



Sustainability Index  **USAID**  
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# Sustainability Index of WASH Activities

## Philippines Country Report

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**Sustainability Index of WASH Activities & Alliance Evaluation  
Sustainability Index Country Report for Philippines**

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## Acronyms

AECOM	USAID contractor
AMORE	Alliance for Mindanao Off-Grid Renewable Energy Program
<i>Barangays</i>	Lowest level of decentralized government in the Philippines
BHWs	Barangay Health Workers
BWASA	Barangay Water and Sanitation Association
ABS-CBN	Media and entertainment corporation with its own Foundation
CENR	City Environment and Natural Resources
CWMC	City Wastewater Management Council
DCWD	Davao City Water District
DENR	Department of Environment and Natural Resources
DILG	Department of Interior and Local Government
GSO	General Service Office of the City Government
IRR	Implementing Rules and Regulations
JMP	WHO/UNICEF Joint Monitoring Program
LGU	Local Government Unit
LWUA	Local Water Utilities Association
MMDA	Metropolitan Manila Development Authority
NEDA	National Economic and Development Authority
O&M	Operation and maintenance
PHP	Philippine Peso
PSA	Philippines Sanitation Alliance
PWRF	Philippines Water Revolving Fund
RC	Rotary Club
SC	Philippines National Rotary Steering Committee
SME	Small and medium enterprises
SODIS	Solar disinfection
SWAPP	Solid Waste Association of the Philippines
SWM	Solid Waste Management
WWT	Waste Water Treatment
ZCWD	Zamboanga City Water District

## 1. Introduction

The International H<sub>2</sub>O Collaboration (*the Alliance*) is a worldwide partnership between Rotary International/The Rotary Foundation (RI/TRF) and the United States Agency for International Development (USAID). The Philippines is one of three pilot countries where this Alliance was operationalized with the goal of implementing sustainable water, sanitation, and hygiene (WASH) projects. In the Philippines this partnership operated within separate grants in five locations. These grants supported a wide range of WASH projects, including some aimed more specifically at environmental health (i.e. pollution reduction). This report documents the findings from a Sustainability Index applied to the following projects selected for review:

- Manila: Santa Ana wastewater treatment system (for market only) and solid waste management for market and surrounding Barangays
- San Fernando, La Union: Septage management (hauling and treatment facility) and wastewater treatment system
- Zamboanga: Urbanised reticulated (Level III) water supply and hygiene promotion
- Davao: rural (Level II) reticulated water supply and hygiene promotion
- Dipolog: rural (Level II) reticulated water supply and hygiene promotion

Long-term sustainability of WASH interventions is widely recognized as a complex and persistent challenge facing communities, governments and international development partners alike. Responding to Rotary International and USAID's call for an early and strategic evaluation of the sustainability of its investments and for recommendations for future Alliance programming, a framework was developed. This framework, called the **Sustainability Index Tool**, focuses on four critical areas that are known to be importance to the long-term sustainability of WASH interventions: **institutional**, **management**, **financial**, and **technical** factors. Sector experience has demonstrated the importance of accounting for the enabling environment in evaluation processes. Therefore the Sustainability Index includes data collected at the 'project intervention' level, whether at the household, community or system level, and as well as information relating to the broader context at the national, regional, or local-district-municipal level. As such the tool seeks to determine the way in which Alliance interventions are integrated with broader systems for monitoring, support, technical back-stopping, policy and financing that go far beyond individual project activities.

The application of this Sustainability Index Tool to the Alliance projects in the Philippines (and other alliance countries) is the first at scale pilot testing of this mechanism for assessing likely sustainability. This document presents the findings both from the field work, as well as lessons learnt about the design and application of the methodology.

### 1.1 General description of the projects

Five separate projects were undertaken in the Philippines, each with multiple components:

#### **Davao**, 3-H Grant No. 71461

Reticulated (gravity flow) water supply systems with public tapstands, and establishment and training of BWASAs and their committees in two barangays for community management of the systems, together with hygiene promotion focusing on handwashing:

Magsaysay with one system serving five communities

Bantol with four systems each serving one community

The main partners carrying out the project were the Rotary Club of Downtown Davao under Rotary District 3860, and AMORE, a USAID funded programme.

**Dipolog**, 3-H Grant No. 71462

Reticulated (gravity flow) water supply systems with public tapstands, and establishment and training of BWASAs and their committees in two barangays for community management of the systems, together with hygiene promotion focusing on handwashing:

San Antonio in Sergio Osmeña District

Panampalay in Roxas District

The main partners carrying out the project were the Rotary Club of Dipolog under Rotary District 3850, and AMORE, a USAID funded programme managed by Winrock)

**Zamboanga**, 3-H Grant No. 71465

Reticulated (gravity flow) water supply systems with household connections in two rural barangays (Lumbangan and Lumayang) within the city boundary, managed by the Zamboanga City Water District (ZCWD), together with hygiene promotion focusing on handwashing and sanitation.

The main partners carrying out the project were the Rotary Club of Zamboanga City West under Rotary District 3850, and Philippine Water Revolving Fund Support Program (PWRF-SP)( a USAID funded program managed by DAI), and ZCWD.

**Manila** (Pasig River), 3-H Grant No. 71463:

Waste water treatment plant for the Sta. Ana Market

Grease reduction in the Sta. Ana Market

Solid waste management in Sta. Ana Market and barangays

Hygiene in one elementary school in Sta. Ana

Solid waste management in Damayan/Del Monte

Promotion of connections to sewerage system in Damayan/Del Monte

The main partners carrying out the project were the Rotary Clubs of Sta. Ana and Pasay Silanagan under Rotary District 3810, and Talipapa under Rotary District 3880, and the Philippine Sanitation Alliance, a USAID funded program managed by AECOM.

**San Fernando**, La Union, 3-H Grant No. 71464

Development of a city-wide septage management programme including construction of a septage treatment works

Two decentralised waste water treatment plants

The main partners carrying out the project were the Rotary Clubs San Fernando La Union under Rotary District 3790, and the Philippine Sanitation Alliance, a USAID funded program managed by AECOM, with the City of San Fernando.

## 2. WASH Sector Overview

### 2.1 Sector development

Overall the WASH sector in the Philippines is rather uncoordinated, with legislation and other regulatory mechanisms and management responsibilities scattered amongst different agencies and government departments at national and local level. One key policy principle in the Philippines is decentralization, so responsibility for all service provision is at local government level. The “local government unit” (LGU), however, includes agencies at a range of levels from the community, to regional and district levels.

The Alliance projects analyzed in the Philippines fit within a number of the sub-sector classifications: rural water supply, utility managed water supply, waste water and septage management, hygiene behavior change and solid waste management. The context in which the projects were carried out necessarily needs to be understood in the same range.

### Coverage

The actual access and coverage of water supply services in the country remains difficult to measure. Due to the absence of a synchronized information and monitoring system, various agencies including the Local Water Utilities Association (LWUA), Department of Interior and Local Government (DILG), and the National Statistics Office (NSO) compile varying statistics on water supply access and coverage using different methodologies and timeframes. The National Economic and Development Authority (NEDA) is currently coordinating an assessment of the water and sanitation sector funded by GTZ (German International Development Agency). This activity, among others, aims to come up with more updated and reliable data on the [water service providers] including water supply and sanitation access and coverage. The draft sector assessment report is currently being reviewed by NEDA.

Based on the NSO, the country's official statistical agency, the proportion of households in the Philippines in 2004 with access to water was around 80.2 %. The same 2004 figures are reported in the February 2010 Millennium Development Goal Watch Report compiled by National Statistical Coordination Board (NSCB). Given the size of the population in the Philippines, to understand the scale of potential water supply and sanitation challenges, coverage figures need to be considered in terms of numbers as well as percentages. In the 2010 Census, the population was 92.24 million. Table 1 shows the Joint Monitoring Program (JMP) coverage estimates of sanitation as both percentages and the actual numbers of people without improved services. Table 2 shows the water supply coverage estimates.

**Table 1:** Sanitation Coverage

Year: 2010	Improved	Shared	Other improved	Open defecation
Urban	79%	17%	1%	3%
Rural	69%	16%	3%	12%
Total	74%	16%	2%	8% / 7.4 million

Adapted from

**Table 2:** Water supply coverage

Year: 2010	Total Improved	Piped onto premises (Level 3)	Other improved	Other unimproved	Surface water
Urban	93%	61%	32%	7%	0%
Rural	92%	25%	67%	7%	1%
Total	92%	43%	49%	7% / 6.5 million	1% / 0.9 million

Adapted from

JMP qualifies its definitions by stating that access to water and sanitation does not imply that the level of service or quality of water is "adequate" or "safe". In the case of septic tanks, which are used widely in both urban and rural parts of the Philippines, there are many reports of failure to desludge the tanks and poor practice when desludging is done, so that much of the coverage cannot be considered safe. Thus the actual safe coverage is much lower than indicated by official figures. An indication of the potential risk of improved but unsafe sanitation can be estimated from one source of the data used by the JMP, the World Health Survey by WHO (2003). This gives the percentage of people with access to different types of toilets, including toilets flushing to septic tanks and pour flush latrines, as shown in **Table 1**.<sup>1</sup>

1

These paragraphs and the table on septic tanks and septage are taken from an unpublished report prepared by the author for the WSP in 2010/11.

**Table 3: Scale of need for septage management (2003)<sup>2</sup>**

	Population	Connection to sewage system		Septage				
				Septic Tank		Pour flush latrine		Total
	No. (mill.)	%	HHs (mill)	%	HHs (mill)	%	HHs (mill)	HHs (mill)
<b>Urban</b>	29.1	7.1	0.38	24.0	1.27	52.0	2.75	4.02
<b>Rural</b>	55.1	2.2	0.22	15.7	1.57	53.3	5.34	6.91
<b>Total</b>	84.2		0.60		2.84		8.09	10.93

Source: from WHS Survey (2003)

Thus, there are nearly 11 million people (2 million households) without access to improved sanitation, and a further 60 million people (11 million households) relying on sanitation systems that require proper septage management to be safe. Also, it is unlikely that the rural sewage systems include treatment.

### **Institutional arrangements**

The water supply and sanitation sector is highly fragmented, with numerous small providers that have neither sufficient operational scale nor the necessary autonomy from political interference to be efficient providers. Various local providers coexist, but operate under different regulatory and financing regimes, thus blurring accountability of individual providers for expanding both water supply and sanitation services. More than a decade since the provision of certain services was decentralized, LGUs remain ill-equipped to provide them. Coordination between the various national government agencies involved in the sector also remains weak.

The Local Government Code of 1991 divides the Philippines into three administrative levels: provinces, municipalities, and *barangays*. All three levels are called Local Government Units (LGUs). The Code devolves basic services to LGUs, including most health services and infrastructure provision as well as the authority to create own revenue sources and to enter into international aid agreements.

Table 4 shows the complex roles and responsibilities of the numerous government agencies in the Sector. A significant weakness in these arrangements is that there is no specialist agency responsible for rural water supply and sanitation – setting standards for processes and infrastructure, implementing programmes, providing support services and monitoring provision and functionality. Table 5 gives a list of the main legislation and regulations for water supply and sanitation.

**Table 4: Key water supply and sanitation government agencies in the Philippines**

Agency	Roles and Responsibilities
DENR – Department of Environment and Natural Resources	<ul style="list-style-type: none"> <li>▪ Based on E.O. 192 (1987), promulgating the (1) rules and regulations for the control of water, air and land pollution and (2) ambient and effluent standards for water and air quality.</li> <li>▪ Conservation, management, development and proper use of country's environment and natural resources.</li> <li>▪ Lead agency for the implementation of the Clean Water Act.</li> </ul>
– MB (Environmental Management Bureau)	<ul style="list-style-type: none"> <li>▪ Setting and enforcing water quality (excluding drinking water) standards, and the criteria for water quality management in the country.</li> </ul>
– WRB (National Water Resources Board)	<ul style="list-style-type: none"> <li>▪ Evaluates and designates areas as water quality management areas (WQMAs)</li> </ul>
–	<ul style="list-style-type: none"> <li>▪ Set up at the national level and in identified WQMAs, the fund is intended to finance</li> </ul>

<sup>2</sup> The table does not include households served by other types of toilet or that practice open defecation. The figures and definitions are from the WHS Survey.

AQMF (National and Area Quality Management Fund)	containment and clean-up of water systems, restore ecosystems, enforce and monitor clean-up activities, support research and information campaigns to maintain water quality; it is also intended to finance the maintenance and upkeep of water bodies in the WQMAs.
DILG – SS-PMO (Water Supply and Sanitation Program Management Office)	<ul style="list-style-type: none"> <li>▪ Capacity building support to LGUs</li> <li>▪ Provision of capacity building training to LGUs) in the performance of their functions of providing water and sanitation.</li> <li>▪ Coordination of LGU master plan preparation</li> <li>▪ Provision of information to LGUs on available sector programs and financing</li> <li>▪ Providing and bringing access to financing of LGU water supply and sanitation projects</li> </ul>
DOF / GFIs	<ul style="list-style-type: none"> <li>▪ Financing support for the water supply sector</li> <li>▪ Oversee the performance of government financing institutions that provide funding for the sector, such as the Development Bank of the Philippines (DBP), Land Bank of the Philippines (LBP) and Local Water Utilities Administration (LWUA).</li> </ul>
DPWH (Department of Public Works and Highways)	<ul style="list-style-type: none"> <li>▪ Provision of technical support to LGUs upon request including implementation of Level I and Level II projects</li> <li>▪ Through its attached agencies, build and provide sewerage and sanitation facilities in the country</li> <li>▪ Through its relevant attached agencies and in coordination with the DENR and DOH, prepare a national program on sewerage and septage management which includes a priority listing of sewerage, septage, and combined sewerage-septage projects for LGUs.</li> </ul>
– WSS (Metropolitan Waterworks and Sewerage Authority)	<ul style="list-style-type: none"> <li>▪ For water supply and sewerage services in Metro Manila through private water utilities.</li> <li>▪ It also serves as the economic regulatory agency in the national capital region.</li> </ul>
– WUA (Local Water Utilities Administration)	<ul style="list-style-type: none"> <li>▪ Capacity building support to WSPs</li> <li>▪ Provision of technical advisory services and financial assistance to water districts</li> <li>▪ Provision of technical and institutional support to LGUs and WSPs</li> <li>▪ Setting design standards for water supplies operated by water districts and other WSPs</li> <li>▪ Financing support for Water Districts</li> <li>▪ Regulation of Water Districts</li> </ul>
LGUs (local government units)	<ul style="list-style-type: none"> <li>▪ Under the Local Government Code (RA 7160) (1992), provide basic water and sanitation services under their jurisdiction</li> <li>▪ resource regulation,</li> <li>▪ economic regulation of their utilities</li> <li>▪ Planning and implementation of water supply and sanitation programs include</li> <li>▪ Preparation of water and sanitation master plans</li> <li>▪ Monitoring of local water and sanitation coverage and update of sector profile</li> <li>▪ Provision of support to WSPs such as the RWSAs, BWSAs and cooperatives including funding from IRA</li> <li>▪ Coordinate with DENR to manage and improve the water quality within their jurisdiction</li> <li>▪ Provide waste disposal services to their constituents</li> </ul>
NEDA	<ul style="list-style-type: none"> <li>▪ Coordinates the preparation of national development plan and investment programs</li> <li>▪ Formulation of sector policies and strategies</li> <li>▪ Monitoring implementation of policies, programs and projects</li> </ul>
NWRB	<ul style="list-style-type: none"> <li>▪ Regulation of WSPs including some (consenting) LGU-managed water utilities</li> <li>▪ Tariff regulation</li> <li>▪ Coverage and service regulation</li> <li>▪ Management of WSS sector database including WSP performance data</li> </ul>
DOH	<ul style="list-style-type: none"> <li>▪ The promotion, protection, preservation or restoration of the health of the people.</li> <li>▪ Part of its responsibility is to ensure and monitor safe water supply and sanitation services</li> </ul>
Inter-Agency Committee on Environmental Health (IACEH)	<p>Coordination:</p> <ul style="list-style-type: none"> <li>▪ Ad-hoc committee established by Executive Order</li> <li>▪ Chaired by DoH; co-chaired by DENR</li> <li>▪ A multi-agency task force that is tasked with facilitating a coordinated effort by different agencies of the government to address environmental health issues.</li> </ul>

Compiled and adapted from



**Table 5: Legislation relevant to water supply and sanitation**

<b>Water supply</b>	
Provincial Water Utilities Act of 1973, as amended	Authorized the formation of local water districts in provincial centers of the Philippines, its governance and administration, and the creation of LWUA as a specialized lending institution to provide financing and technical assistance in the development of local water districts. LWUA was mandated to review tariff rates of local water districts where it had financial exposure
Water Code of the Philippines of 1976, as amended	Consolidated all existing legislation relating to ownership, development, utilization, exploitation, and conservation of water resources, and mandated NWRB as the government agency responsible for the implementation of the Water Code, including the appropriation of water resources through the grant of water permits and imposition of penalties for administrative violations
Presidential Decree 424 (1974)	Mandated NWRB as the government coordinating body for all water resources development activities
Public Service Law, Presidential Decree 1206 (1977)	Mandated NWRB to have supervision and control of all water utilities and their franchises, equipment, and other properties, and regulation of water rates to be charged by waterworks operators, except those falling under the jurisdiction of MWSS and LWUA, and to act as an appeals body on tariff matters of water districts under LWUA jurisdiction. Executive Order 123 issued in September 2002 mandates NWRB to approve tariffs of local water districts
Republic Act No. 6716 (1989)	providing for the construction of water wells, rainwater collectors, development of springs and rehabilitation of existing water wells in all barangays in the Philippines
Local Government Code of 1991	Mandated the block transfer of the Internal Revenue Allotment to LGUs following a formula-based allocation and transferred responsibility for providing basic services to LGUs
NEDA Board Resolution No. 12 (s. 1995)	Approving the common definition of terms relative to water supply, sewerage and sanitation
Republic Act 9275 (2004) "Clean Water Act"	An Act providing for a comprehensive water quality management and for other purposes
Administrative Order No. 2007-0012	Philippine National Standards for Drinking Water 2007
<b>Sanitation</b>	
National Plumbing Code through PDs 1096, 1959	Present guidelines, criteria, and standards for design and construction of sanitation and sewerage facilities
Creation of Metropolitan Waterworks and Sewerage System (RA 6234), 1971	Constructs, operates, and maintains water systems, and sewerage and sanitation facilities in Metro Manila
PD 198, known as the Provincial Water Utilities Act of 1973	National policy authorizing the formulation of water districts to to operate and administer water supply and wastewater disposal systems in the provincial areas outside Metro Manila
The Code on Sanitation of the Philippines (PD 865), 1975	Deals with water supply, excreta disposal, and sewerage and drainage concerns
Revising Republic Act 3931, known as the Pollution Control Law (PD 984), 1976	Requires subdivisions, hospitals, and public buildings to provide sewerage and treatment facility
National Building Code (PD 1096), 1977	Requires new buildings to be connected to a waterborne sewerage system; if system exists, sewage must be disposed of in an Imhoff tanker or septic tank with a subsurface absorption field
Philippine Environment Code (PD 1152), 1977	And defines responsibilities for surveillance and mitigation of pollution incidents
Philippine Environmental Impact Statement A System (PD 1586), 1978	Mandates environmental impact statement for government and private sector projects affecting the quality of the environment
Rules implementing the Subdivision and Condominium Buyers Protective Decree, 1981	Connection to sewerage system where available and provision of septic tanks when sewerage is not available
Revised Water Usage and Classification/ Water Quality Criteria and Revised Effluent Regulations of 1990 (DENR Administrative Order 34 and 35), 1990	DENR Administrative Order 34 amends sections of 1978 NPCC Rules and Regulations and defines beneficial usage and classification of fresh surface and coastal/marine waters; also and coastal waters. Provides effluent standards to all industrial and municipal wastewaters based on the receiving water's classification
Local Government Code of the Philippines, IRR	Enforcement of laws on sanitation and cleanliness as devolved function of DENR1 supply, sanitation, and flood control

Rule V (Republic Act 7160), 1992	
NEDA Board Resolution 4 (1994) and 6(1996)	Increases role of LGUs in provision of sanitation facilities
NEDA Board Resolution 5 (1994)	National policy strategy and action plan for urban sewerage and sanitation
Republic Act No. 9003 "Ecological Solid Waste Management Act" (2000)	An Act providing for an ecological solid waste management program, creating the necessary institutional mechanisms and incentives, declaring certain acts prohibited and providing penalties, appropriating funds therefor, and for other purposes.
Supplemental IRR of Sewage Disposal and Drainage (2003)	Rules and Regulations governing the collection, handling, transport, treatment and disposal of domestic sludge and septage" – a supplement to the Implementing Rules and Regulations of Chapter xvii – "sewage collection and disposal, excreta disposal and drainage" of the Code on Sanitation of the Philippines (PD 856) issued on November 1995

## 2.2 Sector support and development partner landscaping

Water supply investments have been significantly low relative to overall public infrastructure spending. Investments are also characterized by bias favoring of Metro Manila and other urban areas. This phenomenon is attributed to the orientation of the public infrastructure priorities of the National Government and the absence of a coherent financing framework for the water supply sector. Data from the Department of Budget and Management for 2001 up to the first semester of 2007 shows that of the PHP (Philippine Pesos) 442.3 billion total national government expenditure for infrastructure, PHP 97.3 million (22%) was allocated for all water related infrastructure. Of the total water infrastructure budget, only PHP 3.7 billion (3.8%) was allocated for water supply and the rest for irrigation and flood control. Information about investment in urban and particularly rural sanitation is difficult to differentiate.

External donors and lending organizations include the Asian Development Bank, the World Bank, JICA (Japan International Cooperation Agency), GTZ, and USAID.

## 3. Sustainability Index Methodology and Sampling

### 3.1 Sustainability Index Tool

The Sustainability Index Tool is a framework to assess the likely sustainability of water, sanitation or hygiene interventions after they have been implemented. The check considers four main factors that are known to have an impact on sustainability: institutional arrangements, management practices, financial conditions, and technical operations and support. Although the tool was developed globally, it is also necessary to customize indicators – and the associated questions - to specific intervention and country contexts. For example, in the Dominican Republic, the wording of some indicators were modified match the components of the different interventions.

The extent to which these sustainability indicators are being achieved is assessed through a series of indicator questions aimed at different stakeholder and institutional levels, and in some cases through review of relevant legislation and sector policy. Although these levels may vary depending on the type of intervention and country context, they typically include: households, service providers (i.e. the water committee, utility or school), district level, and national level. The sources consulted at each level of research for the Philippines are identified in Table 6. These sources were consulted for each of the communities in which an Alliance intervention was implemented, except at national level, for which the relevant legislation and policies listed in Table 5 were checked.

**Table 6: Stakeholders, and Institutions Consulted at each Investigation level.**

Type of Intervention	Project Location	Household/Project level	Service Provider Level	District (Service Authority level)
Community Reticulated System	Davao and Dipilog	Households	Water and sanitation committees	Davao City Water District Zamboanga del Norte Provincial Government
Utility Water Supply	Zamboanga	Households	Zamboanga Municipal utility	Zamboanga Municipal government
Hand washing Promotion (Davao)	Davao Dipolog Zamboanga	Households		City Health Office
Wastewater treatment	Manila	Market stall holders		City of Manila Government
Solid waste management	Manila	Households		
Septage Treatment system	San Fernando	Households	City government, San Fernando	City government, San Fernando

At the household, or system level, information was gathered through a series of household surveys in each of the communities receiving the intervention. Questionnaires were developed based on the indicator questions for each intervention and were piloted in April 2012. An example of these questionnaires is available in Annex 1. During late April and early May, five enumerators and a field coordinator were trained to conduct household interviews, reporting information into data sheets for eventual transfer into digital files for analysis.

Information at higher levels was obtained through a series of interviews based on the indicator questions. A full list of people consulted is in Annex 4. To answer some indicator questions relating to national policy and legislation a desk based review was carried out and verified by interviews with key stakeholders at national level and supplemented with the team’s own knowledge of the WASH sector. Section 4 describes how the answers for these indicator questions was used to determine indicator scores and then aggregated to show sustainability scores by factor.

### 3.2 Sample size and selection of communities and households for surveying

The sampling protocol for household surveys for the Philippines is based on the five grants, each targeting a different LGU. The lowest level of LGU is the *Barangay*, which is often sub-divided for administrative purposes into *sitios* or *puroks* (i.e. communities). Due to the small number of *Barangays* receiving each intervention, data was collected from all *Barangays* receiving interventions, and in the case of Santa Ana in Manila, the market. In addition, all communities beneath the *Barangay* that were targeted by interventions were also represented, although the target household sample size was based on the total number of interventions at the *Barangay* level.

In the Philippines the six Alliance interventions assessed were: community reticulated systems (CRS), utility water systems (UWS), institutional latrines (INL), wastewater treatment facilities (WWT), sludge collection/treatment (STP) and solid waste management (SWM) (see Table 7). Some type of HWP (Handwashing promotion program)<sup>3</sup> was incorporated in three of the interventions. Therefore, HWP surveys were included in household surveys for the other interventions, so the target household sample size surpasses the minimum household sample size to achieve statistical significance (for HWP). Following the previously described best practice method<sup>4</sup>, a minimum of 15 household surveys were required in rural areas (two *barangays* in Dipolog and two *barangays* in

<sup>3</sup> This was the generic name given to hygiene promotion activities because many focused on handwashing activities.

<sup>4</sup> Refer to the sampling protocol document provided to the client in the first deliverable.

Davao) and 25 household surveys were required in urban Barangays (cities of Manila, San Fernando, and Zamboanga).

Table 7: Sample Frame by Intervention Type.

Intervention	CRS	UWS	INL	WWT	STP	HWP	SWM
Population (N)	4,500	3,500	350	2,300	114,000	124,650	
Calculated Sample size (n)	n/a	n/a	n/a	n/a	n/a	154	n/a
Barangays	4	2	1	2	1	10	1
Cities	2	1	1	1	1	6	
Sample Frame	4	2	1	2	1	n/a	1

Note: Data collection will be inclusive of all Barangays.

For logistical reasons these numbers were exceeded in all places. The actual number of household surveys conducted is shown in Table 8. This also includes the status of the intervention, where in some cases they were incomplete, or non-functional. Additionally, the ability to complete the quantitative Sustainability Index is indicated for each system. Due to the remoteness of some of the projects and availability of committee members, it was not always possible to complete assessments. Furthermore, the limited information available about some interventions prior to the assessment made it difficult to accurately contextualize indicators/questions to effectively complete the quantitative assessment. These challenges are discussed in more detail in Section 7.

Table 8: Alliance intervention status summary - Philippines

The Philippines Interventions					
Grants	Interventions	Systems	Intervention status	FW Assessment outcome	HH Surveys
<b>Dipolog</b>	Rural community reticulated water systems	Panampalay	Functional	Complete	33
		San Antonio	Functional	Complete	20
	Hand-washing promotion	Panampalay	Completed	Complete	
		San Antonio	Completed	Complete	
<b>Davao</b>	Rural community reticulated water systems	Bangkal (Bantol)	Functional	qualitative results	6
		Magsaysay	2 areas have been cut-off (political)	Complete	40
		Malakiba (Bantol)	Non-functional for over 9 months	qualitative results	6
		Mawato (Bantol)	Functional	Complete	8
		Upper Muslim (Bantol)	Non-functional for over 1 year	qualitative results	10
	Hand-washing promotion	Bangkal	Completed	complete, see above	6
		Magsaysay	Completed	complete, see above	40
		Malakiba	Completed	complete, see above	6
		Mawato	Completed	complete, see above	8
		Upper Muslim	Completed	complete, see above	10
<b>Zamboanga</b>	Utility Water System	Lumayang	Functional	completed,	25
		Lumbangang	Functional	completed, 50 HHs surveyed	50
	Hand-washing promotion	Lumayang	Completed	same as above	25
		Lumbangang	Completed	same as above	50

<b>San Fernando</b>	Septage Treatment Plant	9 Barangays	not yet operational, hauling contracts not awarded	72 surveys conducted, FW not completed due to intervention status	72
<b>Manila</b>	Market Wastewater Treatment	Market	Operational	Completed	30 (market stall users)
	Solid Waste Management	Santa Ana market and Barangays	Partly complete**	qualitative results	48
<p>*HHs not interviewed because intervention changed from condominium sewerage to interception of existing drains- not involving HHs  ** Waste characterisation study completed in Sta Ana market and 6 barangays. RC did not support second phase to develop SWM service - USAID provided direct funding for this (but without RC involvement) in 6 barangays but only one (885) is now operational</p>					

### 3.3 Geographic spread of surveys

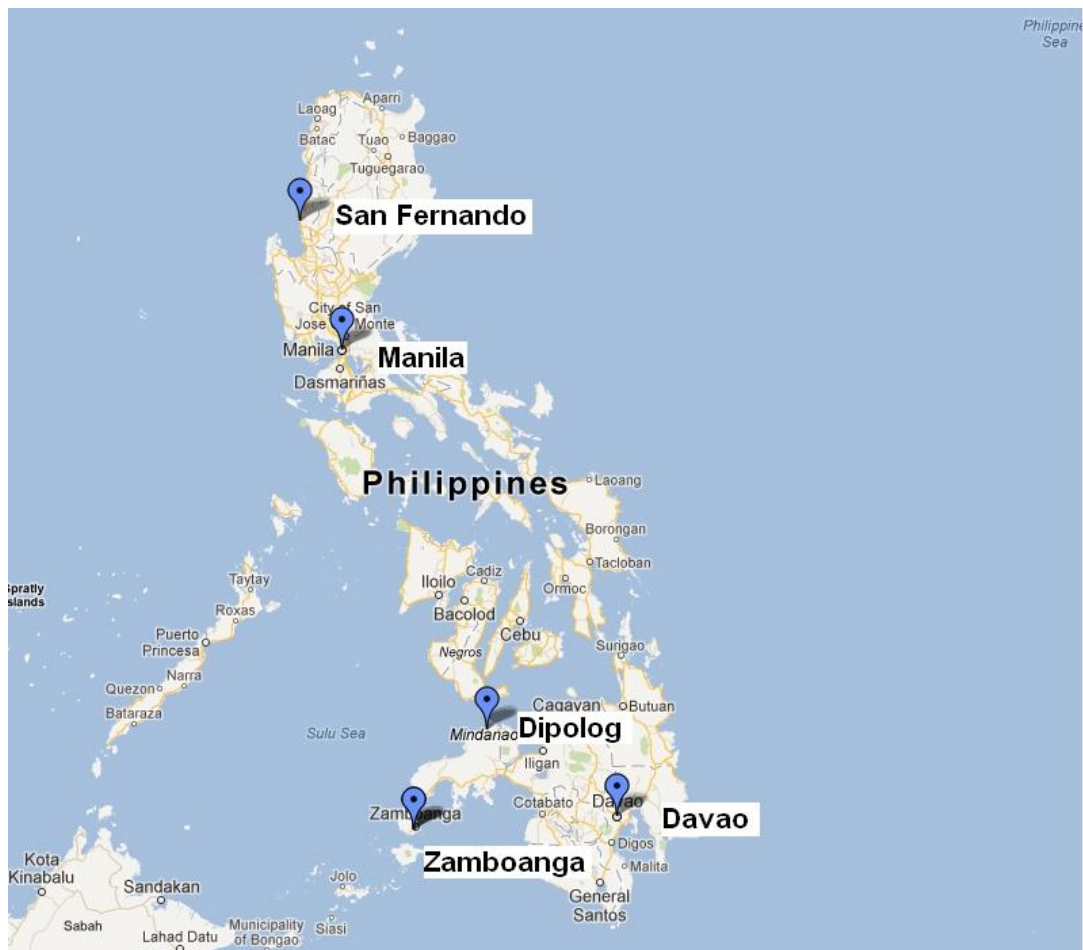
The five grant areas are located in two different regions: Davao, Zamboanga and Dipolog are in Mindanao in the south, and Manila and San Fernando La Union are in Luzon in the north; see map below. The geographic characteristics of the locations of and the setup of the interventions are described below.

**Davao:** Community managed reticulated water supply systems with handwashing promotion were implemented in two rural *barangays*, Magsaysay and Bantol. Although officially in Davao City, the *barangays* are in Marilog District, in the hills about 50km from Davao City Proper. In Magsaysay there is one system serving five communities; in Bantol there are four small systems each serving a single community. Household sampling was carried out in each of the communities. In Mawato the BWASA committees was interviewed; in Magsaysay the vice-president of the BWASA and a councilor were interviewed; other members of the BWASA committee were unavailable at the time of the visit. The BWASA committees of the other small systems in Bantol could not be interviewed due to logistical challenges.

**Dipolog:** Community-managed reticulated water supply systems with handwashing promotion were implemented in two rural *barangays*, San Antonio in Sergio Osmeña District and Panampalay in Roxas District in the Province of Zamboanga del Norte. Each *barangay* is in the mountains about 100 km from Dipolog City, although in different directions. Household sampling was carried out in each of the *barangays*. The BWASA committee in San Antonio was interviewed in the *barangay*; the Panampalay BWASA committee was interviewed in Roxas District Center.

**Zamboanga:** A reticulated water supply system with metered household and handwashing promotion were implemented in two *barangays*, Lamayang and Lumbangang, in the hills. Although zoned as part of Zamboanga City and managed by Zamboanga City Water District, the *barangays* are essentially rural. Household surveys of connected users were carried out in both *barangays* Members of the Barangay Association, the lowest tier of LGUs, in Lamayang were interviewed.

#### Map 1: Philippines Intervention Sites



**San Fernando, La Union:** The interventions implemented here included development of a septage management program covering the whole city, and two decentralized wastewater treatment plants serving small areas of the city. Household surveys were carried out in each of the *barangays* covered by the septage management service; for the waste water treatment facilities, households were not interviewed because intervention changed from condominal sewerage to interception of existing drains which do not involved households in the service management. For the institutional assessment, an interview was held with the President of the Association of Barangay Councils as a representative of the service users.

**Manila:** From the several project interventions related to the Government's Pasig River Improvement Program, the waste water treatment plant for Santa Ana market and the solid waste management in the market and in six *barangays* in Santa Ana were selected for assessment. Santa Ana is an urban district in the City of Manila, one of the 17 cities that make up Metro Manila. Santa Ana market is located beside the Pasig River. Market stall-holders were interviewed for assessment of the waste water treatment service and households in the one *barangay* active in ecological solid waste management.

## 4. Results of Data Collection

### 4.1 Data for key sustainability factors by intervention

To arrive at sustainability scores by factor for each intervention, a series of aggregation steps was carried out. Firstly, answers to indicator questions were scored based on the data collected from households and institutional interviews in order to determine overall indicator scores for each community. These indicator scores were then aggregated (averaged) by their factor (institutional, management, financial and technical), to yield factor scores, which are presented in this section, both by individual community and as average factor scores across all communities, where appropriate. The individual indicator scores can be seen in the data sheets associated with **Annex 3**, but are not detailed here.

To complete the first step of arriving at answers for indicator questions informed by households, household data was digitized and cleaned. All data that were not collected as dichotomous (Yes/No) responses were coded to allow for entry into the framework. The total percentage of "Yes" answers was determined, excluding responses that were not applicable or where the respondent didn't understand the question or know a response. This percentage was used as the aggregate household score per community per question. The percentage was compared to a threshold of 66%, such that if at least two thirds of respondents in a community responded "yes", then the appropriate score for "yes" to that indicator question was awarded. This data was entered into the framework along with the individual responses from the service provider (e.g. water committee survey), district stakeholder, and key national level personnel.

The same questions were sometimes asked at multiple levels in order to triangulate responses. After careful consideration it was determined that the lowest level response would be used as the default for determining scoring. In other words, unless otherwise noted, the source that is closer to the household level would be the final response. So composite household responses are typically used over service provider response and service provider responses are used over service authority. Section 5.3 discusses triangulation in greater depth.

In two projects, Davao and Dipolog, local government was not involved, and was providing only a very limited service for rural water supplies in their jurisdictions. The Davao City Water District and the Provincial Government Engineering Office in Dipolog were interviewed, but for the questions on construction standards and norms, those of the implementing organization, AMORE were taken as

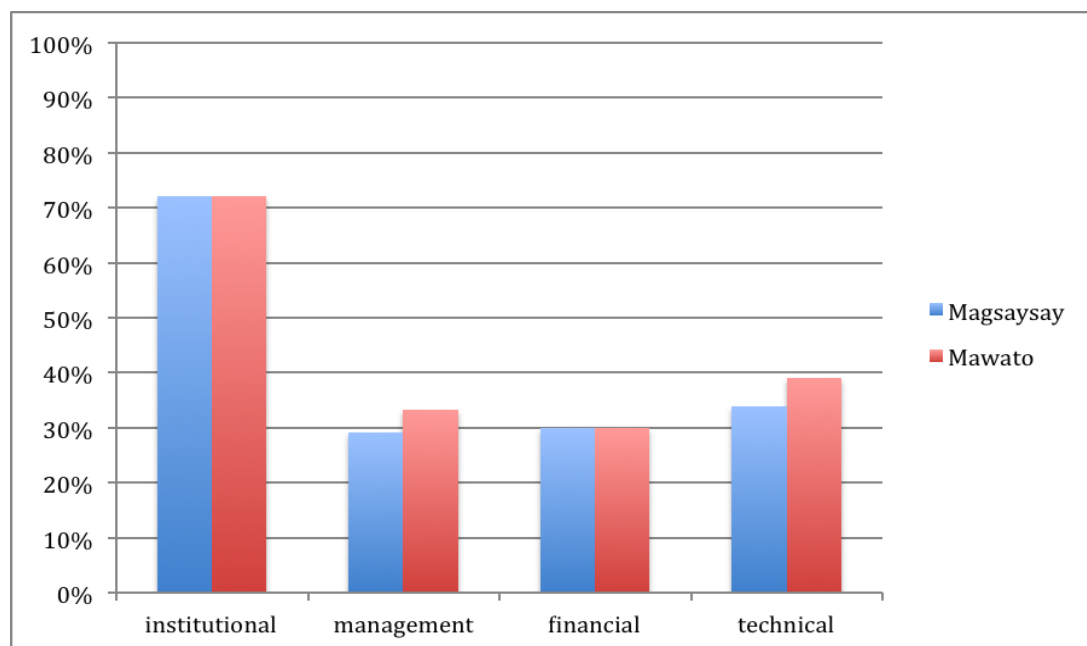
the prevailing standards in lieu of government standards. For a complete list of the key stakeholders interviewed see Annex 4.

#### 4.1.1 Intervention: community managed reticulated water supply systems in Davao

Davao includes four separate community-managed systems in Bantol and one system in Magsaysay that serves five communities. The quantitative sustainability framework results are available for the Magsaysay system and one the of the Bantol systems, while qualitative assessments of sustainability can be made about the other systems based on similar contexts and household surveys conducted in each. The results are shown in Figure 1 below.

The institutional factors score relatively highly because the norms and standards for water committee organization of the implementing organization, AMORE, were taken in lieu of local norms and standards of the LGU. However, this also speaks to the absence of national support for community-managed systems, which may affect longer-term sustainability. Management is weak because of the lack of a local government support system and national monitoring. Financial factors are weak because of the low tariff being charged; the lack of information on operation and maintenance costs; the lack of funding to the LGU for a support service; and the lack of a national or local budget for full life cycle costs. Technical factors are better, but are let down again by the lack of a support system for technical issues.

**Figure 1: Sustainability Index scores for CRS in Davao**



#### 4.1.2 Intervention: community managed reticulated water supply systems in Dipolog

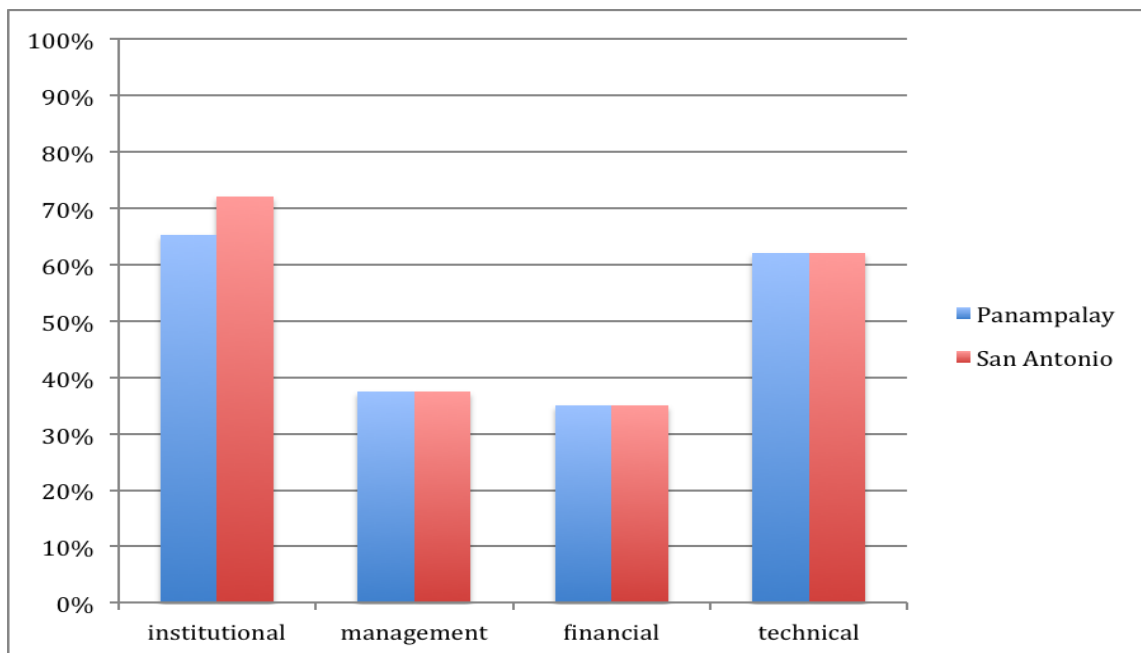
The framework analysis was completed for both the community managed reticulated systems in this project, in San Antonio and Panampalay *barangays*. The service provider information for San Antonio was collected from the BWASA committee onsite, supplemented by observation of the system, but the service provider information for Panampalay was collected without a site visit through a meeting with the BWASA committee in the district town.

The findings are similar to Davao, as shown in Figure 2 below. The high institutional score reflects institutional strengths at the project level because the norms and standards for water committee organization of the implementing organization, AMORE, were taken in lieu of local norms and standards of the LGU. This again may suggest an ultimate threat to sustainability, where a



temporary set of non-governmental norms is being used. There are limited institutional support mechanisms and national monitoring beyond this so management scores are weak. Performance is low for financial factors for the same reasons: the low tariff being charged (well below the rates recommended by AMORE); the lack of information on operation and maintenance costs; the lack of funding to the LGU for a support service; and the lack of a national or local budget for full life cycle costs. Technical factors are similar, but are let down again by the lack of an assured support system for technical issues. Also, the water quality is not certain as both systems take water from surface streams fed by springs higher up the hills.

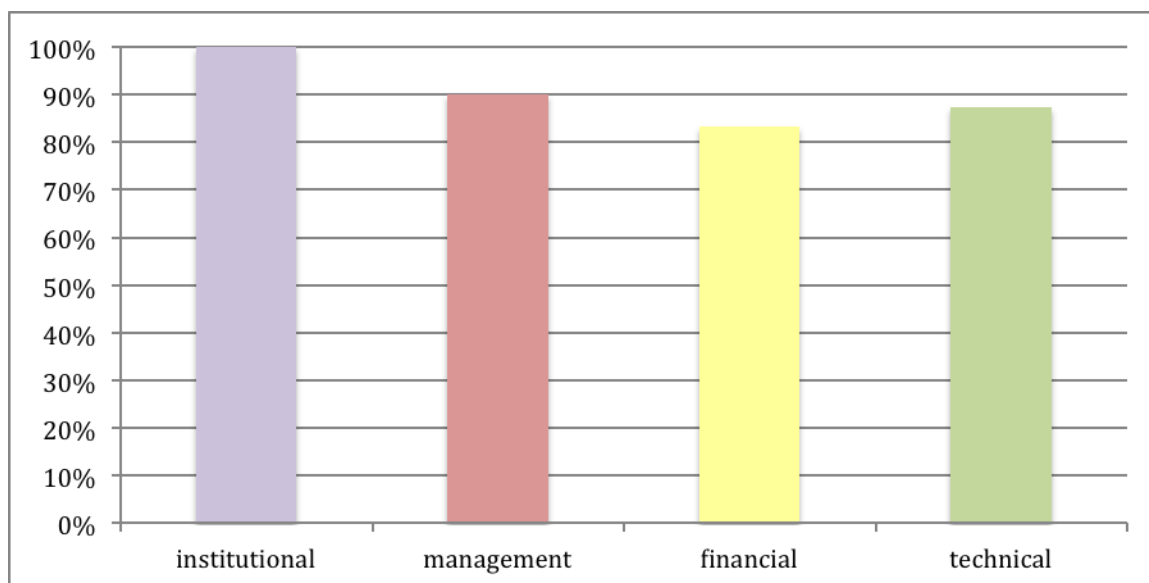
**Figure 2: Sustainability Index scores for CRS in Dipolog**



#### **4.1.3 Intervention: utility managed reticulated water supply systems in Zamboanga**

All the factors score highly for this project due to the strong all round management of the water utility, Zamboanga City Water District (ZCWD), which, by extension, is being applied to this new system serving the *barangays* of Lumayang and Lumbangang. Institutional factors get the maximum score based on the national policy and system for utility management and regulation. Management factors score highly, while finance is only slight lower because of uncertainty over life cycle costing. The new system is also strong technically, although there is some confusion over household expectations of service reliability. The results are shown in Figure 3 below.

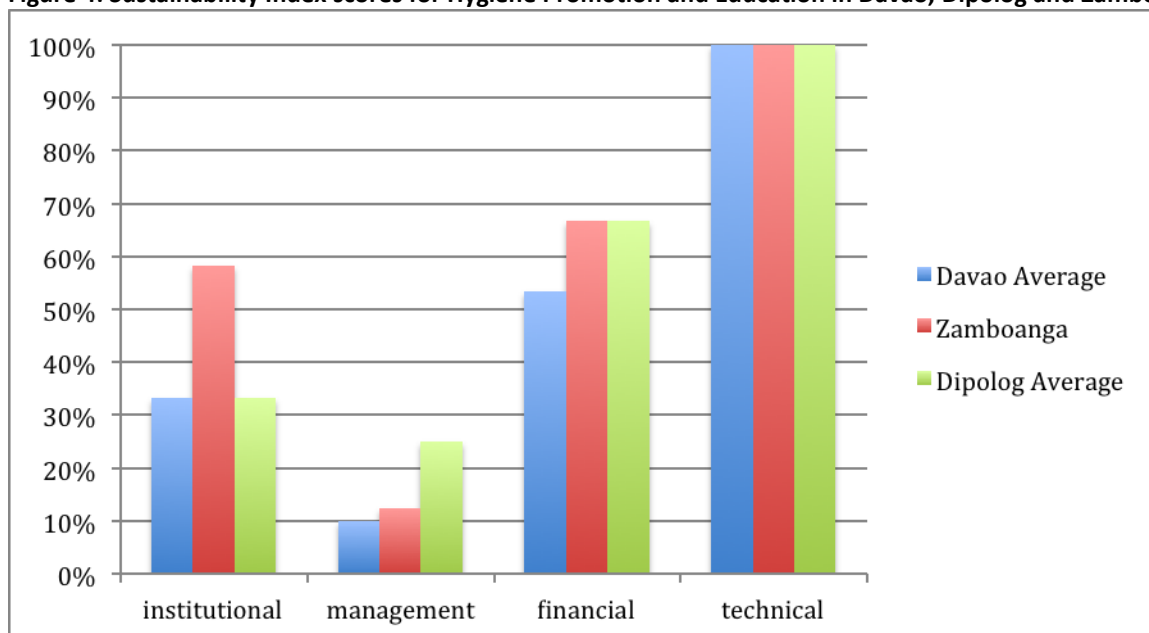
**Figure 3: Sustainability Index scores for UWS in Zamboanga**



#### **4.1.4 Intervention: hygiene promotion and education – Davao, Dipolog and Zamboanga**

The Sustainability Index for Handwashing promotion (referring to general water and sanitation hygiene programs) was completed in Davao, Dipolog and Zamboanga. Due to lack of clarity on the components of the intervention, it was difficult to design a framework that accurately assessed the sustainability of this intervention. For example, the high technical scores reflect correct household knowledge of hand washing practices yet do not reflect the technical design of hand washing facilities. However the Sustainability Index does accurately highlight the lack of sustainability in the institutional and management factors. These are primarily due to the weak government system and support for preventive rather than curative health care – there is virtually no follow-up support to ensure that the messages on hygiene and hand-washing delivered as part of the projects are sustained.

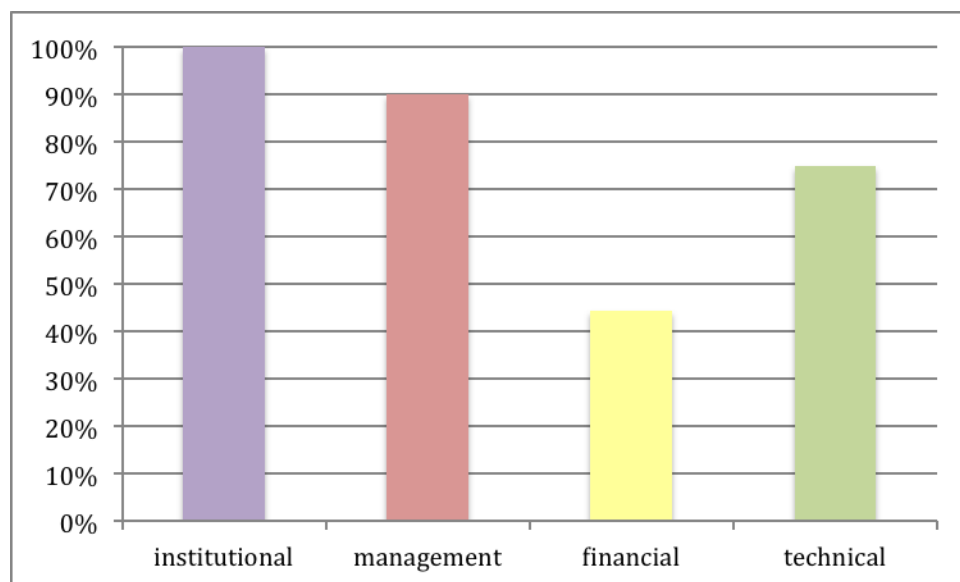
**Figure 4: Sustainability Index scores for Hygiene Promotion and Education in Davao, Dipolog and Zamboanga**



#### **4.1.5 Intervention: Waste water treatment at Santa Ana Market, Manila**

Market stall traders were interviewed as users of the service instead of households. The WWT systems score full marks for institutional factors due to the strong legislation and regulatory system. It also scores highly for management, due to the adoption by the City of Manila for operation and maintenance. Finance is weaker because of the reliance on subsidies from the City; this was scored as a negative factor, though it can also be taken as a positive in the sense that the City authorities subsidize all market operations as part of a policy of supporting small and medium enterprises. Technical factors score reasonably highly because of the appropriate design and good construction quality. The score is reduced because of lack of information on repair times.

**Figure 5: Sustainability Index scores for WWT Manila**



#### **4.1.6 Intervention: Solid waste management at Santa Ana, Manila**

The Sustainability Index for solid waste management was developed, but was not possible to complete. Only one *barangay* out of six initially engaged in the intervention is active, mainly due to the interest of the *barangay* captain. Although household surveys were conducted in this single *barangay*, it was not possible to interview the service provider or the supervising agent due to non-availability. Even so, it was possible to get some insights from interviewing the facilitating NGO and the Rotary Club. The main finding is that the lack of political will is a major factor in developing ecological solid waste management (separation of different types of waste for recycling, composting or disposal). Apparently the contracted waste collector of the City of Manila and the City itself is not following the Ecological Solid Waste Management Act, as the contractor is reported to be recombining the separated wastes for disposal to landfill.

The intervention also included a solid waste management program in the Santa Ana Market. This appears to be more sustainable, mainly as a result of the enthusiasm and entrepreneurial spirit of the newly established Solid Waste Association. At the time of the assessment, it was reported that the Department of Environment and Natural Resources is ready to provide a grant to the Association to enable it to construct a new recycling and composting facility. This should enable the Association to develop a recycling service for the surrounding *barangays*.

#### **4.1.6 Intervention: Septage management in San Fernando (La Union)**

Although the Sustainability Index was developed for assessing the septage management program in San Fernando, the quantitative assessment could not be completed because the treatment plant is

not yet operational and the tender process for the contract for the septage desludging was being prepared at the time of the assessment. A qualitative analysis of sustainability reveals both sustainability strengths and risks.

Overall the septage management system is strong on institutional factors, with local legislation and regulation supported by national legislation. Management is also strong, based on information from the planning and design of the system; there is some uncertainty about the oversight roles between the various departments of the city government. Financial sustainability is reasonably assured according to the projection prepared by AECOM and the levying of user fees as part of the property tax. The financial project, however, does not include asset replacement costs; even where these will only become a liability in the long-term, this can be considered as a potential risk to sustainability. Technically the system is sound, with appropriate and well-engineered treatment plant with low operating costs; the effluent monitoring system is still being developed.

#### **4.1.7 Intervention: decentralised waste water treatment in San Fernando (La Union)**

The institutional, management, financial and technical factors are similar to those for the septage management. There are no user fees for the waste water treatment as the systems are intercepting existing drainage, with no direct connection to specific users; the operation is to be paid out of City funds.

## **5. Analysis of Findings**

### **5.1 Primary drivers of sustainability**

In the context of this evaluation, a higher Sustainability Index score for any given factor signifies a larger contribution to the sustainability of the intervention than a lower score for the same factor. However all factors and indicators may not have equal influence on sustainability for any given intervention. In addition these indicators and factors do not exist in isolation, so scores for one factor are related to and may influence scores for another factor or indicator. The subsequent sections discuss these issues in greater detail with reference to broader sector context.

#### **5.1.1 Intervention: community managed reticulated water supply systems in Davao and Dipolog**

The community-managed reticulated water systems in Davao and Dipolog are similar in that they both concern rural water supply with the design and construction of all the systems done by the USAID contractor program AMORE. Therefore they will be considered together.

AMORE has developed and applied a good process for preparing and training the community for ownership and operation and maintenance of the water supply system. This is in the absence of a national or local standard for this part of rural water supply development. BWASAs with membership of almost all the user households have been established for each system, with election of a committee of officers that will actually manage the O&M. Of the four BWASA committees met, three appeared to be effectively managing their respective systems. In the fourth BWASA, in Magsaysay in Davao, there was reported to be a political division in the community, the result of which was that one branch of the system had been cut off.

The engineering of the systems seen was generally satisfactory. There were some slight problems with the construction quality of the reservoir tanks, with evidence of seepage, but this was not serious. One exception to the quality of engineering was the choice of sources in the Dipolog systems (see 5.2.2)

One community, Mawasa in Bantol, Davao, appears to be very resourceful. The committee and the community have already repaired the transmission pipe twice after landslides. In addition, they have developed a rice nursery, tree planting and fish ponds using overflow water as a way of raising revenues for operation. This bodes well for the long-term management of the system by the community, including income generation activities which will benefit financial sustainability. Two of the other small systems in Bantol have also been affected by landslides. It was reported that the committees in both places are still active and trying to raise funds to repair the damage that has left the systems non-functional.

### **5.1.3 Intervention: utility managed reticulated water supply systems in Zamboanga**

The context in which this project was developed is all-important to the drivers of sustainability. Zamboanga City Water District (ZCWD) is a well-managed and functioning utility with all the necessary operational systems, working within a well-established legislative and regulatory framework. Although it does not have the resources to extend its service to the more rural populations in its service area, it is prepared to add new systems when opportunities such as when the Alliance funding come along. The result is that the new system serving Lumayang and Lumbangang will come under the strong management and performance of ZCWD, including its revenue collection system and complaints procedures.

The other important factor in the sustainability of this system is the strong relationship with the Rotary Club members who are members within in the key partners, PWRF and ZCWD, that developed and are operating the system. This has introduced an informal responsibility and accountability to reinforce the obligations to sustain the new systems.

### **5.1.4 Intervention: hygiene promotion and education – Davao, Dipolog and Zamboanga**

The main opportunity to support sustainability of hygiene behavior changes is the presence of *barangay* health workers (BHWs) in each location, who could be used to promote the preventive aspects of health care related to water and sanitation diseases. This would build on the good local knowledge of handwashing. BHWs are managed by and funded through health offices that level of the LGU – District, City or Provincial budget. The BHWs are, however, required to focus on other aspects of health care.

### **5.1.5 Intervention: Waste water treatment at Santa Ana Market, Manila**

The most important factor for the sustainability of the wastewater treatment system is the City of Manila's adoption of operation and maintenance responsibilities. Although there were difficulties during development and construction of the plant to get involvement of the relevant City government departments, the City Engineering Department is now actively engaged, deploying trained and supervised technicians for the daily operation.

Other significant factors are the political support for the project and the judicial order from the Supreme Court. In 2008, the Supreme Court ordered all concerned government agencies to coordinate in the clean-up, restoration, and preservation of Manila Bay. The Pasig River, and its adjacent business such as the Santa Ana market, is a major contributor to the pollution of Manila Bay. The City Mayor inaugurated the treatment plant, stating that it serves as a demonstration for other markets.

The operation is fully subsidised by the City of Manila as part of its policy of supporting markets as a way of encouraging small businesses, in this case the market stall holders. It can be argued that this reliance on subsidy is a risk to sustainability. On the other hand, it can also be argued that with the subsidised operation fully embedded in City policy, the financial sustainability is actually better assured over the medium to long term. One direct financial benefit to the market stallholders is the

savings on water by re-use of treated wastewater for toilet flushing in the market. This was appreciated by the stallholders and the market management.

#### **5.1.6 Intervention: Solid waste management at Santa Ana, Manila**

Solid waste management (SWM) was part of the original proposal due to the link with waste water and drainage. Indiscriminate throwing away of rubbish causes blockages to sewerage and drainage, so making interventions in waste water systems less effective and more expensive to maintain. The Rotary Club of Santa Ana only supported a first phase of solid waste management: a waste characterization study in the *barangays*. It withdrew its support from the subsequent operational phase, so USAID agreed to provide additional funds to enable the Philippines Sanitation Alliance (PSA) and the specialist NGO, Solid Waste Association of the Philippines (SWAPP), to continue this component of the project.

The critical national legislation for SWM is the Ecological Solid Waste Management Act (Republic Act 9003, 2000). This is the foundation for all the local regulations, but enforcement of the Act is patchy and depends on local political will. As part of the Project, *barangay* ordinances for solid waste management have been issued in the six *barangays* of Santa Ana and SWM Committees established. Only one of these is active, due to the interest and support of the *barangay* captain. Lack of take up of plans by 5 out of 6 of the *barangays* is clearly a concern in terms of the overall success of the initiative.

The sustainability of the SWM service for the market depends to a great extent on the enthusiasm of the SWM Association, which is in the process of becoming legally registered. It has been allowed by the market management the use of the temporary site huts of the contractor for construction of the wastewater treatment plant as a recycling facility, but is in danger of eviction. During the assessment, however, the DENR was reported to have approved a grant to establish a more permanent recycling facility. This should significantly enhance the sustainability of this service to the market.

#### **5.1.7 Intervention: Septage management in San Fernando (La Union)**

A strong driver for the sustainability of this project has been the comprehensive approach taken – not just hardware but covering the range from local legislation, through appropriate technology, publicity campaigns for service users, to finance of the operational costs. The foundation, however, is the strong political will and awareness of the issues involved of the current and former mayors. This is evident from the history of progressive actions on environmental sanitation in the City, such as an integrated waste management plan with an ecological solid waste management program which is already operational, and a previous project by PSA to develop a waste water treatment system for the public market. In addition, the local Representative in Congress provided P2 million of his discretionary government funds for part of the construction costs.

The City is one of the few in the Philippines with its own **Sanitation Code**, but it decided it needed to update this to include septage management and waste water management, with the charging arrangement through an addition to the property tax. It did this through a consultative political process to produce an updated Ordinance; the associated Implementing Rules & Regulations (IRR) were being drafted at the time of the assessment. All this is backed by national legal framework, including the Sanitation Code and the Clean Water Act. The revised Ordinance can serve as an example to other cities considering developing city-wide septage management.

The original technical design was proposed by PSA. However, through negotiation between PSA's engineers, the City Engineer and other departments, and the Rotary Club, together with the opportunity provided by funding from the congressman, a well-engineered treatment facility designed to have low operating costs was developed. It has only one set of pumps for lifting treated sludge; the rest of the plant operates by gravity flow, so only one or two operating staff is required.

PSA prepared a financial plan estimating the operating costs against the required revenue. This is based on a desludging charge to users that is lower than the current privately provided services, based on operational efficiency of the contractor having guaranteed work and the local treatment of the sludge instead of trucking it to Baguio. The financial plan is forecast to generate an operating profit from the first five-year cycle of desludging. Thereafter it starts going into deficit, but by that time it should be possible to raise the user fees. The innovative feature of the financing was to add the user fees of P600 per year to the property tax, as it was not feasible to add the cost to water bills – less than 20% of the City population are served by the Water District.

A publicity campaign also appears to have been successful in getting acceptance from the users, which should help to ensure sustainability. In this BHWs working at local community level provided information to households about the change in arrangements. These BHWs will also be involved in the operational management of the system, being required to sign off the emptying of septic tanks before transport to the treatment plant, and to inspect the emptied tanks to see that they are up to standard. More conventional public information and political engagement was done through *barangay* meetings.

At the time of the assessment the Technical Working Group, established by the City for the implementation of the development and construction phase of the project, was preparing Implementing Rules and Regulations for the operation of sewage and septage management. For this, it is establishing a City Wastewater Management Council (CWMC). A positive factor for sustainability is that the Rotary Club will continue to be involved in the operation of the programme as one of the three NGOs with observer status in the CWMC; the exact role is still to be defined.

#### **5.1.8 Intervention: decentralized waste water treatment in San Fernando (La Union)**

This component of the project was changed early in the implementation process from condominial sewerage to a simpler system of decentralized waste water treatment plants intercepting existing open and piped drainage systems. Communities are not involved in the implementation or operation of these systems. One plant is operational serving the Fisherman's Village; the other plant, serving an urban barangay, is awaiting pumps for the influent wastewater to be installed.

The hardware for the plants is a prefabricated "EcoTank" imported from Thailand donated by CITYNET. The tank uses an anaerobic treatment system with an anaerobic filter. The tank serving the Fisherman's Village is reported to already be producing effluent that meets the government's standards for biochemical oxygen demand (BOD).

The Ecotank serving the Fisherman's Village intercepts a gravity flow piped drainage system. There is no pumping involved so operating costs are very low – just routine inspection of plant. The other plant, not yet operational, is installed partially above ground level and intercepts an open wastewater drain so it requires low lift pumps. The operating costs are to be covered from the City's general income. Oversight management of wastewater and its treatment is included in the IRR.

### **5.2 Primary risks to sustainability**

#### **5.2.1 Intervention: community managed reticulated water supply systems in Davao and Dipolog**

There are two separate but linked risks for the sustainability of the implemented community-managed, rural water supply systems. First, there is no dedicated specialist government agency for rural water supply and sanitation. The result of this is that there are no standard and proven procedures and designs. The legislation and edicts are patchy, loosely giving legal status and outline service standards. Projects are developed in isolation according to the individual's or organization's own ideas, which are not tested against others or peer reviewed. Whilst the procedures and engineering of an individual or organization can be good, and in this case in Davao and Dipolog was

generally satisfactory, it means that there is no check to ensure that standards are achieved. It also means that there is no dedicated agency for longer-term support, which is known to be a critical factor in sustainability, particularly for very rural community-managed systems of this nature.

This links to the second risk to sustainability. Under the decentralized government system, responsibility for rural water supply is delegated to the Local Government Unit: City, Province, District and *Barangay*. There is little political will or interest in either Davao or Dipolog for these types of water supplies, so the departments with designated responsibility have limited budgets and resources.<sup>5</sup> Davao declares itself to be the biggest city in the Philippines, based on land area, not population or population density; much of the area is essentially rural. The Davao City Water District (DCWD), although prepared to discuss the project at the planning stage, would not commit to a formal agreement to support it. In Dipolog, rural water supply is simply not a priority of the Provincial Government. Again, the result is that there is no local government agency prepared to support the community management and ensure that the water committees are able to manage their systems.

In Davao, the Rotary Club and Amore had not arranged for a formal link between the BWASAs and the DCWD for support. Registration of the water systems with the water authority would be a first step in creating an obligation for support. Discussion with the DCWD during the assessment suggested that such registration might be possible. Similarly in Dipolog, there is no formal link between the BWASAs and the Task Force on Water Works with the Provincial Engineering Office. The Office was visited as part of the assessment, and some support may possibly be made available, although it appears that the budget and resource is not sufficient.

A further risk is the finance for operation and maintenance. In the systems seen in both Davao and Dipolog, the BWASAs are raising revenue from users, but the amount appears to be far too low to cover the costs of operation and maintenance in the long term. In Davao the tariffs were PHP 10 – 15 per household per month – below the rate of PHP 30 per month recommended by AMORE; in Dipolog the rates PHP 5 and 10 per household per month. There is also little information to determine the long term running costs. In some cases the maintenance workers are being paid from *barangay* funds.

A specific concern in both Davao and Dipolog is that there was no formal agreement with the community for development of the water supply. It is now generally accepted as good practice that formal written agreements should be made specifying the respective responsibilities of the partners for implementation and long-term operation and maintenance, together with cost information and respective contributions to the project. This should include a role for the community to be directly involved in the management of the project, which would contribute to the sense of ownership, as well as empowering the community for other development activities. Some additional specific risks in Dipolog include:

- The sources are at risk – water is taken from a stream fed by springs, so quality cannot be certain
- Reliance on bio-filters in the intake structures. Experience elsewhere has shown that such filters are difficult to maintain in a rural context.
- The quality of intake structure was poor – roof sheeting was already corroded, and the filter system appears to have been bypassed. It appears that an existing sub-standard intake structure has been used in San Antonio
- In Panampalay, there are only 2 women members of the Association and none as officers. This is a serious concern as women, who are the managers of domestic water supply in the home, are not represented in the committee responsible for the supply system.

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<sup>5</sup> This was discussed after the assessment in meeting of Davao City River Basin Management Office which has been recently established, and there was some indication that it will develop such support.



### **5.2.3 Intervention: utility managed reticulated water supply systems in Zamboanga**

A key sustainability risk is the low proportion of households connected to the new system with only about 20% of households having taken up connections, due to the cost of connection (PHP 4,000). There is a provision to try to make this more affordable by allowing repayment to be spread over 18 months as part of the water bill, and some households are gradually taking advantage of this, but some can still not afford this amount. Some houses are far from the road, making connections more difficult and more expensive, due to the costs of construction to be covered by households. Some households that are not connected are, however, benefitting as they are buying water from connected households at a substantially lower rate than they paid previously; others are still getting water from springs and open wells.<sup>6</sup>

Due to the low connection rates, a decision on maintenance based on commercial considerations only poses a sustainability risk. If major expensive maintenance or repair is required, a business manager may consider that it is not cost-effective or a low priority due to the low revenue being provided by that part of ZCWD's overall operation. This is mitigated to some extent because the water has now been piped to a third *barangay*.

### **5.2.4 Intervention: hygiene promotion and education – Davao, Dipolog and Zamboanga**

The risk to sustainability of the behavior changes sought through the hygiene promotion interventions in the three projects stems from the inadequacy of the interventions themselves. Handwashing promotion was done through one or two events at mass meetings. In Zamboanga, for example, there were two such meetings, each for 100 or more people. One for women was on hygiene behaviour, including handwashing; the other was for men on sanitation and the importance of constructing a toilet. These can be one component of a campaign but are not sufficient. Hygiene promotion needs more frequent short focused training to different small groups. Current thinking and best practice indicate that sustained behavior change needs to be developed participatory approaches that motivate community members as individuals and collectively to adopt and maintain changed practices, .

The other major risk to a long-term change in behavior is the lack of effective national and local programs. There is little institutional support to ensure the sustainability of the hygiene behavior change component of the three projects. The support from the local health offices is weak, with little funding for promotion activities, and *barangay* health workers focus on other things such as immunization and deworming. Monitoring by the District Health Office provides only an analysis of reported disease statistic – most water and sanitation related diseases tend not be reported to the health system.

### **5.2.5 Intervention: Waste water treatment at Santa Ana Market, Manila**

The provision of a fully subsidised service appears to be a risk. The City of Manila charges only a small rent for stall holders, and does not charge a separate tariff for the operation of the wastewater treatment service, which would appear to make the financial sustainability questionable. This is, however, a complicated issue, as City of Manila is prepared to subsidise market operations as support to market stall holders as SMEs. It was not possible to assess the effectiveness of this overall funding mechanism for supporting this small intervention.

One short-term risk to the operation of the wastewater treatment plant occurred during the assessment visit. The biological processes were being regenerated as a result of pollution entering the plant from surface run-off from the car park, which had recently been resurfaced with bitumen asphalt. The regeneration process takes about two weeks, meaning that the waste water treatment process suffers during this period. It may be necessary to prevent such surface run-off getting into the plant to avoid an incident such as diesel spillage.

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<sup>6</sup> There is no information to say whether it is the poorer households who cannot afford the connections

### **5.2.6 Intervention: Solid waste management at Santa Ana, Manila**

Although they are separate sub-components of the Manila project, the solid waste management in the market and the *barangays* of Santa Ana have an underlying risk in common. This is the lack of political will and commitment of the City of Manila authorities. The City simply engages a contractor to provide a service for collection and disposal of solid waste. There does not appear to be much attempt to conform to the requirements of the National Ecological Solid Waste Management Act of 2000. This calls for *“solid waste avoidance and volume reduction through source reduction and waste minimization measures, including composting, recycling, re-use, recovery, green charcoal process, and others, before collection, treatment and disposal in appropriate and environmentally sound solid waste management facilities in accordance with ecologically sustainable development principles”* .

For the SWM in the Santa Ana Market, this gives rise to uncertainty about the future of the recycling facility. Apart from allowing the SWM Association to use some space in the market car park, the market management made it clear the SWM for the market is not part of its responsibilities. The lack of political will and prioritisation to ensure the long-term viability of the recycling facility means that the SWM Association is at risk of eviction at any time. This immediate risk has been lifted to some extent by the recent announcement by DENR that it will provide a grant of PHP 500,000 (approximately US\$11,700) to develop this facility, including land purchase.

The lack of City interest is reflected in the *barangays* of Santa Ana. Only one with a motivated *barangay* captain has operationalized the separation of wastes and collection of these. Although the others have all passed local ordinances for ecological SWM, none have been acted on. The lack of monitoring by City to enforce separation and appropriate collection of wastes is an added factor.

The Rotary Clubs' own lack of commitment may have exacerbated this issue. As a result of the Rotarians' lack of understanding of, or support for, software process they only undertook a first phase for characterisation of wastes and withdrew support from the follow-on phase of operationalizing segregated collection. It is apparent that they are only prepared to support *“measurable”* projects, without the need to invest in behaviour change and training in order to achieve tangible outcomes. During the assessment, however, the RC members did express a realisation and learning of the importance of such projects.

### **5.2.7 Intervention: Septage management in San Fernando (La Union)**

The Implementing Rules and Regulations for Sewage and Septage Management were being drafted at the time of the assessment. In the draft being discussed at a technical working group meeting, the responsibilities and accountability of and between different departments of City Government were not fully clear – the General Service Office (GSO) will operate the plant, but the regulatory mechanisms for ensuring its performance are not yet defined. There is also a question of how one part of City Government can have oversight over another part. Responsibility for effluent monitoring is stated as the City Environment and Natural Resources department (CENR), but its authority over GSO is not clear. Overall responsibility for the septage management lies with the Mayor as Head and Honorary Chair of the CWMC, although this role will be delegated.

The regional office DENR (a central government agency) has a monitoring responsibility, but it is not clear how this will be performed, and is not defined in the IRR, except as a voting member of the CWMC. The treatment plant will be run by the General Services Office, with staff seconded from other departments. This may not be sufficient as it may threaten the functionality of the other offices that are losing staff, and threaten continuous operation if they are not permanent. In addition, there is a lack of technical expertise within City Government; this is still being provided from project implementing partners.

### **5.2.8 Intervention: decentralized waste water treatment in San Fernando (La Union)**

There were no significant concerns about the sustainability of the two waste water treatment plants. Management of waste water and its treatment is included in the IRR.

### 5.3 Triangulation of results

Through triangulation of some Sustainability Index questions, there are only a few relatively minor inconsistencies:

- In the hygiene assessment in Davao and Zamboanga, there was a difference in the views on the role of the *barangay* health workers. The BHWs do visit houses, but from interviews with City Health Officers, most of their work is for health issues such as immunization. In answers to the questions about the BHWs' role in hygiene behaviour, the householders gave positive replies but it appears that these reflected only their work on other health matters. The City Health Officer's answers were used for scoring.
- In Zamboanga, there was a difference in the answers on reliability of the water supply. Householders gave contradictory answers: over three quarters of households in both communities say they can access water 24 hours a day, but over three quarters also say there are times when the system does not provide water as meant to. It appears that there may be a misunderstanding of the operating schedule and maintenance times, a problem of communication rather than reliability. The service provider's answer was used for scoring.
- In the Manila project, the questions on solid waste management were not asked of market stallholders because they do not play any role in the collection and recycling service.

### 5.4 Sustainability Index findings in context

The legislation and regulations for urban sanitation have been in existence for some years, but due to lack of political will and the low priority accorded to environmental sanitation, few cities and municipalities have done anything to conform. As such, Manila and San Fernando are pioneering projects. The wastewater treatment plant at the Sta Ana market is one of only a few such systems in the Philippines. It is the second of its kind in Metro Manila (the first was set up at the Muntinlupa City Public Market in 2004 where treated wastewater is used for toilet flushing and street washing). As such, it provides a positive example to other market operators in Manila and the rest of the Philippines of what can be done to reduce local pollution. It provides a small but significant step in the greater challenge of cleaning up the Pasig River. It can be considered a successful intervention; its institutionalization within the market management and the City of Manila should make the sustainability assured.

According to the Philippine Sanitation Alliance website, the Santa Ana Public Market wastewater-treatment facility is anticipated to be a model of future projects in the city with the marketplace touted to be the cleanest and greenest in the locality in the near future. The City Mayor has said that the city could replicate the Santa Ana project at the Quinta and other public markets situated near the banks of the Pasig .

Similarly the septage management project in San Fernando is only the second in the country (the first was in Dumaguete City). It is leading the way in showing municipalities how to conform to the requirements of the Sanitation Code and other legislation. In particular, the updated City Ordinance for septage management and the idea of including the charges for septage in the property tax can be replicated in other cities. The comprehensive approach of the project together with the political commitment and integration within the City Government authority make the future of the service developed by this project assured.

The Ecological Sanitation Act has also been in existence for x years, but little has been done to enforce it. Efforts such as those by SWAPP with the RC and USAID support are showing what can be done, as well as hopefully a reluctant city authority. The lack of political will and commitment to the principles of the Ecological Solid Waste Management Act by the City of Manila, however, make the

future of the SWM in the barangays of Sta Ana uncertain. In the market, it is possible to be more optimistic based on the support of DENR for a permanent recycling facility and the enthusiasm of the SWM Association.

For the rural water supply projects, the lack of a specialist government agency with a comprehensive set of standards, norms, procedures and support systems is a considerable handicap to developing such services. The regulations are scattered amongst various codes, orders and ordinances. The obligation to provide services is, rightly, delegated to local governments but these do not set rural water as a priority and so do not allocate resources to it. This context makes it challenging to develop water supply services in isolation. The lack of a governmental supporting system for rural water supplies, together with the weaknesses of the user financing of operation and maintenance, makes the sustainability of these systems uncertain, with the exception of Zamboanga, where the ZCWD runs the service. With the strong institutional support and management systems of the Zamboanga City Water District, the sustainability this water supply system would appear to be assured

The three water supply projects in Davao, Dipolog and Zamboanga are more conventional than the urban sanitation projects but are still useful in terms of increasing coverage, although with limitations on this:

- The number of beneficiaries in the proposal for Dipolog grossly over-estimates the number of direct beneficiaries because only a third of the households in San Antonio and a fifth of the households in Panampalay have direct access to the new water supply. The rest are too remote from the system. This means that about 540 people and 350 school children (some of whom are counted in the 540) benefit compared to 2,509 estimated in the proposal.
- In Davao, the original project proposal estimates that 750 households will be covered, whereas the combined number served by the systems in Bantol and Magsaysay is actually only 281.
- In Zamboanga direct connections to the new systems have been taken up by about 20% of the population – just over 700 people out of an estimated 3000 direct beneficiaries. A number of these are now indirect beneficiaries instead. The number taking up connections is gradually increasing. In addition, the system now provides water to a third *barangay*.

These figures substantially change the value for money equation in terms of per capita costs and in light of the transaction costs of managing and running the partnership relationships.

The projects in Davao, Dipolog, and Zamboanga include hygiene promotion components and specifically target handwashing as a behavior for change. As such they conform to the current view internationally for the need to integrate water supply, sanitation and hygiene. The methods employed, however, fall some way short of current best practice. It is, however, challenging to work on an issue such as hygiene behavior change when there is little support from the government system or other organisations. Without a national or local programme and a community of practitioners, efforts done in isolation are likely to be somewhat limited.

## 5.5 Insights from partnership assessment

This section should be assessed together with the Partnership (BPD) teams to highlight any significant elements of the partnership dynamics that may have had a bearing on likelihood of sustainability. For example, in cases where the two partners functioned more or less in parallel, uncoordinated ways (with one focusing on hardware and one on software) has this had a material effect on the degree of sustainability as assessed by the tool? The converse also may be interesting to look at.

The formation of the partnerships was a bit like an “arranged marriage”: the “parents” in the US (USAID and RI) defined the terms of the partnership for each country, and these were ratified in the MOU at country level between the Rotary Steering Committee and USAID Philippines. The terms

defined externally and at national level became the basis for the partnerships between individual Rotary Clubs and the nominated USAID contractors.

Although the individual project partnerships were formed in different ways, the common theme was that this was the first time each had worked together on a project. Because of time pressure to submit proposals for acceptance and approval, there was very little time for the partners to get to know each other, in particular in terms of values, approaches, and ways of working; and in creating a common understanding of development and its processes.

In some cases tensions arose due to the Rotarian's concept of voluntarism and the time-bound obligations of USAID's contractors and sub-contract organisations. In the Manila project, the Rotarians expected to find volunteers from their own members to perform tasks that they considered were highly paid through contracting out. Also they tended to want to look for alternative materials and solutions without too much concern for the deadlines that contract organisations had to work to.

On development understanding, the Rotarians were more interested to see the hardware of projects, and gave significantly less importance to the software processes. In Davao and Dipolog this was less of an issue because AMORE took on this part of the work as part of its normal project implementation. In Manila, this became an issue, resulting in the RC pulling out of the development of solid waste management after an initial waste assessment and characterisation study. The RC was more concerned with measurable outputs in terms of physical structures. The other issue in Manila was that the RCs did not value the technical design processes very highly, particularly the cost of this component of a project, as provided by the PSA.

The geographic areas for projects were determined by USAID. Although this has the benefit of increasing the impact of their existing activities, it caused some concern on the Rotary side that viable projects were excluded because they were not located in "USAID areas". The National MoU is ambiguous on this point: under the Objectives it says that the Partnership is open to "Rotary Clubs and Districts throughout the Philippines", but in other places it talks about "Cooperate with USAID/Philippines and its portfolio of current and future development projects".

A major factor missing in the project identification and development process was insufficient time for understanding technical and development issues such as the importance of community development processes and software approaches. This had implications for the implementation and management of the partnerships in two projects. A result of the short time available for developing proposals, in two of the projects, San Fernando and Manila, the RCs did not fully appreciate the technical and software issues involved. Although the technical proposals were discussed and agreed, real understanding did not happen until the projects were being implemented. This affected the partnerships in the two projects in contrasting ways:

- In Manila, the relationship became acrimonious, with decisions delayed or overturned. There was strong resistance by the RCs, including the National Steering Committee, to the software components and processes, due to the lack of understanding of the importance of these for eventual sustainability. There was also resentment of fee payments to contracted partners and sub-contractors for tasks like project management, which the Rotarians felt could be done with voluntary inputs by members.
- In contrast, in San Fernando the relationship benefitted from mutual respect, so that the RC was able to challenge technical decisions and negotiate to get major changes in what was constructed, resulting in a better scheme overall for the septage management.

**On Partnerships with other stakeholders**, there were some very effective relationships, notably the partnership with ZCWD in Zamboanga, and with the City of San Fernando. The project clearly benefitted from the strong working relationships in these places. There were also some missing

partnerships, specifically with Local Government Units (LGUs) at the higher (city/provincial) levels in Davao and Dipolog. This has implications for the recognition of the projects within the government system for future maintenance support.

In water supply projects in particular, it is now generally accepted good practice to involve the communities in developing the project and to play a significant role in the management of implementation. This is to enhance the sense of ownership and as a way of developing empowerment, as well as giving experience of management both for O&M of the water supply and other development projects. In the three water supply projects, this was not the case:

- In Davao and Dipolog, needs were to some extent identified by AMORE in its previous work with those communities. Communities were not, however, involved in developing the projects and their roles, which were defined by AMORE, were limited to provision of labour and materials – there was no role in management. There was no project agreement with communities to define roles, responsibilities, obligations and mutual accountability.
- In Zamboanga, needs were identified through the RC's previous work with the communities and a previous request to ZCWD for a piped water supply. The community learned about the project from ZCWD and the RC. They were involved in survey work and identification of the water source, but there was no project agreement with the community and they were not involved in management.

In all the projects, except possibly Manila, too much of a burden was carried by one individual, usually the incumbent President. There appear to be several effects stemming from this, apart from the obvious one of one individual having to spend too much time and effort. The projects become, in effect, the President's project, rather than a Club project. There is limited continuity in supporting the project after the President's term. And the incoming President may find it difficult to promote his or her own project following such a substantial project.

## **6. Recommendations to the Alliance in the Philippines to improve future WASH programming**

### **6.1 Recommendations for Alliance implementation activities**

1. The Alliance, together with other local partners, should ensure that community-managed, rural water supply systems are registered with the relevant local government units and/or Water District so that the systems and its BWASA are at least officially recognized for potential support in the future.
2. The Alliance partners should prepare a more systematic estimate of operation and maintenance costs of rural water supply systems, based on studies of older systems that they have implemented together with the experience of other organizations. Estimated operation and maintenance costs should be discussed with communities in the development phase of projects.
3. The International Alliance should allow more time for the development of project proposals, so that communities and other stakeholders can be properly involved in the development of projects. A two-stage process should be considered: short concept notes to identify potential projects; followed by development of full proposals for short-listed projects.
4. The Alliance partners should review the processes for promoting hygiene behavior change, based on a study of best practice in the Philippines and internationally. They should develop or adopt bottom-up participatory learning processes. Promotion of hygiene behavior change using these

processes should be incorporated in projects in the own right, with baseline and follow-up surveys for refining and adjusting the processes and monitoring change.

5. Rotary Clubs should build on the experience they have gained from these projects to widen and deepen their understanding of development processes, in particular the value and importance of software processes. This could be done by sharing with other Clubs that may want to undertake projects in the next phase; inviting specialist speakers to Club meetings; and by networking with development organizations.

## 6.2 Recommendations for Alliance monitoring frameworks

Monitoring costs money and effort, so the value for money of doing it needs to be justified. To help determine value for money, basic questions to ask are what will the monitoring information be used for and who will use it. At the operational phase, there are two main uses for monitoring information.

At a programme scale in which a substantial number of projects are completed to provide services, the information can be used to adapt and adjust new projects based on the service performance of the operational projects. For the Philippines projects, which are essentially small one-off projects, this use is probably not justified.

The other use is for ensuring operation and maintenance. The services provided by the projects in Manila, San Fernando and Zamboanga are firmly institutionalized within the respective local government units. The factors for monitoring are already managed by the organizations concerned, so the Alliance would only need to collect this information. For the water supply projects in Davao and Dipolog, monitoring is included in the functions of the BWASA committees, but the performance of the committees themselves will need monitoring and support to ensure this is done. It may be difficult to justify the cost of monitoring the small number of remote systems concerned.

For the hygiene behavior change components of the three water projects, the actual changes in behavior brought about by the projects appear to be too limited to justify further monitoring. To institutionalize this within the local government health systems, a major institutional development project in its own right, including advocacy at high levels, would be needed. This is probably beyond the scope of the Alliance at this stage.

## 7. Lessons learnt about the Execution of the Sustainability Index Tool

In the Philippines, several key lessons were learned about applying the Sustainability Index. The challenges of executing the Sustainability Index were largely based on the wide variation of interventions carried out on a small-scale, the remoteness of some locations, and the limited understanding of intervention specifics prior to visiting the project sites and contextualizing the framework. Therefore, the key lessons learned predominantly relate to these challenges. They include the importance of contextualizing indicators and questions to interventions, the sequencing of data collection, triangulation without household information, and the effectiveness of such a quantitative assessment across a variety of interventions.

**Key Lesson 1: Effective Contextualization of the Sustainability Index Tool depends on a clear understanding of the intervention and the sector.** The limited details about the interventions prior to designing the indicators and questions resulted in some being inapplicable to the actual intervention, which made the quantitative analysis more complex and less accurate. In some cases,

the indicators and questions were revised accordingly as details about the interventions became apparent through piloting the household surveys. This also highlights the importance of carrying out pilots for the household surveys. Where interventions were located in isolated areas, the time and resources for conducting pilots was limited, again, complicating the analysis with indicators and questions that were determined to be not applicable during the survey process.

**Key Lesson 2: The sequencing of data collection should begin at higher institutional levels prior to household surveys.** This can lead to clearer understanding of the intervention specifics and sector/local policies for contextualizing the indicators and questions. For example, to assess an indicator relating to acceptability of service for a community-managed reticulated system, the relevant standards should be confirmed with district and national level bodies. This allows a more specific investigation at the service provider and household level, by shaping questions to directly compare services to those standards. In this initial assessment, time and logistical constraints meant that some household surveys were carried out prior to obtaining more information through institutional interviews. This meant that more questions could only be open-ended, rather than a simple yes/no answers based on a known standard.

**Key Lesson 4: Household questions should be phrased to allow simple yes/no answer only.** As explained above, the limited details available about the interventions prior to some of the household surveys meant that many questions could only be asked in an open-ended format. This format provides more details, but these may be beyond the scope of this type of quantitative assessment, and results in a more complex analysis. More information from households can, however, be illuminating, and enumerators should record comments.

**Lesson 5: Households surveys can be important for triangulation, and provide an important reality of services.** When the same data was collected from the service provider and from households, this information sometimes did not correspond. Though this can lead to different answers, it is important to identify where the reality of services provided to households may differ from what is intended at higher levels. Additionally, such inconsistencies can reveal communication gaps between service providers and households, for example, households not being aware of low-income options.

**Key Lesson 6: The Sustainability Index Tool may be less cost effective methodology for a collection of diverse interventions carried out at a small scale.** The challenges of completing the assessment in the Philippines primarily related to the range of intervention types, yet each covering only a few locations. The remoteness of some of these locations made an assessment of this kind logistically challenging. The cost of flying enumerators from one project to another and providing accommodation and per diems had to be balanced against the costs of recruiting and training different sets of enumerators for each project. Different languages spoken in the various projects was also a factor in this.

**Key lesson 7: The Sustainability Index Tool applied to small disparate projects and locations limits the value of comparative analysis.** A significant effort went into contextualizing the indicators/questions to each intervention. However, the benefit of such a quantitative framework is to readily compare the same intervention repeated in many locations to get a general picture on these, as well as to show contrasts between different locations and projects with the same objectives. This is not achieved where there are many different types of interventions. In that case, a more qualitative methodology would be most appropriate.



## *References*

## Annexes:

### Annex 1. Example Household Survey (CRS & HWP)

Date:

Name of Respondent:

# of Household Members:

Gender:

Age:

Sitio/Purok:

Officer of BAWASA: \_\_\_ yes \_\_\_ no

Code	Indicator and Main Questions	Supporting Questions	Supporting Info	Answer
WT-CRS-I-SP1	There is a water committee which has been constituted in line with national norms and standards			
WT-CRS-I-SP1a	a) Is there a water committee? Na-a bay komiteba/BAWASA sa inyong patubig?			
WT-CRS-I-SP1e	e) Has the water committee been democratically elected with involvement of the entire community?	+ Were you able to choose who was on the committee? Nakaapil ka ba sa pagpili sa mga ana-a sa komite sa inyong patubig?		
WT-CRS-M-SP1	Representative water committee actively manages water point with clearly defined roles and responsibilities			
WT-CRS-M-SP1b	b) Does the water committee carry out all the roles required of it? Gibuhat ba ang tanan nga mga trabaho nga kinahanglan gam-on sa mga ana-a sa komite?		Finance Management: ▪ Collection of tariff & recording Technical management ▪ Operation ▪ Maintenance ▪ Repairs	Circle answer: No/some/all
WT-CRS-M-SP2	Water committee members actively participate in Committee meetings and decision making process and reporting is transparent			
WT-CRS-M-SP2a	a) Are water committee meetings conducted at the minimum frequency stipulated by local by-laws? [or at least once every six months]	+ Do you know how often the Committee meets?	Local By laws on frequency of meetings of the Committee BODmonthly Gen. assembly 1/year	
		+ How often does the Committee meet? Pila ka beses naga-miting ang komitee sa usa ka dag-on?	1/3/6/12/other months/don't know	Circle answer: 1/3/6/12/other ___months/don't know
WT-CRS-M-SP2d	d) Are the technical, administrative and financial records kept and shared with the community on regular basis?	+ Are you told about any technical decision on the water system? Gibahibalo ba kamo sa komite sa ilahang mga desisyon sa pagpadagan/pagpa-ayo sa sistema sa patubig?		
		+ Are you told about administrative decisions on the management of the water		

Code	Indicator and Main Questions	Supporting Questions	Supporting Info	Answer
		supply? Gibahibalo ba kamo sa komite sa ilahang mga desisyon nga administratibo sa patubig? (sama sa.....)		
Code	Indicator and Main Questions	Supporting Questions	Supporting Info	Answer
	<i>[also use this answer for Indicator WT-CRS-F-SP3 below]</i>	+ Are you told about the financial status of the system? Gibahibalo ba kamo sa komite sa mga pinansyal na kahimtang sa patubig?	* For example, how much money is in the O&M fund? Pila man ang pundo/kwarta sa BAWASA para sa pagpadagan sa patubig ug pagpaayo sa mga daot nga parte sa tubo, gripo ug uban pa?	
		+ Are you told about when the Water Committee meets and the decisions it makes? Gibahibalo ba kamo sa komite kung kanus-a sila nagapulog ug mga desisyon nga ilang gihimo?		
<b>WT-CRS-F-SP1</b>	<b>Tariff setting complies with national/local regulations, including social tariff</b>			
<b>WT-CRS-F-SP1a</b>	a) Has a water tariff been set? Ana-a na ba ug taripa ang patubig dinhi?			
		+ Do you have to pay for your water? Kinahanglan ba nga magbayad mo sa tubig?		
<b>WT-CRS-F-SP1d</b>	d) Does the tariff make provision for the poorest within the community (e.g. through a social tariff)? Aduna ba lahi /mas mubo nga taripa para sa mga pinakapobre sa inyo-a?	+ How much do you pay for your water? Pila ang ginabayad ninyo sa tubig?		
		+ Does each household pay the same amount? Pareho ba ang gibayad sa matag-lumulopyo sa tubig?		
		+ How much do the poorest households pay for their water? Pila ba ang gibayad sa pinakapobre nga pumuloyo sa tubig?		
<b>WT-CRS-F-SP2</b>	<b>Tariff collection is regular and sufficient</b>			
<b>WT-CRS-F-SP2a</b>	a) Is the tariff collected on a regular schedule (e.g. on pay-as-you-fetch basis, or monthly household levies, instead of collecting money when there is	+ How often do you pay for water? Kanus-a mo kinahanglan nga magbayad sa tubig?	* Monthly/quarterly /when you collect it/ when needed for repairs	Circle one answer: Monthly/quarterly/ when you collect it/

Code	Indicator and Main Questions	Supporting Questions	Supporting Info	Answer
	a breakdown)?		Matag-bulan/kada tulo ka bulan/kung may magkolekta/kung kunahanglan ang pag-pagpa-ayo	when needed for repairs
WT-CRS-F-SP2d	d) Do most (at least 80%, or a proportion in line with national or locally set standards) households pay the tariff? (i.e. Are they achieving the specified collection efficiency)	+ Do you manage to pay for your water when required to? Nasarangan ba ninyo ang pagbayad sa tubig kung gipabayad na mo?		

Code	Indicator and Main Questions	Supporting Questions	Supporting Info	Answer
WT-CRS-F-SP3	<b>The water committee demonstrates effective financial management and accounting</b>			
WT-CRS-F-SP3c	c) Does the committee share financial records with the community on a regular basis?			[Use answer from supporting question under WT-CRS-M-SP2d]
WT-CRS-T-SP2	<b>The knowledge and spare parts are available to conduct maintenance and repairs in a timely manner</b>			
WT-CRS-T-SP2d	d) Are repairs always achieved within the national/local norms for repair times?	+ Are there times or periods when the water system fails to provide water as it is meant to? Aduna bay oras nga ang patubig walay ihatag nga tubig?		
		+ How often does it fail to provide water? Pila ka beses nahitabo nga walay ihatag nga tubig ang patubig?		
		+ How long does it take to start again/repair? Dugay ba mai-ayo ang patubig kung madaot? Mga pila ka adlaw, semana, bulan?		
HY-HWP-M-SP2	<b>Community facilitator or promoter with capacity to monitor and provide follow-up support to households, including refresher training</b>			
HY-HWP-M-SP2a	a) Are there community facilitators or hygiene promoters? Aduna bay CF o BHWs?			
HY-HWP-M-SP2b	b) Do the community facilitators/promoters monitor hygiene practices of households?	+ Does the community facilitator/health worker visit your house? Ang mga BHWS ba magbisita sa inyong balay?		
HY-HWP-M-SP2c	c) Do the community facilitators/promoters provide support to households following monitoring of hygiene practices as needed?	+ What support does the community facilitator/health worker provide to you? Unsay suporta ang gihatag sa BHWs sa inyo-a?		
HY-HWP-M-SP2d	d) Do the community facilitators/promoters	+ Does the community facilitator/health worker		

Code	Indicator and Main Questions	Supporting Questions	Supporting Info	Answer
	provide refresher training to households about good hygiene practices?	give training to householders a number of times after the first training? Nagahatag ba ug training sa inyo-a ang mga BHWs?		
<b>HY-HWP-F-SP1</b>	<b>Willingness and ability to pay for hygiene products, including soap</b>			
<b>HY-HWP-F-SP1a</b>	a) Households say they are willing and able to pay for hygiene products, including soap?	+ Do you buy soap regularly? Mupalit ba mo ug sabon (panlaba ug pamaligo) kanunay?		
<b>HY-HWP-F-SP3</b>	b) Households currently have soap or other cleansing agent (e.g. ash)?	+ Do you have soap now? (Check) Na-a ba mo'y sabon karon?		
<b>HY-HWP-F-D1</b>	<b>Soap and other hygiene products available in the local market</b>			
<b>HY-HWP-F-D1a</b>	a) Is soap available in the local market?	+ Can you get soap in the local market? Ana-a bay gibaligya nga sabon sa inyong tabuan/sari-sari store?		
<b>HY-HWP-F-D1b</b>	b) Are menstrual hygiene products available in the local market?	+ Can you get menstrual hygiene products in the local market? Or are suitable alternatives available in the HH? Ana-a bay mga pasador (sanitary napkin) nga gibaligya sa inyong tabuan/sari-sari store?		[Circle if question not asked]
<b>HY-HWP-F-D1c</b>	c) Are drying racks for dishes available in the local market/easily constructed?	+ Can you get drying racks for dishes in the local market, or make them from local materials? Na-a bay mapalit nga patulu-an sa gihugasang mga pinggan or sayo ra magbuhat niini?		
<b>HY-HWP-F-D1d</b>	d) Are other hygiene products available in the local market? Aduna pa bay mga produkto sa paglimpyo saatong lawas nga gibaligya sa inyong tabuan/sari-sari store?			
<b>HY-HWP-T-SP1</b>	<b>Knowledge of handwashing and correct use of facilities by households</b>			
<b>HY-HWP-T-SP1a</b>	a) Households know how to wash hands (with soap and water or other cleaning agent?) Nakahibalo ba kamo sa tama nga pama-agi sa paghugas ug mga kamot gamit ang sabon ug uban pa nga mga produkto?			
<b>HY-HWP-T-SP1b</b>	b) Households know when the important times for handwashing are?	+ When is it important to wash hands? [do not prompt respondent]	* After defecation/using the toilet	

Code	Indicator and Main Questions	Supporting Questions	Supporting Info	Answer
		Kanus-a ba importante mag-hugas ug kamot?	Inigkahuman sa paglibang	
			* Before handling food Bago magluto o pagkapot sapagkaon	
			* After handling a baby's faeces Pagkahuman sa pag limpyo sa bata nga naglibang	
			* Before eating Bago mag kaon	
			Other: [narrative of answer]	
Code	Indicator and Main Questions	Supporting Questions	Supporting Info	Answer
<b>HY-HWP-T-SP2</b>	<b>Handwashing facilities maintained with soap and water or ash</b>			
<b>HY-HWP-T-SP2a</b>	a) There are handwashing facilities accessible after toilet use /before food preparation?	+ Where do you wash your hands? [do not prompt respondent] Asa man mo maghugas ug inyong kamot?	within the household compound (outside or inside the household)?	
			in the same area where food is prepared?	
			within x meters of the toilet?	
			Other [narrative of answer]	
<b>HY-HWP-T-SP2b</b>	b) Do the handwashing facilities include soap and water or another cleansing agent?	+ Do you have soap available for washing hands? Na-a ba moy sabon sa paghugas sa inyong kamot?		
<b>HY-HWP-T-SP2c</b>	c) Is there budget available for replenishing soap or other cleaning agent?	+ How often do you buy soap? Pilang beses ba mo magpalit ug sabon?		
<b>HY-HWP-T-SP2d</b>	d) Is there a regular maintenance program for handwashing facilities?	+ How often do you clean the handwashing area? Pila ka beses ba ninyo limpyohan ang lugar sa paghugas ug inyong kamot?		
				Tick
Overall, how would you assess the quality of the information collected? (i.e. was the respondent distracted, and doing other things at the same time or not really considering the questions?)			Very good	
			Good	
			Acceptable	
			Poor	
Indicate how well you think the respondent(s) understood the questions asked. (i.e. was the respondent paying attention but seeming to mis-understand the questions?)			Good understanding	
			Fair understanding	
			Poor understanding	

## Annex 2. Indicator Scores

CODE	QUESTION	Magsaysay	Mawato	Average
WT-CRS-I-SP1	There is a water committee which has been constituted in line with national norms and standards	100%	100%	100%
WT-CRS-I-D1	Roles, responsibilities of district (service authority) and ownership arrangements clearly defined	50%	50%	50%
WT-CRS-I-N1	National policy, norms and guidelines for community managed water supply and enabling legislation is in place	67%	67%	67%
WT-CRS-M-SP1	Representative water committee actively manages water point with clearly defined roles and responsibilities	75%	75%	75%
WT-CRS-M-SP2	Water committee members actively participate in Committee meetings and decision making process and reporting is transparent	75%	100%	88%
WT-CRS-M-D1	There is regular monitoring of water services and community management service provider and follow-up support	0%	0%	0%
WT-CRS-M-D2	District/service authority drinking water plans for asset management are carried out and updated regularly	0%	0%	0%
WT-CRS-M-N1	There is an updated national monitoring system or database available and updated	25%	25%	25%
WT-CRS-M-N2	National support to district/service authority is provided, including refresher training	0%	0%	0%
WT-CRS-F-SP1	Tariff setting complies with national/local regulations, including social tariff	50%	50%	50%
WT-CRS-F-SP2	Tariff collection is regular and sufficient	50%	50%	50%
WT-CRS-F-SP3	The water committee demonstrates effective financial management and accounting	50%	50%	50%
WT-CRS-F-D1	Resources available for district/service authority to fulfill functions	0%	0%	0%
WT-CRS-F-D2	National/local mechanisms to meet full life cycle costs, beyond community contributions and tariffs	0%	0%	0%
WT-CRS-T-SP1	Standpipes/ household connections (depending on system) are functional	20%	20%	20%

Annex 3. Feedback workshop – discussion group outputs

International H2O Collaboration  
Sustainability Index of WASH Activities and Partnership Alliance Evaluation

Outputs of the group work in the Feedback Workshop  
15 June 2012

Benefits	Mechanisms in place for sustainability	Key Challenges on partnerships and linkages and in ensuring sustainability
<p><b>Barangay/Community level</b></p> <ul style="list-style-type: none"> <li>• Increased awareness of good sanitation and hygiene</li> <li>• Improved access to affordable, potable and good quality water</li> <li>• Other needs of the communities apart from water were met e.g. increased income through livelihood and sustainable agriculture projects,</li> </ul>	<p><b>Community level:</b></p> <ul style="list-style-type: none"> <li>• Co-ordination with LGUs for transfer of technology</li> <li>• Capacity building (both at community/ barangay and city/municipal levels</li> <li>• Livelihood projects aided by easier access to water</li> <li>• Setting up and institutionalising the collection of tariff (e.g. San Fernando built into the real property tax)</li> <li>• Barangay allocation from tariff</li> <li>• Development of a localised M&amp;E system</li> </ul>	<p><b>Mind set/conceptual framework and experience in development work:</b></p> <ul style="list-style-type: none"> <li>• Different levels of awareness and understanding of development processes (e.g. hard and soft processes; infrastructure and people empowerment)</li> <li>• Varying levels of experience and skills in developing and managing long term development projects</li> <li>• Different levels of acceptance or appreciation of the added value of the projects</li> <li>• Different approaches and technologies used in water supply and sanitation projects</li> <li>• “to see is to believe” mentality of communities</li> <li>• lack of involvement of local communities in the project design stage</li> </ul>
<p><b>Direct Partners</b></p> <ul style="list-style-type: none"> <li>• Gained new partners</li> <li>• Learned about new concepts and approaches re development projects</li> <li>• Enabled partner organisations to expand their services to more rural and deprived communities</li> </ul>		<p><b>Political:</b></p> <ul style="list-style-type: none"> <li>• Frequent changes in leadership and their priorities</li> <li>• Red tapes</li> <li>• Cultural differences (e.g. patriarchal culture among indigenous communities)</li> <li>• Lack of awareness of the projects by other stakeholders</li> </ul>



<ul style="list-style-type: none"> <li>• Gained new experience on how to deal with multi-sectoral partnerships</li> </ul>		<ul style="list-style-type: none"> <li>• Low priorities assigned to sanitation by city governments</li> <li>• Interventions which are not supportive to the projects from some politicians</li> </ul> <p><b>Technical:</b></p> <ul style="list-style-type: none"> <li>• Choice of best technologies dependent on affordability</li> <li>• Lack of skills for operations and maintenance</li> </ul>
<p><b>Local institutions/other stakeholders</b></p> <ul style="list-style-type: none"> <li>• Speeded development of regulations and legislation e.g. integrated water management</li> <li>• Developed new partnerships, support networks and linkages</li> <li>• Gained more knowledge and technical skills on environmental projects</li> <li>• Appreciation of new technologies in water supply management</li> <li>• Additional income for private desludging companies (i.e. San Fernando)</li> </ul>	<p><b>Institutional level:</b></p> <ul style="list-style-type: none"> <li>• Facilitating access to technical assistance</li> <li>• Strengthening linkages between different agencies involved in water and sanitation</li> <li>• City-wide watershed management council</li> </ul>	<p><b>Economic:</b></p> <ul style="list-style-type: none"> <li>• Lack of affordability of households to pay tariff and water connection fees leading to lack of acceptance to the concept of users' fees</li> </ul> <p><b>Physical:</b></p> <ul style="list-style-type: none"> <li>• Geographical distance of water sources</li> <li>• Meteorological conditions</li> </ul> <p><b>Others:</b></p> <ul style="list-style-type: none"> <li>• Time bound nature of USAID contractors involved in the project (e.g. AMORE will end by 2013)</li> </ul>

<b>Key Lessons learnt</b>	<b>Key Principles and Approaches to be considered in future project development and implementation</b>
Involvement of communities is essential to increasing sense of ownership and sustainability of projects	More involvement of communities particularly women in all stages of the project
Process of developing legislation for water management takes a long time	Conduct of community/stakeholders assessment
Support given by LGUs to projects are related to their economic and political value	Continuous monitoring of progress
	Adopt needs based/community based/rights based approaches