soil-transmitted helminthiasis
SuSEA		Sustainable Sanitation in East Asia (SuSEA) Philippines
TAMS		Technical Assistance Management Services
TWG		Technical Working Group
WB		World Bank
WQMA		Water Quality Management Area



The SuSEA Program

The Sustainable Sanitation in East Asia Program-Philippine Component (SuSEA) supported by the Water and Sanitation Program (WSP) of the World Bank and the Swedish International Development Cooperation Agency (SIDA), and implemented through the leadership of the Departments of Health (DOH) and Environment and Natural Resources (DENR), is geared towards increasing access by poor Filipinos, primarily low-income households, to sustainable sanitation services by addressing key demand and supply constraints. Aside from this, the program hopes to learn from local implementation of sanitation programs as basis for national policy and operational guidance.

SuSEA Philippines commenced in July 23, 2007 as a learning program to support the Government of the Philippines (GoP) update its approaches and interventions in sanitation and needs that were not present or not addressed in traditional sanitation programs that focused on two extremes: 1) toilet-bowl distribution and hygiene education and 2) centralized sewerage systems. The most important of these emerging needs are:

- Complementing interventions related to the reduction of risks of sanitation- and poverty-related diseases such as soil transmitted helminthiasis and acute gastroenteritis
- Linking sanitation interventions with environmental objectives, such as the improvement of water quality and water resources
- Sanitation in rapidly urbanizing towns and cities, including the occurrence of disease episodes

that aggravate impacts of poor sanitation (such as flooding) on the economy and quality of life of city populations

- Reaching pockets of communities that comprise the remaining 20% of those without access to basic sanitation, particularly in the rural areas (among whom include indigenous peoples/cultural minorities) and urban slum communities.

SuSEA-Philippines was designed using four different models as the platform for developing specific interventions (according to themes below). The learning gained and the tools developed from these models served to assist other local governments units (LGUs), as well as informing national sanitation policy and programs for GoP-led expansion and scaling up. The four models are:

Model 1 Disease Prevention and Control – Sanitation interventions for the eradication/ reduction of disease

Model 2 Water Quality Management – Sanitation interventions for the improvement of water quality within a water quality management area

Model 3 Liveable Cities – Sanitation interventions for the improvement of quality of life in cities and low-income urban poor communities

Model 4 Sustainable Rural Livelihoods – Sanitation interventions to support sustained livelihoods in rural areas

Six sites participated in the main program sub-component of SuSEA. These are: Bauko Municipality in the Mt. Province, Dagupan City in Pangasinan Province, Guiuan Municipality in Eastern Samar Province,

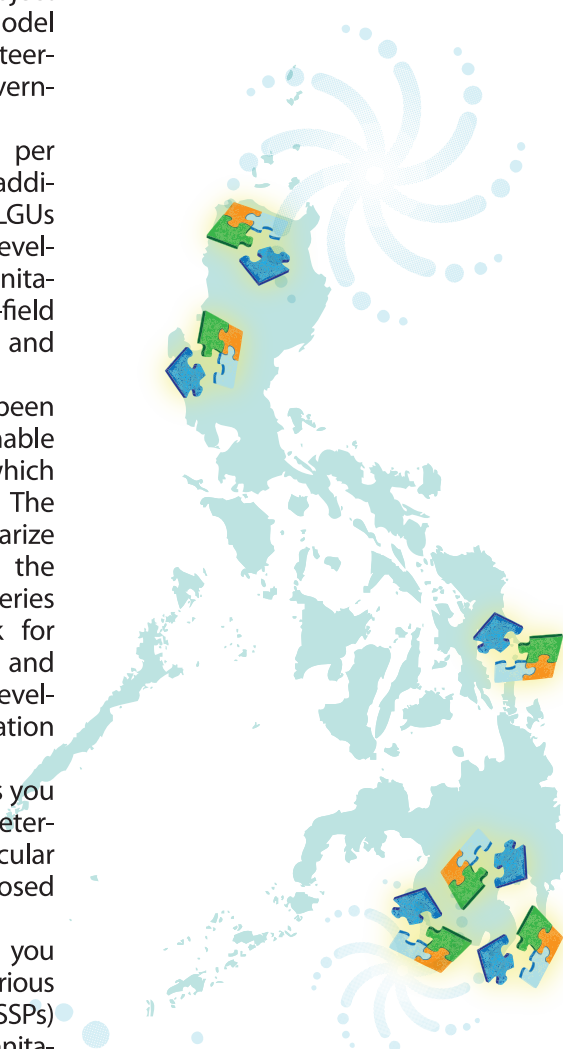
General Santos City and Polomolok Municipality in South Cotabato, and Alabel Municipality in Sarangani. The desired outcome in each of the project sites varied according to the model and agreements by the Program Steering Committee and the local government.

While outcomes varied per site, each of the projects were additionally intended to provide the LGUs with a fount of information on developing and running their own sanitation programs based on the on-field experiences of the SuSEA team and their partners.

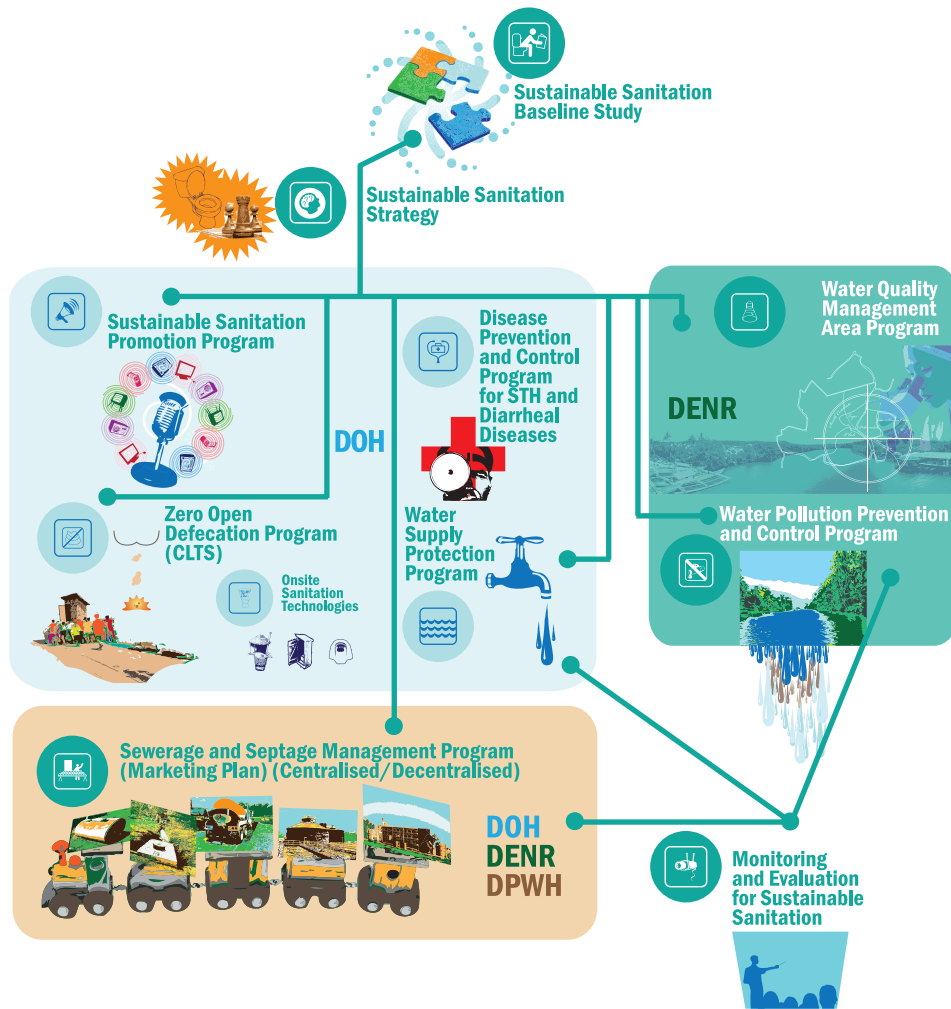
This information has been packaged for your use in a Sustainable Sanitation Knowledge Series, to which this guidebook/report belongs. The reader is encouraged to familiarize himself/herself with all the guidebooks/reports in this series beginning with the Guidebook for Conducting a Baseline Study and followed by the Guidebook for Developing a Local Sustainable Sanitation Strategy.

What guidebooks/reports you choose to utilize next will be determined by your community's particular needs and your LGU's proposed sanitation programs.

On the succeeding page, you will find an illustration of the various sustainable sanitation programs (SSPs) under the National Sustainable Sanitation Plan (NSSP). For each of these SSPs, SuSEA has also developed materials under the Philippine Sustainable Sanitation Knowledge Series, intended to guide local government units in implementing the various sanitation programs and initiatives in their own area. The information gathered in the Knowledge Series is, in turn, based on specific SuSEA projects and activities in each of the six project sites.



Sustainable Sanitation Programs



I. WHY THIS GUIDEBOOK?

This Guidebook is specifically developed for LGUs. This is developed with the hope that it will inspire and encourage the LGUs towards the implementation of their own sustainable sanitation programs.

Before proceeding, it is best to first define a “baseline study”.

A “baseline study” is a description of existing conditions that can provide a starting point against which progress or comparisons can be made. For the purpose of developing sanitation programs, the focus will be on health, hygiene, and sanitation profiles although adequate attention will also be given to socio-economic, demographic, environmental, sanitation behaviour, practices, facilities and other related data.

The mission statement of the National Sustainable Sanitation Plan is to create an enabling environment for all LGUs to initiate sustainable sanitation actions and programs especially in marginalized communities. This is the principle that will guide users along the way.

The LGUs are facing a very challenging task: The development and implementation of a sustainable sanitation program. This Guidebook provides helpful sources for guidance and information on how to initiate a sustainable sanitation program.

Assuming that an LGU already has a sustainable sanitation program in place or is about to develop one, it needs to first conduct a “baseline study” so that it can have all the important information which will enable it to address all aspects of

the program development, planning, implementation and monitoring. These baseline information will provide one of the ‘backbones’ of an LGU’s program in the same way that economic data and statistics will enable planners to come up with a relevant and responsive development plan.

This Guidebook will then serve as the LGU’s “roadmap” in the conduct of a baseline study, the first component of a sustainable sanitation program. This Guidebook gives a step-by-step guide on how to conduct the study. The information here is based on previous experiences of development practitioners and LGUs on the actual conduct of baseline studies. However, LGUs have the option to develop their own procedures depending on their local conditions and resources.

This initial baseline study will serve as the introduction and initial transfer of technology to establish a sanitation database system that can be linked to a geographic information system (GIS). The results of the baseline study will inform LGU planning and decision making, particularly in the preparation of local sanitation plans, local sanitation communication plans, and even wastewater access and investment maps.

Case studies from the six LGU partners who are part of the SuSEA Philippine Program are also shared in this Guidebook. These stories should be able to inspire and give more concrete examples in the conduct of a baseline study.

II. READING GUIDE

It is very easy for LGU users to navigate through this Guidebook. The 6-step process of how to conduct a baseline study is really a lot less complicated than how others perceive it to be. Through this Guidebook, LGUs will learn how to conduct a baseline study by going through the steps outlined here. The following markers and symbols will help in going through and learning from this Guidebook:

Those with the **LIGHT BULB** icon are important reminders. It's okay to skip or quickly go through them on the first reading, but they should be read more thoroughly after finishing the book.



Those marked with the **BOOK & PEN** icon are elaborations on certain sections. Text with this icon may be definitions, tips on specific activities you can do to fulfill a particular goal (e.g. raising funds for your sanitation program) or suggested courses of action to take when faced with certain challenges.



This Guidebook also shares "good practices" from LGUs who have already conducted their sustainable sanitation baseline studies. These stories are placed in boxes and marked with the "good practices" icon.



There are six key steps in the conduct of a baseline study. Each step of the baseline study process is numbered so it's very easy to go back and forth if the reader needs to do so.

It's also easy to find out where the reader is already in the whole process. You can just look at the upper margins of the page. You can also flip back to the process illustration on page 5 (Figure 1).

Some terms are explained within the text of the sections where they are discussed although some are explained in the Glossary.

It is hoped that this Guidebook will inspire and help the LGUs in doing their own baseline study for future sanitation programs.

III. CONDUCTING A BASELINE STUDY: AN OVERVIEW

Conducting a baseline study may sound daunting at first but it is not really that difficult.

The following gives an idea on what steps or activities should be undertaken in doing a baseline study.

STEP 1 REVIEWING EXISTING SANITATION PROGRAMS

As in any program implementation, one first needs to answer the question, “Where are we now?” In answering this basic question, an LGU will be able to determine exactly what are its achievements and aspirations concerning sustainable sanitation. In this phase, the LGU will identify its current programs, if any, on sustainable sanitation and develop a keener understanding on the issues surrounding them.

If, at the end of this phase, the LGU is already confident that it can proceed with the development and implementation of a sustainable sanitation program and has confirmed that it needs and can do a baseline study, then it is ready to go on to Step 2.

STEP 2 DETERMINING TARGET SITE AND DEFINING NEEDS

The second step is to decide on the coverage and the sampling method to use in order to best represent the conditions in the whole LGU. In this phase, the LGU needs to know its needs and if it has all the necessary resources and the capacity to conduct a baseline study.



**STEP
3**

**IDENTIFYING PARTNERS
AND DEFINING ROLES**

In this phase, the LGU needs to determine what activity/project set-up is best for the baseline study. For example, it needs to know if the baseline study can be done in partnership with the academe, NGOs, peoples' organization, water supply providers and other private groups.

It also needs to identify the roles of the project team members.

In some instances, the LGU may need to conduct the following activities under this phase (one or both of these options may not even be necessary, depending on the resources and capability of the LGU): (1) Partners consultation and (2) Evaluation and selection of options for activity/project set-up.

**STEP
4**

**DEVELOPING THE LGU'S
BASELINE STUDY PLAN**

By the time this phase is reached, an LGU already has the needed information to develop its baseline study plan which should also show the specific strategies to cover the human and financial requirements of the baseline study. Such a plan can be developed using the information generated from Steps 1, 2, and 3.

After this plan is made, it can then be presented to its project partners, if any, and of course, to the local chief executive (LCE).

The LGU must be ready to answer questions and take down recommendations that may be raised during the presentation of the LGU plan.

**STEP
5**

**CONDUCTING THE
ACTUAL BASELINE
STUDY**

At this stage, the LGU already has the official go-signal to conduct a baseline survey.

The baseline studies conducted by DOH and DENR-EMB (through the SuSEA Philippines Program) comprised of the following activities:

5.1. Social preparation

5.2. Collection of secondary data and analysis

5.3. Collection of primary data and analysis

5.4. Data processing and analysis

5.5. Organization and management of data



**STEP
6**

**REPORTING OF THE
RESULTS OF THE BASELINE
STUDY**

At this stage, the LGU can already pat itself on the back for getting this far. Now is the time to present the results of the baseline study to the stakeholders including the LGU executives and partners.



IV. STEPS IN CONDUCTING A BASELINE STUDY

This section will give more details on the six (6) steps cited above. Before proceeding, the illustration below gives a better understanding on how each step connects to the next one.

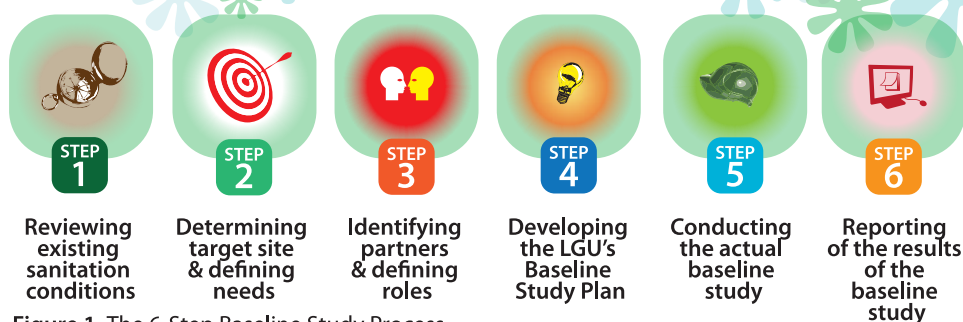
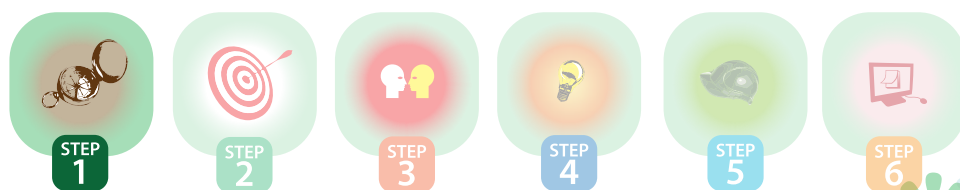


Figure 1. The 6-Step Baseline Study Process

STEP 1: Reviewing existing sanitation conditions and challenges



Description and Objectives

This is the time to answer the question, "Where are we now?" This question will tell the LGU exactly what its achievements and aspirations concerning sustainable sanitation are.

This phase involves discussing the "big picture" and sharing knowledge and experiences on current conditions and challenges of the LGU towards sustainable sanitation. A good example of how you can start is by digging into your LGU's sanitation, health, and even environmental records and discussing with people and partners who may be knowledgeable on the subject.

You may also benefit much from the experiences of other LGUs who may already have begun a similar program (particularly the participating LGUs in the DOH and DENR-EMB Sustainable Sanitation

Program conducted through the SuSEA Philippines Program).

Tools

Documents, meetings, and good software for recording and keeping data.

Key Activities

1.1. Documents review – search for documents that may give an idea on where the LGU is already situated vis-à-vis sanitation; discussing with the right resource persons, etc.

1.2. Scheduling and conduct of meetings with other LGUs who may have already started a sanitation program and/or baseline study. Annex A shows a directory of institutions, LGUs, and individuals who may be good sources of additional information or advice.

1.3. Seeking support/commitment from the LGU executive about the need to conduct a baseline study. If the idea of developing a sustainable sanitation program is not widely-accepted yet by the LGU, you may want to take a step back and seek the support of other stakeholders so you can first present a good case.



EXPECTED OUTCOME

A good understanding of where the LGU is already situated when it comes to sanitation; an appreciation of the “big picture” that includes a community’s key sanitation issues and aspirations.

Dagupan City: Formation of Sanitation Task Force



Dagupan City realized that most, if not all sanitation related concerns/issues/problems, are usually referred to the City Health Office not as the lead agency/office but as the “mandated” office in-charge of implementing programs for sanitation. To emphasize that sustainable sanitation is a multi-agency and multisectoral concern and responsibility, we have undertaken the following to fully appreciate how a sustainable sanitation program can be implemented:

➡ *Formation of a Sanitation Task Force, and identification of offices/agencies with programs/projects/activities that have a direct or indirect relationship and impact on sanitation;*

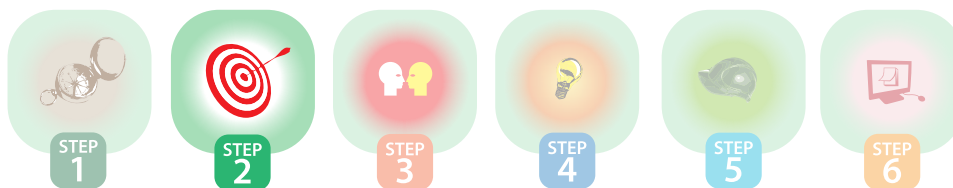
➡ *Review of existing (current and past) data related to sanitation (secondary data) from various local city government offices – City Health Office, City Planning Development Office, City Engineering Office, Waste Management Division, City Agriculture, etc. and other concerned national government agencies such as BFAR, DENR, DOH;*

➡ *Review of existing national and local ordinances relevant to sanitation that can serve as legal bases and justification for future action in relation to sustainable sanitation;*

➡ *Relating existing data with regional and national situationer on sanitation; and finally,*

➡ *Identifying health and sanitation problems and accomplishments vis-à-vis Millennium Development Goals, Philippine Medium Term Development Plan and the city’s strategic goals.*

*Shared by **Dr. Leonard Carbonell**
of Dagupan City, Pangasinan*

STEP 2: Determining target site and defining needs**Description and objectives**

The second step is to decide on the coverage and the sampling method to use in order to best represent sanitation conditions in the whole LGU. Random sampling can be employed if there are limitations in resources. For example, the LGU can identify at least two priority barangays (e.g. barangays with the highest incidence of open defecation) only and the rest of the municipality can be represented through random sampling.

The LGU can also include an analysis based on the type of ecosystems and settlements in the area. "Settlements" may relate to demographic distribution (e.g., density), types of predominant activities (e.g., residential, commercial, industrial, etc.), and geographical/topographical features (e.g., coastal, upland, plains, riverine, etc.) The type/s of settlements in the LGU will be important in the development of local strategies and interventions.

Step 4 (Development of the LGU's Baseline Study Plan) will give more details on the methods used in gathering data. Annex B shows a sample method on determining distribution (sampling) size while Annex C shows a guide on the selection of sites and mapping for priority barangays including

a sample mapping questionnaire.

In this phase, the LGU needs to determine if it has all the necessary resources and the capacity to conduct a baseline study. However, it is also important not to be overburdened or limited by a lack of resources such as funds. This concern should never stop an LGU from doing the best that it possibly can. There are many ways to mobilize resources. Some ideas on financing are presented here.

Tools

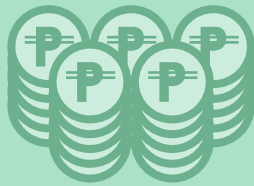
Statistical tools and software to assist in determining the best sampling methodology and size.

Key Activities

- 2.1. Scheduling and conduct of meetings with possible project team members.
- 2.2. Determining the best sampling methodology and size to use given the LGU's population, challenges and resources.
- 2.3. Determining availability and mobilizing of resources. Ideas on fundraising are given in this Guidebook.

EXPECTED OUTCOME


Statement/description of coverage and sampling size and methodology to use for the baseline study.



Problems with financing? Get some ideas here!

1. Develop and implement fund-raising activities in your locality. This will also be the perfect opportunity to disseminate information about sustainable sanitation and encourage the private sector to lend a hand. Some activities that can be done are concerts, raffle draws, festivals, contests, and even selling of products or novelty items. The internet is also a good source of information. Try using a search engine (e.g. Google) and type "resource mobilization" or "fundraising" on the search fields.

2. Seek your LGU Council and/or LGU Executive's support by requesting them to allot a certain portion of its internal budget to your sanitation program (or if this share already exists, request for augmentation). One possible (internal) source is the LGU's tax revenues.



3. Some development agencies assist LGUs in their sanitation programs. However, most of these agencies require a formal proposal as well as counterpart funding from program proponents. Funding proposals are also not automatically approved so it is best to consider the above two strategies first before considering this as an option. After all, the idea of sustainable development encourages self-reliance and creativity in resource mobilization.

4. In areas where there are already existing sanitation facilities, new projects (or enhancement of old projects) can be funded through the existing users' fees.

5. Of course, banks, cooperatives and other lending institutions can also be approached. If a baseline is linked to an investment project, then it may be economically justifiable to secure loans provided that the rate of return will justify the cost of finance.

We have used the following parameters in determining the target site:

1. Highest incidence of sanitation-related diseases (with particular attention to acute gastroenteritis)
2. Coverage (percentage) of households with sanitary toilets
3. Geographic location
4. Population density
5. Magnitude of impact on the entire municipality's sanitation problem once the target site's sanitation condition is improved



Out of the 60 barangays, six target sites were given priority based on the above parameters. The first two most prioritized barangays were purposively sampled for complete sanitation mapping of all households. Of the 54 other barangays, six more sites were randomly selected to represent the rural and urban (mainland) communities and small and big island communities. However, in contrast to the six previously mentioned priority sites, these were selected to represent barangays situated at different geographic locations with diverse physical characteristics without consideration of the five parameters.

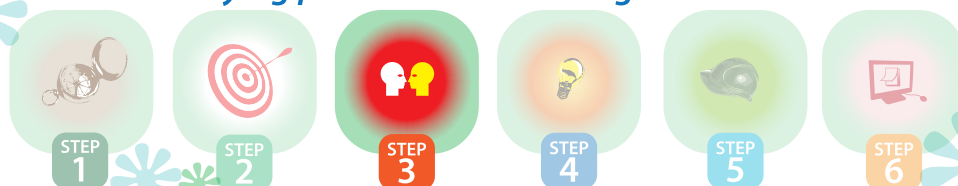
A bigger number of communities are located along coastal areas.

These communities constitute about 73% or 44 of 60 communities. Their location, therefore, provides residents easy access to the open sea for defecation and disposal of other wastes. The ingress of informal settlers to these communities also poses a greater risk of further worsening their sanitation conditions if left unattended.

If we address the sanitation conditions of these target sites (both priority and representative communities), this will mark a big decline in the incidence of acute gastroenteritis in the municipality. We also hope to duplicate the good sanitation programs we have implemented (and are yet to be implemented) to other communities of similar characteristics and sanitation problems.

Shared by **Dr. Marichu Flores of Guiuan**, Eastern Samar

STEP 3: Identifying partners and defining roles



Description and Objectives

The LGU can now decide on the baseline study team members and determine if the study can be done through the leadership of the City/Municipal Health Office and/or City/Municipal Planning and Development Coordinating Office. Members of a typical baseline study team are shown below.

Table 1. Sample of Baseline Study Team Members
(for a sampling size of 400 households)

Team member	Number*
1. Project Team Leader (<i>can also serve as the Checker/Editor</i>)	1
2. Field Supervisor	1
3. Documentors	1
4. Research Associate	1
6. Interviewers/ Enumerators (<i>for household survey, FGD, KII</i>)	10
7. Mappers	N*
8. Medical Technologists**	3
9. Checker/Editor (<i>if resources will allow</i>)	2

*May vary depending on the coverage size

**Optional

Annex D shows a sample staffing component including the duties and responsibilities of the members.

Tools

Pros and Cons analysis

Key Activities

In most instances, the LGU may need to conduct the following activities under this phase:

3.1.1. Partners consultation. This can be done especially if the team

that is being set up is composed of representatives from different sectors and institutions. This is also very important because it ensures that all stakeholders are adequately consulted and informed about the activity. This is also the perfect time to identify and discuss roles and responsibilities and see if additional staffing requirements are needed.



Some important reminders in the conduct of partners consultation:

1. Prepare well. Make sure that the LGU has all the required materials and references for the consultation. Annex E shows a sample checklist for the conduct of a partners consultation.



2. Assign an experienced facilitator who is knowledgeable on health and sanitation issues. If this is not possible, invite a resource speaker who can be requested to give an overview on sanitation and the conduct of a baseline study survey and to answer questions of participants.

3. It is best that the LCE is present or at least be around to give a simple speech or opening remarks.

4. Be open to ideas and suggestions. Having an open

atmosphere creates camaraderie among participants; this is important in building solidarity and commitment to the overall sanitation program and the first activity which is the baseline study.

5. Record/document all proceedings. The importance of documenting all proceedings and meetings cannot be underestimated as the discussions will definitely be useful in the development of your Baseline Study Plan (which is the next step).

3.2. Evaluation and selection of options for activity/project set-up. The best way to do this is to apply a Pros and Cons analysis. The LGU needs to determine the most feasible and cost-efficient organizational set-up for the baseline study. Normally, a team with multi-sectoral membership is the best and most participative type of set-up but it can also be the most tedious and challenging because in this kind of arrangement, there will always be the need to build unity or consensus over wide disparities in opinions or perspectives. However, this set-up is encouraged because it is also the most empowering and fulfilling. It can also likely guarantee adequate sharing of resources particularly of manpower. However, hiring of staff or consultants will also prove beneficial as it will give you more time to focus on your other tasks.

It really depends on factors such as (i) availability of local talent; (ii) willingness of project partners to contribute counterpart manpower; and (iii) extent of resources available.

Sample Cost Estimates on Doing a Baseline Study are located in Annex L.

EXPECTED OUTCOME

Organizational structure with description of roles and responsibilities of the baseline study team.

Wondering what is the best set-up option?

Try the Pros and Cons analysis*!

Below are some examples of questions/issues that can be applied when doing a simple cost-benefit analysis regarding hiring of a team of consultants versus forming a team of volunteers from multisectoral partners.

PROS	CONS
More time to do other tasks	● Additional cost in professional fees
Work may be done faster as the team is always ready/available	● Work may be done faster but there is minimal/no community ownership
Does not always need consensus; less bureaucratic red tape	● Some sectors/agencies may feel that they were not consulted so integrity of the data may be questioned

Using the simple Pros and Cons Analysis above, there may be some wisdom in combining a multisectoral team of volunteers with a few or several of the team members coming from external collaborators or consultants. Again, the final decision really rests with the LGU.

**LGUs may also want to use a simple Pros and Cons Analysis by assigning market values to each option/activity or expected result.*

The six LGUs who participated in the DOH and DENR-EMB Sustainable Sanitation Program (through the SuSEA Philippines Program) significantly benefited from the support of partners and stakeholders. For example, their enumerators for the surveys came from different sectors. In Dagupan City, help came from the LNU while Polomolok was greatly assisted by a partner NGO, the Mahintana. Guiuan was assisted by enumerators from the NSO of Eastern Samar and Tacloban, while Alabel received assistance from their Barangay Health Workers (BHWs). Bauko was assisted by consultants from the NGO sector and DOH.



Dagupan City: Identifying advocates and “champions” helped a lot

We want to share the important lessons we have learned during this phase. We benefited very much from these efforts:



Identifying advocates/potential “champions” within the city government and from the private sector on the need for a baseline study as ‘actionable’ and evidence-based data for sanitation;



Identifying city government personnel and volunteers at the barangay level who will be committed to conduct and complete the baseline study on the agreed timetable;



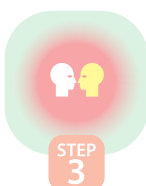
Capability building for identified personnel who will do the baseline surveys (enumerators, barangay health workers, sanitary inspectors, laboratory personnel); and finally,



Identifying academic partners who can assist during the conduct of the study and the analysis of the baseline data.

Shared by **Dr. Leonard Carbonell** of Dagupan City, Pangasinan

STEP 4: Developing the LGU’s Baseline Study Plan



Description and Objectives

It is now time to develop the Baseline Study Plan. This is probably the most important document that the team is going to develop (aside from the Final Report). In the same way that the baseline study will serve as the “bible” for an LGU’s future sanitation program, the Baseline Study Plan will serve as the “bible” as the LGU goes through the baseline study process.

As mentioned earlier in the overview, this document should also show specific plans or strategies to cover the human and financial requirements of the baseline study. The Baseline Study Plan normally contains the following information and sections:

1. Overview (if the LGU already has a sanitation program in place, the Overview should enumerate

and/or describe the program objectives, partners, and component activities, etc.; if no sanitation program is in place, the overview can be based on the NSSP and the DOH Administrative Order)

2. Objective/s

3. Methodology

4. Data processing and analysis

How do we process and analyze data?

Secondary data will be organized and analyzed by the team or an assigned project specialist. If warranted, validation of data will be done to ensure the quality of conclusions drawn. Sources of secondary data and information will be acknowledged in the report, and if needed, permission to use or quote the data will be obtained.

Primary data obtained from household surveys will be encoded for processing using Statistical Package for Social Sciences (SPSS) or any other tool agreed by the team.

Key Activities

4.1 Scheduling and conduct of preliminary meetings with project team members

4.2 Strategic planning-workshop

4.3 Writeshop and development of the Baseline Study Plan

4.4 Presentation of the Baseline Study Plan

Encoders will be hired and trained for data entry, while a programmer will generate and produce specified tables for analysis. Frequency tables, with percentages will be generated. If initial results show significant trends, correlation analysis between and among study variables will be done.

Data analysis will be done by the Team or an assigned project specialist and preliminary findings, conclusions, and recommendations will be presented to, and discussed with the LGU and other stakeholders/partner organizations.

The table below shows the number of infected individuals according to intensity of infection in the different schools:

SCHOOLS	ASCARIS			TRICHURIS		
	Light	Moderate	Heavy	Light	Moderate	Heavy
St. Albert	1	0	1	6	0	0
Pugaro	4	19	22	7	16	27
Pantal	11	11	7	25	16	4
Bolosan	9	0	0	15	0	0
Creative	1	1	0	2	0	0
Total	26	31	30	55	32	31

Results show the majority of those infected with *Ascaris* are having moderate to heavy infection while in trichuriasis, the number of those with light infection is about equal to the number of those with moderate to heavy infection. The two subjects infected with hookworm are both having light infections. WHO considers a prevalence rate of "50% and above" as high. While the overall prevalence rate is a little below 50%, the figure obtained in this study of subjects are 'with moderate to heavy intensities of infection'.

5. Organization, Preparation, and Dissemination/Presentation of Preliminary Survey Results

6. Human Resource Requirements, Roles and Responsibilities

7. Work and Financial Plan

A sample work and financial plan is in Annex F.

EXPECTED OUTCOME

Baseline Study Plan



What are the usual methodologies used in a baseline study?

Normally, a baseline study survey uses the following methods in gathering data:

1. Collection and review of secondary data. Secondary data will normally include, among others, the following information: (i) socio-economic profile; (ii) health profile; (iii) geo-physical data; (iv) water and sanitation data; (v) point and area sources of pollution; (vi) third party sanitation service providers (vii) water quality management area information (if such exists); as well as the presence, quality and number of (viii) third party sanitation service providers; (ix) septic tank builders; and (x) media and communication outlets.

If certain data are not available or are not updated, it is the duty of the LGU to recommend the updating or conducting of new research to the concerned agencies.

The information generated from the secondary data collection will then be processed by the project team and comprise the "preliminary snapshot" of the LGU's sanitation situation and would definitely serve as inputs in future program planning and management. It can also inform the sampling method.

2. Primary data collection through spot mapping, household survey, focused group discussions (FGDs), key informant interviews (KII) and ocular surveys.

The matrix below can help in identifying some of the data needed and their corresponding sources:

Data Type	Data Description/Form	Data Source
Socio-economic profile	Average household income, source of income/forms of livelihood, number of children, etc.	NEDA, National Statistics Office, etc.
Health profile	Incidence of AGE, incidence of STH, top 10 causes of morbidity and mortality, nutritional status of pre-schoolers, etc.	DOH, MHO, etc.
Geo-physical data	Topography, hydrological/hydro-geological data, water sources data, etc.	DENR, Regional EMB, MENRO, etc.
Water and sanitation data	Extent of coverage and service capacity of water districts, access to sanitation facilities by type per barangay, etc.	EMB, MENRO, DOH, Water Service Providers/Associations, etc.
Point and area sources of pollution	List and description of factories, hog farms, public markets, disposal sites, etc.	DENR, EMB, MENRO, etc.
Third party sanitation service providers	List of third party sanitation providers (TPSP), permits granted to the TPSP, facilities of the TPSP, etc.	DENR, EMB, MENRO, Private Sector Service Providers, etc.
Media and communication outlets and access to them	List of tri-media offices/organizations, extent of coverage of these tri-media organizations, access of the people to media services, etc.	KBP, Local media organizations, NGOs, etc.



When gathering primary data, it is not always possible to interview everyone in the community (often due to high costs) so researchers often decide on a “sampling size” that will best represent the target respondents. A sample method in determining distribution (sample) size is shown in Annex B.

It is important to remember that aside from the household data collection, other types of surveys may also be necessary. For instance, in Dagupan City and Guiuan, Eastern Samar, a stool survey was also undertaken to determine the prevalence of soil-transmitted helminthiasis (STH). Some LGUs may have special objectives that their sanitation programs may want to address. For example, the stool surveys aimed at knowing the prevalence of STH were undertaken to support the prevention of

that particular disease. In Bauko, a water quality contamination test was done to understand the extent of pesticide and herbicide contamination. The application of these types of studies is also discussed in the Guidebook for a Disease Prevention and Control Program as well as the Guidebook for Designating a Water Quality Management Area. The details on data processing and analysis and organization and management of data results are also given there.

The best way to develop the main document on the Baseline Study Plan is to hold a workshop and then assign each topic or section to the corresponding person/team who is assigned to that particular topic particularly from Topics 2 to 6.

After a first draft has been developed, you can schedule another workshop/writeshop so that your group can begin merging the different sections, discuss issues, and based on the outputs,

begin working on the staffing requirement, budget, and timeline.

As previously mentioned, the documentation of all meetings is very crucial. The previous documentation will prove very useful in this phase.

After finalizing the document, the LGU can already schedule another meeting to present

the Baseline Study Plan to its project partners and of course, to the LGU council.

Again, it is best if the LCE is also present in this meeting. Be ready with suggestions and recommendations that may be raised during the presentation of the Baseline Study plan.

How will the Presentation Meeting look like?

Below is a suggested program flow:



1. *Introductory Session – this may include the welcome and open remarks and statement of the objectives of the meeting (30 minutes)*
2. *Presentation of the Baseline Study Plan (30 Minutes)*
3. *Open Forum and Discussion (1 hour)*
4. *Closing Session (30 minutes)*

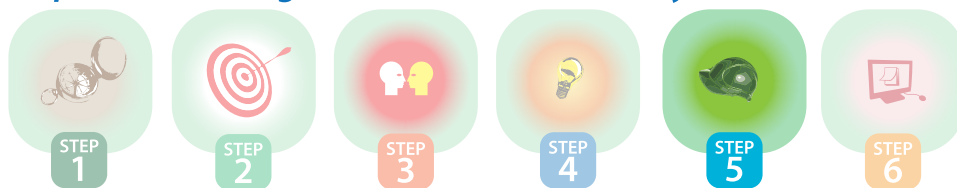
This meeting can also serve as the Launch or Kick-Off Activity of the Baseline Study.



The LGU can decide to have a symbolic “turning over” of the Plan from the Team to the Local Chief Executive and then the LCE may also turn over another symbol to the Team to signal the start of the baseline study. It is up to the LGU to make this occasion memorable and enjoyable for all concerned!



Step 5: Conducting the actual baseline study



Description and Objectives

After the presentation of the Baseline Study Plan, the LGU is now ready to start conducting the actual baseline study. To review the definition, a “baseline study” is a description of existing conditions that can provide a starting point against which progress can be assessed or comparisons can be made.

For the purpose of developing sanitation programs, focus will be on health, hygiene, and sanitation profiles although adequate attention will also be given to socio-economic, demographic, environmental, sanitation behaviour, practices, facilities, and other related data.

Tools

Questionnaires, data processing software

Key Activities

The baseline studies conducted for the SuSEA Philippines Program comprised of the following activities.

- 5.1 Social preparation
- 5.2 Collection of secondary data and analysis
- 5.3 Collection of primary data analysis
- 5.4 Data processing
- 5.5 Data analysis
- 5.6 Organization and management of data

EXPECTED OUTCOME

Baseline study results and sanitation profile

Social preparation refers to the preparatory phase when a



community is informed and consulted about an upcoming project, activity, or program that will take place.

In the case of a baseline survey, it is best to inform the intended survey participants and interviewees about the upcoming activity and the importance of their participation and cooperation.

Sometimes, this is quite a challenging phase because people may have false expectations regarding their participation (i.e. they might assume they will be paid or given a reward for participating, etc.).

So practice utmost care and caution in your language and delivery of message. You may motivate the people and discuss the developmental dimension of sustainable sanitation or share best practices.

A sample guide for the conduct of social preparation is in Annex G.

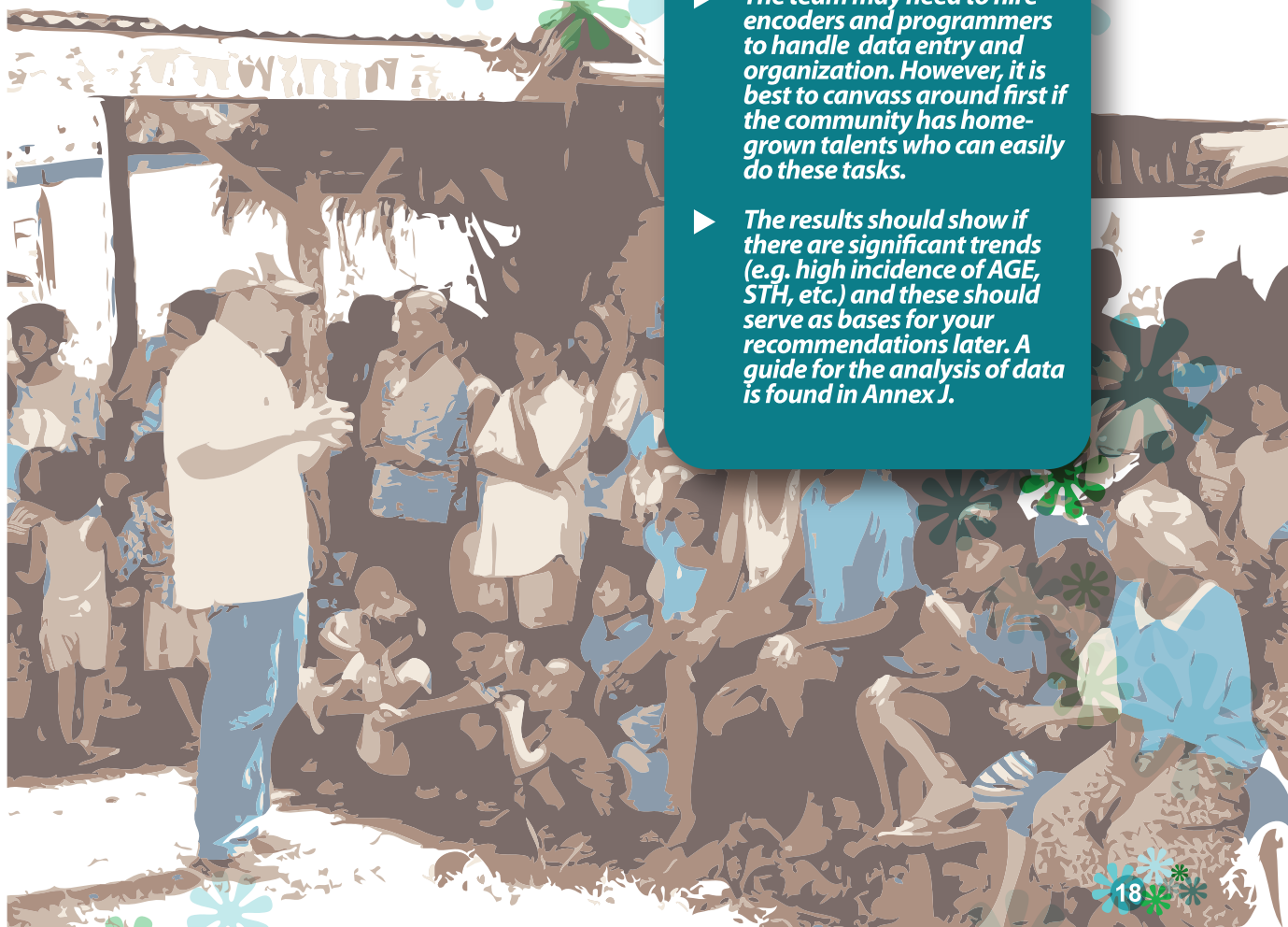
Meanwhile, a sample questionnaire for the primary data surveys is in Annex H. The questionnaire should be in the commonly-used language or dialect. The LGU may opt to have English or Filipino translations but priority language should be in the vernacular or whichever the community is most comfortable reading. It is also very helpful to read the “Philippines Sanitation Sourcebook and Decision Aid” (downloadable through <http://esa.un.org/iys/sanitary.shtml>) particularly Annex 1 as it gives examples of survey instruments.

Examples of FGD and KII respondents' composition and questionnaire are in Annex I. It is important that FGD and KII facilitators are very fluent or well-versed in the local language or dialect. Priority language should be in the vernacular or whichever the community is most comfortable reading.

After generating all the data that have been gathered, these should be packaged in easy-to-understand modules and formats. Take extra care in ensuring that the data (or at least important information) can also be translated in your local language or dialect.

Some Helpful Tips

- ▶ *Determine critical data and the appropriateness (i.e. representativeness) of the sample and sample size.*
- ▶ *It may be useful to do a pilot first in order to test the questionnaire and save resources on information or questions that may not produce useful answers.*
- ▶ *The enumerators should be trained well so that their behavior will not influence the answers or lead the respondents to certain responses.*
- ▶ *The team may need to hire encoders and programmers to handle data entry and organization. However, it is best to canvass around first if the community has home-grown talents who can easily do these tasks.*
- ▶ *The results should show if there are significant trends (e.g. high incidence of AGE, STH, etc.) and these should serve as bases for your recommendations later. A guide for the analysis of data is found in Annex J.*



Dagupan City: Coordinating with barangay officials is important



The conduct of some activities like household surveys, sanitation facilities mapping, and even key informant interviews encountered some “resistance,” hence, the possibility of inaccurate data. This was resolved by coordinating with local officials, giving adequate explanation (through the city field workers) and sending official letters to barangay captains and target informants. For household surveys and sanitation mapping facilities, local officials were made to feel that they were part of the process. We, therefore, received a more positive and enthusiastic response regarding the surveys.

Shared by **Dr. Leonard Carbonell**
of Dagupan City, Pangasinan

Polomolok: Barangay Health Workers and NGO partners contributed to success

Overall, Polomolok LGU was successful in the conduct of the actual baseline survey because of the strong support and commitment of our barangay health workers who served as the front-liners in undertaking this activity, the RHU personnel, and our partner NGO (Mahintana Foundation, Inc.). We also benefited very much from the cooperation of the target households who shared their time in responding to the entire set of questions included in the survey.

Mahintana’s logistical support (vehicle support, computers, internet access, printers, supplies, meals, snacks) and technical facilitation (during Survey Tool Orientation, coordination meetings with BHWs and coordinators, BLGU-Community consultations, etc.) helped us a lot in pursuing the necessary

activities to achieve the objectives of the Baseline Study. Our partnership with Mahintana has provided the LGU of Polomolok a better understanding of the various services they provide to the entire municipality.

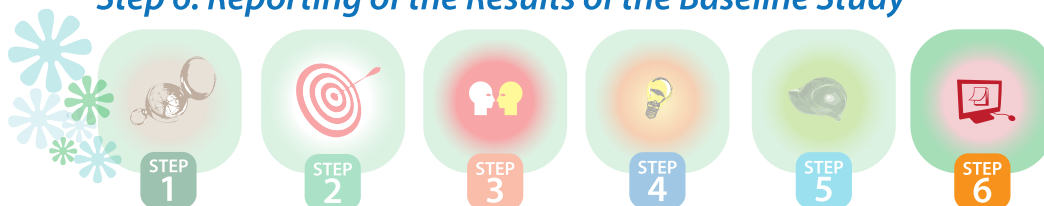
During the actual conduct of the baseline study, RHU-Polomolok, including the BHWs and our NGO partner, were convinced that the data generated from the study can significantly help them in defining effective strategies in addressing the municipality’s sanitation concerns.

We’d like to mention a few issues we faced. Some of the questions are not appropriate with the RHU set-up in Polomolok (i.e., RHU Physician is NOT expected to regularly visit the barangays. The number of target households are not proportionately selected vis-à-vis the total number of population per target barangay), thus, the consolidated survey results may not objectively describe the actual situation of the municipality.

Very instrumental in the conduct of the baseline study were the BHWs who are committed to do the task over and above the current roles they play as community health advocates and front-liners of almost all health-related programs of the LGU. With very minimal incentive, the roles undertaken by the BHWs are crucial, considering the level of risk they are exposed to as they function both as administrators of basic health services at the household level as well as SuSEA Enumerators in the identified barangays.

Given our SuSEA baseline study experience in the municipality of Polomolok, one significant lesson we have learned as an LGU is the importance of partnership with local stakeholders in putting forward various elements of community development.

Shared by **Engr. Eronio P. Munro**
of the Municipality of Polomolok,
South Cotabato

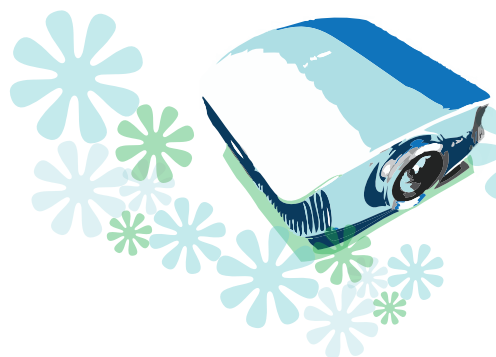
Step 6: Reporting of the Results of the Baseline Study**Description and Objectives**

In this step, the LGU is expected to present the results of the baseline study to its stakeholders including its executives and partners. The report is the final output from this activity, which will be a continuing and 'living' document in the LGU's sanitation program because it must be regularly updated. It should be widely-used by partners and constituents not just for sanitation

purposes but also for their own development or organizational planning exercises. The data should be regularly updated so that they will always reflect current issues and needs. The Guidebook for Monitoring and Evaluation provides good starting points for information monitoring system.

Tools

Reporting software and IEC materials (optional)

**EXPECTED OUTCOME**

Final Report

A Final Report normally has the following content:

1. Executive Summary
2. Introduction
3. Background of the Study
- 4. Presentation and Analysis of Results**
5. Concluding Notes

Table 2. Sample Content of Presentation and Analysis of Results Section

1. Geophysical Profile
2. Socio-Economic and Demographic Profile
3. Health Profile
4. Water Supply Access and Facilities/Systems
5. Sanitation, Drainage, and Wastewater Access and Facilities/Systems
6. Point and Area Sources of Pollution
7. Water and Sanitation Ordinances
8. Sanitation Practices and Perceptions
9. Local-Based Organizations
10. Media and Communications Outlet
11. Existing and Planned Sanitation Projects
12. Water and Sanitation Ordinances
13. Budget for Sanitation

The SUSEA program document called “Baseline Study Report” is an example on how the final report can look like. However, LGUs can also refer to other baseline studies, which are normally available online. A good example is found in the URL, www.iids.in/pdf/swiss_red_cross_water_sanitation_baseline_final_edited.pdf.

The LGU may decide to develop communication materials which may focus on more relevant sections that the public may find useful.


For example, if the community’s key concern is the high prevalence of open defecation, the

communication materials can highlight the effect of open defecation to public health by citing the results on the “health profile” section of the study.

This way, it will be easier to draw the support of the constituents when it is time to implement or enhance the LGU’s sanitation program.

The Guidebook for a Local Sustainable Sanitation Promotion Program is part of this Knowledge Series and may serve as a very useful reference.

Alabel: The Municipal Mayor’s involvement and presence is very important



After the consolidation and analysis of the survey data, the results were first presented by the SuSEA-TAMS to the TWG members of the Municipal Sustainable Sanitation Committee (MSSC) with the presence of some enumerators for initial evaluation. After the validation process, the group discussed how to effectively present the report to the MSSC and agreed on the specific date and venue.

A one-day meeting was called by the Municipal Mayor to convene the Municipal Sustainable Sanitation Committee headed by the Hon. Mayor Corazon Sunga Grafilo for the presentation of the Highlights of Baseline Information, including results of secondary data gathered, household survey, sanitation mapping, focus group discussions and key group discussions

and key informant interviews (October to December 2007). Several queries on the result of some data were addressed. The planned action programs for 2008 to 2010 were also presented.

There were some information from the report that are confirmatory/affirmative of the existing LGU’s secondary data. However, some new data appear to vary or differ from existing secondary data. This enabled us to clarify several perceptions on various health and sanitation issues.

It is worthy to note from the Integrated Baseline Report on Household Income & Expenditures (monthly), that the respondent households spend more on cigarettes (median: PHP200), alcoholic drinks (median: PHP120), and gambling (median: PHP100.00) than on toilets and hygiene (median: PHP51.00), and garbage disposal (median: PHP30.00).





These observations have some implications to the plan of LGU Alabel to impose a minimum monthly charge of PHP35.00 as septage desludging fee on septic tank owners, as contained in its septage management ordinance 2008-048.

This gives us the idea that sanitation investment at the household level is supposedly attainable if households will properly manage their personal finances.

This further requires more direct and comprehensive campaigns/advocacy and programs/activities that can be undertaken at the community level in order to develop positive behavior towards sustainable sanitation.

The MSSC adopted the report through a resolution so as to make it "official/legitimate data". This is useful in planning, decision making, and prioritizing investments on environmental health and sanitation. This official report was later incorporated and utilized in the preparation of

Alabel's Local Sustainable Sanitation Plan and Local Sustainable Sanitation Promotion Program (LSSPP) as well as the Septage Treatment Facility (STF) Marketing Plan.

Indeed, the data, in general, suggest that sanitation is not an option but a MUST.

There is no single technology that can address all sanitation issues at all levels in varied communities. The LGU has to be intent in exploring and developing sanitation options that are more fitting in specific areas/barangays based on prevailing/legitimate issues identified by the community themselves (e.g., CLTS may not be applicable to some other areas especially in urban areas).

Most often, sanitation problems are better addressed if behaviors/attitudes are changed. Many people have to realize that a healthy environment is not just our "right" to claim but also "everybody's responsibility" to attain.

Shared by **Engr. Allan V. Rivera**
of Alabel, Sarangani

A sample reporting format (summary) meant for presentation purposes and in MS Powerpoint format is shown in Annex K. This presentation was used for the baseline study results in Dagupan, Pangasinan.



DEFINITION OF TERMS

Acute gastroenteritis (AGE) - Conservative estimates put diarrhea in the top 5 causes of deaths worldwide, with most occurring in young children in developing countries. In industrialized countries, diarrheal diseases are a significant cause for morbidity across all age groups.

Etiologies include bacteria, viruses, parasites, toxins, and drugs. Viruses are responsible for a significant percentage of cases affecting patients of all ages.

Viral gastroenteritis ranges from a self-limited watery diarrheal illness (usually <1 wk) associated with symptoms of nausea, vomiting, anorexia,

malaise, or fever, to severe dehydration resulting in hospitalization or even death.

Viral spread from person to person occurs by fecal-oral transmission of contaminated food and water.

The clinical spectrum of acute viral gastroenteritis ranges from asymptomatic infection to severe dehydration and death. Viral gastroenteritis typically presents with short prodrome, with mild fever and vomiting, followed by 1-4 days of non-bloody, watery diarrhea. Viral gastroenteritis is usually self-limited.

Ruling out other diagnoses is important. Mucus or overt blood in the stool almost always indicates bacterial or parasitic infection.³

Liveable Cities – focuses on sanitation intervention for the improvement of the quality of life in cities and low-income urban poor households.

Liveability can also be seen as the framework of conditions that is needed for people to have ample opportunity to experience a good quality of life.⁴

Liveability explicitly relates to the specific local effects of human activity people experience on a daily basis. It also typically refers to a perceptive dimension in that it is influenced by the experiences and feelings people have in certain situations.

In this (definition), liveability calls for the involvement of people in deciding what it actually means in different situations. It also strongly relates to the quality of life concept.

Liveable areas provide ample opportunity to experience a good quality of life, whereas less liveable areas

³ Adapted from Tablang MVF, Grupka MJ, Wu GY. Gastroenteritis, Viral. Medscape, 2009 (<http://emedicine.medscape.com/article/176515-overview>).

⁴ Adapted from www.liveablecities.org/.../Understanding_the_Concepts__WD_10_.pdf and www.liveablecities.org/IMG/.../Definitions_v28Feb05__WD_9_.pdf

make it rather difficult to do so.

Sanitation - refers to the hygienic and proper management, collection, disposal or reuse of human excreta (feces and urine) and community liquid wastes to safeguard the health of individuals and communities.

It is concerned with preventing diseases by hindering pathogens, or disease-causing organisms, found in excreta and wastewater from entering the environment and coming into contact with people and communities.

This usually involves the construction of adequate collection and disposal or reuse facilities and the promotion of proper hygiene behavior so that facilities are effectively used at all times.⁵

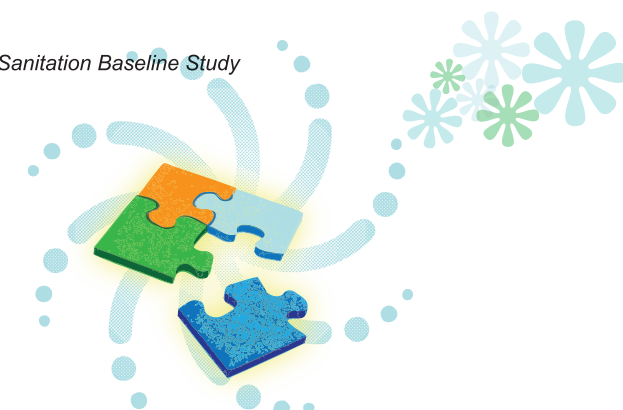
Soil-transmitted helminthiasis (STH) is an infection or disease caused by soil-transmitted helminths. The three (3) most common soil-transmitted helminths are: (1) *Ascaris lumbricoides* (roundworm); (2) *Trichuris trichiura* (whipworm); and (3) *Necator americanus* (hookworm). The common signs and symptoms of STH are: (1) Abdominal pain and enlargement; (2) Anemia; (3) Weight loss; (4) Malnutrition; and (5) Loss of appetite.

STH normally causes decreased physical development of children, decreased physical activities, and decreased performance in school.

STH is normally transmitted through fecal - oral route for ascaris, trichuris and hookworm, and skin penetration for hookworms (*Necator americanus* and *Ancylostoma duodenale*).

STH can be prevented through:

1. Good personal hygiene like washing



hands before eating and after using the toilet

2. Clean and safe preparation of food
3. Always use slippers or shoes
4. Proper use of toilet facilities
5. Environmental sanitation⁶

Sustainable Management of Water and Sanitation Interventions

(Sustainable Rural Livelihoods) – focuses on efforts to ensure that water and sanitation interventions introduced will generate and support livelihood opportunities to ensure its sustainability.⁷

Water Quality Management Area (WQMA) – focuses on sanitation interventions for the improvement of water quality within a defined water quality management area.

A Water Quality Management System refers to the interrelated interventions, actions, activities, projects/programs that will optimize the quality of water based on the respective beneficial uses or network of solving its water quality problems.⁸

⁵ Philippine Sanitation Source Book and Decision Aid. World Bank, German Technical Cooperation Agency, and Australian Agency for International Development for the Department of Environment and Natural Resources and the Department of Health.

⁶ Department of Health (<http://www.doh.gov.ph>).

⁷ SuSEA Baseline Study Framework. Sustainable Sanitation in East Asia Philippine Program, 24 April 2008.

⁸ Environmental Management Bureau. 5678