



Preparation of Business Plan for Small-Scale Water Service Providers

(With Emphasis on Sanitation Planning)

Overview of Wastewater Management

Sources of Wastewater / Water Pollution

Point Sources Vs. Non-Point Sources

Types of Wastewater

Domestic Vs. Non-Domestic Wastewater



Framework for Development of Sanitation Services

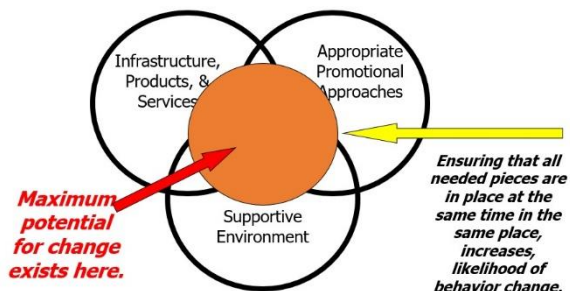
The Sanitation Value Chain



Ladderized Approach



The Three-Pronged Approach



The Three-Pronged Approach

Infrastructure, Products and Service Improvements

Infrastructure (Sewerage treatment plant, water kiosks, water pipes, sewer lines, etc.)

Service Improvements (Extended hours, 24/7 hotline, special weekend hours, desludge trucks, etc.)

Products (Septic tanks, water faucets, latrines, soaps, wash basins, sinks, toilets, water tablets, etc.)

Supportive Environment

- National policies – water, sanitation, hygiene
- Strategies and plans
- Institutional strengthening
- Organizational capacity building
- Financing and funding schemes
- Public-private partnerships

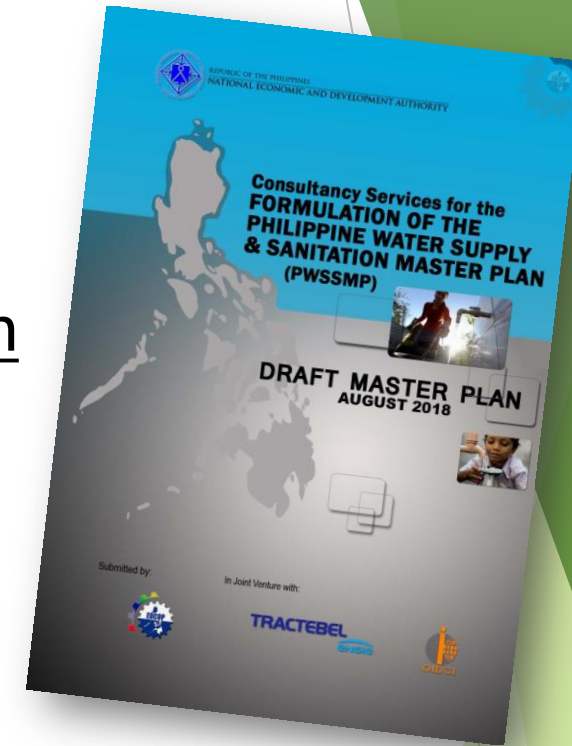
Appropriate Promotional Approaches

- Information and education
- Behavior change communication
- Social marketing
- Training
- Advocacy
- Mobilization

Sanitation Sub-Sector Reforms

Philippine Water Supply and Sanitation Master Plan

1. Improving WSS Access
2. National Targets
3. WSS Sector Reforms
4. Key Performance Indicators
5. Financial Requirements
6. Priority Listing of WSS Projects



National Sanitation Targets

Philippine Development Plan (2022)

Safely Managed Sanitation: 97%

End of Open Defecation

Sustainable Development Goals (2030)

Safely Managed Sanitation: 100%



Sanitation Mandate of Water Service Providers

Local Government Units

- Local Government Code (R.A. 7160)
- Code on Sanitation
- DILG Memorandum Circular 2019-62

Water District

- Water District Law (P.D. 198)

Small-Scale Water Service Providers / Private Operators

- NWRB, CDA, LGUs??

Local Sanitation Plan (LSSP)

Focus / Issues

Household Level:

- Toilet Facilities and Open Defecation
- Onsite Treatment Systems (Septic Tanks)
- Household Sanitation Financing (Affordability Issue, Access to Household Financing)
- Awareness/Demand Level for Sanitation Services
- Wastewater Minimization/Re-Use/Water Demand Management Awareness and Practice

Community Level:

- Communal Facilities to transition to Individual Facilities
- Informal settlements
- Formal settlements in “difficult” areas

LGU-Level:

- Collection or conveyance of wastewater and septage
- Treatment and disposal of residuals/re-use program
- Building of Facility (funding, siting, procurement of services, institutional arrangement/PPP, tariff)
- Water Supply provision
- Hygiene and Sanitation Promotion
- Ordinances and related legislation
- Capacity Development
- Previous studies and new findings
- National/Regional/Provincial plans

* Wide-Area Planning, Integrated Planning, Aligned with National Targets

Impacts of Climate Change on Sanitation/WW

Water Quality Degradation

Low flow conditions and altered water quality
Altered surface water quality

Floods

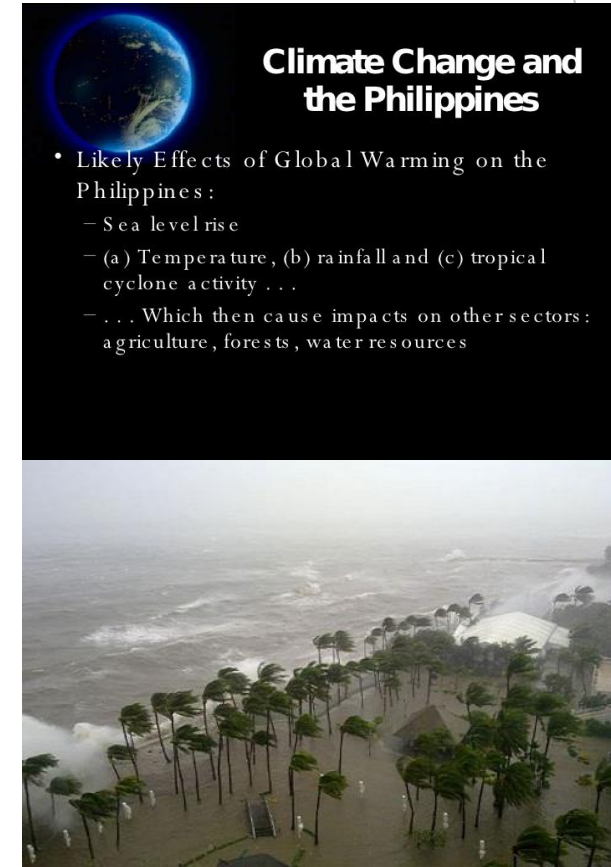
High flow events and flooding
Flooding from coastal storm surges

Ecosystem Changes

Loss of coastal landforms / wetlands
Increased fire risk and altered vegetation

Service Demand and Use

Volume and temperature challenges
Changes in energy needs of utilities



Low-Cost, Low-Maintenance Treatment Systems

Slow-Sand Filter - Waste Stabilization Lagoons - Planted Gravel Filter

Bio-Reactor - Anaerobic Baffled Reactor- Planted Gravel Filter System

Lime Stabilization - Anaerobic Baffled Reactor- Planted Gravel Filter System

Financing Sanitation Initiatives

Feasibility Study / Project Study

Implementation / Construction

Operation, Maintenance, and Expansion



Resources

1. Global Water Solutions, Inc. - jtecson@gwsi.com.ph
2. UniKleen International Corp. - clsantos41@yahoo.com
3. Basic Needs Services - BORDA - philippines@borda.org
4. Ad Victoriam Asia Enterprise - amontecastro@advicasia.com
5. Partnership for Water Solutions, Inc. - nnarvaez@pws.ph

Thank You for Listening!



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What is the **WATER SUPPLY AND SANITATION** SITUATION?

WATER SUPPLY



ACCESS

87.7% - PSA
91.8% - JMP

LESS THAN 50% have piped water onto premises; Majority are concentrated in the **URBAN**

332 MUNICIPALITIES continue to be “waterless” as of December 2015

Poor governance, limited access to finance, affordability

SANITATION

93.7% - PSA
91.5% - JMP

Around **74% OF HOUSEHOLDS** connected to onsite or offsite treatment and are considered safely

Around **4.3 MILLION** still **DEFECATE** in the open



SANITATION SITUATION: ACCESS AND SERVICE QUALITY



Highest access are from



Region IV-A
88%



85%



82%



80%



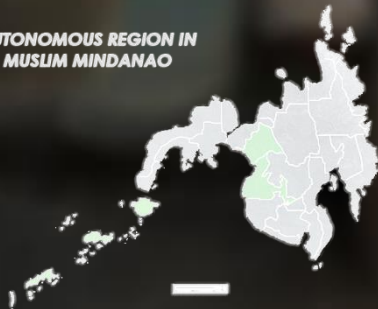
77%

SANITATION SITUATION: ACCESS AND SERVICE QUALITY

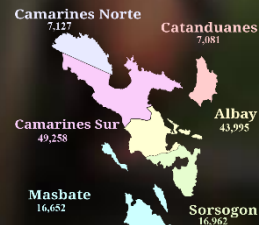
Highest open defecation rate (bottom-dwellers)



AUTONOMOUS REGION IN
MUSLIM MINDANAO



ARMM
18.3%



Region V
11.9%



Region VIII
10.27%



Region VII
8.5%



Region VI
8.3%

The PWSS Master Plan Targets

Sanitation Indicators	% of Population		
	2015 Baseline	2022 Target	2030 Target
Households with septic tanks	74%	97%	100%
Households with access to septage collection services	17%	69%	100%
LGUs declared Zero Open Defecation	96%	100%	100%

The PWSSMP Key Reform

No.	Reform Agenda	Focus
1	Establishing Effective WSS Sector Institutions	Addressing the fragmented sector
2	Strengthening Regulatory Environment	Regulating and managing water resources and WSPs, including water tariff
3	Balancing Water Supply and Demand	Managing finite water resources with end-users
4	Building Climate Resiliency	Adapting to climate change

The PWSSMP Key Reform

No.	Reform Agenda	Focus
5	Creating and Ensuring Effective WSS Services	Ensuring effective and sustainable WSS services and service providers
6	Enabling Access to Funding and Financing	Improving access to funds
7	Managing Data and Information	Ensuring availability and accessibility of reliable WSS data
8	Driving Research and Development	Investing on research and innovations

Investment Requirement (in Php Million)	2019-2023	2024-2030
Physical	733,657	334,529
Water Supply	278,070	233,011
Level 3	234,107	216,953
Level 2	37,559	15,315
Level 1	6,404	743
Sanitation	455,587	101,518
Improved/Basic	349,495	84,022
Septage	48,891	5,998
Sewerage	57,201	11,498
Non Physical	658	469
Reform Areas	323	-
Project Management	335	469
TOTAL	734,315	334,998

How much will it cost us?