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SANITATION AND HYGIENE SECTOR CAPACITY NEEDS ASSESSMENT

NIGERIA COUNTRY REPORT

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ACRONYMS AND ABBREVIATIONS

ALGON	Association of Local Governments of Nigeria
AMCOW	Africa Ministers' Council of Water
AWS	Area-Wide Sanitation
CBO	Community-Based Organization
CLTS	Community-Led Total Sanitation
CHEW	Community Health Extension Worker
CNA	Capacity Needs Assessment
CSO	Civil Society Organization
DP	Development Partner
DPG	Development Partners Group
EHO	Environmental Health Officer
EHORECON	Environmental Health Officers Registration Council
EU	European Union
FCDO	Foreign Commonwealth and Development Office (UK)
FME	Federal Ministry of Environment
FMOH	Federal Ministry of Health
FMWH	Federal Ministry of Works and Housing
FMWR	Federal Ministry of Water Resources
FMWRS	Federal Ministry of Water Resources and Sanitation
FSM	Fecal Sludge Management
GDP	Gross Domestic Product
GESI	Gender Equality and Social Inclusion
GLAAS	Global Analysis and Assessment of Sanitation and Drinking Water (UN-Water)
HR	Human Resources
IDP	Internally Displaced Person
INGO	International Nongovernmental Organization
KII	Key Informant Interview
LGA	Local Government Area
MBS	Market-Based Sanitation
MDAs	Ministries, Departments, and Agencies

MFI	Microfinance Institution
MOU	Memorandum of Understanding
NEWSAN	Society for Water, Sanitation, and Hygiene in Nigeria
NGO	Nongovernmental Organization
NPHCDA	National Primary Health Care Development Agency
NTD	Neglected Tropical Disease
NTGS	National Task Group on Sanitation
NWRI	National Water Resources Institute
O&M	Operation and Maintenance
OD	Open Defecation
ODF	Open Defecation Free
PEWASH	Partnership for Expanded Water, Sanitation, and Hygiene
PLWD	Person Living with Disabilities
RUWASSA	Rural Water Supply and Sanitation Agency
SDG	Sustainable Development Goal
SMEDAN	Small and Medium Enterprises Development Agency of Nigeria
STOWA	Small Towns Water and Sanitation Agency
SUBEB	State Universal Basic Education Board
UN	United Nations
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USD	United States Dollar
VHP	Volunteer Hygiene Promoter
WASH	Water, Sanitation, and Hygiene
WASHCOM	WASH Committee
WASHIMS	WASH Information and Management System
WASHNORM	WASH National Outcome Routine Mapping
WASHPaLS	Water, Sanitation, and Hygiene Partnerships and Learning for Sustainability

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 (WASH) programming through support for learning and adoption of the evidence-based programmatic foundations needed to achieve the Sustainable Development Goal (SDG) 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 (MBS) 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 (HR) 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 Nigeria, 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, the Philippines, and Rwanda. This report presents the findings from the CNA in Nigeria.

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 Activity 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 (AWS) and basic hygiene sustainably and at scale. The overall assessment included six country-level CNAs, including in Nigeria. The Nigeria CNA included a desk review, key informant interviews (KIIs), and focus group discussions, complemented by state-level workshops and field work in selected local government areas (LGAs) of Jigawa State and Ebonyi State, and a national validation workshop.

KEY FINDINGS

The assessment found a significant HR shortage in the rural sanitation and hygiene workforce, but a lack of data to quantify the need. While the assessment team was able to gather public sector staffing data from an illustrative subset of states and LGAs, the team found that there is insufficient data on HR capacity for the private sector and civil society.

Stakeholders qualitatively scored the adequacy of HR against a predetermined set of nine functions essential for sanitation and hygiene service delivery. The functions of regulation, policy, strategy, and coordination were assessed to have less than 50 percent of the needed HR in place to meet current/future demand (to reach the SDGs/national targets), as was the function of monitoring at the state and LGA levels. Similarly, HR shortages were noted for operation and maintenance (O&M), including for treatment and reuse (in urban areas as rural O&M is considered largely a household responsibility). HR shortages were felt to impact directly on the lack of up-to-date, harmonized sector policies and regulation, such as the weak regulation on fecal sludge management (FSM).

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. Due to state government recruitment freezes since 2013, many states have not been able to recruit into the civil service and specifically the offices relating to sanitation and hygiene. Linked to a lack of state-level adoption or prioritization of federal sanitation and hygiene policies, roadmaps, or guidelines, only around 20 percent of the 774 LGAs have WASH departments or units in place. As a result, both state and LGA-level entities are challenged by weak capacities for program planning, budgeting, implementation, and service delivery. Consequently, no plans are in place for AWS and hygiene, and there is no active demand for jobs and skills.

The public sector is generally male-dominated and of more advanced age, with relatively low youth employment. Lack of recent employment/replacement of staff in the government sector at the state level has left many vacancies, creating a risk of poor transfer of skills from the older generation to the younger and a loss of institutional memory.

The rural sanitation and hygiene sector is limited in its attraction of highly skilled professionals and strongly dependent on volunteers. Lack of job opportunities and growth in the sector serve as a major disincentive for individuals to make deliberate efforts to further their careers and build their capacity without guarantees for employment or absorption into any of the agencies. Because of the continued focus on containment and reaching Open Defecation Free (ODF) status, community mobilization and engagement is a key function within the local governance structure and departments, with Environmental Health Officers (EHOs), community health extension workers, WASH trained personnel from within the LGA structure, as well as CBOs, civil society organizations (CSOs),

and faith-based organizations active in this space. But the number of personnel mobilized and their capacity to carry out their responsibilities are a function of consistent donor-led or state-supported funding and are often higher in states where donor presence has supported WASH sector reforms.

Volunteers have become a key part of the sanitation and hygiene sector mobilization, strongly driven by community-led total sanitation (CLTS). These include WASH committees (WASHCOMs), natural leaders or community consultants, volunteer hygiene promoters (VHPs), or in United Nations' Children's Fund (UNICEF)-supported areas. On average, an LGA of around 300 villages will have an estimated volunteer force of between 3,000 and 4,500 WASHCOM members, including natural leaders. The most outstanding community consultants, natural leaders, and WASHCOM members often work as (partially compensated) volunteers for the LGA WASH departments/units or CSOs that are supporting sanitation and hygiene programs. However, the volunteer workforce suffers overall from declining motivation due to a lack of prospects or further (remunerated) opportunities.

Construction of household sanitation and hygiene facilities is largely driven by the informal sector, with limited formal private sector investment and engagement in sanitation and hygiene service provision. Engagement and capacity building of masons, artisans, and toilet business owners is somewhat more organized and coordinated in areas where development partners (DPs) such as UNICEF support AWS and hygiene programs. This is linked to a growing emphasis on MBS, including a gradual improvement of the business environment and the market-entry of new actors, products, and associated workforce for the provision of low-cost sanitation services.

Overall, however, **there is still considerable societal stigma attached to sanitation jobs,** and when coupled with the limited career opportunities, this leaves people demotivated to seek an education or employment in the sanitation and hygiene sectors.

KEY RECOMMENDATIONS OF THE ASSESSMENT

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 7 provides the recommendations in a table (Table 5) that incorporates timeframes and responsible parties.)

INSTITUTIONS RESPONSIBLE FOR POLICY AND OVERSIGHT IN CONJUNCTION WITH PRODUCT AND SERVICE PROVIDERS

I. Undertake routine (sub)national HR sector assessments and monitoring and develop coordinated HR plans and standards

To ensure appropriately staffed sanitation and hygiene sectors across all states and LGAs, the assessment team recommends undertaking, with leadership from the Federal Ministry of Water Resources and Sanitation (FMWRS), a detailed HR gap assessment and analysis with states and LGAs. This should inform a comprehensive and costed capacity improvement and HR management plan that covers all actors active in rural sanitation and hygiene, including the public sector, formal and informal private sectors, volunteers, and nongovernmental organizations (NGOs)/CBOs. Linked to sector policies, plans, and strategies at federal, state, and local government levels, this plan could also include (a roadmap toward) standardization of jobs, roles, qualifications, salary levels, and job conditions for all levels and actors, in alignment with other sectors. FMWRS and partners should also consider integration of HR monitoring systems within the broader drive for area-wide sanitation (AWS) and hygiene and the need to measure system strengthening, for example through capturing workforce data in the WASH Information Management System (WASHIMS).

2. Advocate and coordinate to prioritize sanitation and hygiene job creation and fulfillment of the required functions through establishment of LGA WASH departments

In addition to the detailed HR needs assessment and gap analysis, further analysis should be undertaken, possibly with support from DPs, to understand barriers to the establishment of WASH departments. This information should then feed into a costed plan for the establishment and appropriate staffing of WASH departments/units in all states and LGAs, and directives, guidance, and support provided by the FMWRS and other key stakeholders, in the establishment and sustained functioning of such WASH departments.

3. Work toward gender equality and social inclusion (GESI) in the sanitation and hygiene sector workforce

As part of the comprehensive HR planning led by FMWRS but also at an organizational level by DPs and other sector stakeholders, partners should ensure inclusion of explicit strategies and targets in HR sector plans, policies, and organizations to increase equality and inclusion in the workforce, including based on gender and age. This should range from ensuring more equal access to education and skills building opportunities, to parity in paid positions and appropriate working conditions, and understanding GESI implications of reliance on a largely volunteer workforce.

4. Improve sanitation and hygiene sector workforce conditions for (in)formal private sector actors and break down stigma and barriers to their engagement

States together with DPs and private sector actors should seek to assess and better understand the current role played and barriers faced by the (in)formal private sector in sanitation and hygiene service delivery, and implications for private sector HR recruitment, retainment, and development. Federal government agencies should also explore formalization and more structured engagement (and oversight) of informal private sector actors (e.g., masons, artisans, emptiers) to improve employment conditions and quality of products and services delivered. This will need to be accompanied by increased regulation and a focus on health, safety, engagement, and advocacy to change perceptions and curb discrimination and biases against sanitation workers.

INSTITUTIONS RESPONSIBLE FOR POLICY AND OVERSIGHT IN CONJUNCTION WITH PRODUCT AND SERVICE PROVIDERS AND TRAINING INSTITUTIONS

5. Strengthen and improve coordination and supply of sanitation and hygiene capacity development

Under government (e.g., FMWRS/Federal Ministry of Environment [FME]) leadership and with active engagement of the National Water Resources Institute (NWRI), sector partners should hold bi-annual meetings for learning and knowledge exchange to understand HR needs of the sector, gain input from practitioners on HR capacity gaps and requirements, discuss capacity development opportunities, and arrange practical internships/attachments for students. Sector training institutions should also more systematically develop and offer courses on transferable skills and competencies such as project management, strategic planning, facilitation skills, and (digital) data management.

6. Institutionalize LGA peer-to-peer support programs

LGAs should engage in peer-to-peer support programs where LGA WASH departments of ODF LGAs or LGAs that have made substantial progress provide skill and capacity development support to staff and personnel of LGAs that have expressed interest in moving toward LGA-wide sanitation. This will require support from state Ministries of Local Government, the FMWRS, and the Association of Local Governments of Nigeria (ALGON).

I.0 INTRODUCTION

I.1 BACKGROUND AND OBJECTIVE OF STUDY

With less than a decade to achieve 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 (OD), 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 tackling 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’s (USAID) Water, Sanitation, and Hygiene Partnerships and Learning for Sustainability (WASHPaLS) #2 Activity conducted a sanitation and hygiene-centered 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 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.

In light of 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 AWS and basic hygiene sustainably and at scale with emphasis on on-site sanitation. The overall assessment included six country-level CNAs 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 1) that 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.

The Nigeria assessment took place between August and October 2022 and was guided by the following key questions:

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?

This report presents the findings and recommendations from this country-level CNA. It seeks to inform the Government of Nigeria and its country-level partners, including international nongovernmental organizations (INGOs) and nongovernmental organizations (NGOs), training and education institutes, and development partners (DPs), on the identified capacity needs and sector dynamics and concludes with a set of proposed recommendations for further discussion and action.

I.2 METHODOLOGY

The assessment team conducted the CNA using the following methods: a desk review, focus group discussions, key informant interviews (KII), and stakeholder workshops. The desk review provided

background and contextual information on HR capacity in the country. Information obtained from the desk review includes progress toward SDG 6.2 targets, institutional context information, roles and responsibilities of the various actors involved in the sector, barriers and trends affecting HR, and labor market dynamics, including on youth unemployment, informal workforce, HR policies, and skill development programs. A complete list of documents reviewed and links to websites is provided in the References section.

Using a participatory consultative process, the assessment team engaged critical stakeholders at the national, state, and local government levels using facilitated focus group discussions, KIIs, and meetings with multi-sectoral coordination groups, including the State Task Group on Sanitation and State WASH steering committees. The assessment team in consultation with the Federal Ministry of Water Resources (FMWR)—recently renamed the Federal Ministry of Water Resources and Sanitation (FMWRS)—and the USAID Mission in Nigeria selected two states for the assessment: Jigawa State, well advanced in sanitation and hygiene delivery, and Ebonyi State, identified as having less-advanced institutions and structures in sanitation and hygiene. In each state, the assessment team chose one local government area (LGA) in which to focus the assessment. With these arrangements, there was a proper representation of actors from the federal, state, and LGA levels.

The assessment team used KIIs and the national and state-level workshops to further explore issues that arose from the state and LGA consultations. The range of informants interviewed included sector institutions, government and non-state actors, sanitation and hygiene practitioners, and the private sector. Annex 2 provides a list of key stakeholders interviewed.

The assessment team organized a national workshop in Abuja and brought together 36 national-level stakeholders to review and validate the findings and preliminary recommendations. Participants included representatives from the National Water Resources Institute (NWRI), two universities that are piloting WASH programs at undergraduate and post-graduate levels, and the Nigeria Universities Commission, the regulatory institution for universities. The majority of participants were members of the National Task Group on Sanitation (NTGS), the multi-sectoral coordinating arm of the Government of Nigeria on sanitation and hygiene.

1.3 LIMITATIONS OF THE STUDY

The major limitations of this study include:

- The assessment team only visited two LGAs in two states out of the 774 LGAs in Nigeria's 36 states (including the Federal Capital Territory). This does not provide a complete representation of Nigeria. However, stakeholders at the national level validated the findings of the study and said the results resonated with their experiences.
- There is insufficient data on private sector and civil society HR capacity. Therefore, much of the data on existing HR in the assessment is biased toward government actors. In the private sector, sanitation and hygiene activities are largely informal, making it difficult to obtain data.
- The assessment was limited in time and resources, which impacted the team's ability to fully tease out details on some of the issues identified during the state and national workshops.
- The timing of the national workshop coincided with an important event for the Federal Ministry of Environment (FME). Staff from the FME and the Registrar from the Environmental Health Registration Officers Council were unable to attend the workshop and were unavailable for KIIs.

2.0 SECTOR CONTEXT AND ENABLING ENVIRONMENT

2.1 BACKGROUND AND SANITATION AND HYGIENE PROGRESS

Nigeria has a population of about 206 million people, of which 66 percent reside in rural areas (FMWR, National Bureau of Statistics [NBS], and United Nations Children's Fund [UNICEF] 2022). About half (48 percent) of the country lives on less than 1.90 United States dollars (USD) a day, which means that Nigeria has the highest number of people living in extreme poverty in the world (World Poverty Clock n.d.). A higher proportion of the poorest inhabitants reside in rural areas (64 percent) than in urban areas (36 percent).

Nigeria is governed through a federal system, with three tiers of government: federal, state, and local, with states and LGAs responsible for addressing development issues within their jurisdictions. Over the past two decades, Nigeria has made significant progress in democratic development. However, significant work is needed to strengthen the national, state, and local governance and institutions. The country also faces several humanitarian challenges due to recurrent conflicts, seasonal flooding, public health emergencies, scarcity of water resources, and forced migration.

About one in four (48 million) Nigerians still defecate in the open (FMWR, NBS, and UNICEF 2022). OD is higher in the rural areas (31 percent) than in urban areas (8 percent). Forty-six percent of the population has access to basic sanitation (59 percent urban; 39 percent rural), while only 18 percent of Nigerians use safely managed sanitation services (i.e., a sanitation service that is improved with on-site or offsite treatment and is not shared with other households).

While there is generally a high level of knowledge of the critical times for handwashing among household members, handwashing as a practice remains low. Seventeen percent of households have access to basic hygiene services, and only eight percent of household heads could demonstrate proper handwashing techniques (FMWR, NBS, and UNICEF 2022).

The population growth rate in Nigeria is about 2.4 percent per annum (World Bank 2022). This growth has led to increasing urbanization, resulting in the evolution of megacities with a corresponding increase in the numbers of towns, urban, and peri-urban slums. It is estimated that close to 10,000 settlements in Nigeria have a population above 20,000, which classifies it as an urban area (United Nation [UN] Department of Economic and Social Affairs, Population Dynamics 2018). This UN estimate published in 2018 suggests that 57 percent of Nigerians will be living in an urban setting by 2025, and this number is expected to grow into the next decade. Without a corresponding growth in infrastructure, especially water and sanitation facilities, many people will depend on self-supplied poor water and sanitation services.

At the federal level, the government has worked in recent years to strengthen direction and guidance for the water, sanitation, and health (WASH) sector and to set clear goals and targets. Apart from being a signatory to the SDGs and a host of continent-wide commitments and declarations, recent instruments include the revised National Water Resources Policy (FMWR 2016a); Partnership for Expanded Water, Sanitation, and Hygiene (PEWASH) Strategy (FMWR 2016b); National Action Plan for the Revitalization of the WASH Sector (FMWR 2018) (referred to hereafter as the National Action Plan); the National Road Map to making Nigeria Open Defecation Free (ODF) (FMWR 2016c); and the National Village Level Operation and Maintenance Strategy (FMWR 2019). A Water Resources Bill was also drafted (Government of Nigeria 2020) but never enacted. Additionally, Nigeria has embarked on the Clean Nigeria: Use the Toilet campaign with the aim of achieving country wide ODF status by 2025.

Given the growing urban population, it is clear that without addressing the issue of poor access to WASH services in urban and peri-urban areas, the country will not achieve the goals it has set for itself

and will miss the SDG targets. There is, therefore, need for significant technical support to the government to expand current national WASH plans and strategies or develop new strategies to address the transformation of rural areas into small town and peri-urban centers—while at the same time eliminating OD and ensuring access to improved sanitation and hygiene services in rural areas.

According to estimates from the 2022 WASH National Outcome Routine Mapping (WASHNORM) Report and the 2018 WASH Sector Revitalization Plan, it is estimated that Nigeria needs an annual investment of USD 10 billion to achieve SDG 6.1 and 6.2. About half of this investment is needed from the public sector and will mostly target WASH capital expenditure to expand services (FMWR, NBS, and UNICEF 2022; FMWR 2018). However, current public spending (by the government and donors) is only USD 0.8 billion annually. While the above policies, strategies, and plans seem to indicate an increased focus on WASH by the federal government and some states, data from the Nigeria WASH Accounts Survey (FMWR 2020) illustrates that actual WASH funding and investment was only 0.28 percent of gross domestic product (GDP), which is significantly lower than the sub-Saharan Africa regional average of 0.7 percent. This is in contrast with the National Action Plan that suggests Nigeria must invest about 2.5 percent of its GDP per year to cover the costs of reaching SDG 6.1 and 6.2 by 2030. In 2018, annual WASH expenditure totaled USD 11.8 billion. Public spending represented only 4.3 percent of that total, with household out-of-pocket expenditure covering 90.6 percent, donor/NGO contributions 2.9 percent, and private sector contributions 2.1 percent (FMWR, 2020).

The WASH donor landscape in Nigeria is challenging, as key agencies that have been traditional partners (e.g., the UK Foreign Commonwealth and Development Office [FCDO] and European Union [EU]) are moving away from supporting the WASH sector. This is due to a significant cut in budgets for development aid from the European Union (EU) and FCDO, in addition to a shift in emphasis to the humanitarian effort in Nigeria's North East region. New alliances are being sought and multi-sectoral approaches investigated to increase opportunities. Notable is the approval in 2020 of the World Bank's USD 700 million credit line to Nigeria issued through the International Development Association, the World Bank's fund for the world's poorest countries, which will provide 6 million people with basic drinking water services and 1.4 million people access to improved sanitation services. This is expected to be implemented as part of the Government of Nigeria's National Action Plan.

2.1.1 WASH GOVERNANCE

Within Nigeria's three-tiered governance structure, overall oversight for water, waterborne sanitation, and hygiene lies with the FMWRS; the FME is responsible for general environmental sanitation and solid and liquid water/waste management (among other areas). Hygiene promotion and health education are shared between the Federal Ministry of Education for WASH in schools and the Federal Ministry of Health (FMOH) in communities and health centers. The FME and FMWRS have overlapping functions in terms of hygiene promotion in communities, as seen in their roles supporting menstrual health and hygiene promotion and during any outbreak of disease (e.g., cholera).

The 36 Nigerian states each have ministries of water resources or a ministry with a mixed portfolio of water, environment, power and energy, or public works with responsibility for water and sanitation. Through the support of DPs and sector reforms, states established urban, small town, and Rural Water Supply and Sanitation Agencies (RUWASSAs), in addition to public water utilities. These agencies serve as the project implementation arm of the state ministries.

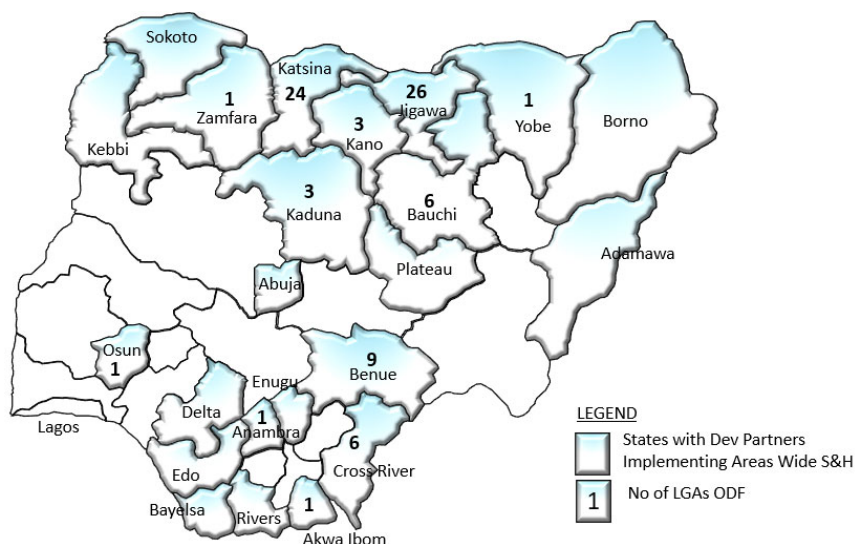
Local governments (third tier) are responsible for water and sanitation at the community level. LGAs have departments or units responsible for sanitation and hygiene at the community level. WASH departments, where found, are backed by a state-level edict (an outcome of the WASH sector reforms) conferring full-fledged department status. Units are subsumed or hosted within different directorates or departments of the LGAs (e.g., works, community development, environmental health, WASH, and

health), but they nonetheless have oversight functions for the health committees, volunteer hygiene promoters (VHPs), WASH committees (WASHCOMs), and water consumer associations at the community level.

Despite the existence of the National Action Plan and other policies and strategies outlined above, the existing sector policy and regulatory framework does not provide the much-needed direction for coherent implementation of sector plans and strategies. The autonomy of states makes implementation of these instruments challenging, as state governors have significant freedom to choose what sectors or sub-sectors they want to prioritize, in spite of the push from the federal government and its ministries, departments, and agencies (MDAs). This point is illustrated by the fact that 20 years since it was first proposed in the Local Government Scheme of Service 2002, fewer than 10 states have established a dedicated LGA WASH department for all the local governments in their state (covering approximately 20 percent of the country’s 774 LGAs). This results in weak capacities for program planning, budgeting, implementation, and WASH service delivery across state, LGA, and community levels.

States have shown uneven adoption of national water supply and sanitation policy guidelines, as reflected in the water supply and sanitation services in different states (Narain et al. 2019). The 2021 WASHNORM report shows the disparity of sanitation services due to such uneven implementation of policies—76 percent of the population in Imo State had access to basic sanitation services, as compared to only 14 percent in Ebonyi State (FMWR et al. 2022). Similarly, people living in Rivers State are three times more likely to use basic water supply services than those living in Sokoto. The presence of DPs (i.e., bilateral donors, multilateral agencies/institutions, INGOs) implementing area-wide (ODF-oriented) sanitation and hygiene programs also has an impact in some (but not all) states, as illustrated by Figure 1.

Furthermore, there is as yet no effective regulation of service providers in Nigeria at the federal level. As far as it occurs, state ministries undertake service regulation and often set tariffs with little regard to the cost-of-service provision. This is coupled with the absence of a harmonized national sanitation policy that can bring together points of convergence between the Ministries of Health, Environment, Water Resources, and others.



Source: Developed by the Assessment Team in September 2022 from information gathered from the FMWR.

Figure 1. Annotated Map of Nigeria: ODF LGAs and DP Presence

2.2 LABOR MARKET DYNAMICS

Nigeria has a labor force of over 80 million people, with those aged 25–34 years old representing the largest age group (around 23 million people), followed by 35- to 44-year-olds (over 20 million people) (Sasu 2022).

The Nigerian labor market is characterized by heterogeneity and dualism, a general feature of labor markets of African and developing countries (Folawewo and Orija 2020). The dual nature of the markets is built on a rural–urban as well as a formal–informal composition. The formal labor market comprises public sector organizations and large private firms, while the informal segment is made up of micro, small, and medium-scale enterprises; petty trades; and other forms of individual economic activity. These two sectors (i.e., the formal versus informal) differ in terms of governance and regulatory framework, employment process, employee compensation (i.e., wage determination), and productivity.

The Nigerian civil service (government-employed staff) is the body responsible for the implementation of the government’s policies and programs. The civil service performs mainly administrative and executive functions that involve the formulation and implementation of government policies and programs. According to a June 2022 article in the *Daily Post*, the federal government has about 720,000 people in its employment across the country (Anuku 2022).

Available statistics in Nigeria also show that the informal sector contributes about 60 percent of the nation’s GDP. Like many other developing countries, the informal sector is crucial to job creation, as it accounts for about 80 percent of jobs in the country (International Labor Organization [ILO] n.d.).

According to the Nigerian Bureau of Statistics (2018), the economically active or working age population (15–64 years of age) increased to 90.5 million by Quarter (Q) 3 of 2018, while the total number of people in employment (i.e., with jobs) increased to 69.54 million within the same period. The report also indicated that during Q3 2018, 26.6 percent of women within the labor force (aged 16–64 and willing, able, and actively seeking work) were unemployed, compared with 20.3 percent of men (NBS 2018). The youth unemployment rate in 2019 was 29.9 percent (ILO n.d.).

Although self-employment in Nigeria has occupied a minimally increasing portion of the country’s total employment, it has contributed to filling certain unemployment gaps. The 2019 Finance Act, enforced in January 2020, exempted businesses with an annual turnover equal to or below 25 million Nigerian Naira (roughly USD 60,000) from income tax (Federal Inland Revenue Service [FIRS] 2019), which has encouraged the creation of small businesses.

2.3 FUNCTIONS AND THE ACTORS WHO DELIVER THEM

In line with the framework outlined in Annex I, the assessment identified and mapped Nigerian sanitation and hygiene functions and the actors implementing them against four categories of settlements: rural remote, rural on-road, rural mixed (peri-urban), and urban (informal) (see Figure 2). While not included in the original listing of sanitation and hygiene functions, the country assessments pointed to the importance of advocacy and holding to account (local) governments for commitments made concerning sanitation and hygiene. This function was therefore included in the Nigeria analysis and included in this listing.

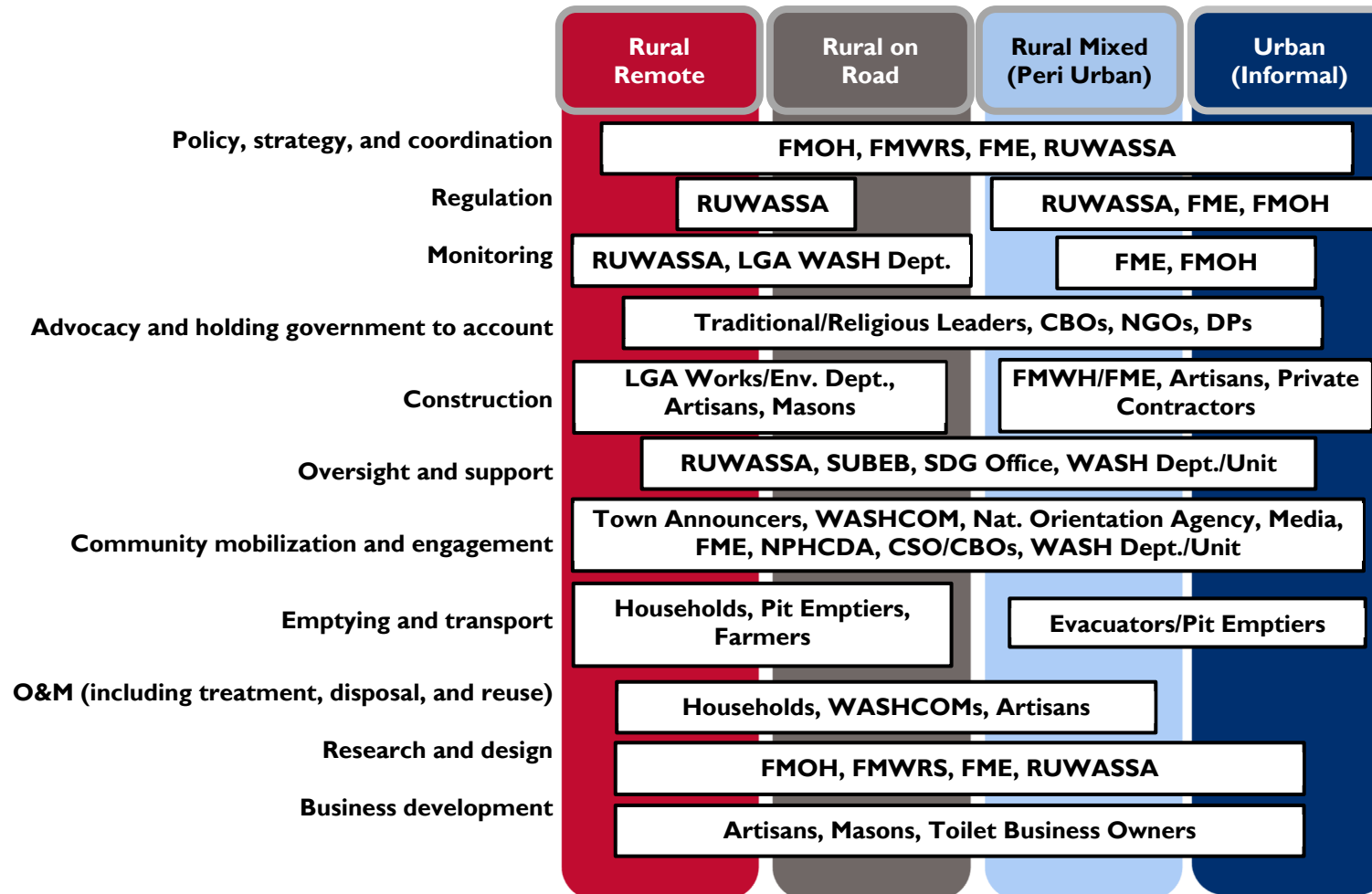


Figure 2. Nigerian Sanitation and Hygiene Delivery Functions and Actors

Notably, Figure 2 shows that it is largely the same group of actors performing functions across all settlement categories. **Policy, strategy, and coordination are functions of the federal and state ministries.** There have been concerted efforts recently to improve sanitation and hygiene coordination in Nigeria. First, the NTGS was established, with equivalents at the state level. There also is an ongoing initiative to support inter-ministerial dialogue through twice-yearly meetings of key ministries aligned with water and sanitation. In these meetings, participants have supported closer interactions and collaborations and improving coordination between the MDAs. The inter-ministerial dialogue at the federal level led to an inter-ministerial technical director's meeting, which began the process of harmonizing a national sanitation policy to address overlaps between the FMWRS and the FME, primarily.

State-level ministries and their equivalents coordinate policies at the state level. However, effectiveness of efforts to coordinate are more prevalent in states with donor-supported WASH (reform) programs. For example, the EU-funded Water Sector Reform Program implemented through UNICEF supported several states to develop and update their state WASH policies and develop roadmaps for ending OD. Because donor funds only make up a small percentage of the budget in the WASH sector (about 20 percent), there are limited opportunities to force meaningful changes on the national and state governments in Nigeria. As such, by the end of the EU program, most of these states were at various stages of completing key policies and regulations. MDAs expressed the need to delineate clearly and focus on disparities in access to sanitation in the different geopolitical regions and states.

Regulation of the sector lies with the ministries and designated sanitation and hygiene agencies. The National Primary Health Care Development Agency (NPHCDA) or its equivalent in each state regulates hygiene and health promotion within the health centers and communities, executed by community health extension workers (CHEWs). Environmental Health Officers (EHOs) have a direct mandate to promote and enforce rural household sanitation and hygiene. Regulation for WASH in primary schools is the responsibility of the State Universal Basic Education Board (SUBEB). Teachers and educators are the frontline HR for hygiene education in schools. But hygiene education programs are found primarily in schools in which donors and philanthropists such as UNICEF and Rotary International have projects.

The government MDAs include units and divisions with responsibility for continuous and systematic assessment of sanitation and hygiene project implementation based on set targets and activities planned as part of the budget year actions. RUWASSAs support rural WASH, SUBEB supports WASH in schools, and the SDG Office coordinates alignment of project outputs with the SDGs. These agencies also support donor-funded projects and actively participate in monitoring project outputs within their states and LGAs. These government MDAs provide **oversight and support** for programs.

Traditional and religious leaders and civil society all play a role in holding government to account through advocacy for better policies and requests for targeted actions or projects. The Society for Water, Sanitation, and Hygiene in Nigeria (NEWSAN), a network of NGOs in WASH, has over 300 registered member organizations spread across the country. NEWSAN aims to play an active role as sector watchdog and has drawn attention to policy issues or policy direction for sanitation and hygiene in Nigeria. INGOs and other DPs also undertake an advocacy role, using the opportunities of their programs at the national and state level to push for positive changes in the sector.

Community mobilization and engagement are key functions of the departments of the LGA structure, notably WASH and environment, primary health care, and education. The responsible officers (i.e., EHOs, CHEWs, and teachers) directly engage with their constituents. The assessment team found that CBOs/CSOs and faith-based organizations also support several forms of direct community-based engagement that results in behavior change communication. These organizations often are employed as implementing partners on DP-funded programs or contracted directly by LGAs to support

community mobilization and aim to work in tandem with the EHOs and other government outreach staff.

The number of personnel mobilized and their capacity are found to depend on consistent donor-led or state-supported funding. For example, Birnin Kudu LGA in Jigawa State has had consistent support from DPs for about a decade resulting in a large staff and many volunteers. In contrast, Ohaukwu LGA in Ebonyi State received initial support from UNICEF for baseline and initial projects, but this funding ceased after only a few years with the donor's withdrawal from the state. As a result, the structures initiated by the project have been dormant for more than a decade.

Design and construction of sanitation and hygiene facilities in public places, such as schools and healthcare facilities, are undertaken through government-led initiatives and programs through the MDAs. A significant proportion of construction of household facilities is driven by the informal sector. The masons and artisans involved in construction are generally small and medium-sized businesses providing services directly to households. Masons, artisans, and toilet business owners are found in a slightly more organized and coordinated manner in LGAs and states where DPs such as UNICEF support AWS and hygiene programs (e.g., Benue, Bauchi, Jigawa, Katsina, Kaduna, Kano, Yobe, Zamfara).

Poor technological know-how to deal with some of the unique regional challenges (e.g., sanitation in riverine areas or loose sandy soils) continue to be a challenge for the actors. Most of the reliable data on sanitation can be found in states and locations where the development agencies (i.e., UNICEF, USAID, WaterAid, Action Against Hunger, United Purpose) have provided direct support. These also are regions with a growing number of ODF LGAs and local initiatives for behavior change communication.

Emptying and transporting fecal matter is a function of the private and informal sector.

The assessment team found that these market-driven actions were fairly organized in urban centers with good regulation (e.g., in Abuja and large cities like Lagos and Port Harcourt). However, this service is unregulated in unplanned urban centers, and manual emptying is more common. For example, in Kano City, the manual emptiers are fairly organized with mini trucks and are recognized by the FME. Emptying in rural areas involves digging a pit and emptying the contents of the septic tank into the dug pit. This is informal and unregulated.

Operations and maintenance (O&M), including treatment and reuse, are primarily the role of the individual household using the sanitation facility. The degree of O&M sophistication for individual housing depends on the type of sanitation facility within the house and the basic cleaning, plumbing, and structural maintenance requirements. In parts of Abuja and Lagos State, wastewater treatment plants treat sewerage waste and are managed and operated by government or private estate management.

Research and design are covered mainly by HR in statutory government agencies (e.g., RUWASSA, environmental protection agencies in urban centers). The (informal) private sector also plays a role in research and design, especially for products and infrastructure of sanitation facilities.

The assessment team found business development for sanitation and hygiene to be primarily a function of the private and informal sector (e.g., masons, artisans, toilet business owners). The HR required for this area is driven by the market forces of supply and demand. In rural areas, this means mainly informal or small businesses of masons or artisans, but in urban settings there are more formal product suppliers and small and medium businesses. The role of larger private sector actors, identified by the stakeholders during interviews and validated during the workshop, is

concentrated around design and construction, financing through corporate social responsibility, and research and development of sanitation and hygiene products.

3.0 EXISTING HUMAN RESOURCES IN WATER AND SANITATION

To support analysis of the actual HR involved in fulfilling the functions and roles described in Section 2.3, Table I provides an overview of the key institutions involved in delivering sanitation and hygiene functions in Nigeria and also provides information on the types of HR employed across the combined tiers of governance (i.e., federal, state, LGA).

TABLE I. ACTORS AND HUMAN RESOURCES BY SANITATION AND HYGIENE FUNCTION		
FUNCTION	ORGANIZATION	HUMAN RESOURCE
Policy, strategy, and coordination	FMOH, FMWRS, FME; RUWASSA, Small Towns Water and Sanitation Agency (STOWA)	Administrators, scientific officers, policy experts
Regulation	RUWASSA, FME, FMWRS	Administrators, scientific officers, policy experts
Monitoring	RUWASSA, WASH department/unit, FME	Planning and monitoring officers
Advocacy and holding government to account	CBOs/CSOs, traditional and religious leaders	
Oversight and support	LGA WASH Unit	WASH Coordinator; community mobilizer; sanitation officer; hygiene officer; planning, monitoring, and evaluation officer; WASH financial accountant; EHOs
Community mobilization and engagement	WASH dept./unit, WASHCOM, other volunteers, CSO/CBO	Volunteers, VHPs, community mobilizers, EHOs
Construction	Artisans, masons, public space (i.e., works and environment departments)	Toilet business owners, artisans, private contractors
Emptying and transport	Pit-emptying entrepreneurs, individuals	Artisans, private contractors
O&M (including treatment and reuse)	Households, WASHCOM, artisans	Volunteers and artisans, households
Research and design	FMOH, FMWRS, FME, RUWASSA	Academics, researchers
Business development	---	Artisans, masons, toilet business owners, sanitation entrepreneurs

Some key takeaways from Table I are the varied roles and, thus, different HR needs of the state RUWASSAs and the strong role played by volunteers and the (informal) private sector. We discuss the roles and HR deployed by the various actors in the following sections.

3.1 PUBLIC SECTOR HUMAN RESOURCE CAPACITY

Sector actors at the state level indicated that public sector organizations have a wide range of staff available to perform their functions but that these staff need upgrading in skills and knowledge and that their total number is still insufficient. The investigated LGA WASH Units (12) and RUWASSAs (4) reported a wide range of staff present in their units, and the team observed the following roles:

- Monitoring and evaluation;
- Community mobilization and hygiene promotion;
- Sanitation and water supply;
- Administration/accounting/information management; and
- Works/drilling/maintenance.

EHOs perform some of these roles, including community mobilization and sanitation and hygiene promotion. EHOs are officers trained in environmental health and hygiene, and their sanitation and hygiene responsibilities include the inspection of premises to detect issues that could range from absence of sanitary facilities, cracked walls, and stagnant water that breeds mosquitoes; issuance of abatement notices to defaulting landlords or tenants depending on the type of nuisance detected. In addition, they are responsible for pollution control and occupational health and safety. Staff trained as EHOs make up at least 80 percent of the personnel in any sanitation and hygiene department or agency, serving in a variety of roles. Yet, a 2020 estimate (Oluyole 2020) indicated that 7,000 EHOs are currently serving the entire population of Nigeria of over 200 million people, which means that one officer is serving about 28,000 Nigerians. This is considered grossly inadequate.

In addition to EHOs, other professionals that take on these roles include CHEWs, planners, teachers, and accountants. These are either recruited directly through postings made by the local government authorities or moved to/posted in the WASH department to fill a role in a donor-supported program. For example, an accountant would be posted to the WASH department to support reconciliation and financial reporting.

The assessment found a significantly higher number of staff in RUWASSAs and LGA WASH departments in states and LGAs that have achieved LGA-wide ODF status than in LGAs and states that are not implementing AWS and hygiene actions. This also implies a link to donor presence, which is markedly higher in the former group of states. For example, Figure 3 depicts the current RUWASSA workforce in four sampled states, also noting the skewed gender division. Benue State, with nine ODF LGAs, and Cross River State, with six ODF LGAs, have an average of 32 RUWASSA staff, which is significantly higher than Bayelsa and Imo States that do not have any ODF LGAs. Imo State, with the lowest number of staff, also is the only one of these four that has no (WASH) donor presence. Benue and Cross River States have significantly higher populations than Bayelsa and Imo States, so the ratio of population to RUWASSAs is still high across all these states. Beyond these four states, the assessment team’s field work showed that Jigawa State has 40 RUWASSA personnel. At the time of the consultation, Jigawa State had 26 ODF LGAs out of 27, thus demonstrating how its focus over the years has been on increasing support to LGA WASH units and sustaining the drive for area-wide ODF. Ohaukwu LGA of Ebonyi State has six staff members with no active sanitation and hygiene programs, while Birnin Kudu and other LGAs in Jigawa State had an average of 19 staff members who are active in implementing sanitation and hygiene activities.

Lastly, it was noted that the role of volunteers is significant even at the state level. For instance, Benue RUWASSA has 35 staff, of which 25 are volunteers.

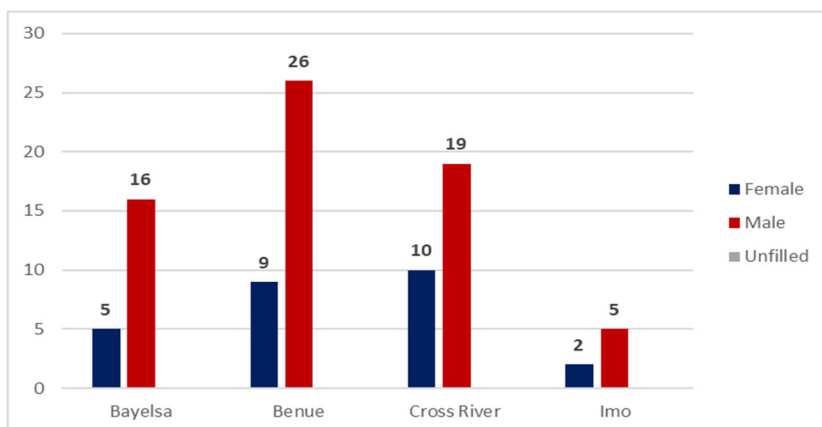


Figure 3. RUWASSA Sanitation and Hygiene HR in Four States, Based on Gender

The public sector is generally male dominated and of more advanced age, with relatively low youth employment. Lack of recent employment/replacement of staff in the government sector at the state level has left many vacancies, creating a risk of poor transfer of skills from the older generation to the younger and a loss of institutional memory. The data in Table 2, based on information the assessment team collected during field work from the RUWASSA, one CSO, and one business owner, illustrates the disparity in gender and youth within government establishments, skewed toward males. The CSO and private sector entity employ higher percentages of women and youth. There were no persons living with a disability (PLWDs) in the CSO and private sector and only one in the state agency. The age range for RUWASSA also is a reflection of the time since new staff has been recruited. In Ebonyi State, the last recruitment effort was reported to have taken place in 2013; meanwhile, staff have retired after reaching age of 65 or serving for 35 years.

TABLE 2. SANITATION AND HYGIENE WORKFORCE COMPOSITION IN EBONYI STATE			
ORGANIZATION	GENDER	AGE RANGE	PLWDS
RUWASSA	Male: 68% Female: 32%	40–60 years	1 (out of 25 staff members)
CSO (Youth Hub Africa)	Male: 40% Female: 60%	18–45 years	0
Private sector (business owner)	Male: 40% Female: 60%	5 out of 7 are below age 40	0

Figure 4 disaggregates the LGA WASH unit/department staff based on sex. Of the 774 LGAs in Nigeria, the assessment team investigated 28. There were 494 staff among those LGAs, indicating an average of 17.6 staff per LGA. Women constitute 32 percent of the jobs and men 68 percent. Age analysis (not shown in this graph) indicates that 14 percent of staff are 35 years old or younger, while 68 percent are between 36–50 years old.

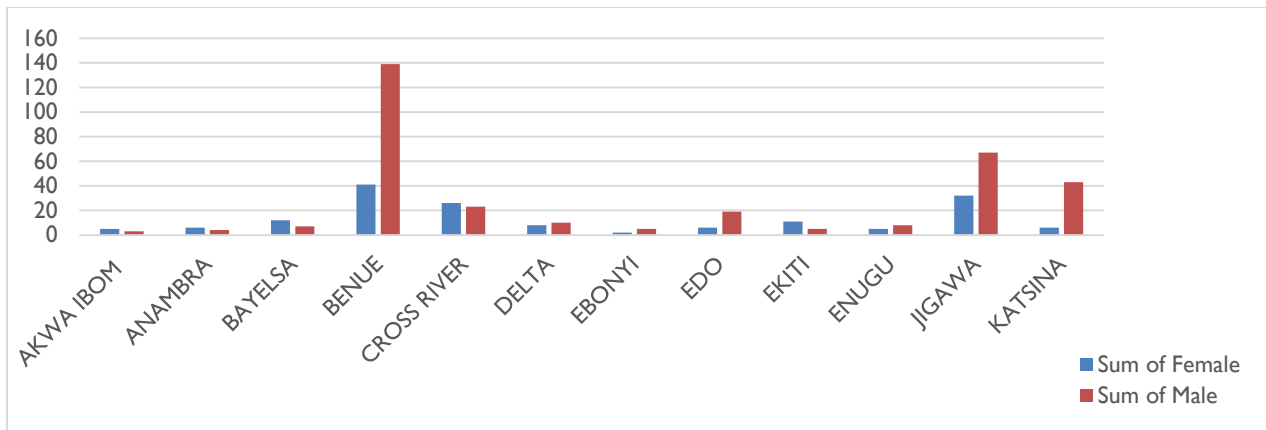


Figure 4. Sanitation and Hygiene HR at the LG WASH Unit Level

3.2 THE ROLE OF VOLUNTEERS

LGA WASH units depend on volunteers to perform a variety of functions, including community mobilization and follow-up, hygiene promotion, and support for enactment and enforcement of laws and community by-laws. Volunteers engaged with LGA WASH units are outstanding community natural leaders recruited into the WASH unit/department to support the work in other communities to attain ODF status, after having supported their own. The volunteers are generally not paid but are reimbursed for travel and provided meal allowances when they participate in meetings at the LGA headquarters or state capital. The LGA from Jigawa State was able to demonstrate that it has volunteers and was able to show their contributions, in terms of mobilizing communities and engaging in behavior change communications. The LGA from Ebonyi State only mentioned volunteer contributions briefly, stating that they mainly use their own LGA staff in work they undertake. Figure 5 presents the average number of volunteers engaged by the WASH department per LGA in six sampled states.

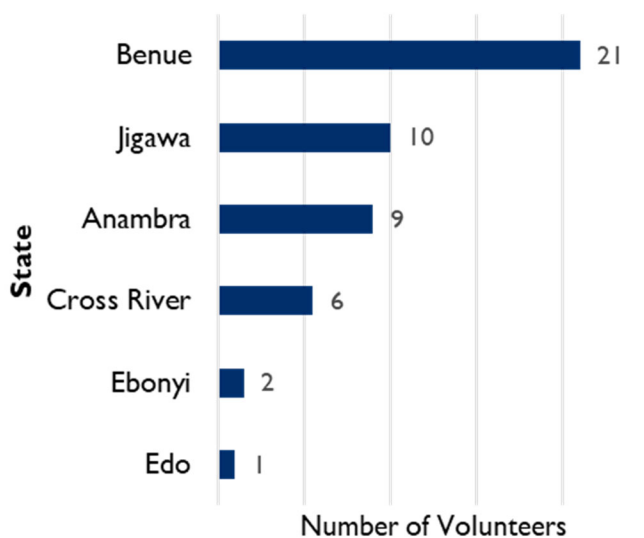


Figure 5. Average Number of Volunteers Engaged per LGA WASH Unit in Selected States

The community-level WASHCOM is another volunteer structure that contributes to the workforce for AWS and hygiene. WASHCOMs are made up of 8–15 volunteers operating within their own communities. Using an action plan, they support the implementing WASH department and/or CSO to mobilize community members into action, conduct house-to-house follow-up visits, and support documentation of household status. They coordinate among themselves but report to community leadership and the WASH department. Their initial motivation is the zeal to support their community to attain and sustain ODF status, the perceived status that membership of the committee gives them, and the anticipation of some form of monetary or in-kind benefit. However, attrition levels are high when remuneration is not forthcoming and the assessment team heard reports of volunteer fatigue in the WASHCOMs. As government is not currently hiring at scale, there is limited chance of formally recruiting these WASHCOM members into the sector.

WASHCOMs are active in LGAs with ongoing state- or donor-supported programs. On average, an LGA of about 300 villages has an estimated volunteer force of between 3,000 and 4,500 WASHCOM members. These have been found to generate momentum and a strong movement toward collective behavior change. Key players in this are ‘natural leaders’ who, with community consultants, are community members that emerge during community engagement in the CLTS process and volunteer to provide leadership to their communities in ending OD. They usually become the first members of WASHCOMs when the structure is being set up. Community consultants are outstanding natural leaders that go beyond the borders of their own communities to support other communities to also end OD. It is this set of community consultants, natural leaders, and WASHCOM members who work as volunteers for the LGA WASH units/departments or even CSOs supporting sanitation and hygiene programs.

WASHCOMs presence in Jigawa as reported during engagements with the state and LGA stakeholders clearly outnumbers that of Ebonyi State. WASHCOMs in Ebonyi State are only a remnant from a donor-funded intervention that was implemented in some parts of the state almost a decade ago.

Some UNICEF-supported programs have VHPs in addition to the WASHCOMs. There are generally four or five women VHPs per community, set up by the LGA WASH department. These VHPs follow a set of guidelines on the domains of hygiene and make house-to-house visits within their communities. The VHPs have had influence in Jigawa State, but they are not present in Ebonyi State.

Lastly, many programs also rely on the role of champions, such as religious leaders, village heads, and teachers, who occasionally volunteer their time for community mobilization, engagement, and behavior change.

3.3 THE ROLE OF THE PRIVATE SECTOR

The private sector in Nigeria is involved in sanitation in several ways. Large multinational corporations, such as Reckitt Benckiser, producers of toilet cleaning materials like Harpic and Jik, and bleach producers like Hypo Homecare Products Ltd., are finding ways to collaborate with FMWRS through the Clean Nigeria: Use the Toilet campaign and through state-level programs. They have further lent the support of their brands in commemorating Global Handwashing Day and World Toilet Day celebrations.

The assessment team found the private sector to be contributing to improved hygiene through branding and promotion of hygiene through marketing of their products. In Lagos State, for example, the two major cleaning producers are separately supporting the government to promote safety and hygiene in public toilets. Hypo Homecare is supporting WASH in schools and is rehabilitating or constructing latrines in public schools with the support of the government. Through these actions, the multinationals are paying for volunteers and media time to promote sanitation and hygiene through their products.

Similarly, Lixil, a global brand known for toilet accessories, launched products for the low-end market including the SATO Pan and SATO Stool. Through a process facilitated by WaterAid and UNICEF, Lixil has a patent agreement with Nigeria manufacturer Innoson to undertake local production and distribution of the SATO products. Support from ongoing UNICEF- and WaterAid-funded programs has helped the use of these products to promote sanitation marketing and improved sanitation in states and LGAs. Local artisans and masons in these states and LGAs have received several levels of training from these organizations and programs as part of their efforts to stimulate the emergence of masons and toilet business owners toward AWS.

The Organized Private Sector in WASH is an organization with a convening mandate to engage the wide spectrum of key private sector players to scale up business and corporate initiatives to end OD in Nigeria by 2025. They are mobilizing funds from the diaspora to construct latrines in public places in selected states. The organization provides a platform to push for incentives to engage the private sector in sanitation and hygiene, and some of its members support direct sanitation and hygiene actions at the state level.

In many parts of the country, state governments and DPs have engaged with microfinance institutions (MFIs) in sanitation financing. These initiatives involve setting up revolving funds with large investments from government/DPs that are managed by MFIs to provide different loan facilities targeted at households for toilet ownership or toilet business enterprises for capital. UNICEF, for example, has partnered with MFIs to deliver such toilet loans in Zamfara, Kaduna, Katsina, Bauchi, and Jigawa States (World Stage 2018; UNICEF 2021).

The informal sector, even though not well recognized, plays a very significant role in the nation's sanitation sector. This includes toilet accessory sellers, public toilet operators, and pit emptiers. The assessment team found the informal sector to have supported the attainment of ODF status in LGAs, as illustrated by the case of Birnin Kudu LGA. Independent masons and artisans mobilized to construct household-level latrines and also ensure quality control among other masons/artisans. In small towns and peri-urban areas, pit emptiers are not formally organized. Yet, the assessment team found that they meet most of the current demand for emptying and transport services. LGAs engaged in this assessment indicated little or no regulation. At the national workshop, participants alluded to some level of regulation in the urban centers (i.e., action of transport and emptying through the provision of dumping sites), but there was no reference to regulation in rural areas.

4.0 HUMAN RESOURCES DEMAND

4.1 TRENDS AFFECTING FUTURE SANITATION AND HYGIENE SECTOR HUMAN RESOURCES

During the national workshop, participants conducted a qualitative analysis of trends potentially impacting sanitation and hygiene HR in Nigeria, such as climate change, urbanization, a growing focus on GESI, and shifts in policy. Table 3 provides the results of this analysis in which participants assessed the expected levels of impact of these trends on HR capacity demands (e.g., in terms of required skills, capacity, or new jobs) on three levels of the impact variable: minor (green), medium (yellow), and major (red). All identified trends were expected to persist long-term. Rows with multiple columns highlighted indicate some disagreement between workshop participants on the degree of impact. The key trends are discussed below.

TREND	MINOR IMPACT	MEDIUM IMPACT	MAJOR IMPACT
Climate change – occurrence of droughts and floods			
Reforms/policy changes toward meeting the SDGs and National Action Plan targets			
Need to utilize technology to address challenging context for sanitation and hygiene			
Increasing digitalization			
Increasing urbanization			
Increasing need for and consideration of GESI expertise in sanitation and hygiene			
Increasing need for security, peace, and conflict management skills as a result of growing insecurity and fragile context			
National Action Plan resulting in the need for standardization of WASH education (e.g., research, education, and curriculum development)			
WASH and health needs growing in the light of pandemic and cholera frequent outbreaks			
WASH and agriculture growing in relevance as a result of largely renewed focus on large and commercial agriculture			
Increasing discussion of sustainability of already attained area-wide ODF status			

The effects of climate change in Nigeria include increasing periods of droughts (in the northern regions) and floods (across the country). The impact on the types of jobs and skills needed in the WASH sector to address these effects are expected to be substantial. Not only will climate change impacts affect design of sanitation technologies, handwashing facilities, and emergency WASH HR, they also will require that professionals be aware of how to assess risks, forecast, respond, and adapt. In addition, the policy, strategy, coordination, and oversight and management functions will require increased coordination with those working in the environment, climate change, agriculture and health sectors.

Currently, many reforms, policy changes, and plans will affect HR needs. Implementing the National Action Plan, which is aligned with the SDGs, will involve:

- *Harmonizing the national sanitation policy.* This will address overlapping responsibilities among MDAs and will further inform the number and type of professionals needed to undertake tasks without duplication.
- *Raising the bar in terms of attracting investors and the private sector into Nigeria.* This will involve financial analysts and tax consultants to identify incentives for the private sector.
- *Steadily increasing government budget allocations for sanitation and hygiene within the respective MDAs.* This could mean enabling states like Ebonyi to increase their work force to meet the needs for area-wide ODF.
- *Institutionalizing the WASH curriculum in at least six Nigerian universities, as proposed by the National Action Plan.* This will increase the quality of academia and professionals in the sector and will allow for broad-based research and development from within the universities.

Although digitization is not fully developed in the sector currently, the assessment team expects it will have a direct and major impact, especially on HR in monitoring; oversight and management; policy, strategy, and coordination; and business development. New digital developments and opportunities will greatly influence data collection, analysis, and management. The national WASH information management system is being improved upon, and states and WASH programs are increasingly adopting it. Other platforms such as mWater and KoboCollect also are being adopted for data collection, and surveys at national and state levels. Sanitation and hygiene communications and messaging may start using more digital options (e.g., automatic phone messages).

In the future, emptying and transport services and fecal sludge management (FSM) treatment jobs may also be affected by new developments in digital options. Emptying services may use apps to receive customer requests and plan the optimal routing, whereas FSM treatment plant facilities may be built in such a way that requires HR to be highly skilled in operating the plant, even engaging in remote operation.

Urbanization is increasing and, with the associated increased competition for space, there will be a growing need for sewerage or other forms of off-site sanitation. This could lead to an increased demand for certain HR and skills. For example, adopting sewerage sanitation would require new or upgraded skills of existing HR to construct, operate, and manage the necessary technologies successfully. The influence of cities on peri-urban and rural areas will increasingly be felt. As a result, households with unimproved toilets constructed through programs such as CLTS will gradually make efforts to move up the sanitation ladder to improved facilities like pour flush toilets. This will impact the sales of toilets technologies and accessories and increase the demand for masonry services—both of which will require increased HR.

Increase in conflict has resulted in increased numbers of persons in fragile contexts without access to sanitation and hygiene services. Nigeria has witnessed an increase in insurgencies, banditry, kidnapping, and other forms of insecurities nationwide, but most alarming in the north of the country. This has brought about an increase in internally displaced persons (IDPs) and the emergence of several IDP camps. This trend creates a need for sanitation services in fragile contexts, which is quite different from the services needed in stable communities, further opening need for expertise in this area. Existing sanitation HR working in such areas will also need security and safety training.

The standardization of WASH education (i.e., research, education, and curriculum development) proposed in the National Action Plan should increase the supply of WASH professionals locally. Aside from the EHOs, staff in sanitation and hygiene are mostly professionals from non-WASH fields contributing to different aspects of the sanitation and hygiene subsector. With

this new approach, Nigerian universities will provide specialized WASH education at the bachelors, masters, and PhD. levels.

WASH and health are increasingly linked and collaborating, which may require better alignment and coordination of roles between environmental health and community health extension personnel. An example of this convergence is WASH and neglected tropical diseases (NTDs). Even though NTDs are a core health issue, there is a strong link with WASH. NTD interventions currently demand WASH professionals to handle the preventive (e.g., hygiene promotion) side of things that, if not observed, could undermine the curative interventions being administered.

WASH and agriculture coordination is expected to increase due to a demand for fecal sludge for fertilization of farmlands. Manual pit emptiers in Jigawa State reported a high demand for fecal sludge by farmers. This sludge would be spread on the farmlands shortly after harvest then left until the next farming season. However, much of the current use of fecal sludge in agriculture is carried out in an unsafe manner, which will require standardization of the process, policy formulation, and regulatory framework. In addition, if the circular economy becomes well developed it will attract the HR needed to participate in the sanitation service chain.

Many of the above trends intersect, with added impact on sanitation and hygiene sector HR. Running throughout these is the **increasing need for and consideration of GESI expertise in sanitation and hygiene.** While partly facilitated through donor interventions and a strong international focus on GESI, trends such as those linked to climate change, fragility, and changes in education and sector organization, all have strong GESI implications with associated impact on the HR needed to deliver associated outcomes, as well as the organization of those HR themselves – in terms of gender, age, education levels, and ethnicity. Additional specialists will be required to mainstream GESI across policies, programs, and ways of working. Also, inclusive and climate-resilient WASH hardware designs require additional skills for those involved in construction. Gender, age, ethnicity, and other markers of potential vulnerability also need to be better understood in terms of how they relate to ongoing stigma and discrimination, and barriers to enter the sanitation workforce.

4.2 CURRENT AND FUTURE HUMAN RESOURCES DEMAND

The KIIs and workshop participants supported the assessment team in identifying the needs of the sector (see Annex 3) to ensure achievement of safely managed sanitation targets. The groups identified several new jobs and technical and transferable¹ competencies that would be needed. However, participants noted that, **while most of the jobs and competencies identified as current or future needs are obvious requirements, this has not yet translated into active demand for, or the actual creation of, the suggested positions.** Creating such positions will require legal and policy reforms and increased sector financing for increased recruitment, training, and retention.

Community mobilization and behavior change is the most developed function in the country, with most of the current jobs built around it. This could be a result of the national government's ODF focus and the engagement of behavior change communication experts. It was noted, however, that there was a need to strengthen and continuously update knowledge and skills in behavior change communication, particularly for the large numbers of volunteers engaged in community mobilization and the EHOs and other WASH practitioners managing, training, and working with them.

¹ Technical refers to knowledge and skills a person has in a specific field, whereas transferable refers to knowledge and skills that a person may need for their job but that are not specific to that field only and are applicable across multiple jobs (e.g., computer skills, relationship management, project management, interactive skills).

Data management and analytics were identified by workshop/KII participants as a new job/skill set required. Professionals would include data scientists, data analysts, software developers, and information technology specialists, with commensurate skill sets in data collection, analytics, management, and data-driven decision-making. All of this is related to the increasing availability of digital systems, increasing focus on data-informed decision-making, and efficiencies that could be achieved using new data collection tools.

Ministries including the FMWRS would require data scientists and analysts to support informed decision-making on strategy, policy, and focus of efforts. In the area of regulation, HR would be required with skills and competencies to develop appropriate standards and guidelines, collect relevant technical data, and enforce regulations and implement systems for follow-up with non-compliant actors/citizens. Participants indicated that the licensed EHOs would need further competency development in these areas. Additionally, the data systems themselves need further development.

Workshop participants and key informants also identified HR and skill set requirements for systems building and web design, data collection and management, and software use for those working in monitoring. Digitization of data collection processes can increase monitoring team efficiency over time. In research, data management and analysis will change with continuously evolving software, and business development data collection for market analysis already requires data collection, management skills, and specialists. Lastly, participants felt that advocacy and monitoring functions require additional skills and competencies in information communication technology, stakeholder mapping, and data collection and analysis.

Assessment participants indicated that project management is a critical competency across almost all functions. Project management skills, such as goal setting, forecasting, planning, leadership, and monitoring, were highlighted as required skill sets for existing and future HR to support improved policy coordination, regulation, and monitoring. Furthermore, HR among non-state actors will also require these skills for advocacy and holding government to account.

Stakeholder engagement and facilitation are increasingly important skills given the growing focus on teamwork and collaboration with a variety of actors to deliver AWS. At the national/state level, dedicated staff and/or capacity strengthening in facilitation and engagement skills are required to bring together relevant sectors. As trends indicate a closer collaboration between WASH and health and WASH and agriculture, skills to manage policy, strategy, and coordination efforts will be needed at the national and state levels while also becoming increasingly important at the RUWASSA and LGA levels. This also holds for those engaging in or supporting business development in sanitation and who need to navigate between government (e.g., policy, tax systems), the private sector, and potential clientele.

Other identified needs included knowledge and skills related to (changing) sanitation technologies, such as biogas construction, FSM, reuse of waste and wastewater, occupational health and safety for empriers, and policy/standard setting and enforcement of safe disposal or reuse.

5.0 SUPPLY OF HUMAN RESOURCES

5.1 COORDINATION, COOPERATION, AND WORK (ACROSS) SECTORS

Cross-sectoral coordination at federal, state, and local government levels has a positive impact on HR skills and competencies, but not all states and LGAs benefit equally. At the federal level, the inter-ministerial coordination among MDAs and through the NTGS is allowing for cross learning. Staff from various MDAs with more general information or communication roles have added skills and knowledge as a result of their interaction with and learning from counterparts from core sanitation and hygiene agencies. Similarly, training of inter-ministerial staff on the National ODF protocol has increased insight and knowledge of the verification process.

At state level, RUWASSAs benefit from the support of federal-level ministries. In most cases, RUWASSA HR include staff that are seconded from other ministries or departments such as the Federal Ministry of Education, FMWRS, and Federal Ministry of Information. The same is applicable to (selected) LGA WASH units/departments. This demonstrates a level of coordination and cooperation across sectors within the government establishments.

In LGAs where new WASH departments or WASH units have been established and where DP interventions have actively supported this process, multi-sectoral teams have been assembled with staff from different disciplines. For example, a WASH unit or department will have staff seconded to it from planning, education, health, and rural development departments or units. These individuals bring their different backgrounds, resulting in cross-learning in the different departments. However, this is not yet the case in all LGAs.

Across the country, Schools of Health Technology are responsible for training EHOs, and their process is considered efficient. However, there is still an overall mismatch between supply of newly trained EHOs and availability of jobs. For example, in Kano State, stakeholder consultations revealed that there are an estimated 40,000 EHOs, all graduates of the Schools of Health Technology, who are unemployed and yet to be absorbed into the government public health departments. This untapped potential could be deployed for sanitation and hygiene work in the LGAs.

To better connect supply and demand but also ensure graduates have the appropriate skills, the Ebonyi State RUWASSA has an internship arrangement with the Federal Ministry of Education. With this arrangement, students from Schools of Health Technology participate as an industrial attachment or intern to the RUWASSA. This provides a manpower boost for the RUWASSA while also serving as training for the students. The assessment team could not confirm how many state RUWASSAs benefit from similar arrangements.

5.2 COMPETENCY DEVELOPMENT OF EXISTING STAFF AND NEW SUPPLY

The Nigerian Civil Service has a provision for study leave with pay. This is a capacity building opportunity that allows staff to upgrade their knowledge and obtain additional certification in a convenient way while on the job. In-service training opportunities also are available, consisting of workshops and trainings that the Office of the Head of Service organizes periodically.

NGOs in the WASH sector provide short, tailored project-related trainings to their staff and partners. Operational trainings include project and financial management, while technical trainings may address CLTS, hygiene promotion, and market-based approaches. Such trainings are, however, not systemic or formal and benefit in particular those (local) government staff working directly with these projects.

The NWRI, Nigeria’s premier institute on water-related training based in Kaduna, provides short courses and vocational training for both incoming students and in-service staff, including technical and management courses. Levels of achievement include higher national diploma, national diploma, advance diploma, and certificate courses. In the past six years (except for 2020 due to COVID-19), 276 students graduated from the NWRI. In addition to these offerings, NWRI is committed to practical trainings for engineers, scientists, technologists, and technicians, most of whom are staff of RUWASSAs or federal/state Ministries of Water Resources in drilling and other aspects of water supply. The NWRI and WaterAid Nigeria recently signed a memorandum of understanding (MOU) for the training of personnel on “rethinking rural sanitation.”

Through the National Action Plan, Nigeria is institutionalizing curriculum development with a focus on WASH across primary, secondary, and tertiary education. In addition, NRWI with the six universities where the NWRI has capacity building centers, are developing post-graduate courses. These courses will cater to new young students/professionals coming into the service, while providing older professionals with updated training.

The Environmental Health Officers Registration Council (EHORECON) is registered to provide induction licensing and updated courses for EHOs across the country. This council is backed by law to determine what standards of knowledge and skill are to be attained by persons seeking to become EHOs and to improve those standards from time to time as circumstances may permit.

6.0 ANALYSIS OF SHORTAGES AND GAPS

6.1 HUMAN RESOURCE SHORTAGES

This CNA did not set out to provide exact numbers of the HR gap in the sanitation and hygiene sector in Nigeria necessary to achieve the national targets. To get an indication of the gap, the assessment team undertook traffic light exercises in the state and national workshops to measure the current HR shortages and gaps in the sector. Stakeholders scored the adequacy of HR to reach the SDG/national target for sanitation and hygiene based on four categories of settlement (urban, peri-urban, rural on road, and rural remote) across the sanitation and hygiene functions.

Table 4 is a representation of the combined outcome of the exercises at the national and sub-national levels. In Table 4, green indicates that more than 95 percent of the needed HR to meet current/future demand is available, yellow indicates that 50–95 percent of the HR needed to meet current/future demand is available, and red denotes that less than 50 percent of the HR needed to meet the current/future demand is available.

TABLE 4. HUMAN RESOURCE SHORTAGES - TRAFFIC LIGHT EXERCISE								
FUNCTIONS	SANITATION				HYGIENE			
	URBAN	PERI-URBAN RURAL MIXED (INCLUDING INFORMAL SETTLEMENTS)	RURAL ON ROAD	RURAL REMOTE	URBAN	PERI-URBAN RURAL MIXED (INCLUDING INFORMAL SETTLEMENTS)	RURAL ON ROAD	RURAL REMOTE
Policy, strategy, coordination (national level)	Red	Red	Red	Red	Red	Red	Red	Red
Regulation (national level)	Red	Red	Red	Red	Red	Red	Red	Red
Monitoring (national level)	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Monitoring (state, LGA level)	Red	Red	Red	Red	Red	Red	Red	Red
Oversight and support	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Construction	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Sanitation only – Emptying and transport	Red	Red	Red	Red	White	White	White	White
O&M (including treatment, disposal, and reuse)	Red	Red	Red	Red	Red	Red	Red	Red
Community engagement and	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow

TABLE 4. HUMAN RESOURCE SHORTAGES - TRAFFIC LIGHT EXERCISE

FUNCTIONS	SANITATION				HYGIENE			
	URBAN	PERI-URBAN RURAL MIXED (INCLUDING INFORMAL SETTLEMENTS)	RURAL ON ROAD	RURAL REMOTE	URBAN	PERI-URBAN RURAL MIXED (INCLUDING INFORMAL SETTLEMENTS)	RURAL ON ROAD	RURAL REMOTE
mobilization (participation)	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Research and design	Red	Red	Red	Red	Red	Red	Red	Red
Business development	Red	Red	Red	Red	Red	Red	Red	Red

Functions assessed as having less than 50 percent of required HR in place were found across national, state, and local levels and across public and private actors. The shortage of HR performing **policy, strategy, and coordination and regulation functions**, including the lack of policy analysts and strategists, was felt to impact directly on the lack of up-to-date, harmonized sector policies and regulation, such as the weak regulation on FSM and the absence of a harmonized national sanitation policy. The shortage of HR to perform the **emptying and transport** function was noted, especially in relation to FSM, a service provided mostly in urban centers, linking to an equally perceived shortage of HR for O&M (including treatment and reuse). A highly private and informal sector with (limited) oversight from the FME and/or the Environmental Protection Agencies, service providers were found to be insufficient to meet the needs of the towns. For rural areas, O&M was viewed by many as the responsibility of households and families.

STAFF SHORTAGES IN JIGAWA STATE

Abubakar Abdullahi is a Chief Sanitary Inspector for Birnin Kudu LGA, Jigawa State (locally referred to as Galadiman Tsabtar). In charge of FSM, Abubakar oversees services for a population of 419,800 (estimated), most of whom live in 11 ward centers and small towns. Abubakar is challenged by being the only staff in his unit with oversight of these wards. He said in his interview that his unit needs at least 11 additional personnel, one for each ward of the LGA. This would greatly facilitate the LGA’s ability to offer support and regulate and monitor FSM, especially now that the LGA has achieved ODF status.

The low rating of HR for **business development** was attributed to the weak market-based sanitation (MBS) and business development potential in most of the states. Although sanitation and hygiene products and services are market driven, they are better developed in states where UNICEF programs were implemented, as these included an important market-strengthening component. **Research and design** were rated in red particularly by participants from the universities who saw a link to the lack of grants for research and design (e.g., in improving cost-effective sanitation solutions for challenging contexts such as riverine areas and those with loose soils).

The functions rated as having between 50 and 95 percent of required HR in place are seemingly linked to the stronger sector focus on ODF achievement in recent years. At the national level, key instruments such as the roadmap to end OD, National Action Plan, and WASHNORM have provided the platform for overseeing and monitoring the state of sanitation and hygiene, with a resulting medium score for **monitoring, oversight, and management HR**. At the state level, however, performance is slightly lower because states have not been recruiting new staff for almost eight years. Secondly, advancement in sanitation and hygiene performance was visible only in states that have donor support and are catalyzed to action by the additional HR that DPs bring.

Community engagement and mobilization (participation) was rated in the yellow as a result of the many EHOs and WASH facilitators with experience in behavior change techniques at both the federal and LGA levels. This is felt to be directly related to current or prior presence of DP-led WASH programs in many of the states. As a result of this, key CLTS and behavior change communication skills can be accessed with relative ease. Yet, regarding **construction** (representing a variety of roles, including artisans, laborers, architects, civil engineers, plumbers, surveyors, masons, toilet business owners, marketeers, and producers of hygiene products), the HR shortages in this category were attributed to low demand by households and a relatively low focus on demand activation for improved sanitation and hygiene facilities, beyond the basic or unimproved structures constructed by many households (and artisans) in the wake of CLTS.

6.2 SUMMARY OF BARRIERS AND OPPORTUNITIES

The CNA identified various barriers to recruiting, promoting, and retaining the workforce in the WASH sector. These are summarized and illustrated below.

State level governments do not always align with federal level guidance and do not prioritize sanitation. As discussed in Section 2.0, the federal government has demonstrated strong commitment to strengthening institutions and creating an enabling environment to advance the sector, through a variety of acts, policies, plans and strategies. However, most state governments have not keyed into the efforts of the federal government by adapting the policies and strategies. Key initiatives for state policy review to align with federal direction, which would provide the basis for creating the structures to house the required HR, are still remiss. For example, the absence of an ODF roadmap in Ebonyi State means that the state is not budgeting for interventions and actions for LGA-wide sanitation. LGA WASH departments are not in place, and staff required to undertake community visits are not trained nor engaged.

The lack of LGA WASH departments presents a strong barrier to action on sanitation and hygiene. The fact that fewer than 10 states in Nigeria have established a dedicated LGA WASH department for all local governments leaves many LGAs unable to function as they should. Both state- and LGA-level offices are challenged by weak capacities for program planning, budgeting, implementation, and service delivery, and consequently, there are no plans in place for AWS and hygiene. Staff required to fill statutory offices are not employed, delaying the federally planned results. State government recruitment freezes represent an additional hurdle, with many states not having been able to recruit into the civil service, specifically the offices relating to sanitation and hygiene, since 2013.

Rural sanitation and hygiene sector workforce conditions are generally poor. The dependence on volunteers rather than paid positions is substantial, and for those in public sector employment, there are increased staff shortages due to workforce attrition and a huge inter-generational gap, inhibiting the transfer of institutional knowledge and skills. There are also large gender disparities in the sector workforce.

There is limited attraction and persistent stigma to work in the rural sanitation and hygiene sectors. The lack of job opportunities in the sector serves as a major demotivator for individuals to make deliberate efforts at furthering their careers and building their capacity without guarantees for employment or absorption into any of the agencies. The private sector in sanitation also is not yet well developed to absorb trained professionals who are unable to secure slots within the government structure. Moreover, there is a considerable stigma linked to working in FSM, whether it be waste transport or pit emptying. The stigma on seeking emptying services also affects the clients seeking services and individuals seeking jobs who would rather be unemployed than associated with the profession of emptying.

With regards to opportunities, the global emphasis on safely managed sanitation is leading Nigeria to begin exploring opportunities in the circular economy beyond just the toilet construction economy. There has been a lot of focus on containment, as shown in the HR development opportunities, but it is expected that as the sector progresses toward safely managed sanitation, the other parts of the sanitation service chain will pick up, thereby creating more HR development opportunities.

There is a growing emphasis on MBS, including a gradual improvement of the business environment and entry into the market of new players and products for the provision of low-cost sanitation services, such as the collaboration between Lixil and Innoson for the production of the SATO Pan and Stool. It is expected that more such collaborations will occur, with the added potential of engaging businesses, retailers, and salespeople.

There is an opportunity for increased capacity building. Presently only the NWRI has the expressed mandate for WASH research and innovation in Nigeria. However, there are other institutions with research mandates and a focus on water and sanitation related academic activities. These include 33 universities, 30 polytechnics/monotechnics, research institutes, and Schools of Health Technology and Colleges of Agriculture in all states. If they are so mandated, these institutions can increase and improve capacity building offerings to both existing and incoming sector staff. The post-graduate course development currently underway with six universities is a start.

7.0 RECOMMENDATIONS

Based on the CNA undertaken in Nigeria, a number of high-level recommendations can be made. 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 6. While there also are 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. 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).

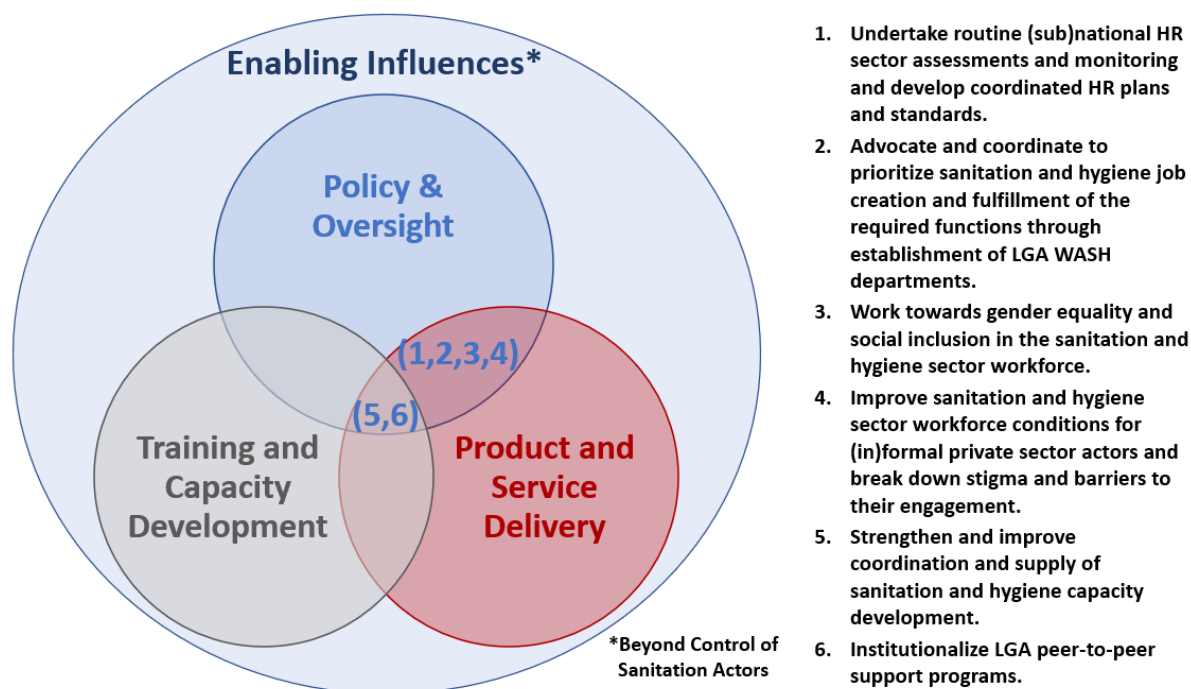


Figure 6. Overview of Recommendations

TABLE 5. RECOMMENDATIONS BY LEAD STAKEHOLDER			
ACTION	RESPONSIBLE	TIMEFRAME (SHORT, MEDIUM, LONG TERM)	COMMENTS
INSTITUTIONS RESPONSIBLE FOR POLICY AND OVERSIGHT IN CONJUNCTION WITH PRODUCT/SERVICE DELIVERY AGENTS			
I. Undertake routine (sub)national HR sector assessments and monitoring and develop coordinated HR plans and standards			
a. Undertake a detailed HR capacity gap assessment across all states and LGAs.	FMWRS, FME	Short to medium term	A comprehensive assessment across all states and LGAs would provide a better sense of current staffing numbers, HR
b. Develop a comprehensive and costed capacity improvement and HR management plan that considers all actors active in (rural)	Development partners group (DPG), NTGS,		

TABLE 5. RECOMMENDATIONS BY LEAD STAKEHOLDER

ACTION	RESPONSIBLE	TIMEFRAME (SHORT, MEDIUM, LONG TERM)	COMMENTS
<p>sanitation and hygiene, including public sector, (in)formal private sector, NGOs/CBOs, and volunteers.</p> <p>c. Include (a roadmap toward) standardization of jobs, roles, and needed qualifications, salaries, and job conditions for all levels and across actors, in alignment with other sectors.</p> <p>d. Develop the required M&E HR and skills and integrate and resource data systems within the broader drive for AWS and hygiene, including by linking with WASH Information Management System (WASHIMS) and WASHNORM to capture capacity gaps and needs of the workforce for AWS.</p>	<p>NWRI, and National Action Plan Office, State Assembly, Association of Local Governments of Nigeria (ALGON).</p> <p>Potentially with support from International Labour Organization/ World Bank, Federal Ministry of Labor and Productivity.</p>		<p>shortages, and competency gaps.</p> <p>The comprehensive multi-actor HR management plan would require collaboration across ministries, including Ministry of Labor and Productivity, FMWRS, FME, FMOH, including through development of appropriate HR policies. A standardization exercise should consider at minimum CHEWs, EHOs, sanitary/hygiene inspectors, health promotion specialists, and community facilitators.</p>
<p>2. Advocate and coordinate to prioritize sanitation and hygiene job creation and fulfillment of the required functions through establishment of LGA WASH departments</p>			
<p>a. Undertake analysis with states and LGAs to understand barriers to establishment of WASH departments.</p> <p>b. Use the barrier analysis and comprehensive HR plan developed under Recommendation 1 to inform a comprehensive and costed plan for the establishment and staffing of WASH departments/units.</p> <p>c. Issue a directive and follow up with guidance and support to states and LGAs on the formation of WASH departments/units.</p>	<p>FMWRS, FME</p> <p>DPG, NTGS, NWRI, National Action Plan Office, State Assembly, and ALGON.</p>	<p>Short to medium term</p>	<p>The directive and guidance will be to states on transformation of WASH from units to departments. This will include advocacy and legislative steps to take.</p>
<p>3. Work toward GESI in the sanitation and hygiene sector workforce</p>			
<p>Ensure inclusion of explicit strategies and targets in HR sector plans, policies, and organizations to increase equality and inclusion in the workforce, including based on gender and age, and ranging from access to education and skills building opportunities to parity in paid positions and appropriate working conditions.</p>	<p>FMWRS, FME</p> <p>DPG, NTGS, State Assembly, ALGON</p>	<p>Short to medium term</p>	<p>A more equal and inclusive workforce will be better equipped to respond to the range of challenges and demands linked to delivering universal rural sanitation and hygiene.</p>
<p>4. Improve sanitation and hygiene sector workforce conditions for (in)formal private sector actors and break down stigma and barriers to their engagement</p>			
<p>a. Undertake state-level assessments to understand the current role of and barriers faced by the informal and formal private sector in sanitation and hygiene service delivery and implications for HR recruitment, retention, and development.</p>	<p>Government through the Federal Ministry of Finance, Budget, and National Planning; Small and Medium</p>	<p>Short to medium-term</p>	<p>More formalized and structured engagement of (in)formal service providers may increase the speed of ODF roadmap roll-out, but also improve quality and support the move toward</p>

TABLE 5. RECOMMENDATIONS BY LEAD STAKEHOLDER

ACTION	RESPONSIBLE	TIMEFRAME (SHORT, MEDIUM, LONG TERM)	COMMENTS
<ul style="list-style-type: none"> b. Explore formalization and more structured engagement (and oversight) of informal private sector actors (e.g., masons, artisans, emptiers) to improve employment conditions and quality of services and product delivered. c. Improve working conditions in the private and informal sector through increased regulation and focus on health and safety. d. Engage and advocate to change perceptions and curb discrimination and biases against sanitation workers. 	Enterprises Development Agency of Nigeria (SMEDAN); Federal Ministry of Labor and Productivity		safely managed sanitation services.
POLICY AND OVERSIGHT INSTITUTIONS IN CONJUNCTION WITH PRODUCT AND SERVICE DELIVERY AGENTS AND TRAINING INSTITUTIONS			
5. Strengthen and improve coordination and supply of sanitation and hygiene capacity development			
<ul style="list-style-type: none"> a. Hold bi-annual meetings with sector organizations for learning and knowledge exchange to understand HR needs of the sector, gain input from practitioners on HR capacity gaps and requirements, discuss capacity development opportunities, and arrange practical internships /attachments for students. b. Develop and offer project management courses more systematically to staff entering (public sector) roles requiring such skills and competencies, including a range of skills such as strategic planning, facilitation skills, and (digital) data management. 	FMWRS; FME; NWRl; Clean Nigeria: Use the Toilet campaign; NTGS; Ministry of Finance, Budget and National Planning; SMEDAN; Ministry of Labor and Productivity	Medium to long term	Biannual meetings could be linked to the annual sanitation conference and/or zonal reviews for states on the Clean Nigeria campaign.
6. Institutionalize LGA peer-to-peer support programs			
Engage in peer-to-peer support programs where LGA WASH departments of ODF/well-progressed LGAs provide skill and capacity development support to staff and personnel of LGAs that have expressed interest in moving toward LGA-wide sanitation.	State Ministries for Local Government, FMWRS, ALGON, WASH departments	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 CNAs. A full description of the methodological framework is included as Annex I in the CNA Final Report (USAID 2023).

Frameworks

Assessing and addressing 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 Arriëns and Wehn de Montalvo 2013). Figure 7 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.

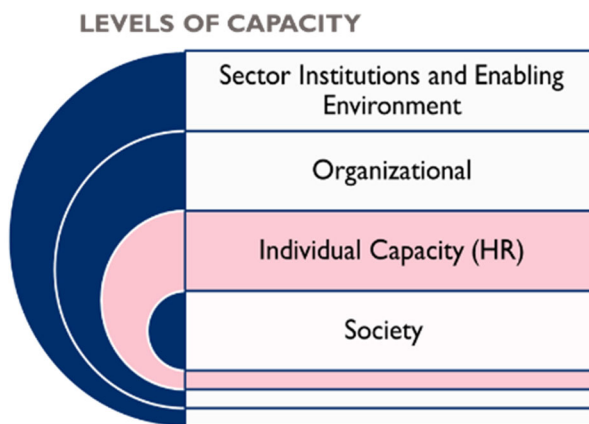


Figure 7. Framework for the Assessment

A large number of 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 KII in the start-up phase of our global assessment.

TABLE 5. FUNCTIONS TO DELIVER SANITATION AND HYGIENE

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

Definitions

TABLE 6. GENERAL DEFINITIONS	
AWS	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 (i.e., personnel, 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 an FSM treatment plant)
Transferable (knowledge and skills)	Knowledge and skills that a person may need for their job but are not specific to that field only. These knowledge areas or skill sets 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 7. GEOGRAPHICAL AREAS DEFINED (ADAPTED FROM: WATERAID 2019.)	
Rural remote (far from urban)	• Small and remote communities • Unpaved roads • Low population density • Primary agricultural livelihood • Low market reach (products and services not reaching rural remote area) • Low affordability of sanitation products and services • Few sanitation finance options (few finance institutions or services available)
Rural on-road (close to urban)	• Small to medium communities connected with rural centers • All-weather roads • Low to medium population density • Agricultural and other livelihoods • Low to medium market reach • Low availability of market products and services • Low affordability of MBS products and services • Some options for sanitation finance
Rural mixed (peri-urban)	• Large rural settlements and rural areas within urban catchments • Paved roads • Medium to high population density (some congestion problems) • Mixed livelihoods • Some tenants (rented accommodation) • Medium to high market reach • Medium availability of market products and services • Low to medium affordability of MBS products and services • Increased options for sanitation finance
Urban	• Large settlements within urban catchment • Unpaved or paved roads • High population density (congestion problems) • Mixed livelihoods • Fall in mandated area of the utility • Medium to high market reach • Medium to high availability of market products and services • Can have lack of land

TABLE 7. GEOGRAPHICAL AREAS DEFINED (ADAPTED FROM: WATERAID 2019.)

	ownership (informal/illegal settlement) • Low affordability of MBS products and services • Increased options for sanitation finance
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ANNEX 2. KEY INFORMANTS

TABLE 8. KEY INFORMANTS								
INSTITUTION	INFORMANT (S)	SEX/ GENDER		ROLE	NATIONAL	STATE	LGA	TYPE OF ORGANIZATION
		M	F					
NWRI, Kaduna	Mrs. Esther Barde			Lecturer				Government
NWRI, Kaduna	Engr. Mohammed Usman,			Head of Outreach Division and Lecturer				Government
Organized Private Sector in WASH	Dr. Nicholas Igwe			Organized Private Sector in WASH				Private
Clean Nigeria: Use the Toilet Campaign Secretariat	Nneka Akwunwa			Sanitation Specialist and Consultant on Market-Based Sanitation (MBS)				Individual
Independent Sanitation Marketing Consultant	Blessing Okoh (Engineer)			Engineer and Trainer on Market Based Sanitation				Independent
Environmental Health Officer	Joseph Ekpata			Environmental Health Officer (retired) and trainer in WASH				Independent
Bayelsa State RUWASSA	Zipuanara Felicia Afenia			Hygiene and Education Officer and Head of the Unit				Individual
WaterAid Nigeria	Waando Akuse			Sanitation and Hygiene Focal Person				INGO
Toilet Pride (MBS CSO)	Chukwuma Nnana			Executive Director				CSO
Cross River State RUWASSA	Sarah Ode			Environmental Health Officer and Head of Department Sanitation				Government
Association of Environmental Health Officers, Cross River State Chapter	Simon Imogbo			Environmental Health Officer				Government
NEWSAN	Benson Attah			National Coordinator Network of CSOs in Water and Sanitation				CSO

TABLE 8. KEY INFORMANTS

INSTITUTION	INFORMANT (S)	SEX/ GENDER		ROLE	NATIONAL	STATE	LGA	TYPE OF ORGANIZATION
		M	F					
	Bibian Ama			Senior Program Officer				
Birnin Kudi LGA, Jigawa State	Idris Ahmed			LGA WASH Coordinator			I	Government

ATTENDANCE SHEET

TABLE 9. WASHPALS #2 SANITATION AND HYGIENE SECTOR CNA: STAKEHOLDERS WORKSHOP, ABUJA, SEPTEMBER 27, 2022

S/N	NAME	ORGANIZATION	DESIGNATION	GENDER
1	Engr. Mohamed Usman	NWRI, Kaduna	Head/Outreach Director	M
2	Chukwumaa Nnanna	Toilet Pride	Executive Director	M
3	Blessing Azai	FEMINWASH	Technical Support	F
4	Ponchang Wuyep (Prof.)	UNIJOS	WASH Coordinator	M
5	Gimba Goyo	Thermometer & Thermostat	Lead Consultant	M
6	Ogungboye Adefolarin	FMWRS Abuja	Assistant Director	F
Ple7	Dr. Emma Ezenwayi	Unizik Awka	Director, NWRCBNEF.SE	M
8	Attah Benson	NEWSAN	National Coordinator	M
9	Ugoh, E. A	FMWRS	Director, Water Quality Control and Sanitation	F
10	Nneka Akwunwa	Clean Nigeria: Use the Toilet Campaign	SM/RM	F
11	Peters Ojonuba	FME ABUJA	WASH Specialist	M
12	Ahmadu Audu	Action Against Hunger (AAH)	Deputy Head of Department (DHOD)–WASH	M
13	Yusuf Ejurah	Federal Fire Service	ASH	F
14	Engr. Agu Sunday	FMWRS	Water Engineer	M
15	Engr Magaji Abubakar	PEWASH	Assistant Chief with Engineering	M
16	Osaro Osajarikre	FMWA	Assistant Chief Social Welfare Officer (ACSWO)	F
17	Onwuruike Elizabeth	FMWA	SEO	F
18	Arc Ochudo Ayi	Nigeria Universities Commission	Chief Architect	F
19	Adeniran Adefunke	Africa Environmental Health Organization	Program Coordinator	F
20	Otene Ogwuche	Sightsavers	WASH Behavior Change Communications Consultant	M

TABLE 9. WASHPALS #2 SANITATION AND HYGIENE SECTOR CNA: STAKEHOLDERS WORKSHOP, ABUJA, SEPTEMBER 27, 2022

S/N	NAME	ORGANIZATION	DESIGNATION	GENDER
21	Paul Onoja A.	WASH Academia	Program Manager	M
22	Jumbo T. Gloria	FME	SEO	F
23	Wandoo Akosu	WaterAid	State Program Lead (SPL)	F
24	Fashoyi Adewale. O	FMWRS	Deputy Director (DD)	M
25	Ilonze Uju	FMWRS	CAO	F
26	Nature Uchenna Obiakr	YouthWASH	Coordinator	M
27	Juliet lordye	Nigeria Sustainable Urban and Rural Water Supply, Sanitation and Hygiene (SURWASH; FMWRS)	SH Officer	F
28	Damilola Akomoleye	FMWRS	Assistant Scientific Officer	F
29	Opara C.N.	FMWRS	Assistant Director/National Coordinator	F
30	Akpa O. E.	FMWRS	Assistant Director	F
31	Attih Ikwo	FMWRS	SSO	F
32	Maryann Ali	EHORECON	HEHO	F
33	Chief Abu Ali	Free HEALTH	Coordinator	M
34	Idoko Rosemary	FMWRS	SOI	F
35	Okeke Olive I	FMWRS		F
36	Nanpet Chuktu	Tetra Tech	Consultant	M
37	Shadrack Guusu	Tetra Tech	Consultant	M

ANNEX 3. COMPETENCY GAPS

TABLE 10. COMPETENCY GAP					
FUNCTION	ACTORS	NEW/ADDITIONAL JOBS REQUIRED	COMPETENCY (TECHNICAL SKILLS/ KNOWLEDGE) NEEDED	COMPETENCY (TRANSFERABLE SKILLS/ KNOWLEDGE)	WHAT ARE THE ACTIONS TO ADDRESS THESE COMPETENCIES?
Policy, strategy, coordination (national level)	<ul style="list-style-type: none"> FMOH FMWRS FME Federal Ministry of Education Federal Ministry of Budget and National Planning Religious leaders Federal Ministry of Justice CSOs 	<ul style="list-style-type: none"> Data managers/analyst Communications experts Social media Managers/strategists Information managers Lobbyist/advocacy advisors Trend analysts/planners Think tank managers 	<ul style="list-style-type: none"> Data management and analytical skills Forecasting Research skills Good understanding of existing laws and policies 	<ul style="list-style-type: none"> Digital skills Project management 	<ul style="list-style-type: none"> Recruitment Training and retraining Engagement of sector experts Strategic partnerships/alignment/ collaboration Information management
Regulation (national, provincial, local government)	<ul style="list-style-type: none"> FME FMWRS State agencies under the Ministry of Water Resources and Environment (Water Board, RUWASSA, STOWA, State Environmental Protection Agency (SEPA) WASH department/units, EHORECON 	<ul style="list-style-type: none"> Traditional leadership structures at the LGA Religious leaders (state and local government) Trained Environmental Health Officers (EHOs) licensed by EHERECON, equipped to carry out inspection and enforcement 	<ul style="list-style-type: none"> Statistical analysis Critical thinking and problem-solving Knowledge of regulatory agencies and best practices Industry-specific technical knowledge Communication and writing 	<ul style="list-style-type: none"> Risk assessment Understanding the role and framework for regulation as a tool Planning the actions of the regulator Checking compliance Supporting compliance Responding to non-compliance Evaluation 	<ul style="list-style-type: none"> Recruitment Training and retraining Engagement of sector experts Strategic partnerships/alignment/ collaboration Information management
Monitoring and evaluation (national, provincial, local government)	<ul style="list-style-type: none"> FMOH FMWRS FME Federal Ministry of Education Federal Ministry of Budget and National Planning Religious leaders Federal Ministry of Humanitarian Affairs 	<ul style="list-style-type: none"> Clerks, secretaries, and messengers are being replaced due to digitalization. New jobs include: <ul style="list-style-type: none"> Software/Data managers Remote assistants 	<ul style="list-style-type: none"> Technical skills Software skills Data management/ analysis, web design and management 	<ul style="list-style-type: none"> Facilitation skills Adaptive management to ensure regular updates of monitoring frameworks to capture trends Project management technology 	<ul style="list-style-type: none"> Recruitment Training and retraining Engagement of sector experts Strategic partnerships/alignment/ collaboration Information management

TABLE 10. COMPETENCY GAP

FUNCTION	ACTORS	NEW/ADDITIONAL JOBS REQUIRED	COMPETENCY (TECHNICAL SKILLS/ KNOWLEDGE) NEEDED	COMPETENCY (TRANSFERABLE SKILLS/ KNOWLEDGE)	WHAT ARE THE ACTIONS TO ADDRESS THESE COMPETENCIES?
	<ul style="list-style-type: none"> • Federal Ministry of Women Affairs • Federal Ministry of Finance • National Bureau of Statistics • Departments/units • NGOs • CSOs 				
Advocacy monitoring and hold to account	<ul style="list-style-type: none"> • Traditional leaders • Religious leaders • CBOs • Professional bodies, associations, media, quality control, etc. 	<ul style="list-style-type: none"> • Liaison Manager • Monitoring, Evaluation and Reporting specialist • Investigative Officer • Project Planners and Implementers • Mobilization and Campaign Managers • Performance Management Experts 	<ul style="list-style-type: none"> • Information technology skills • Data analytics and collection • Understanding of project life cycle • Policy analysis • Monitoring 	<ul style="list-style-type: none"> • People/stakeholder management • Citizen/community mobilization, communication 	<ul style="list-style-type: none"> • Training on policy and policy analysis for professional bodies and CBOs • Participation in town hall meetings and sector policy reviews • Involved in monitoring activities of states and LGAs
Management/ oversight and external support (i.e., provincial, local government, municipality)	<ul style="list-style-type: none"> • Heads of government agencies • Heads of external support agencies/programs • LGAs and municipal administrators (technical and operational) 		<ul style="list-style-type: none"> • Policy analysis, strategic management, project management 	<ul style="list-style-type: none"> • Leadership • Strategic planning, • Stakeholder management • Communication • Team building 	<ul style="list-style-type: none"> • Training for management staff on policy, strategic management, and project management
Design and construction (sanitation containment)	<ul style="list-style-type: none"> • Artisans • Laborers • Architects • Building material dealers • Quality control specialists • Civil engineers • Plumbing experts • Building engineer • Geologists • EHOs 	<ul style="list-style-type: none"> • Designer Research and Development Specialist (e.g., for toilets in riverine and coastal areas, biogas digesters) 	<ul style="list-style-type: none"> • Masonry or carpentry skills • Design • Plumbing • Soil analysis • Entrepreneurship, modern techniques in modelling building and testing prototypes 	<ul style="list-style-type: none"> • Budget and evaluation (quantities) • Communication and stakeholder engagement 	<ul style="list-style-type: none"> • Policy review • Investment funding • Incentivizing private sector engagement and participation • Training for low- mid-, and high-level technical experts

TABLE 10. COMPETENCY GAP

FUNCTION	ACTORS	NEW/ADDITIONAL JOBS REQUIRED	COMPETENCY (TECHNICAL SKILLS/ KNOWLEDGE) NEEDED	COMPETENCY (TRANSFERABLE SKILLS/ KNOWLEDGE)	WHAT ARE THE ACTIONS TO ADDRESS THESE COMPETENCIES?
	<ul style="list-style-type: none"> • Hydrologists • Water quality experts • Surveyors • Climatologists • Soil scientists • Sanitation technical groups 				<ul style="list-style-type: none"> • Awareness creation on new designs and models/prototypes • MOU to promote public-private partnership actions at state and LGA levels • Training on service contract agreements and management of public and private sector players
Sanitation only - empty and transport	<ul style="list-style-type: none"> • Primary actors: manual emptiers, town announcers, WASHCOM, EHOs, CHEWS • Secondary actors: LGA units (WASH, Health, and Environment), media (specifically radio), local government education authority, Federal Ministry of Education 	<ul style="list-style-type: none"> • Manual emptiers (may be converted to biogas construction experts) 	<ul style="list-style-type: none"> • Health and safety know-how • Emptying tools • Technical know-how on how to construct a simple sustainable community-level biogas plant (and waste management) 	<ul style="list-style-type: none"> • Interactive skills • Communication skills 	<ul style="list-style-type: none"> • Assessment • Sensitization • Design • Training • Piloting • Upscale
O&M (includes treatment and reuse) (i.e., household, municipality)	<ul style="list-style-type: none"> • Evacuators/pit emptiers • Farmers • Soil t(extension workers) 	<ul style="list-style-type: none"> • Manual evacuators/pit emptiers • Soil testers (new jobs that can help communities understand their soil needs and if treated human waste will improve their productivity) 	<ul style="list-style-type: none"> • Technical know-how on how to test soil 	<ul style="list-style-type: none"> • Interactive skills • Communication skills 	<ul style="list-style-type: none"> • Sensitization training
Behavior changes and community engagement and	<ul style="list-style-type: none"> • Primary actors: households, WASHCOM, artisans, EHOs, CHEWS, mobilization officers 	Nil	Nil		<ul style="list-style-type: none"> • Sensitization training

TABLE 10. COMPETENCY GAP

FUNCTION	ACTORS	NEW/ADDITIONAL JOBS REQUIRED	COMPETENCY (TECHNICAL SKILLS/ KNOWLEDGE) NEEDED	COMPETENCY (TRANSFERABLE SKILLS/ KNOWLEDGE)	WHAT ARE THE ACTIONS TO ADDRESS THESE COMPETENCIES?
mobilization (national, local government, municipality level)	<ul style="list-style-type: none"> Secondary actors: LGA units (WASH, Health, and Environment), media (specifically radio), local government education authority 				
Research and design (national level, local level)	<ul style="list-style-type: none"> Federal Ministry of Education Federal Ministry of Works and Housing (FMWH) Federal Ministry of Science, Technology, and Innovation FME FMWRS FMOH Organized Private Sector 	More Lecturers/Teachers			
Business development (national level, local level)	<ul style="list-style-type: none"> Federal Ministry of Education FMWH FMWRS FME FMOH Federal Ministry of Science, Technology, and Innovation Organized private sector 	More artisans and drillers, hydrologists, geographers, meteorologists, Environmental Health Officers, waste managers, scientists, engineers, urban and regional planning officers, architects, builders	Information communication technology, mentorship, training and re-training, O&M, monitoring and evaluation, business skills	Data analysts, financial managers, project managers, communication skills, stakeholder engagement	Mentoring, training and re-training
Business development (national level, local level)	<ul style="list-style-type: none"> Bank of industry, microfinance banks, SMEDAN, technology and incubation centers, Conditional Cast Transfer (CCT) program, cooperatives 	Petty traders, transporters, poultry, piggery, fishery, snail farming and beekeeping, water vendors	Skill acquisition, training and re-training, apprenticeship	Interactive skills, management skills, quantitative skills, budget and finance management skills	Establishment of skill acquisition centers, mentorship, female entrepreneur empowerment programs

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