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# SANITATION AND HYGIENE SECTOR CAPACITY NEEDS ASSESSMENT

## THE PHILIPPINES COUNTRY REPORT

**OCTOBER 2023**

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## ACRONYMS AND ABBREVIATIONS

AO	Administrative Order
AWS	Area-Wide Sanitation
BHW	Barangay Health Worker
CBO	Community-Based Organization
CNA	Capacity Needs Assessment
CPH	Census of Population and Housing
DBM	Department of Budget and Management
DENR	Department of Environment and Natural Resources
DHSUD	Department of Human Settlements and Urban Development
DILG	Department of Interior and Local Government
DOH	Department of Health
DPWH	Department of Public Works and Highways
DSWD	Department of Social Welfare and Development
EMB	Environmental Management Bureau
FGD	Focus Group Discussion
GOP	Government of the Philippines
HOA	Homeowners' Associations
HR	Human Resources
JMP	Joint Monitoring Programme
KII	Key Informant Interview
LFPR	Labor Force Participation Rate
LGU	Local Government Unit
LWUA	Local Water Utilities Administration
NAPC	National Anti-Poverty Commission
NEDA	National Economic and Development Authority
NGO	Nongovernmental Organization
NHA	National Housing Authority
NRO	NEDA Regional Office
NWRB	National Water Resources Board
O&M	Operation and Maintenance
OPDS	Office of Project Development Services
PCUP	Presidential Commission for the Urban Poor

PDP	Philippine Development Plan
PHP	Philippine Peso
PO	People's Organization
PSA	Philippine Statistics Authority
PWSSMP	Philippine Water Supply and Sanitation Master Plan
RDC	Regional Development Council
SDG	Sustainable Development Goal
TESDA	Technical Skills and Development Authority
UNICEF	United Nations Children's Fund
USD	United States Dollars
USAID	United States Agency for International Development
WASH	Water, Sanitation, and Hygiene
WASHPaLS	Water, Sanitation, and Hygiene Partnership and Learning for Sustainability
WHO	World Health Organization
WSP	Water Service Provider
ZOD	Zero Open Defecation

## PREFACE

The United States Agency for International Development (USAID) Water, Sanitation, and Hygiene Partnerships and Learning for Sustainability (WASHPaLS) #2 is a five-year (2021–2026) activity implemented by Tetra Tech and partners. The project aims to strengthen USAID’s and partners’ water, sanitation, and hygiene programming through support for learning and adoption of the evidence-based programmatic foundations needed to achieve Sustainable Development Goal 6.2. The overarching theme for WASHPaLS #2 learning and research is area-wide sanitation (AWS). In addition to defining and seeking to understand effective implementation of AWS, WASHPaLS #2 implementation research also focuses on market-based sanitation and social and behavior change to reduce pathogen transmission pathways for infants and young children.

From March to October 2022, WASHPaLS #2 conducted a sanitation and hygiene sector workforce capacity needs assessment (CNA) focused on sub-Saharan Africa and South and Southeast Asia. The objective of the assessment was to better understand the capacity needs across the sanitation and hygiene sectors and the dynamics at play in trying to address these needs, to inform a roadmap of agreed-upon priority actions and pathways for the sector at multiple levels. The assessment focused on the human resource requirements to deliver area-wide rural sanitation and hygiene sustainably and at scale, with emphasis on on-site sanitation.

WASHPaLS #2 conducted six country-level CNAs, including in the Philippines, to validate and complement initial findings from a global review and to understand local dynamics. Other country-level assessments were conducted in Ghana, India, Nepal, Nigeria, and Rwanda. This report presents the findings from the CNA conducted in the Philippines.



## EXECUTIVE SUMMARY

From March to October 2022, the United States Agency for International Development (USAID) Water, Sanitation, and Hygiene Partnerships and Learning for Sustainability (WASHPaLS) #2 project conducted a sanitation and hygiene sector workforce capacity needs assessment (CNA) focused on sub-Saharan Africa and South and Southeast Asia. The CNA concentrated on rural on-site sanitation and hygiene and was designed to assess the human resources (HR) capacity needed to deliver safely managed area-wide sanitation and basic hygiene sustainably and at scale. The overall assessment included six country-level CNAs, including in the Philippines. The Philippines CNA was a limited review, focused on national- and regional-level sources and actors, with limited validation from actors at the district or local levels. It included a desk review, key informant interviews, focus group discussions, and a national-level stakeholder workshop.

The assessment sought to understand whether there is sufficient workforce to appropriately and adequately plan, implement, and monitor sanitation and hygiene facilities and services (particularly in remote rural areas) and whether they possess the right qualifications for the job.

## FINDINGS

**There are no structural HR assessments and planning for sanitation and hygiene HR, affecting understanding of the required positions and skills to fill identified shortages and gaps.** There is a lack of systematic monitoring and assessment of sanitation and hygiene service delivery mandates, outcomes, and (human) resources invested, and planning is often short-term and isolated rather than integrated.

**Sanitation and hygiene are not adequately prioritized among the sectors and institutions in which they fall, resulting in a lack of jobs and job opportunities.** The structure of the water, sanitation, and hygiene (WASH) sector in the Philippines, including the sanitation and hygiene sub-sectors, is complex and fragmented, with many government agencies tasked with water and sanitation mandates but very limited priority accorded to sanitation. This has resulted in confusion, lack of accountability, and limited financial resource allocation, particularly for implementation (National Economic and Development Authority [NEDA] 2020). While sanitation and hygiene access rates have steadily increased, there are few actors addressing sanitation and hygiene service delivery functions—these are mainly local governments units (LGUs) and, where they exist, local water districts and water service providers. In more remote rural LGUs and barangays (villages), the task of facilitating sanitation and hygiene promotion and community outreach falls largely on the Barangay Health Workers (BHWs), who generally are volunteers and are not systematically qualified, skilled, or supported to do so.

**There is limited attraction to work in the (rural) sanitation and hygiene sectors and workforce conditions are generally poor.** At the local level and particularly in rural barangays, the BHWs are frontline sanitation workers. At the LGU level, sanitary inspectors play a key role, but focus on compliance and larger projects and systems and less so on household on-site sanitation systems. While the sanitary inspectors are government workers and receive salaries, the BHWs are volunteers who provide primary health care services and promote sanitation and hygiene in the barangays yet receive limited incentives and support. Overall, the assessment team found that there may be enough BHWs in the countryside, but they are unevenly distributed, and that low incentives (small stipends but no salary), poor working conditions, and lack of proper training and training materials contribute to lower quality service that does not reach everyone. The sanitary inspectors, however, may need support to continue frontline services, including outreach to the barangays. Overall, more frontline HR with improved skills is needed to better plan, monitor, report, and evaluate sanitation and hygiene service delivery in rural areas.



**There is a lack of awareness on the importance of safely managed sanitation and environmental concerns linked to sanitation.** LGUs are responsible for overseeing building codes, including enforcement of the National Standard on the Design, Construction, Operation and Maintenance of Septic Tank Systems, but often lack sufficient staff to do so. Overall, knowledge and skills on safe management of sanitation services are felt to be lacking across national and local levels, and hygiene is seemingly marginalized within the broader focus on water supply and sanitation. Water supply and sanitation are closely intertwined in the Philippines, but there is a need to revise and update existing policy frameworks related to safely managed sanitation services, wastewater treatment, ensuring climate resilience, and addressing vulnerability.

**HR demand, supply, and training opportunities are mismatched, leading to competency gaps and a lack of skills diversity.** Apart from technical knowledge and skills gaps around safely managed sanitation, there is also low organizational aptitude to change and innovate, reinforced by a lack of political will and leadership for innovation and adaptive management. There are opportunities to learn from examples from other countries or other LGUs/agencies that have successfully implemented rural safely managed sanitation and hygiene programming, including through twinning, peer-to-peer learning approaches, or incentivizing/awarding successful LGUs, none of which are systematically implemented at present.

## **RECOMMENDATIONS**

From the analysis, several high-level recommendations emerged. These are aimed at primary stakeholders active in the sector and are structured around key areas of engagement: Policy and Oversight, Training and Capacity Development, and Product and Service Delivery. (Section 5 provides the recommendations in a table (Table 5) that incorporates timeframes and responsible party(ies).)

### **RECOMMENDATIONS FOR INSTITUTIONS INVOLVED IN POLICY AND OVERSIGHT**

#### **1. Undertake routine assessments and monitoring and develop coordinated (HR) plans and standard ratios**

The NEDA and its Regional Offices should roll out the Philippine Water Supply and Sanitation Master Plan, focusing on the development of regional, provincial, and LGU master plans for WASH, which can serve as the basis for developing projects and programs and the required HR. This should harmonize the different required sanitation plans into one master plan.

The Department of Health (DOH) with local health boards, LGUs, and the Department of Budget and Management should undertake a detailed assessment of needs and roles to understand the appropriate number of HR (BHWs and sanitary inspectors) needed at the local and barangay levels, and to determine the most appropriate ratio of sanitary inspectors to BHWs. Putting in place a Community-Based Monitoring System or similar to monitor progress accurately at the barangay level can further strengthen BHWs tools for planning and reporting to the LGU and can also be used as reference for further evaluation and program assessment.

#### **2. Coordinate and legislate to prioritize sanitation and hygiene job creation and fulfillment of the required functions**

The Environmental Management Bureau, DOH, and others should jointly finalize environmental policies on reuse, pre-treatment, and treatment of wastewater, sewerage systems. Revisiting the existing policies and finalizing a revised set of consolidated policies will provide implementers with updated guidance for considering the entire sanitation value chain in their programs and inform the required HR to ensure sustained service delivery along the entire chain.

Similarly, finalizing and implementation of the Unified Resource Allocation Framework will provide guidance for the financing of sector projects and programs, training, and professionalization (including staffing) of WASH institutions, including on the implementation of output-based aid, blended financing, and use of microfinance institutions.

Senate and congress, with support of the relevant line agencies, should revisit the relevant acts and orders (including the expansion of the Republic Act No. 7883 [Barangay Health Workers Benefits and Incentives Acts of 1995] into a Magna Carta) to further highlight and support the role of BHWs as critical frontline HR for sanitation and hygiene, and establish funding for increased activities and number of BHWs.

## **POLICY AND OVERSIGHT INSTITUTIONS ALONG WITH MANDATED SERVICE PROVIDERS**

### **3. Improve sanitation and hygiene sector workforce conditions**

Under leadership of the DOH, the position of sanitary inspectors should be strengthened to support household sanitation and hygiene. To facilitate passing down technical direction and good practices from trained professionals to frontline workers, sanitary inspector salary grades should be upgraded to reflect increased supervisory and reporting responsibilities, and sanitary inspectors should be actively involved in training and supervision of BHWs.

Similar efforts should then be made to continue professionalizing the BHW position. This includes offering incentive schemes and training opportunities to BHWs to upgrade skills and to attract more BHWs; establishing and maintaining a list of registered and accredited BHWs to ensure better HR data and oversight; developing training and communication materials to be used by BHWs for their own training, as well as for the promotion of sanitation and hygiene; and improving working conditions and transportation means for BHWs to reach remote parts of their LGUs.

## **TRAINING INSTITUTIONS ALONG WITH MANDATED SERVICE PROVIDERS**

### **4. Strengthen and improve coordination and supply of sanitation and hygiene capacity development**

The National Standard on the Design, Construction, Operation and Maintenance of Septic Tank Systems should be included in capacity building efforts of the Department of the Interior and Local Government (DILG). Ensuring broader knowledge and understanding of this national standard (DOH-Administrative Order 2019-047) among DILG staff involved in sanitation planning and oversight will inform their guidance to local government organizations and agencies on the design of on-site systems and on the contents of septage ordinances and training of HR. Similar training should be provided to building officials, so that they better understand their crucial role in strictly implementing and adhering to the correct designs and construction of on-site treatment systems, as well as the technical innovations and best practices in this area.

DOH and LGUs should coordinate conducting (a) training and capacity development needs assessment(s) for BHWs, to better guide their personal and professional development and inform trainings and capacity development offerings on the relevant range of sanitation and hygiene functions performed by BHWs.

## **I.0 INTRODUCTION**

### **I.1 BACKGROUND AND STUDY OBJECTIVES**

With less than a decade to go to reach Sustainable Development Goal (SDG) Target 6.2, to “by 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations,” many countries still lag significantly behind. Accelerating progress toward universal sanitation and hygiene requires addressing many systemic barriers and challenges, including those related to ensuring a sufficiently skilled and resourced workforce.

In this context, the United States Agency for International Development (USAID) Water, Sanitation, and Hygiene Partnership and Learning for Sustainability (WASHPaLS) #2 conducted a sanitation and hygiene-focused sector workforce capacity needs assessment (CNA), focused on sub-Saharan Africa and South and Southeast Asia. The objectives of the assessment were twofold:

1. Understand the current and future human resources (HR) capacity needs and gaps across the sanitation and hygiene sector and the dynamics at play in trying to address these needs; and
2. Identify priority actions and pathways for sector partners to address the identified needs and barriers, and capture these in a roadmap of actions and commitments.

Considering the identified lack of information in this space, the CNA concentrated on rural sanitation and hygiene, and was designed to assess the HR capacity needed to deliver safely managed area-wide sanitation and basic hygiene sustainably and at scale, with emphasis on on-site sanitation. The overall CNA included six country-level assessments to validate and complement initial findings from a global desk review and informant interviews and to understand local dynamics. The assessment team developed a framework to guide the global and country assessments (see Annex I), which included important definitions, geographical area definitions, and a categorization of key functions deemed essential to perform sanitation and hygiene programming and service delivery, against which HR capacity could be assessed.

In the Philippines, the CNA took the form of an investigation of four key HR questions, the findings of which are summarized in this report. The report seeks to inform the Government of the Philippines (GOP) and its country-level partners, including international nongovernmental organizations (NGOs) and NGOs, training and education institutes, and development partners on the identified capacity needs and sector dynamics. The report concludes with recommendations to address these needs.

### **I.2 KEY QUESTIONS**

The key questions guiding the overarching WASHPaLS #2 sector CNA were:

1. What are the HR capacity gaps impeding sanitation and hygiene sector achievement of universal access to sustainable services?
2. What are the different modalities for sanitation and hygiene sector capacity development and to what extent have they contributed to achieving and sustaining the needed human capital?
3. What are the barriers and incentives to access, recruit, promote, and retain existing workforce capacity?
4. What are the recommended priority actions to address HR capacity gaps in the sanitation and hygiene sectors?

For the Philippines, due to a later start of the country-level assessment and limited time available, these questions were adapted into four more focused questions, guiding a narrower analysis:

1. What are the capacity gaps impeding sanitation and hygiene sector achievement of universal access to sustainable services?
2. In light of progress made in the Philippines, how did the country assess, plan for, and fund HR?
3. What is the role of Barangay Health Workers (BHWs) in delivering sanitation and hygiene messaging, products and services, and what are important HR considerations?
4. What are the additional HR needs to move to universal, sustainable, safely managed sanitation, and what are the GOP's plans to address these needs?

### **I.3 METHODOLOGY**

The assessment team conducted the CNA using the following methods: a desk review, a set of virtual key informant interviews (KIIs), focus group discussions (FGDs) with 20 people, and an in-person national validation workshop attended by 27 participants. The assessment team interviewed representatives from national government agencies selected for their direct and critical involvement with the sanitation and hygiene sector. The team also interviewed representatives from local government and water district level agencies from Baliwag and Santa Maria water districts in Region 3, representing direct implementers of sanitation and hygiene programs at the local level in the Philippines. The assessment team selected these water districts because of their early adoption of the government's sanitation program and for their vocal engagement in the Philippines Association of Water Districts, signifying their ability to critically reflect on HR capacity for rural sanitation and hygiene service delivery. The national validation workshop was held October 7, 2022, and provided an opportunity for the assessment team to validate the findings and gather additional information from participants to refine outputs of the study. The assessment team sought to build consensus among representative practitioners, key government officials, program implementers, and policymakers. A list of informants and validation workshop participants is provided in Annex 2. The outputs from these activities were analyzed using a country assessment framework built on the key elements outlined in Annex 1. The analysis was mainly qualitative and supported by cross-discussion with the global CNA team lead.



**Figure 1. Participants at the Validation Workshop.**  
Photo by Josh Bahnarin Salud

### **I.4 LIMITATIONS OF THE STUDY**

The Philippines CNA faced several challenges. Due to COVID-19, all KIIs and FGDs discussions took place virtually, through video calls. While the sanitation and hygiene sector program in the Philippines is relatively mature, data management and reporting are still unsystematic and limited, which affected the assessment team's ability to access (national) reports, as well as the quality and consistency of information provided in the reports. The local-level engagement focused on only two local water districts and one agency from one region of the Philippines and can therefore not be considered representative. However, a broad representation of sector stakeholders in the validation workshop balanced out the situation.

## 2.0 SECTOR CONTEXT AND ENABLING ENVIRONMENT

### 2.1 COUNTRY PROGRESS TO SDGS 6.2

Based on the 2020 Census of Population and Housing (CPH) (Philippine Statistics Authority [PSA] 2021), the island nation of the Philippines has a population of 109.03 million. It has a multi-tiered administrative system consisting of a central government, 17 regions, 81 provinces, 147 cities, 1,487 municipalities, and 42,000 *barangays* (the smallest administrative division in the Philippines and the native Filipino term for a village or community). The provinces, cities, municipalities, and barangays together are local government units (LGUs).

The structure of the water, sanitation, and hygiene (WASH) sector in the Philippines, which includes the sanitation and hygiene sub-sectors, is complex and fragmented, with many government agencies tasked with water and sanitation mandates. Despite this, access to sanitation and hygiene has grown steadily. The World Health Organization (WHO)/United Nations Children's Fund (UNICEF) Joint Monitoring Programme (JMP) reported that in 2020, 82 percent of the population had access to at least basic sanitation, while 4 percent still defecated in the open (WHO and UNICEF 2021). In rural areas, 64 percent of households had a septic tank (versus 70 percent for the country as a whole), while 22 percent used an improved latrine or equivalent, and 4.5 percent had access to sewers (JMP n.d.). For hygiene, 82 percent of the population had access to basic handwashing facilities with soap and water at home, whereas 12 percent had limited service, and 7 percent had no service (WHO and UNICEF 2021).

The desk review pointed to some issues with reporting access to sanitation and hygiene services. Official reporting on access from government surveys (e.g., Annual Poverty Indicators Survey like references in Annex 4, CPH, Demographic and Health Survey) does not fully align or is not the same as the data reported by JMP. The assessment team therefore chose to report only JMP data. The shift from the Millennium Development Goals to the SDGs has contributed to the confusion and now requires re-orientation on the sanitation access indicators and the metrics, particularly for sanitation frontline workers in charge of data collection.

### 2.2 MAJOR POLICIES AND PLANS ON SANITATION AND HYGIENE

This section discusses major policies that contain provisions on sanitation and hygiene services, or have potential implications for sanitation and hygiene HR. While not an exhaustive list of sanitation-related policies, the ones below are landmark policies and considered definitive.

**Philippine Water Supply and Sanitation Master Plan 2019–2030 (PWSSMP):** To ramp up planning and investments in the WASH sector, in 2020 the GOP through the National Economic and Development Authority (NEDA) formulated and approved the PWSSMP (NEDA 2020). The PWSSMP is a consolidation of the existing water supply and sanitation roadmaps. It established the milestone targets for 2022 (for the end of the Philippine Development Plan [PDP] 2017–2022) (NEDA 2021) and for 2030 (for the end of the SDG reporting). It identifies priority water supply and sanitation projects, including the investments necessary for the sector to meet these targets and build the capacity of sector representatives of government. The PWSSMP also identifies eight key reform agenda items to be pursued by the sector, summarized in Table I.

**Code on Sanitation of the Philippines (Presidential Decree No. 856) (GOP 1975):** The health of the people, being of paramount importance, all efforts of public services should be directed toward the protection and promotion of health. The Sanitation Code serves this purpose.

**TABLE I. THE EIGHT KEY REFORM AREAS OF PWSSMP**

NO.	REFORM AGENDA	FOCUS
1	Establishing effective water supply and sanitation sector institutions	Addressing the fragmented sector
2	Strengthening regulatory environment	Regulating and managing water resources and water service providers (WSPs), including water tariffs
3	Balancing water supply and demand	Managing finite water resources with end-users
4	Building climate resiliency	Adapting to climate change
5	Creating and ensuring effective water supply and sanitation services	Ensuring effective and sustainable water supply and sanitation services and service providers
6	Enabling access to funding and financing	Improving access to funds
7	Managing data and information	Ensuring availability and accessibility of reliable water supply and sanitation data for decision making
8	Driving research and development	Investing on research and innovations

**Local Government Code of 1991 (Republic Act No. 7160) (GOP 1991):** In the local government code, the State shall provide for a more responsive and accountable local government structure instituted through a system of decentralization whereby LGUs shall be given more powers, authority, responsibilities, and resources. Specific to sanitation and hygiene, Local Councils or *Sanggunian* are tasked to deliberate and approve ordinances on sanitation and hygiene; the local health office and the general services office are tasked to conduct sanitary inspections and maintain general sanitation, respectively; and the barangays are tasked to extend and promote sanitation and hygiene services and programs of the LGUs.

**National Building Code of the Philippines (Presidential Decree No. 1096) (GOP 1977):** The code mandates the State to safeguard life, health, property, and public welfare, consistent with the principles of sound environmental management and control; and to this end, makes it the purpose of the Code to provide for all buildings and structures, a framework of minimum standards and requirements to regulate and control their location, site, design, quality of materials, construction, use, occupancy, and maintenance. This includes the structural integrity design of wastewater treatment facilities.

**Clean Water Act of 2004 (Republic Act. No. 9275) (GOP 2004):** This Act applies to water quality management in all water bodies, and to the abatement and control of pollution from land-based sources. The water quality standards and regulations and the civil liability and penal provisions are enforced irrespective of sources of pollution. It is now required that septic tanks are designed to be water-tight, have multiple chambers, and be accessible for desludging.

**Administrative Order (AO) No. 2019-047 (Department of Health [DOH] 2019):** The AO sets the National Standard on the Design, Construction, Operation, and Maintenance of Septic Tank Systems. The AO also prescribes alternative designs for septic tanks to be constructed in difficult location and conditions.



In the **Manila Bay Mandamus**,<sup>1</sup> the Supreme Court ordered at least 13 agencies to clean, rehabilitate, and preserve Manila Bay, and restore and maintain its waters to SB level (Class B Sea Waters) to make them fit for swimming, skin-diving, and other forms of contact recreation. This includes managing the fall out of poor utilization and maintenance of household septic tanks. This sets a precedence for the effective management of other water bodies in the country to prioritize wastewater management and pollution control, and relevant LGUs are required to comply with this ruling.

**Policies on Community Health Volunteers:** BHWs are volunteers rendering primary health care services in the community after being trained by local government or an NGO and accredited by the local health board (part of the LGU). One landmark legislation on and for BHWs is Republic Act No. 7883 (GOP 1994), an act granting benefits and incentives to accredit BHWs. This act, known as the “Barangay Health Workers’ Benefits and Incentives Act of 1995,” sets the number of BHWs in the country, the registration and accreditation process for BHWs, and the benefits BHWs are entitled to, which include hazard allowance, subsistence allowance, training, education, and career enrichment programs, civil service eligibility, free legal services, and preferential access to loans.

In the 18th Congress (Philippine Senate and House of Representatives, July 22, 2019 to June 1, 2022), a Senate Bill (SB No. 185) (Senate of the Philippines 2019) and a House Bill (HB No. 10462/10699) (House of the Philippines 2019) were advocating for a Magna Carta for BHWs,<sup>2</sup> effectively superseding Republic Act No. 7883. In Republic Act 7883, the standard number of BHWs was established at one for every 20 households in a barangay, but not to exceed one percent of the total population. The two bills were an attempt to expand the provisions of Republic Act 7883, providing for more contextual need for instituting BHWs, asserting the minimum number of one BHW for every barangay, and including additional benefits such as a fixed monthly honorarium, transportation allowance, health benefits, leave, cash gifts, disability benefits, and others. In the 19th Congress (Philippine Senate and the House of Representatives, July 25, 2022 to June 4, 2025), the debate and discussion on instituting a Magna Carta for BHWs continues with other legislators promoting their versions of the bill.

**Republic Act No. 7610/9231.** Another key issue is the deployment or use of children in waste management. Republic Act No. 7610, as amended by Republic Act No. 9231 (GOP 2003), provides for the prohibition of the worst forms of child labor and punishes employers for such practices, taking into account whether the nature of circumstances in which they are carried out is hazardous or likely to be harmful to the health, safety, or morals of children. The Department of Labor and Employment supports this law with Department Order No. 149, Series of 2016 (Guidelines in Assessing and Determining Hazardous Work in the Employment of Persons Below 18 Years of Age). House Bill No. 6015 in its explanatory notes cited that, in a 2011 survey on children conducted by the PSA, an estimated 2.1 million Filipino children ages 5–17 take part in child labor, and about 98 percent or around 2.0 million are involved in hazardous child labor. This includes reports of children being used for desludging septic tanks and for manual labor in the construction industry.

The effort and instruction of national government to promote the rightsizing of bureaucracy at the national and local level provides many agencies with opportunities for introspection on the issues of responsive and efficient governance, including in augmenting sectors like sanitation and hygiene. This is envisaged in the approved House Bill No. 7240, known as the National Government Rightsizing Act, passed by the Lower House and to be approved by the Senate (House of the Philippines 2023).

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<sup>1</sup> In December 2008, the Supreme Court of the Philippines issued a Mandamus Ruling that ordered the defendant government agencies to clean up, rehabilitate, and preserve Manila Bay; to restore and maintain its waters; and to submit a progressive report in accordance with the court’s decision.

<sup>2</sup> See “House Approves Magna Carta for Barangay Health Workers” (Begas 2022).



The above Acts and Codes clearly outline the responsibility of LGUs to deliver sanitation and hygiene services, in addition to enforcing codes. KIs, however, pointed out that rather than directing the use of taxpayer money for the provision of adequate water supply and sanitation services, the Acts and Codes merely provide the legal mandate to create a collection mechanism for tariffs over and above the taxes being paid. This leads to a situation in which the sector is under-funded or under-invested, mainly because of the limited capacity of citizens to absorb more levies on top of the existing taxes imposed by government, thereby restricting or discouraging investments and investors.

## 2.3 FUNCTIONS AND ACTORS TO DELIVER SANITATION AND HYGIENE SERVICES

There is a lingering question on which agency is to be the lead agency for sanitation and hygiene. According to national policies and the PWSSMP, the DOH is the lead agency for sanitation (formerly lead driver as mentioned in the PDP). The Department of Public Works and Highways (DPWH) is the designated construction arm of the government. The Department of Interior and Local Government (DILG) is the lead agency for the capacity development of local governments. The Department of Environment and Natural Resources (DENR) leads environmental protection. The Local Water Utilities Administration (LWUA), an attached agency of the DPWH, is the regulatory agency that also provides specialized lending and technical assistance to formal water utilities (the local water districts) all over the country. There is no agency in charge of monitoring or tracking hygiene practices, but this may be a part of sub-programs of DOH, DILG, and the Department of Education. Water districts are not aligned with the local government administrative system or LGU boundaries but refer to the concession area managed by a water utility. These can be comprised of one or several LGUs (especially some of the larger metro-type water districts), but they do not cover the whole country. There are about 2,000 LGUs in the Philippines, and only 600 active water districts.

As noted in the PWSSMP, the fragmented nature of the WASH sector has resulted in confusion and lack of accountability, particularly for implementation (NEDA 2020). As illustrated in Table 2, many agencies seem to have overlapping functions or deal with functions that are inter-agency in nature.

TABLE 2. FUNCTIONAL CHART OF WATER-RELATED AGENCIES																							
KEY NATIONAL GOVERNMENT AGENCIES AND GOVERNMENT-OWNED OR CONTROLLED CORPORATIONS WITH WATER RESOURCE MANAGEMENT FUNCTIONS																							
	NWRB <sup>1</sup>	NEDA <sup>2</sup>	DENR <sup>3</sup>	DPWH <sup>4</sup>	DOH <sup>5</sup>	DA <sup>6</sup>	DND <sup>7</sup>	DAR <sup>8</sup>	DOST <sup>9</sup>	DOF <sup>10</sup>	DSWD <sup>11</sup>	DILG <sup>12</sup>	GFIS <sup>13</sup>	DOE (NEA) <sup>14</sup>	DOT <sup>15</sup>	PRRC <sup>16</sup>	LGUS <sup>17</sup>	MWSS <sup>18</sup>	LWUA/WDS <sup>19</sup>	NIA <sup>20</sup>	NPC <sup>21</sup>	LLDA <sup>22</sup>	
Resource Assessment	•		•	•					•											•			
Policy	•	•	•	•	•																		
Resource Regulation	•																						
Water Supply				•				•			•	•					•	•	•				
<b>Sanitation</b>				•	•							•					•	•	•				
Water Quality Management			•													•			•	•			•

**TABLE 2. FUNCTIONAL CHART OF WATER-RELATED AGENCIES**

KEY NATIONAL GOVERNMENT AGENCIES AND GOVERNMENT-OWNED OR CONTROLLED CORPORATIONS WITH WATER RESOURCE MANAGEMENT FUNCTIONS																						
	NWRB <sup>1</sup>	NEDA <sup>2</sup>	DENR <sup>3</sup>	DPWH <sup>4</sup>	DOH <sup>5</sup>	DA <sup>6</sup>	DND <sup>7</sup>	DAR <sup>8</sup>	DOST <sup>9</sup>	DOF <sup>10</sup>	DSWD <sup>11</sup>	DILG <sup>12</sup>	GFIS <sup>13</sup>	DOE (NEA) <sup>14</sup>	DOT <sup>15</sup>	PRRC <sup>16</sup>	LGUS <sup>17</sup>	MWSS <sup>18</sup>	LWUA/WDS <sup>19</sup>	NIA <sup>20</sup>	NPC <sup>21</sup>	LLDA <sup>22</sup>
Monitoring and Data Management	•		•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•
Research and Development						•			•													
Watershed Management			•			•											•	•		•	•	
Irrigation				•		•														•		
Flood Control and Drainage				•												•	•					
Integrated Area Development				•																		•
Recreation															•		•					
Financing				•						•		•	•				•	•	•			
1: National Water Resources Board 2: National Economic and Development Authority 3: Department of Environment and Natural Resources 4: Department of Public Works and Highways 5: Department of Health 6: Department of Agriculture 7: Department of National Defense 8: Department of Agrarian Reform 9: Department of Science and Technology 10: Department of Finance 11: Department of Social Welfare and Development											12: Department of Interior and Local Government 13: Government Financial Institutions 14: Department of Energy (National Electrification Administration) 15: Department of Tourism 16: Pasig River Rehabilitation Commission 17: Local Government Units 18: Metropolitan Waterworks and Sewerage System 19: Local Water Utilities Administration/Water Districts 20: National Irrigation Administration 21: National Privacy Commission 22: Laguna Lake Development Authority											

Source: PWSSMP

Since each agency draws its mandate from different legal directives, they implement based on how each would perceive and understand its mandate, with very little coordination between and among the responsible agencies despite the inter-agency nature of some of the functions. While sanitation is mentioned as a key function, hygiene concerns are not. This fragmentation has caused the creation of multiple development plans and independent actions from the LGUs and local water districts. There is also no central repository of information of all the initiatives being undertaken by the various agencies, making it difficult to consolidate overall progress. A more detailed stakeholder mapping for a typical

local-level water supply and sanitation program at municipal level, developed and consolidated by the assessment team, is presented in Annex 3.

Table 2 and the accompanying discussion focus broadly on the water resources and the WASH sector. To better understand which agencies or actors are responsible for sanitation and hygiene, information from KII and discussions with participants at the validation workshop informed Table 3, which presents the institutional responsibilities on WASH across the different rural to urban geographies. Notably, the table confirms the complex and fragmented nature of the sector, with a multitude of actors involved in each of the functional areas.

The DOH is mandated to formulate policy guidelines and provide technical assistance to local agencies, including its own Regional Health Offices, on matters pertaining to sanitation and hygiene. However, if there is a need to formulate a new law on sanitation and hygiene, NEDA and Congress are the ones leading the effort and bringing together related agencies, since often, the formulation of a new law requires inter-agency coordination and decision-making. When it comes to training the LGUs on anything their mandate requires, the DILG is the one that executes the program in collaboration with other concerned agencies, in this case DOH for sanitation and hygiene. For constructing large and inter-LGU infrastructure or facilities, the DPWH is the one that implements. These functions are extended to the regional offices of the concerned agencies and require these regional offices to coordinate on programs to be implemented at the local level. This of course needs to be coordinated with the LGUs concerned.

Despite the many agencies with WASH mandates, there are limited actors taking on sanitation and hygiene service delivery functions, particularly in rural areas; it is mainly local governments. There is a higher focus on water supply, especially with water districts and other WSPs, like private operators. Importantly, the laws and codes outlined in Section 2.2 consider water supply and management, sanitation, and by extension hygiene, as interconnected sub-sectors. WASH service delivery is considered a package, making it difficult to assess sanitation and hygiene HR capacity separately.

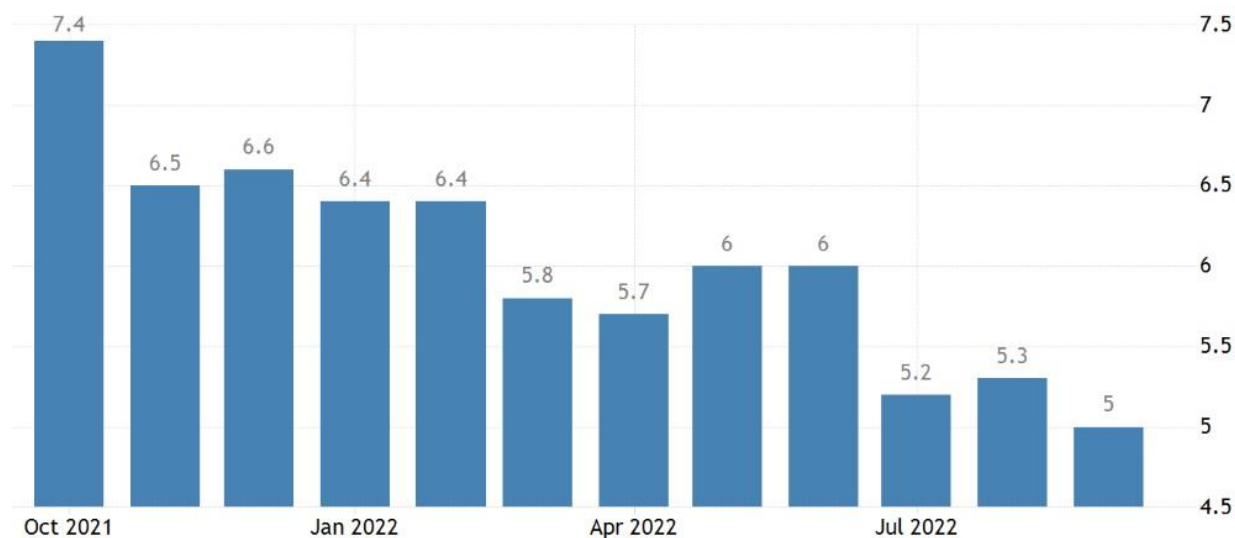
**TABLE 3. INSTITUTIONAL RESPONSIBILITIES IN WASH**

<b>FUNCTIONS</b>	<b>RURAL REMOTE</b>	<b>RURAL ON THE ROAD</b>	<b>RURAL MIXED (PERI-URBAN)</b>	<b>URBAN (INFORMAL)</b>
Policy, strategy, and coordination	Senate, Congress, National Water Resources Board (NWRB), NEDA Central, NEDA Regional Offices (NROs), DOH Central, DILG Central, DPWH Central, DENR-Environmental Management Bureau (EMB) Central, LWUA, LGUs, Regional Development Councils (RDCs)			Department of Human Settlements and Urban Development (DHSUD), Presidential Commission for the Urban Poor (PCUP), National Anti-Poverty Commission (NAPC), Department of Social Welfare and Development (DSWD), judicial courts, LGUs
Regulation	Senate, Congress, NWRB, NEDA Central, NROs, DOH Central, DILG Central, DPWH Central, DENR-EMB Central, LWUA, LGUs, RDCs			DHSUD, PCUP, NAPC, DSWD, judicial courts, LGUs
Monitoring	NWRB, NEDA Central, NROs, DOH Central, DILG Central, DPWH Central, DENR-EMB Central, LWUA, LGUs, RDCs			DHSUD, PCUP, NAPC, DSWD, LGUs, water districts, WSPs, Metropolitan Waterworks and Sewerage System (for Metro Manila)
Advocacy (holding government to account)	Some environmental groups and consumer protection groups			
Oversight and support (local)	LGUs, water districts, WSPs, DOH Regional, DILG Regional, DENR-EMB Regional, DPWH Regional			LGUs, DSWD, PCUP, independent WSPs

TABLE 3. INSTITUTIONAL RESPONSIBILITIES IN WASH				
FUNCTIONS	RURAL REMOTE	RURAL ON THE ROAD	RURAL MIXED (PERI-URBAN)	URBAN (INFORMAL)
	and District Offices, RDCs, private water operators			
Community mobilization and engagement	LGUs, water districts, WSPs, Homeowners' Associations (HOAs), NGOs, community-based organizations (CBOs), People's Organizations (POs), religious sects			DSWD, LGUs, water districts, WSPs, HOAs, NGOs, CBOs, POs, religious sects
Construction	LGUs, water districts, WSPs, National Housing Authority, DPWH Regional and District Offices, private developers			Informal settlers
Emptying and transport	LGUs, water districts, WSPs			Independent service providers
Operation and maintenance (O&M) (including treatment, disposal, and reuse)	LGUs, water districts, WSPs			Independent service providers
Research and design	Accreditation of Innovative Technologies for Housing, independent private research companies, state and private universities			None
Business development	Department of Trade and Industry (central and regional) and independent business owners			None

## 2.4 LABOR MARKET DYNAMICS

### 2.4.1 EMPLOYMENT, UNEMPLOYMENT, AND UNDEREMPLOYMENT



Source: PSA 2022a.

**Figure 2. Philippines Unemployment Rate**

Based on reports from the PSA, in September 2022 the unemployment rate in the Philippines was 5 percent, a sharp drop from the 8.9 percent the same month a year earlier. In absolute numbers, 2.5

million persons were unemployed in September 2022 versus 4.3 million a year earlier (the total employed population was 47.6 million in September 2022 versus 43.6 million in 2021). This represents a Labor Force Participation Rate (LFPR) of 65.2 percent in September 2022. Among employed persons, those working in the service sector made up almost 59 percent of the total, followed by agriculture (22.5 percent) and industry (18.6 percent). Overall, 2021 and 2022 saw a steady growth in employment, after the difficult economic times during the COVID-19 pandemic (PSA 2022a).

While in December 2021, the unemployment rate in the Philippines was 6.6 percent, the underemployment<sup>3</sup> rate was 14.7 percent. This figure could be further divided into visible underemployment—those working less than 40 hours a week and expressing a desire to work more hours (9.8 percent of total employed individuals), and invisible underemployment—those working more than 40 hours but still wanting more hours (4.9 percent). By far most of the underemployed individuals were working in the services sector (46.7 percent of the 6.81 million total underemployed persons), with agriculture (33.3 percent) and industry (19.9 percent) following. The average weekly hours worked of an employed person in December 2021 was 39.7 hours per week (PSA 2022b).

An important measure to understand gender and age representation in the labor force is the LFPR. By December 2021, the LFPR among men was 76.1 percent, while for women it was 54.0 percent. Employment rates were 93.7 percent and 93 percent, respectively. Notably, male underemployment rates were higher at 16.7 percent than those for women (11.9 percent). Youth LFPR was estimated at 36.7 percent. The youth employment rate in December 2021 was estimated at 87.2 percent, while youth underemployment was 11.3 percent. Employed youth worked 37.8 hours per week, on average, in December 2021 (PSA 2022b).

## 2.4.2 CAPACITY DEVELOPMENT OF THE WORKFORCE

There are several agencies involved in capacity development that can be engaged by the public sector and private individuals. The Department of Labor and Employment, the Department of Budget and Management (DBM), and the Civil Service Commission are government agencies that provide guidance and instructions on engaging human capital in the government sector. There are other agencies that provide services for skills upgrading and training, like the Technical Education and Skills Development Authority (TESDA), the Local Government Academy, and the Development Academy of the Philippines. These are all government agencies and government-owned and controlled corporations tasked to professionalize and upgrade the workforce and leaders of the country, in particular government personnel. However, none of these agencies exclusively deal with sanitation, let alone rural sanitation. Only TESDA offers a national certificate course on plumbing; they also provide alternative educational instruction and vocational courses that cater to out-of-school youth. The Civil Service Commission, on the other hand, has started accrediting BHWs by setting up eligibility requirements to allow them to apply for government positions.<sup>4</sup> Mainstream universities provide formal training on Environmental Sanitary Engineering or Sanitary Engineering, but there is no direct link on what the market requires, and most universities cater to private companies or individuals as clients/customers.

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<sup>3</sup> The underemployment rate refers to the total number of people employed who want additional work (i.e., wanting additional hours of work in their present job, an additional job, or a new job with longer working hours) as a percentage share of total employed.

<sup>4</sup> For more info on the Barangay Health Worker Eligibility, see: <https://contactcenterngbayan.gov.ph/8-news/334-barangay-health-workers-may-apply-for-eligibility>.

## 3.0 HUMAN RESOURCE CAPACITY AND DEMAND

### 3.1 CURRENT SITUATION

As noted in Section 2.3, there is no one agency or organization responsible for all aspects of sanitation and hygiene in the Philippines. Rather, sanitation and hygiene are shared across and incorporated into the mandates, services, and functions of several entities. This is reflected in the workers dealing with sanitation and hygiene, such as the sanitary engineers, sanitary inspectors, and the BHWs, who are the key HR in rural sanitation and hygiene (with limited oversight from LGU staff and contributions from the private sector). These workers all have to address multiple sectoral/thematic issues in addition to sanitation and hygiene, including nutrition, vaccination, population control, food safety, disease prevention, etc. The below sections will explore the level of available HR at the local government level.

#### Local Government Units

In accordance with the Local Government Code, many functions of governance are relegated to the LGUs. They are responsible for planning and implementing development programs at the local level, particularly the delivery of basic services. The local city or municipal council is responsible for legislating local ordinances and developing resolutions specific to the compliance but cannot override or contradict what has been stipulated in the national laws and guidelines. The LGUs hire their sanitary inspectors based on the workforce guidelines approved by DBM (these are known as *plantilla* and stipulate limits on the number of workers to be hired). LGUs have discretion in recruiting for and hiring BHWs, whose salaries come from the LGU budget, and they provide supervision for BHWs—for example, through the City Health Office or another department—depending on the structure and competencies of the LGU.

#### 3.1.2 BARANGAY HEALTH WORKERS

The BHWs play a significant role in sanitation and hygiene promotion. Particularly for households in remote areas, the BHWs are often the only connection to national programs on sanitation and hygiene, and to wider health services more generally. BHWs are frontline health workers who provide basic health education and selected primary health care services, such as maternal and child health, first aid, environmental health, and link clients to health facilities. In addition to primary health care functions, which are carried out in accordance with DOH guidelines, BHWs also do recordkeeping and monitoring, along with sanitation and hygiene promotion and education. BHWs disseminate information, promote proper sanitation and hygiene use and services, inspect sanitation conditions and practices, and report to the LGU and to the national PSA. In terms of the sanitation value chain, the BHWs focus in particular on stimulating household toilet construction and safe containment, but can also inspect household status linked to emptying, (on-site) disposal or treatment practices, where relevant. Given the voluntary nature of BHWs, there is no set agenda or mode of operation for the BHWs, and it varies by LGU.

LGUs have a level of discretion in how they interpret and apply the laws relating to BHWs. LGUs most often provide better benefits and incentives for BHWs than those stipulated in law, while adopting proposed measures by national government to professionalize. Many LGUs have accredited BHWs and created eligibility requirements for BHWs to apply for government posts. In Taguig, for example, the LGU doubled the remuneration of the BHWs, and the monthly allowance was formally converted into a fixed monthly salary, turning them from volunteers into job order personnel.<sup>5</sup> And at a regional level,

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<sup>5</sup> See <https://www.pna.gov.ph/articles/1099599> for more details on this case.

the regional DOH office in Region 4B worked with the provinces to promote and increase the numbers and capacity of BHWs and to provide them with bicycles and other means of transportation.<sup>6</sup>

In most parts of the Philippines, BHWs are not staff but volunteers, receiving a minimal stipend or allowance for their services; there is no tenure to speak of nor a requirement to have high qualifications. Because of this, BHW turnover is high, as they seek better paying opportunities. Many, but not all, are a product of political accommodations, using the position to increase the likelihood of being considered for permanent posts in the LGU. Some BHWs spend their time in the local chief executive's office rather than in the health centers. A motivating factor for becoming a BHW is the opportunity to receive good training and instructions from the sanitary inspectors, the Municipal or City Health Officer, or from DOH training staff.

While there is no formal system that tracks BHWs, key respondents from the DOH observed that women are more likely than men to volunteer as BHWs. Men, who are regarded as heads of household, often take on more highly paid jobs with security of tenure. The Philippine Peso (PHP) 3,000/month allowance received by BHWs (roughly United States Dollars [USD] 52/month) is not sufficient to maintain a family in the Philippines.

Apart from the low compensation, BHWs face the added challenge of transportation across difficult terrain and long distances to reach some communities, as well as a general lack of equipment or teaching aids needed to orient and train barangay residents on the various health and hygiene-related behaviors and messages. To exacerbate the situation, volunteer BHWs often are tasked with many health-related duties, resulting in work overload and increasing the possibility of (sanitation and hygiene) tasks being haphazardly done.

The lack of suitably qualified BHWs, along with the other limitations outlined, results in poor or inadequate assessment of sanitation and hygiene service levels and improper or erroneous reporting to the LGUs based on what is required by government reporting frameworks and guidelines. Local health officers reported that many BHWs may have difficulty in comprehending and absorbing the rigors, the technical information, and the innovative spirit to supply households with answers that will address their sanitation and hygiene concerns given the dearth of resources available.

As mentioned, Republic Act 7883 included a proposed ratio of one BHW per 20 households, or one for each barangay (either may apply depending on the configuration of barangays within an LGU), without exceeding one percent of the population. In theory, for a population of 113 million and 42,029 barangays, that would mean between 42,000 and 113,000 BHWs. The Borgen Project reported that in 2016, the Philippines had 216,941 BHWs, and, additionally, that 49,779 Barangay Nutrition Scholars worked across 39,942 barangays (July 2022) (The Borgen Project 2022). Barangay Nutrition Scholars, like BHWs, promote and educate on proper health, but their primary focus is on improving nutrition (Philippine National Volunteer Service Coordinating Agency 2020).

Local health officials interviewed during the assessment argued that there should be at least five BHWs per barangay, implying that the country would need about 210,000 qualified BHWs. While there appear to be sufficient numbers, their distribution is uneven and not all are qualified to effectively render the required services.

Neither national or local governments can afford to deploy a full contingent of paid and qualified staff to engage in sanitation, hygiene, and first-line health care; thus, the need for and value of volunteer BHWs is widely understood and supported. The COVID-19 pandemic helped legislators and local leaders appreciate the value of BHWs, resulting in the continued escalation of benefits that can accrue to a

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<sup>6</sup> See <https://www.officialgazette.gov.ph/2014/06/23/doh-mimaropa-vows-more-assistance-to-barangay-health-workers/> for the full story.



registered BHW, and advanced efforts to allocate funding for training and career development. At the same time, there is a move by the GOP to professionalize the service and harmonize the delivery system of basic services at the local level, in both urban and rural areas.

Yet, recommendations to improve frontline services face several limitations. Since there is no accurate ongoing monitoring of the numbers and performance of BHWs, it will be important to assess the quality of service or the end-results, rather than the number of workers in the field. While there needs to be sufficient available skilled (volunteer) workforce to take on the job, more importantly LGUs need to be able to afford the implementation of a rigorous and sustainable program for the deployment, support, and oversight of frontline staff like BHWs.

The proposal to professionalize and specify the role of sanitation service providers at the barangay level could include BWH skill certification to increase the salary grade of BHWs. However, the current system is biased toward augmenting the numbers of sanitary inspectors at the barangay level (see Section 3.1.3). This will require additional budget and determining the appropriate and the right level of qualifications that need to be imposed, albeit in stages, until the LGUs can manage and fund programs for more qualified barangay-level health staff.

### 3.1.3 SANITARY INSPECTORS

Another important group of HR in local-level promotion of sanitation and hygiene, although currently not at the level of barangays, are the sanitary inspectors. Sanitary inspectors play an important role in the prevention and control of (communicable) diseases, and, among others, initiate and subsequently regulate the proper implementation of environmental sanitation. As part of the services and regulations of the LGUs, they inspect restaurants, industrial establishments, municipal water systems, public facilities, institutions, and other workplaces to ensure compliance with government regulations regarding sanitation, pollution control, the handling and storage of hazardous substances, and workplace safety. Their inspection mandate therewith can cover the entire sanitation value chain, from safe containment, emptying, transport and treatment/disposal practices. There was an attempt to professionalize sanitary inspectors in Senate Bill No. 2384 during the 14th Congress by establishing a Board under the Professional Regulation Commission, but this did not materialize (Senate of the Philippines 2010).

According to the DOH, there are over 2,700 sanitary inspectors in the country; however, they are unevenly distributed (DOH and UNICEF 2021). Sixty-eight percent of cities have fewer sanitary inspectors than required for the given population, with the same source indicating that according to the standard ratio, there should be one sanitary inspector for every 20,000 people. For the country, this would mean a minimum of 5,600 sanitary inspectors. Assuming a lower ratio of at least one sanitary inspector per LGU, this would mean a need for 1,715 sanitary inspectors (81 provinces, 147



**Figure 3. Inspection of a Typical Run-Down Toilet Facility in the Countryside. Photo by Josh Bahnarin Salud**

cities, and 1,487 municipalities). However, according to the DOH, for larger cities and municipalities, this lower-level requirement of one sanitary inspector per city or municipality is insufficient.

Informants also noted that there is an ongoing debate on whether there should be at least one sanitary inspector per barangay to replace the BHWs, which would be about 42,000 sanitary inspectors working at the LGU level. As there is no fixed number or makeup of positions at the LGU level, the choice to create and recruit positions mainly lies with LGUs. Also, there is no definitive reporting or estimates on any (regional or local) gaps in data on the job positions and their qualifications.

Sanitary inspectors, although permanently employed by LGUs, have a very low salary grade (Salary Grade 6 has a gross monthly salary of about PHP 6,000 or USD 100). Although there is secure tenure, the net salary of a sanitary inspector does not encourage them to stay in the position for long. And with the low salary grade, LGUs cannot demand higher qualifications and assessment and reporting skills. Currently, the position requirements allow for a high school graduate to be a sanitary inspector.

Ideally, according to the DOH informant, a Salary Grade of 15 or 16 would be sufficient to provide sanitary inspectors a more livable wage (PHP 15,000 to 20,000 a month or about USD 260 to USD 345). The responsibility for upgrading and appropriating the required budget falls under the DBM.

A provincial sanitary inspector and regional DOH offices supervise the municipal sanitary inspectors and are meant to provide training, instructions, and duties. However, the proficiency and abilities of these provincial sanitary inspectors are not uniform, and the level of support provided to municipal sanitary inspectors may be inadequate or unsustainable, with regard to skills requirements and budget. There is no fixed programmatic or systematic approach to ensuring that sanitary inspectors engage on sanitation and hygiene, given that they are handling other concerns and performing multiple roles.

Sanitary inspectors, like BHWs, can be considered for a higher position within the LGU; this depends on the required qualifications and available budget for the position being advertised.

#### **3.1.4 SANITARY ENGINEERS**

According to the Philippine Society of Sanitary Engineers (Philippine Society of Sanitary Engineers n.d.), as of September 2017 there were 3,265 registered sanitary engineers, pursuant to Republic Act 1364 (an act to regulate the practice of sanitary engineering in the Philippines). There are 12 schools offering the baccalaureate degree in sanitary engineering and two schools offering a masters course. There are no readily available data on how many sanitary engineers graduate from the universities annually or where they are employed.

LGUs are expected to have at least one sanitary engineer in the Building Officials Office to approve building permits, including to ensure buildings have safe sanitation containment facilities. Occasionally, sanitary engineers are hired as sanitary inspectors. However, informants suggested that there is an obvious need for at least one sanitary engineer per LGU to perform the quality control and building oversight role, but there is no updated assessment on how many of the LGUs in the country have filled this position, or how the supply of sanitary engineers compares to the LGU demand, acknowledging that many engineers may also choose to work in the private sector instead.

#### **3.1.5 PRIVATE SECTOR PROVIDERS**

The private sector is involved in rural sanitation and hygiene service delivery both informally and formally. There is a clear demand in rural areas and urban fringes for independent tradesmen working on plumbing, masonry, desludging, and other sanitation and hygiene-related occupations along the entire sanitation value chain. But given the intermittent and often informal nature of their services and the lack of clear data, the assessment team could not estimate their number or workload.

Training of plumbers is done by TESDA and the Association of Master Plumbers. But the lack of a definitive uniform plumbing code is a deterrent to active promotion and expansion of these training efforts. Households would still defer to quick fixes by informal plumbers and masons who are generally less expensive but tend to implement quick fixes rather than rightful and legal solutions. With only intermittent demand for these services, efforts to professionalize or augment the informal workforce remain, and are, for all intents and purposes, currently impractical and unsupported. However, TESDA-trained—and certified—plumbers are readily deployable in other countries, where they receive higher wages because of the training, and many of them eventually become overseas foreign workers.

### **3.2 ASSESSMENT, PLANNING, AND FUNDING OF SANITATION AND HYGIENE HUMAN RESOURCES**

This assessment sought to understand how the Philippines has assessed, planned, and funded its sanitation and hygiene HR to achieve progress in coverage. Interestingly, participants in the validation workshop pointed toward reliability issues with nationally reported data, suggesting over-inflated reporting on improved sanitation coverage, access to handwashing facilities, and availability of water and soap for handwashing in rural areas. The lack of confidence in the data was considered a major concern in terms of the sector's ability to adequately plan and budget for interventions and services.

At the national level, even with the PWSSMP, there is no clear and detailed plan and strategy for assessing, enhancing, or improving sanitation and hygiene-related HR, to the level that would be appropriate for well-targeted implementation. The Philippines 2022 submission to the WHO Global Analysis and Assessment of Sanitation and Drinking Water confirmed that a national HR plan/strategy to develop and manage HR for sanitation does not exist, and that no HR needs assessment for WASH has been conducted (WHO 2022). The budget is set aside in the PWSSMP for strengthening the capacity of implementers of water supply and sanitation projects and programs, but this is mainly based on a percentage of the aggregated cost of projects and programs. This was a deliberate choice, to allow local-level implementers (local governments, water districts, and private operators) to conduct their own capacity development needs assessments and ensure accurate planning and budgeting based on local costing of activities.

Whether this budget will be sourced by national or local agencies, and up to what extent, remains to be seen. Almost PHP 700 million have been earmarked for non-physical investments from 2019 to 2023, mainly to develop and mainstream the eight reforms identified in the PWSSMP (see Table 1). It is expected that the bulk of the capacity development funds will go to the local governments or implementers, but no expenditure data was yet available. While HR gaps have also been identified at the national level, it is unclear what would be required to build the capacity of national and regional agencies to the aptitude, skills, and policies needed.

There is some effort to harmonize, streamline, realign, and consolidate the policies, planning processes, and standards to be used in sanitation, as well as water supply, primarily by NEDA. However, the PWSSMP's sector assessment highlighted that many planned water and sanitation policies, guidelines, and standards were not yet developed at the time of survey. The development of these policies, guidelines, and standards necessitates the harmonization and institutionalization of sector planning for water supply and sanitation at the local level. For example, LGUs are requested by the government to develop a water supply and sanitation sector plan with a DILG framework, and a local sustainable sanitation plan as required by the DOH. Additionally, the WSPs, operating in the same service areas as the LGUs, need to prepare business plans for the utility to expand and improve service delivery as required by the LWUA. Development of these three plans, considering varied planning frameworks, irregular priority identification, and inconsistent communication among stakeholders involved in these efforts, is rarely coordinated.

National agencies, like DPWH, the EMB, DILG, LWUA, and even DOH, which are supposed to provide technical assistance to local implementers of water supply and sanitation projects, are also in need of capacity development and strengthening. As a result, supporting measures such as the establishment of a help desk for quicker access by LGUs and WSPs for direct and comprehensive advisory and technical support from national agencies, including on planning processes, have not been considered, even at a pilot scale.

The effort and instruction of the national government to promote the rightsizing of public sector entities at the national and local level provides many agencies with opportunities for reflection on the issues of responsive and efficient governance. In more cases than not, however, rightsizing leads to a reduction in workforce or at best lateral transfer of personnel to perceived right positions. Augmentation of workforce seldom becomes defensible, primarily due to budget considerations.

### **3.3 DEVELOPMENTS AFFECTING FUTURE SANITATION AND HYGIENE SECTOR HUMAN RESOURCES**

The development and approval of the PWSSMP should set the tenor and pacing for all prospective targets and projects on water supply and sanitation across the country (NEDA 2020). The regions can use them to develop customized regional and provincial master plans for water supply and sanitation. Newly developed plans will need to align with the national targets set under the PDP and the country's commitment to SDG 6 (NEDA 2021). Key sanitation issues highlighted in the PWSSMP include the lack of a lead agency, resulting in poor inter-departmental coordination; the fact that there were less than 30 operating septage management projects and only two sewerage projects (plus Metro Manila); and that there were no clear targets or strategic programs based on the PDP/SDG.

These issues link with broader water supply sector issues, such as low investments in the sector, lack of a strong regulatory framework and environment, weak and ineffective coordination in the planning and development of the sector, and below-standard service quality. In response to these key issues, national initiatives in the PWSSMP with repercussions for HR include the following:

- The national government will present the PWSSMP to regional infrastructure committees and RDCs to promulgate the adoption of the PWSSMP and trigger the formulation of the Regional and Provincial Water Supply and Sanitation Master Plans to support the preparation of local water supply and sanitation sector plans and projects (still being rolled out/to be implemented).
- Agencies at the national and local level will prepare long- and short-term plans that adhere to the Unified Resource Allocation Framework (formerly the Unified Financing Framework). This framework is a strategy involving integrated and coherent financing and institutional and regulatory reform, intended to help reconcile the fragmented nature of the sector. However, it is yet to be applied to national-level agencies and cascaded to the local-level planners and implementers. This will provide organization and rationale for national and local funding of water supply and sanitation programs and projects, with direct relevance for HR planning and budgeting.
- The government is seeking to create: (1) a new Department of Water Resources to function as the lead policy-making body for the WASH sector, and (2) a Water Regulatory Commission to act as an economic regulator for all service providers, helping to address the fragmentation issues while accelerating the expansion of water supply and sanitation services. The bills for each agency await approval in Congress. The deliberations include a plan to establish and start working within new water resources regions rather than the current geo-political, regional, and local government boundaries. The creation of new areas of service like this has the potential to further complicate planning and budgeting for human capital, both in terms of quantity and quality, due to the coordination that this will require.

- The EMB is amid deliberating other needed policies in relation to sanitation and wastewater management, including reuse and recycling of treatment by-products, pre-treatment guidelines, sewerage systems, and discharge permitting systems for small-and-medium-scale enterprises. Many of these policies support the principles of a circular economy and efficient wastewater management and improving land application guidelines to support agriculture. These guidelines should expedite and rationalize the development of local water supply and sanitation programs and projects, with targeted results and efficient execution and the needed HR support.
- The DPWH is preparing to revisit the program operations manual for the National Sewerage and Septage Management Program to improve it in several fronts, including integration of the public-private partnership guidelines, resiliency of sanitation facilities to climate change impacts and disaster risks, digitalization of the application process, and improving the development process of the communications and promotions aspects of the program. This will support a more streamlined fund sourcing for sewerage and sanitation projects of LGUs, and effectively fast-track the development of such projects, including an improved response to HR requirements of the WASH sector.
- The aforementioned Manila Bay Mandamus required a range of agencies and LGUs to take action. However, to date, the ruling seems to fail in making a marked improvement in developing far-reaching measures to address the water quality problems of Manila Bay, which are linked to the poor utilization and maintenance of household septic tanks. A review of its progress can provide some important lessons on the key barriers hindering better sanitation and for improving water bodies.



## 4.0 ANALYSES OF SHORTAGES AND GAPS

### 4.1 CAPACITY GAPS IN THE SANITATION AND HYGIENE SECTOR

This section seeks to understand the nature of the capacity gaps related to (rural) sanitation and hygiene service delivery in the Philippines. While not a thorough quantitative assessment, Table 4 reflects the assessment team's estimate of the current capacity of HR to meet the demands for sanitation and hygiene services efficiently and effectively, by function. This assessment is based on the desk review and discussion with the various informants during KIs and group discussions.

There are observed capacity gaps for all functions. Most of these gaps are found at the local level, given that most functions are attributable to the local agencies' workforce, both in quantity and quality. Some critical areas requiring attention include the following:

- **Policy, strategy, and coordination:** More emphasis should be placed on and capacity built for planning, particularly cascading the national plan to the local level, as well as developing the necessary policy guidelines to ensure safe management along the entire sanitation value chain.
- **Regulation:** For example, HR capacity is required to improve the development of economic regulation, particularly in setting a viable tariff structure for sanitation services, which is critical for sustainability.
- **Oversight and support (local):** Systems and processes are required to ensure that staff can continuously learn from implementation processes, to adapt and adopt future initiatives for sustainable sanitation projects.
- **Construction:** More systematic exposure to best practices in implementing sanitation projects and construction and operation of wastewater treatment technologies and approaches can inform more efficient and sustainable construction of facilities.
- **Research and design:** Sufficient HR skills and capacity are required to ensure continuous improvement and adoption of efficient and clean technology, to contribute to sustainability of and efficiency in the operation of sanitation facilities.

While, as pointed out in Section 3.1, there may be enough BHWs in the country, they are poorly distributed across the country, and a skills gap noted by informants concerns their ability to assess and report on sanitation access and local practice. Also noted in Section 3.1, at a minimum, there should be 5,600 sanitary inspectors, and, as mentioned by DOH, ideally there should be one sanitary inspector per barangay, for a total of 42,000. With only 2,700 sanitary inspectors currently, this is a clear deficit.

The shortages (in numbers of HR) and gaps (in skills and competencies) in the different functions at the local or water district level are a result of several factors, including:

- Low qualifying requirements and low salary grades (e.g., for sanitary inspectors), making these jobs not attractive to new graduates;
- Difficult working conditions, often coupled with unclear/unstable tenurial status;
- Low or no understanding of sanitation, hygiene, or environmental health at the different administrative levels, resulting in ill-defined roles and programs of work, sanitation and hygiene tasks being combined with several other functions/tasks, and a lack of impetus for professionalizing staff;
- Incomplete rollout of the PWSSMP and overlapping mandates in sanitation, leading to a lack of accountable and proactive (local) government agencies; and
- Unclear, inaccurate, or misaligned reporting requirements with national reporting.

**TABLE 4. ASSESSMENT OF CURRENT HR CAPACITY FOR SANITATION AND HYGIENE**

FUNCTIONS	SANITATION				HYGIENE			
	RURAL REMOTE	RURAL ON ROAD	RURAL MIXED (PERI URBAN)	URBAN (INFORMAL)	RURAL REMOTE	RURAL ON ROAD	RURAL MIXED (PERI URBAN)	URBAN (INFORMAL)
Policy, strategy, and coordination (national/regional)	Yellow	Yellow	Yellow	Red	Red	Red	Red	Red
Regulation (national/regional)	Yellow	Yellow	Yellow	Red	Red	Red	Red	Red
Monitoring (national/regional)	Red	Red	Red	Red	Red	Red	Red	Red
Advocacy (holding government to account)	Red	Red	Red	Red	Red	Red	Red	Red
Oversight and support (local)	Red	Red	Red	Red	Red	Red	Red	Red
Community mobilization and engagement	Red	Red	Red	Red	Red	Red	Red	Red
Construction	Red	Red	Red	Red	Red	Red	Red	Red
Emptying and transport	Red	Red	Red	Red	Red	Red	Red	Red
O&M (including treatment, disposal, and reuse)	Red	Red	Red	Red	Red	Red	Red	Red
Research and design	Yellow	Yellow	Yellow	Red	Red	Red	Red	Red
Business development	Yellow	Yellow	Yellow	Red	Yellow	Yellow	Yellow	Red

- Sufficient HR to meet current demand (to reach SDG/national targets)
- 51–95 percent HR to meet current demand (to reach SDG/national targets)
- Under 50 percent of what is needed to meet current demand (to reach SDG/national targets)



Other issues affecting both HR capacity and gaps identified during the validation workshop include the not-so-clear definition of sanitation, hygiene, access, and service levels, as well as the roles of LGUs, households, service providers, and national government agencies like DOH, DILG, and DPWH. The latter need to be clearly defined and aligned with the SDG reporting and LGU/sector plans and programs. Devolution has meant that national government institutions can merely guide rather than direct LGUs, and, similarly, LGUs cannot interfere in the decisions of water districts. Some aspects of service delivery are politicized, especially during elections. Overall, investments in the sector are very low and with limited resources, DILG is mainly assisting those LGUs without water districts in building their capacity, rather than all LGUs.

The assessment also found that there is a disconnect between the institutions that should produce the supply of HR and the HR needs of the sector. Even if educational and training institutions eventually comply with national requirements, the investment in producing qualified HR often does not match the use and absorption of these HR.

#### **4.2 HUMAN RESOURCE NEEDS FOR SUSTAINABLE SAFELY MANAGED SANITATION**

The task of moving the Philippines to zero open defecation (ZOD) status and ultimately to sustainable and safely managed sanitation is dependent, among others, on the quantity and quality of sanitation HR at the local level. This workforce engages with the rollout and monitoring of programs to address open defecation in rural areas and in urban centers.

The DOH administers a compliance, verification, and certification system to declare LGUs ZOD. Even though 91.6 percent of households in the Philippines are reported to have access to at least basic sanitation, by 2019 only one third of Barangays were certified ZOD (UNICEF 2020). While this may be partly related to a complex or inefficient (and two-tiered) certification and verification process, it is also illustrative of the lack of investment in and prioritization of monitoring sanitation and hygiene.

Informants indicated the need for clear ZOD-related local plans and programs, including investment and HR resourcing strategies. This will involve strengthening implementation of the national building code that is overseen at the local level by the LGU building officials, who are responsible for approving building and occupancy permits, including approval of on-site sanitation systems like septic tanks. The design of the septic tank needs to conform to DOH AO 2019-0047, the National Standards for Septic Tank Systems, and the Clean Water Act of 2004<sup>7</sup> (GOP 2004), but it is up to the building official to check if this is happening. This makes the LGU building officials, in theory, an important part of sanitation compliance and verification HR. As mentioned in Section 3.1, however, there are not many sanitary inspectors among the LGU building officials and/or not all LGUs have building officials in place.

More than 70 percent of households in the country have septic tanks installed. Septic management is therefore a key element in the Philippines' drive toward safely managed sanitation and requires that actors and HR have the right skill sets to manage and monitor this. The law requires a septic management program (Sanitation Code [GOP 1975], Clean Water Act [GOP 2004]) to preserve the integrity of the septic tank and allow it to function as designed. This would require discussion and mutual agreements between LGUs and the local water district or WSPs on what aspect of the program should be assigned to which of these two agencies; at a minimum, agency staff would need to have sufficient transferable and technical skills related to coordination, negotiation, and partnership building. They would also benefit from skills in the construction, design, and O&M of sanitation infrastructure. Skills are needed at both national and local levels for planning for septic management and in

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<sup>7</sup> The Clean Water Act of 2004 (Republic Act 9275) requires the septic tank to be watertight, of multiple chambers, and adequately maintained through regular desludging.

policymaking to craft septage management ordinances. Engineers at the LGU and water district need sufficient knowledge and skills on construction technology and fecal sludge/septage management, including innovative approaches in areas where transport, development of sufficient septage management facilities or construction of sewerage systems might not be feasible.

The development of hygiene facilities and promotion of hygienic practices also requires attention and the necessary budget and effort. However, given that hygiene is generally (implicitly) subsumed in broader water supply and sanitation mandates and there is no specific national key performance indicator linked to hygiene, there is very little information available on the HR capacity, shortages, and gaps linked to hygiene, apart from general findings on the varying levels of BHW skills and competencies discussed in Section 3.1.

The relationship between the toilet and the septic tank (and ultimately with the larger environment) needs to be established and highlighted to better understand what mitigating measures need to be in place; what institutional roles should be developed and enhanced; and what other innovations in the law, process, and public education can be pursued and their implications for HR requirements. Based on interviews and the analysis of available data, the top five competencies/knowledge needed given the management of sanitation and hygiene in the country to deliver inclusive, sustainable, and climate-resilient WASH are the following:

- Full knowledge of the sanitation value chain to be able to design a complete program;
- Knowledge of financial management for development of viable financing and cost-recovery plans;
- Full knowledge of the linkages between sanitation and public health to gain appreciation and muster political will to implement sanitation and hygiene projects;
- Strong communications and promotions skills to help raise awareness and create buy-in among stakeholders; and
- A deep understanding of the necessary enabling environment and strategies to pursue a strong program on sanitation and hygiene, including impacts of climate change and entry of private sector.

As mentioned, given the local-level mandate to ensure sanitation and hygiene service delivery, these skills and competencies are necessary across all LGUs and local sector agencies/water districts and WSPs. Importantly, commensurate HR capacity at the national level is also needed, ensuring clear policy, programs, directives, and budget allocations in support of local service delivery.

### **4.3 STRATEGIES TO ADDRESS THE SHORTAGES AND GAPS**

Incentive schemes, especially monetary, are somewhat appealing to local governments. At times, the national government will provide monetary rewards, recognition, awards, or citations to encourage LGUs to set aside some of their own funds to motivate their employees to do better—an example is allocating a bigger allowance to BHWs if through their efforts, the LGU attains and is conferred ZOD status from DOH. The assessment team, however, was not able to establish whether and how these efforts have resulted in increased BHW capacity, motivation, and outputs or LGU service delivery results, or how these efforts are monitored.

For sanitation and hygiene, the only instance of standardization of human capital comes in a proposal by the DOH to include (legitimize) more sanitary inspectors and devolve some of their work to the level of the barangay, either replacing or at least supplementing the existence of BHWs. This would mean trying to approximate the ideal distribution of sanitary inspectors at a 1:20,000 population ratio as stipulated by the DOH. And the required ratio of one BHW to 20 households would be greatly reduced if a sanitary inspector is brought down at the level of the barangay.

A transitional or possibly more realistic measure could be to seek better complementarity between the sanitary inspectors and the BHW, until BHWs assimilate more critical technical and functional skills. With 42,000 barangays registered in the Philippines, to fulfill the required ratios for sanitary inspectors and BHWs in each of the barangays across the country would be close to impossible. Not only because of the budget this would require, but also the number of required qualified sanitary inspectors that would be needed. So, this becomes an issue of available funding for this additional workforce—or additional capacity development measures to upgrade the skills of BHWs. There is an opportunity to combine increasing BHW numbers with professionalizing the BHWs, upgrading their skills and improving their working conditions, thereby reducing the need to just focus on augmenting sanitary inspectors at the municipal or city level.

#### **4.4 SUMMARY OF BARRIERS AND OPPORTUNITIES**

This section offers a summary of barriers and new opportunities for HR development. This was informed by the four capacity levels explained in Annex I. Given that very little monitoring of the sanitation and hygiene sub-sector has been undertaken, and there is no formal assessment mechanism to qualify the progress of this sub-sector apart from the recent PWSSMP, the views and suggestions presented in this section will require further validation and documented examples.

**There are no structural HR assessments and planning for sanitation and hygiene HR, affecting understanding of the required positions and skills to fill identified shortages and gaps.** There is a lack of systematic monitoring and assessment of sanitation and hygiene service delivery mandates, outcomes, and (human) resources invested, and planning is often short-term and isolated rather than integrated, with planners at the local level planning for what they feel they can afford. Rollout of the PWSSMP, including the development of provincial and local master plans clearly outlining organizational roles and responsibilities and (HR) resource requirements, can address some of the concerns.

**Sanitation and hygiene are not adequately prioritized among the sectors and institutions in which they fall, resulting in a lack of jobs and job opportunities.** This is partly a result of the overlapping mandates and lack of clarity on roles and responsibilities, making organizations and agencies less prepared to invest in and contribute to services and the service delivery workforce, but it also reflects the low priority accorded to sanitation by government, despite household demand. This then results in limited financial resources for sanitation and hygiene service delivery, and limited ability and/or willingness to allocate available HR development-specific resources to sanitation and hygiene. Another consequence of the overlapping mandates are the bureaucratic processes involved, where LGUs have many government agencies to consult and to seek clearance from.

**There is a lack of awareness on the importance of safely managed sanitation and environmental concerns linked to sanitation.** People believe that as long as households have septic tanks in place, nothing else is required. However, this ignores the link between climate change and water supply and sanitation services, and ignores the need for resilient planning and preparedness, and O&M. DOH, LGUs, and related agencies can more clearly establish the link between health, climate, and sanitation and hygiene. This would lead to a more proactive demand for and prioritization of WASH services, and better-informed decision-making on required HR for safely managed sanitation service delivery.

**There is limited attraction to work in the (rural) sanitation and hygiene sectors and workforce conditions are generally poor,** acknowledging that sanitation and hygiene functions are performed by staff across various sectors. There is a lack of motivation to work in sanitation and hygiene service delivery, linked to low pay, lack of stable prospects, or unattractive working conditions. Improving the general image and prioritization of sanitation and hygiene services for households could

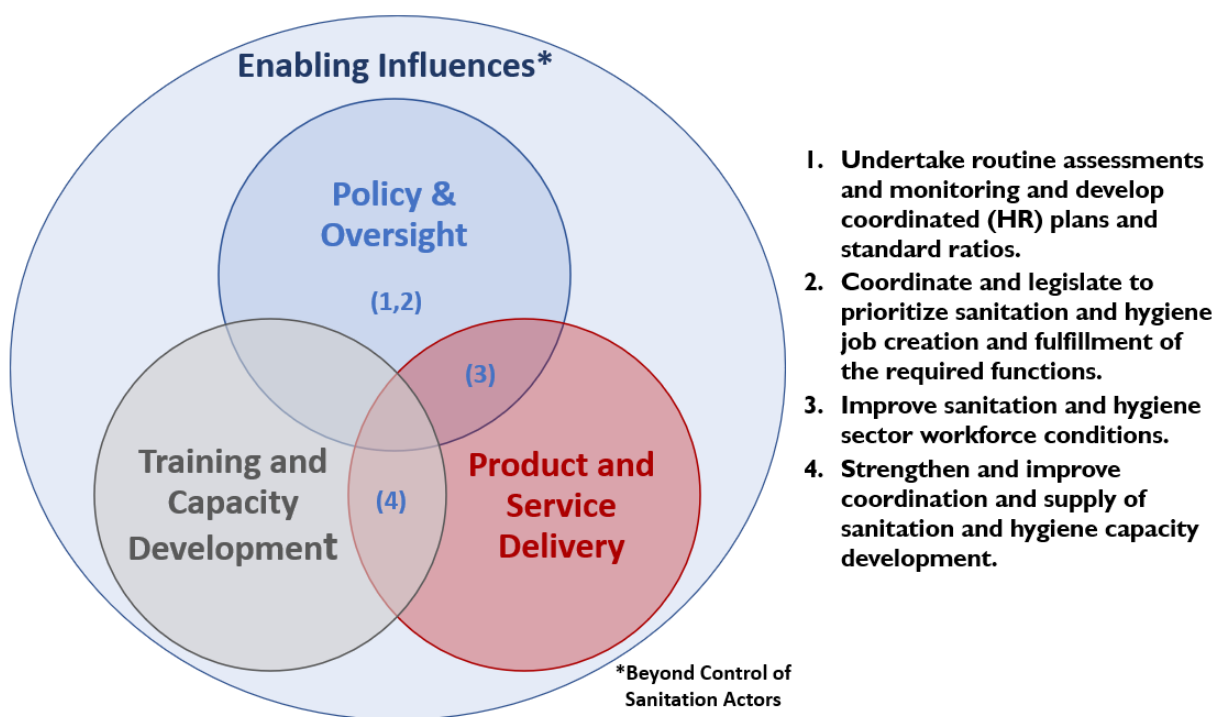
make it more attractive for people to seek jobs in this space. There is, however, also a need to further consider either strengthening the position, skills, and incentivization of BHWs and/or increase the number and mandate of sanitary inspectors to further augment individual interest to engage.

**HR demand, supply, and training opportunities are mismatched, leading to competency gaps and a lack of skills diversity.** Apart from technical knowledge and skills gaps around safely managed sanitation, there is also low organizational aptitude to change and innovate, reinforced by a lack of political will and leadership for innovation and adaptive management. There are opportunities to learn from examples from other countries or other LGUs/agencies that have successfully implemented rural safely managed sanitation and hygiene programming, including through twinning or peer-to-peer learning approaches. National leadership can inspire and incentivize organizations/LGUs to focus on efficient, effective service delivery, learning and sharing, and partnering with (private sector) service providers. And donor agencies and development partners can provide technical assistance and opportunities for capacity strengthening, for example, on safely managed sanitation, and including through existing virtual/online trainings (e.g., UNICEF, WaterAid).

## 5.0 RECOMMENDATIONS

From the above discussion, several high-level recommendations emerged. These were finalized in consultation with participants at the stakeholder validation workshop. These are aimed at primary stakeholders/institutions active in the sector and structured around key areas, namely Policy and Oversight, Training and Capacity Development, and Product and Service Delivery. Some recommendations apply to more than one category of stakeholder, as indicated in Figure 3. While there are also recommendations/actions for actors outside of the sanitation and hygiene sectors (e.g., linked to overall public sector reform or stimulation of rural employment), this assessment has focused on those that are within the manageable interest of sector actors and their partners.

The recommendations have different levels of detail as they are meant as a kickoff point for further discussions and actions in response to this CNA. They fit within the vision established to meet the targets reflected in the PDP (NEDA 2021) and the SDGs, allowing to put into context the potential activities and proposed interventions, despite, or accommodating, the limited resources and political support attributed to sanitation and hygiene at the present time.



**Figure 4. Overview of Recommendations**

Table 5 elaborates on the recommendations and provides more detail on the responsible parties and likely timeframe, distinguishing between short term (within two years), medium term (two to five years) and long term (five years or more).

**TABLE 5. RECOMMENDATIONS FOR SANITATION AND HYGIENE HR DEVELOPMENT**

RECOMMENDED ACTIONS	RATIONALE	RESPONSIBLE PERSON/AGENCY	TIME-FRAME
<b>INSTITUTIONS RESPONSIBLE FOR POLICY AND OVERSIGHT</b>			
<b>1. Undertake routine assessments and monitoring and develop coordinated (HR) plans and standard ratios.</b>			
a. Cascade PWSSMP to develop and finalize regional, provincial, and LGU master plans for WASH	Local master plans should serve as the basis for developing projects and programs and needed HR at the local level. The plans should harmonize the different sanitation plans that are currently being required into just one master plan. These plans will also put to the test the proposed creation of water resource regions linked to the establishment of the new Department of Water Resources outlined in the PWSSMP.	NEDA, NROs, RDCs, LGUs	Short term
b. Determine appropriate ratio of sanitary inspectors and BHWs per (household) population	To understand the appropriate number of HR (BHWs and sanitary inspectors) needed at the local and barangay levels.	DOH, local health boards, LGUs, DBM	Short to medium term
c. Implement community-based monitoring system or similar systems that include sanitation and hygiene service data	To institute a system that will monitor progress accurately at the barangay level and provide the BHWs the tools for reporting to the LGU. The system can also be used as reference for further evaluation and program assessment.	PSA, DOH, LGUs, sanitation inspectors, BHWs	Medium term
<b>2. Coordinate and legislate to prioritize sanitation and hygiene job creation and fulfillment of the required functions</b>			
a. Finalize environmental policies on reuse, pre-treatment and treatment of wastewater, sewerage systems	This will provide implementers guidance in considering the complete sanitation value chain in their programs and inform the HR required	EMB, DOH, DPWH, NEDA	Short term
b. Finalize and implement the Unified Resource Allocation Framework	This will provide guidance in the financing of sector projects and programs, training, and professionalization (including staffing) of WASH institutions, including the implementation of output-based aid, blended financing, and use of microfinance institutions.	NEDA, DBM, LGUs, government financial institutions, microfinance institutions	Short term
c. Legislate professionalization of BHWs: <ul style="list-style-type: none"> <li>Highlight and support their role as critical frontline HR for sanitation and hygiene, and</li> <li>Establish funding for increased activities and number of BHWs.</li> </ul>	Revisit and expand Republic Act No. 7883 (Barangay Health Workers Benefits and Incentives Acts of 1995) into a Magna Carta and Department Memorandum No. 2009-0302 (Reiteration of DOH Support for the Continuing Development of BHWs); and AO No. 2015-0028.	Senate, Congress, NEDA, DBM, DILG  LGUs-Councils, BHWs, DBM	Medium to long term
<b>POLICY AND OVERSIGHT INSTITUTIONS ALONG WITH MANDATED SERVICE PROVIDERS</b>			
<b>3. Improve sanitation and hygiene sector workforce conditions</b>			



**TABLE 5. RECOMMENDATIONS FOR SANITATION AND HYGIENE HR DEVELOPMENT**

RECOMMENDED ACTIONS	RATIONALE	RESPONSIBLE PERSON/AGENCY	TIME-FRAME
<p>a. Strengthen the position of sanitary inspectors to support household sanitation and hygiene:</p> <ul style="list-style-type: none"> <li>• Upgrade the salary grade for sanitary inspectors to reflect increased supervisory and reporting responsibilities, and</li> <li>• Implement training and supervision of BHWs by sanitary inspectors.</li> </ul>	To pass down technical direction and good practices from trained professionals to the frontliners. This may involve revisiting Republic Act 7883, DOH MO No. 2009-302, and possibly other AOs.	DOH, local health board, DPWH	Medium term
<p>b. Continue to professionalize the BHW position:</p> <ul style="list-style-type: none"> <li>• Offer incentive schemes and training opportunities to BHWs to upgrade skills and to attract more potential BHWs,</li> <li>• Establish and maintain a list of registered and accredited BHWs,</li> <li>• Develop communication materials and campaign to be used by BHWs for the promotion of sanitation and hygiene, and</li> <li>• Improve working conditions and transportation means for BHWs to reach farthest points in LGUs.</li> </ul>	A strengthened BHW workforce will be able to effectively and accurately promote sanitation and hygiene at the barangay level.	DOH, LGUs, Barangay Nutrition Scholars, BHWs, Barangay Leaders	Short to medium term

TRAINING INSTITUTIONS ALONG WITH MANDATED SERVICE PROVIDERS

**4. Strengthen and improve coordination and supply of sanitation and hygiene capacity development**

<p>a. Include the National Standard on the Design, Construction, Operation and Maintenance of Septic Tank Systems (DOH-AO 2019-047) in capacity building for sanitation of DILG.</p>	This will strengthen the DILG's ability to provide guidance on the design of on-site systems and on the contents of septage ordinances and training of HR.	DILG, DOH, LGUs	Short term
<p>b. Provide refresher training for building officials to enhance knowledge and aptitude for implementing building code and DOH-AO 2019-047</p>	For the building officials to understand their crucial role in strictly implementing the right designs and construction of on-site treatment systems.	DPWH, LGUs, Office of the Building Official	Short-term
<p>c. Conduct training and development needs assessment for BHWs for the personal and professional development of BHWs</p>	Improved skills and knowledge of BHWs will strengthen their ability to perform the relevant range of sanitation and hygiene functions.	DOH, LGUs, Barangay Nutrition Scholars, BHWs	Short to medium term

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## ANNEX I. METHODOLOGICAL FRAMEWORK

This annex summarizes the key frameworks and definitions that informed the global and individual country capacity needs assessments (CNAs). A full description of the methodological framework is included as Annex I in the CNA Final Report (United States Agency for International Development [USAID] 2023).

### Frameworks

Assessing and addressing human resources (HR) capacity shortages (numbers) and/or gaps (competencies) requires a full understanding of four interconnected levels of capacity: individual, organization, enabling environment, and society (Lincklaen Arriens and Wehn de Montalvo 2013). Figure 5 demonstrates that individuals' (HR) ability to perform functions, solve problems, and set and achieve objectives are dependent on the organizations and broader society in which the professionals work (including the enabling environment and the society they aim to impact) (WaterAid 2021). In the country-level CNAs, this framework was primarily applied to the barrier analysis undertaken.

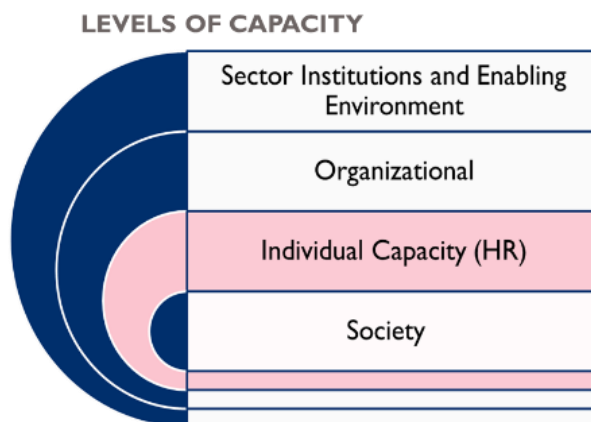


Figure 5. Framework for the Assessment

Many functions need to be fulfilled across sanitation- and hygiene-related sectors to reach universal safely managed sanitation and practice of basic hygiene behaviors. In this CNA, we developed a set of functions to guide our analysis of HR capacity and shortages, and required knowledge, skills, and competencies, either at national or local levels or for the different rural to urban geographies within countries. This set of functions was informed by an earlier set developed by WaterAid (2021), but incorporated additional functions felt to be pertinent to our assessment's focus on delivering area-wide (predominantly on-site) sanitation, based on key informant interviews in the start-up phase of our global assessment.

**TABLE 6. FUNCTIONS TO DELIVER SANITATION AND HYGIENE**

Policy, strategy, and coordination
Regulation
Monitoring
Oversight and support
Community mobilization and engagement
Construction
Emptying and transport
Operation and maintenance (O&M) (including treatment, disposal, and reuse)
Research and design
Business development

## Definitions

TABLE 7. GENERAL DEFINITIONS	
Area-wide sanitation	Sanitation that goes beyond the household and the community to area-wide (district/county) or market systems-level approaches (USAID 2020)
On-site sanitation	A sanitation system in which excreta and wastewater are collected, stored, and/or treated on the plot where they are generated (SSWM n.d.)
Hygiene	In this study, strictly confined to fecal-related environmental cleanliness and hygiene
Capacity	Capacity refers to the ability of individuals, organizations, and societies to perform functions, solve problems, and set and achieve objectives (Fukuda-Parr et al. in Willems and Baumert 2003)
HR capacity (individual capacity)	The number of HR (personnel or self-employed individuals) and their competencies available to perform functions, solve problems, and set and achieve objectives
HR shortages	Refers to a deficit in numbers of HR needed, versus those available
HR gaps	Refers to a deficit in competencies needed, versus those available
Competency	Knowledge, skills, and abilities needed for an employee to perform their job in an effective manner
Technical (knowledge and skills)	Knowledge and skills that a person has in a specific field (e.g., Behavioral scientist – behavior change communication skills; Environmental engineer – design skills to develop a fecal sludge management treatment plant)
Transferable (knowledge and skills)	Knowledge and skills that a person may need for their job but is not specific to that field only. These knowledge areas or skillsets are applicable across multiple jobs. (e.g., computer skills, relationship management, project management, interactive skills)
Formal workforce (ILOSTAT n.d.)	All workers in incorporated enterprises
Informal workforce (ILOSTAT n.d.)	All workers in unincorporated enterprises that produce at least partly for the market and are not registered. It excludes households that produce exclusively for own final use, subsistence agriculture, construction of own dwellings, etc.

TABLE 8. GEOGRAPHICAL AREAS DEFINED (ADAPTED FROM: WATERAID 2019. GUIDANCE ON RURAL SANITATION PROGRAMMING)	
Rural Remote (far from urban)	<ul style="list-style-type: none"> <li>• Small and remote communities</li> <li>• Unpaved roads</li> <li>• Low population density</li> <li>• Primary agricultural livelihood</li> <li>• Low market reach (products and services not reaching rural remote area)</li> <li>• Low affordability of sanitation products and services</li> <li>• Few sanitation finance options (few finance institutions or services available)</li> </ul>
Rural-on-Road (close to urban)	<ul style="list-style-type: none"> <li>• Small to medium communities connected with rural centers</li> <li>• All-weather roads</li> <li>• Low to medium population density</li> <li>• Agricultural and other livelihoods</li> <li>• Low to medium market reach</li> <li>• Low availability of market products and services</li> <li>• Low affordability of market-based sanitation products and services</li> <li>• Some options for sanitation finance</li> </ul>
Rural Mixed (peri-urban)	<ul style="list-style-type: none"> <li>• Large rural settlements and rural areas within urban catchments</li> <li>• Paved roads</li> <li>• Medium to high population density (some congestion problems)</li> <li>• Mixed livelihoods</li> <li>• Some tenants (rented accommodation)</li> <li>• Medium to high market reach</li> <li>• Medium availability of market products and services</li> <li>• Low to medium affordability of market-based sanitation products and services</li> <li>• Increased options for sanitation finance</li> </ul>
Urban	<ul style="list-style-type: none"> <li>• Large settlements within urban catchment</li> <li>• Unpaved or paved roads</li> <li>• High population density (congestion problems)</li> <li>• Mixed livelihoods</li> <li>• Falls in mandated area of the utility</li> <li>• Medium to high market reach</li> <li>• Medium to high availability of market products and services</li> <li>• Can have lack of land</li> </ul>



**TABLE 8. GEOGRAPHICAL AREAS DEFINED (ADAPTED FROM: WATERAID 2019. GUIDANCE ON RURAL SANITATION PROGRAMMING)**

	ownership (informal/illegal settlement) • Low affordability of market-based sanitation products and services • Increased options for sanitation finance
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## ANNEX 2. KEY INFORMANTS AND WORKSHOP PARTICIPANTS

TABLE 9. KEY INFORMANTS			
ORGANIZATION/ INSTITUTION	NAME	POSITION	INTERVIEW FORMAT
Department of Health (DOH)	Dr. Rosalind G. Vianzon	Medical Officer V, Healthy Workplace and Environment Division, Health Promotion Bureau	Group Zoom call, September 15, 2022
	Engr. Joselito Riego de Dios	Chief Health Program Officer	
	Engr. Ivy Urnus	Engineer II	
	Engr. Rolando I. Santiago	Supervising Health Program Officer	
Department of Interior and Local Government (DILG)	Fe Crisilla M. Banluta	Project Manager II	Group Zoom call, September 22, 2022
	Olga F. Patron	Engineer V	
	Felixberto Q. Chua Jr.	Engineer V	
	Josephine G. Ramos	Development Manager Officer IV	
	Roger Ocampo	Project Manager I	
	Mel Senen Sarmiento	Former DILG Secretary, Lecturer at the Local Government Academy and Development Academy of the Philippines	
Department of Environment and Natural Resources (DENR), Environmental Management Bureau (EMB)	Engr. Catherine Joaquin	Engineer II, EMB	Group Zoom call, September 29, 2022
	Engr. Gerry Mogol	Environment Practicing Professional Focusing on Sanitation	
Local Water Utilities Administration (LWUA)	Ms. Anabelle Gravador	Manager, Technical Assistance Department and Concurrent Head of the Training Division	Group Zoom call, September 28, 2022
	Mr. Ludwin Briones	Manager, Water and Utilities Department	
Baliwag Water District	Maria Vicky Signo		Zoom call, October 3, 2022
Santa Maria Water District	Jun Santos	General Manager	Zoom call, October 3, 2022
DOH Region 12	Dr. Maria Fe Viviane Sespeñe	Head, Environmental and Occupational Health Cluster	Zoom call, October 5, 2022
DILG Region 12	Engineer Herminia S. Ontoy	Head, Project Development Management Unit	Group Zoom call, October 14, 2022
	Engineer Hajid Melikon	Focal Person of SALIN TUBIG Program	
	Engineer Joven Casquero	Project Development Management Unit	

**TABLE 10. PARTICIPANTS IN THE VALIDATION WORKSHOP**

#	NAME	AGE	SEX	ORGANIZATION	POSITION	EMAIL	DISCIPLINE	EXPERTISE	REMARKS
1	Jay Tecson		Male	USAID Water, Sanitation, and Hygiene Partnership and Learning for Sustainability (WASHPaLS) #2 Project	Lead Country Consultant	jtecson2@gmail.com	Water and Sanitation	Water, Sanitation, and Hygiene (WASH)	On site
2	Arnel Gonzales	31	Male	USAID WASHPaLS#2 Project	Consultant	amgonzales20@gmail.com	Project Management	Project Management	On site
3	Joanne Dulce		Female	USAID/Philippines	Project Management Specialist	jodulce@usaid.gov	WASH	WASH	Via Zoom
4	Mel Senen Sarmiento		Male	Galing Pook Awards, Development Academy of the Philippines	Lecturer	rep_melsarmiento@yahoo.com	Governance	Governance	On site
5	Ryan Navarro		Male	Global Water Solutions Inc	Consultant		Management Information Specialist	Management Information Specialist	On site
6	Belinda M. Javier	56	Female	LWUA	Principal Engineer A	belinda.javier.65@gmail.com	Civil Engineer	Water and Sanitation	On site
7	Christian John B. Marcelo	27	Male	LWUA	Supervising Engineer B	marcelochristian1212@gmail.com	Engineer	Water and Sanitation	On site
8	Alvidon F. Asis	38	Male	Programs, Projects and Policy Department	Environment Unit Head	alvidon.lcp@gmail.com	Local environmental governance, environmental management	Local environmental governance, environmental management	On site
9	Fe Crisilla M. Banluta	60	Female	DILG Office of Project Development Services (OPDS)	Project Manager II	fecrisilla_banluta@yahoo.com	Hydrogeologist	Governance, Water Supply & Sanitation	On site

**TABLE 10. PARTICIPANTS IN THE VALIDATION WORKSHOP**

#	NAME	AGE	SEX	ORGANIZATION	POSITION	EMAIL	DISCIPLINE	EXPERTISE	REMARKS
10	Flerilynn M. Estorninos-de Leon	41	Female	National Water Resources Board (NWRB)	Planning Officer IV	fleri.estorninos-deleon@nwr.gov.ph	Planning Officer	Water	On site
11	Jeffrey Miranda	30	Male	DILG-Bureau of Local Government Supervision	Project Development Officer III	jeff.miranda20@ymail.com	Engineer	Water and Sanitation	On site
12	Michael M. Dimapinto	42	Male	DILG/OPDS	Development Management Officer IV	mmdimapinto@gmail.com	Political Science	Capacity Development for Water and Sanitation	On site
13	Ma. Victoria E. Signo	51	Female	Baliwag Water District	General Manager	vickysigno_71@yahoo.com	Engineer	Water and Sanitation	On site
14	Roberto G. Estrella	59	Male	Baliwag Water District	Assistant General Manager	roberto.estrella@baliwagwd.com.ph		Water and Sanitation	On site
15	Ma. Teresa F. Ramos	48	Female	Baliwag Water District	Assistant General Manager	mariateresa.ramos@baliwagwd.com.ph		Water and Sanitation	On site
16	Norman Oliver P. Ragil	33	Male	Baliwag Water District	Principal Engineer D	normanoliver_0302@yahoo.com	Engineer	Water and Sanitation	On site
17	Lea Yvette T. Aguilar	28	Female	Department of Public Works and Highways (DPWH)	Engineer III	aguilar.leayvette@gmail.com	Engineer	Sewerage and Septage	On site
18	Eduardo Chua	61	Male	DPWH	Engineer IV	eduardochua28@gmail.com	Engineer	Sewerage and Septage	On site
19	Maria Erlinda Pajarito	54	Female	NWRB	Engr III	mariaerlinda.pajarito@nwr.gov.ph	Civil and Sanitary Engineer	Water	On site
20	Gerry Mogol		Male	Asia Development Bank Team Sanitation Specialists	Senior Sanitation Specialists	gerardo_mogol@yahoo.com	Engineer	WASH	On site
21	Lito Santos		Male	Asia Development Bank Team Sanitation Specialists	Senior Sanitation Specialists	clsantos41@yahoo.com	Engineer	WASH	On site

TABLE 10. PARTICIPANTS IN THE VALIDATION WORKSHOP									
#	NAME	AGE	SEX	ORGANIZATION	POSITION	EMAIL	DISCIPLINE	EXPERTISE	REMARKS
22	Roger Ocampo		Male	DILG-OPDS	Project Manager I	roger.ocampo12@gmail.com	Management and Hydrogeologist	water supply and sanitation	Via Zoom
23	Catherine Joaquin		Prefer not to say	DENR-EMB	Engineer II	catherinejoaquin@yahoo.com	Environmental and Sanitary Engineer/Civil Engineer	Public Health, Sanitation, Wastewater, Environmental Management	Via Zoom
24	Nerissa Jose		Female	Global Water Solutions, Inc.	Director of Communications	nerissajose41@yahoo.com	MPA	Water and Sanitation	Via Zoom
25	Ariel Lapus		Male	DAI Global LLC	Water Supply and Sanitation Specialist	ariel_lapus@dai.com	Engineer	Water and Sanitation	
26	Rosalind G. Vianzon	60	Female	Health Promotion Bureau	Medical Officer V	rgvianzon@doh.gov.ph	Physician/Medical Doctor	Public Health	Via Zoom
27	Engineer Joselito Riego De Dios		Male	DOH	Chief Program Officer, Healthy Workplace and Environment Division, Health Promotion Bureau	jmriegodedios@doh.gov.ph	Engineer	Public Health	On site
28	Rolando I. Santiago		Male	DOH	Supervising Health Program Officer	risantiago@doh.gov.ph		Public Health	On site
29	Engr. Maria Erlinda Pajarito		Female	NWRB		mariaerlinda.pajarito@nwr.gov.ph	Water	Water	On site

## ANNEX 3. MUNICIPAL-LEVEL STAKEHOLDER MAPPING

TABLE 11. MUNICIPAL-LEVEL STAKEHOLDER MAPPING	
STAKEHOLDERS	DESCRIPTION
Local Chief Executive or City/Municipal Mayor's Office	The Local Chief Executive or Mayor takes the lead in all of the decision-making to be done in the city, directs the local government in the delivery of basic services to constituents, and provides for institutional and economic growth of the local government unit (LGU).
City/Municipal Administrator's Office	The City or Municipal Administrator takes the lead in putting order within the LGU. Upon the instructions of the Mayor, the Administrator provides the internal control of and dispenses actions to all the executive departments of the LGU.
City/Municipal Planning and Development Office	The City or Municipal Planning and Development Office takes the lead in planning the development of and for the LGU. It directs and assists other departments in planning their activities toward the planned development of the LGU and helps incorporate the LGU's vision and direction for growth.
City/Municipal Environment and Natural Resources Office	The City or Municipal Environment and Natural Resources Office is responsible for the environmental protection and programming of the LGU. It also ensures that the LGU complies with the environmental laws imposed by the national government on LGUs and that others within the LGU comply with the environmental policies of the LGU.
City/Municipal Health Office	The City or Municipal Health Office is responsible for maintaining public health and the compliance of the LGU and its constituents to health regulations and policies. It also cascades the health programs and directives from the national government and ensures that these programs redound to the health benefits of the constituents.
City/Municipal Engineering Office	The City or Municipal Engineering Office is responsible for building the necessary infrastructure and facilities needed by the LGU, including the maintenance of its assets and facilities. It also houses the Local Building Officials, who review and approve all building plans and issue building permits and occupancy permits when plans and construction are done in compliance to code.
City/Municipal Legal Office	The City or Municipal Legal Office is responsible for reviewing contracts and covenants that the LGU may enter into, including possible memoranda and contracts with neighboring LGUs and private sector entities.
City/Municipal Disaster and Risk Reduction Management Office	The City or Municipal Disaster and Risk Reduction Management Office is responsible for implementing the LGU's climate change and disaster prevention and mitigation actions and plans. In cases where the LGUs experience outbreaks and catastrophic events that would require relocation and evacuation, this office takes the lead in providing rescue, relief, and management of evacuation facilities.
Housing and Community Development Office	The Housing and Community Development Office is responsible for implementing and overseeing the housing program of the LGU. This includes assessing the needs and ensuring that all basic services that would be needed in these resettlement areas are provided.
City/Municipal Treasurer's Office	The City or Municipal Treasurer's Office is responsible for managing the financial health of the LGU and its compliance to national government financial management regulations for LGUs. It advises on the status of the financial management of the LGU and its direction for funding or financing its programs and investments for its infrastructure and facilities.
General Services Office	The General Services Office is responsible for administering the general services provided by the LGU. It can provide sanitation services if they are required to do it.
City or Municipal Legislative Council	The City or Municipal Council or the Sangguniang Panlungsod/Sangguniang Bayan is the legislative body of the LGU that is tasked with developing the LGU's local policies and providing oversight for executive decisions. This includes serving as liaison with the Association of Barangay Captains in determining adoptable programs and projects for the Barangays. It provides the needed policies and policy directions for instituting sanitation and wastewater management programs and projects within the LGU and in collaboration possibly with neighboring LGUs and private sector entities.



**TABLE 11. MUNICIPAL-LEVEL STAKEHOLDER MAPPING**

STAKEHOLDERS	DESCRIPTION
Local Housing Board	The Local Housing Board is an inter-agency Board that deliberates and provides decisions and policy directions concerning housing and settlement matters. It provides policy directions for proposed actions in the housing projects taken over by the LGU and those housing projects implemented by other parties.
Local Health Board	<p>The functions of the local health board shall be:</p> <ul style="list-style-type: none"> <li>• To propose to the LGU Council concerned, in accordance with standards and criteria set by the DOH, annual budgetary allocations for the O&amp;M of health facilities and services within the municipality, city, or province, as the case may be;</li> <li>• To serve as an advisory committee to the LGU Council concerned on health matters such as, but not limited to, the necessity for, and application of, local appropriations for public health purposes; and</li> <li>• Consistent with the technical and administrative standards of the DOH, to create committees that shall advise local health agencies on matters such as, but not limited to, personnel selection and promotion, bids and awards, grievances and complaints, personnel discipline, budget review, operations review, and similar functions.</li> </ul>
Local Water District or Water Service Provider (WSP)	Based on Presidential Decree 198 or the Water District Law, the Local Water District is mandated to provide for water supply and sanitation services to its designated service area. It has its own corporate charter, which allows it to operate on its own independent of the LGU, to go into a public-private partnership with a private corporation, or to contract out any of its functions through a service contract or management contract. Once under a public-private partnership or a joint venture, the Local Water District will normally perform contract monitoring and regulatory and oversight functions over the operations of the private partner.
Private Operator or Partner WSP	As a private partner of the local water district, the private operator may be made responsible for the delivery of water supply and sanitation services as defined in its concession agreement with the local water district. This may also be any water and sanitation service provider that is operating independently from the LGU and the water district.
National Housing Authority (NHA)	The NHA is the national agency that is in-charge of housing and settlements projects that use national agency funds, congressional funds, and funds from LGUs and other executive departments, earmarked for housing and human settlements. It coordinates and works with other shelter agencies under the Department of Human Settlements and Urban Development. It makes provisions for developing wastewater management options and modalities and sanitation services for the target clientele of the NHA and for those housing projects turned over to the LGUs.
Department of Public Works and Highways (DPWH) and District Offices	The DPWH and its District Offices are the official construction arm of government. Its regional offices are responsible for executing the projects funded by the national government, congressional funds, or funds of other executive departments. It assists in defining construction requirements and plans that are national in scope and or considered inter-LGU projects. They are also the conduit agency for the national grant program of the national government for sanitation and wastewater management called the National Sewerage and Septage Management Program.
Department of Health	The DOH is responsible for implementing health standards, programs, and policies. It incorporates health measures in the design and implementation of projects and programs on sanitation and wastewater management, and those stationary and mobile sanitation service providers are compliant to regulatory requirements such as the Environmental Sanitation Clearance.
Department of Environment and Natural Resources, Environmental Management Bureau	The DENR, particularly its attached agency, the EMB, are agencies that are tasked to uphold environmental protection and impose environmental regulatory compliance on LGUs and all public and private entities. They ensure that environmental guidelines and regulations are formulated when required and integrated in the design and implementation of proposed programs and projects, including compliance to the requirements of the Environmental Compliance Certificate and the Discharge Permits of planned and existing wastewater treatment facilities.

**TABLE 11. MUNICIPAL-LEVEL STAKEHOLDER MAPPING**

STAKEHOLDERS	DESCRIPTION
National Economic and Development Authority (NEDA)	The NEDA is responsible for disseminating the policies and programs developed and enforced by the planning department of the national government, including the rollout of the recently approved Philippine Water Supply and Sanitation Master Plan. It ensures that the plans and programs to be developed and adopted by LGUs capture the provisions of the national master plan and all its targets and proposed reforms.
Department of Interior and Local Government (DILG)	The DILG is the government agency in-charge of the capacity development of LGUs. It provides for addressing the need for capacity development in all the planned programs and projects for sanitation and wastewater management, including the engagement of the Environmental Ombudsman. It provides important lessons on the role of LGUs in the delivery of public service and incentive schemes for them to adopt proposed programs.
Department of Education	The Department of Education is in-charge of developing, implementing, and expanding the educational programs of the country. It assists in the dissemination and promotion of program and project-related information, particularly in the adoption and practice of sanitation and hygiene programs with the youth and school-goers.
Philippine Atmospheric, Geophysical, and Astronomical Services Administration	The Philippine Atmospheric, Geophysical, and Astronomical Services Administration is the National Meteorological and Hydrological Services agency of the Philippines mandated to provide protection against natural calamities and to ensure the safety, well-being, and economic security of all the people, and for the promotion of national progress by undertaking scientific and technological services in meteorology, hydrology, climatology, astronomy, and other geophysical sciences. It can support in incorporating climatic data and lessons from extreme weather events that may be experienced into project design and implementation through downscaled information and projections.
Regional Development Council (RDC)	The RDCs serve as the clearinghouse for all developmental undertakings in the region of significant scale or importance that can affect the growth and economic prosperity of the region. It provides for decisions on and directions for the social and economic acceptability and viability of planned programs and projects. This is especially important for undertakings that may involve two or more LGUs.
Homeowners' Associations (HOA)	There are several housing sites that are being managed by HOA after the housing projects are turned over to intended residents, including those with co-management arrangement with the LGU. They are critical in providing feedback and proposed solutions for addressing sanitation and wastewater management issues, including, most importantly, the support for the projects and defining the capability to pay for these additional services.
Barangay Council	The Barangay Council headed by the Barangay Captain is responsible for ensuring that government services reach the grassroots level or those in the housing communities. It provides coordination and organization at the community level to ensure adequate support and cooperation for LGU-initiated programs and projects. It can also assist in the dissemination of information and promotion programs and in the actual implementation of the programs.
Independent small-scale water and sanitation service providers	There are independent water and sanitation service providers that are registered with the LGU and those that are operating under the radar of the LGU. They are private in nature and usually unregulated. They can be an active provider of the service but may not be willing to be subjected to the regulations and administration of the LGU or by the local water district. This may include barangay waterworks and rural water supply and sanitation associations.
International donors and nongovernmental organizations (NGOs)	International donor agencies and NGOs assist in the design and implementation of water supply and sanitation programs and projects that can be brought to scale. They may be pre-existing programs or models developed and/or practiced in other countries or something that are new and can be pilot-tested.

## ANNEX 4. ANNUAL POVERTY INDEX SURVEY 2019–2020

Percentage of Families by Sanitation Facilities, According to their Residence: Philippines, 2019 and 2020						
Type of Sanitation Facilities	2020 APIS			2019 APIS		
	Families			Families		
	Urban	Rural	Total	Urban	Rural	Total
Number of Families (Total, in thousands)	13,332	12,516	25,848	13,041	12,269	25,310
Total	100.0	100.0	100.0	100.0	100.0	100.0
<b>Improved, not shared facility</b>	80.9	79.9	80.4	82.8	80.2	81.6
Flush to piped sewer system	10.0	4.7	7.4	13.6	6.0	9.9
Flush to septic tank	65.7	56.1	61.0	60.2	49.8	55.2
Flush to pit latrine	4.5	15.8	10.0	8.1	20.9	14.3
Ventilated improved pit latrine	0.2	1.7	0.9	0.4	1.6	1.0
Pit latrine with slab	0.4	1.6	1.0	0.4	1.8	1.1
Composting toilet	*	*	*	*	0.1	0.1
<b>Shared facility<sup>1</sup></b>	15.7	11.2	13.5	12.2	9.6	10.9
Flush to piped sewer system	1.8	0.3	1.1	1.7	0.3	1.1
Flush to septic tank	12.6	7.9	10.3	9.0	6.0	7.6
Flush to pit latrine	1.0	2.1	1.6	1.2	2.8	1.9
Ventilated improved pit latrine	*	0.3	0.2	0.1	0.1	0.1
Pit latrine with slab	0.2	0.4	0.3	0.1	0.3	0.2
Composting toilet	*	*	*	*	0.1	-
<b>Unimproved facility</b>	1.8	3.4	2.6	2.94	4.61	3.75
Flush to open drain	1.0	1.3	1.1	0.74	1.86	1.29
Flush to don't know where	0.2	0.3	0.3	1.00	0.08	0.55
Pit latrine without slab/open pit	*	0.4	0.2	0.10	0.81	0.44
Bucket	*	*	*	*	*	*
Hanging toilet/hanging latrine	0.2	0.8	0.5	*	0.91	0.68
Public Toilet	0.2	0.6	0.4	0.45	0.57	0.51
Other	*	*	*	*	0.21	0.15
<b>No facility/bush/field</b>	1.6	5.6	3.5	2.06	5.53	3.75
Notes:						
1. Shared with two or more households						
2. * An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.						
3. "-" denotes value less than 0.05 percent but not equal to zero						
Source: Philippine Statistics Authority, 2019 and 2020 Annual Poverty Indicators Surveys						

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