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SANITATION AND HYGIENE SECTOR CAPACITY NEEDS ASSESSMENT

INDIA COUNTRY REPORT

OCTOBER 2023

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Cover photo: Sanitation and Hygiene workers of Bharatshila GP, Banka, Bihar, USAID WASHPaLS #2

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ACRONYMS AND ABBREVIATIONS

ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
AWS	Area-wide Sanitation
AWW	Anganwadi Worker
BCC	Behavior Change Communication
BDO	Block Development Officer
BIPARD	Bihar Institute for Public Administration and Rural Development
CB	Capacity Building
CEO	Chief Executive Officer
CNA	Capacity Needs Assessment
DDWS	Department of Drinking Water and Sanitation
DoRD	Department of Rural Development
DWSC	District Water and Sanitation Committee
ETC	Extension Training Center
FSM	Fecal Sludge Management
FSTP	Fecal Sludge Treatment Plant
GOB	Government of Bihar
GOI	Government of India
GP	Gram Panchayat
GWM	Groundwater Management
HR	Human Resources
ICDS	Integrated Child Development Scheme
ICT	Information and Communication Technology
IEC	Information, Education, and Communication
iGOT	Integrated Government Online Training
IIT	Indian Institute of Technology
INR	Indian Rupee
IPC	Interpersonal Communication
IT	Information Technology
IVRS	Interactive Voice Response System
JMP	Joint Monitoring Programme
KII	Key Informant Interview
LBSNAA	Lal Bahadur Shastri National Academy of Administration

M&E	Monitoring and Evaluation
MIS	Management Information System
MNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
MNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
MOJS	Ministry of Jal Shakti
NGO	Nongovernmental Organization
NIC	National Informatic Centre
NIRD	National Institute of Rural Development
NPCSCB	National Program for Civil Services Capacity Building
O&M	Operation and Maintenance
ODF	Open Defecation Free
ODF-S	Open Defecation Free-State
PHED	Public Health Engineering Department
PMU	Project Management Unit
PRI	Panchayat Raj Institution
PWMU	Plastic Waste Management Unit
RLB	Rural Local Body
SBMG	Swachh Bharat Mission (Grameen)
SDG	Sustainable Development Goal
SHG	Self Help Group
SIRD	State Institute of Rural Development
SLWM	Solid and Liquid Waste Management
SSBMG	State Swachh Bharat Mission (Grameen)
SWSM	State Water and Sanitation Mission
TISS	Tata Institute of Social Service
UN	United Nations
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WASH	Water, Sanitation, and Hygiene
WASHPaLS	Water, Sanitation, and Hygiene Partnerships and Learning for Sustainability
XVFC	Fifteenth Finance Commission

GLOSSARY

TABLE I. DEFINITIONS	
Aayog	Commission
Anganwadi Worker	A community-based front-line worker of the Integrated Child Development Scheme Program. They are typically women and play a crucial role in promoting child growth and development.
Awaz Sevak	House servant
Block Panchayat	A local government body at the block level in India.
Gobardhan	Government of India scheme that supports rural villages in safely managing their cattle, agricultural, and organic waste in rural areas
Gram Kachahri	The licensed entity that serves as a court at the Gram Panchayat level
Gram Panchayat	Village-level government bodies. The Gram Panchayat will cover multiple wards. One village can have several wards, or multiple villages together can form one ward
Grameen	Rural
Jal Shakti	Government ministry formed in May 2019. Literally, “water power/strength/capabilities.”
Jeevika	Livelihoods program in Bihar
Lakh	In the Indian system of measurement: one hundred thousand; 100,000
Mukhiya	Elected leader (Chairperson) of the Gram Panchayat
Nigrani	Monitoring
Nodal Institution	School/capacity building institute that can provide space, facilities, and amenities for evaluation and coordination for a number of specified subjects/schemes
Panchayat Raj	Rural local government
Panchayat Sachiv	Panchayat Secretary at the Gram Panchayat level. This is a non-elected representative, appointed by the state government, to oversee Panchayat activities
Panchayat Samiti	Elected representative body in every block
Ratri Chaupal	Gathering of people for a discussion after sunset
Rojgar Sevak	Employment servant
Sampoorn Swachhata	Total sanitation
Swachh Bharat Mission (Grameen)	Clean India Mission
Swachh Sangraha	Knowledge Management Portal of Swachh Bharat Mission (Grameen) that has a collection of data, information, and practices on sanitation
Swachhagrahi	Volunteer who works with community on sanitation
Vikas Mitra	Government-appointed functionary at the Gram Panchayat level in charge of rural development schemes
Ward	The smallest administrative unit within Gram Panchayats. A Gram Panchayat can have 10-15 wards depending on the population of the Gram Panchayat, with the average number of wards per Gram Panchayats around 13

TABLE I. DEFINITIONS

Zila Parishad	The bridge between government and rural populations and can execute development schemes, provide civic functions in rural areas, and perform delegated duties for certain government departments. In addition to this, it advises the block level administration (Panchayat Samiti).
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OVERVIEW OF THE FIVE-TIER FEDERAL STRUCTURE

India has a tiered federal structure under which sanitation and hygiene are implemented.

1. Under the Ministry of Jal Shakti, the Department of Drinking Water and Sanitation (DDWS) is the department for overall policy, planning, funding and coordination of two flagship programs of the Government of India, namely the Swachh Bharat Mission (Grameen) (SBMG) for rural sanitation and the Jal Jeevan Mission for rural drinking water supply. DDWS also is referred to as the central mission. It has its own project management unit (PMU) and PMUs supported by development partners. PMUs are mechanisms/windows to bring in external (e.g., private sector or international) expertise to support the different levels/departments of government.
2. Each State must have a State Water and Sanitation Mission (SWSM) to receive funding for water or sanitation programs such as the SBMG. According to new guidance of the SBMG, the composition of the SWSMs should be reviewed to ensure representation of various departments: Rural Sanitation, Rural Drinking Water, School Education, Health, Women and Child Development, Panchayati Raj, Water Resources, Agriculture, Publicity, etc. A SWSM has two committees at state level to implement a program (such as, in this case, the SBMG):
 - a. APEX committee – providing policy, finance and guidance and headed by a Chief secretary.
 - b. Executing committee – the State Swachh Bharat Mission (Grameen) (SSBMG). This is established under the department where responsibility for sanitation lies (e.g., in Bihar, this is under the Rural Development Department).

Each SSBMG has a Mission Director, who may develop its team of directors for parts of the SSBMG (e.g., technology, capacity building, and monitoring and evaluation). These sub-units are called cells and they work with the Rural Local Government (Panchayati Raj Institutions) to execute and implement the SBMG activities.

The Panchayat Raj is further developed into a three-tier system and consists of the district-level administration (Zila Parishad), the block-level administration (Panchayat Samiti) and village-level administration (Gram Panchayat). Together these form the Rural Local Bodies.

1. The Zila Parishad is organized at the district level. Its chairperson is called Zila Parishad Adhyaksha or Zila Parishad President. The Zila Parishad acts as the bridge between government and rural population and it advises the block level administration (Panchayat Samiti). A District Swachh Bharat Mission committee, chaired by the District Magistrate, is responsible for planning, implementation, monitoring and supervision of the program.
2. The Panchayat Samiti is the second tier of the Panchayati Raj. Its elected head is known as the Block Pramukh/Chairman/President. Among others, the Panchayat Samiti is responsible for processing the plans made by the Gram Panchayat and evaluating them. All states have Block PMUs at the block level, which work as a bridge between the district and the Gram Panchayats, and provide continuous support in terms of awareness generation, motivation, mobilization, training, and mentoring of village communities and Gram Panchayats.
3. The Gram Panchayat or the lowest tier of the Panchayat Raj consists of one or more villages and is divided into wards (smallest administrative units). The population votes for the elected officials in their respective wards, called ward member or Panchayat member. The Panchayat is chaired by elected officials known as the Mukhiya (responsible for overall development of panchayat) and the Sarpanch (responsible for maintaining efficient law and order in the panchayat). In some states these are one and the same person. Village (Gram Panchayat) meetings are held two or three times a year to take collective decisions.

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 6.2. The overarching theme for WASHPaLS #2 learning and research is area-wide sanitation (AWS). In addition to defining and seeking to understand effective implementation of AWS, WASHPaLS #2 implementation research also focuses on market-based sanitation and social and behavior change to reduce pathogen transmission pathways for infants and young children.

From March to October 2022, WASHPaLS #2 conducted a sanitation and hygiene sector workforce capacity needs assessment (CNA) focused on sub-Saharan Africa and South and Southeast Asia. The objective of the assessment was to better understand the capacity needs across the sanitation and hygiene sector and the dynamics at play in trying to address these needs, to develop 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 India, to validate and complement initial findings from a global review and to understand local dynamics. Other country-level assessments were conducted in Nepal, the Philippines, Ghana, Nigeria, and Rwanda. This report presents the findings from the CNA in India.

EXECUTIVE SUMMARY

From March to October 2022, the United States Agency for International Development (USAID) Water, Sanitation, and Hygiene Partnerships and Learning for Sustainability (WASHPaLS) #2 project conducted a sanitation and hygiene sector workforce capacity needs assessment (CNA) focused on sub-Saharan Africa and South and Southeast Asia. The CNA concentrated on rural on-site sanitation and hygiene and was designed to assess the human resources (HR) capacity needed to deliver safely managed area-wide sanitation and basic hygiene sustainably and at scale. The overall assessment included six country-level CNAs, including in India. The India CNA included a desk review, key informant interviews, and focus group discussions, and focused on the State of Bihar, Banka District, where field visits were made to three blocks and two Gram Panchayats (GPs, village level government bodies).

KEY FINDINGS

Strong political will and concerted investments in sanitation and hygiene service delivery have resulted in a large sanitation and hygiene workforce in India, albeit with variations across states. India has made substantial progress in the provision of sustainable sanitation and hygiene services under the Swachh Bharat Mission (Grameen) (referred to as SBMG). At the conclusion of Phase I of the SBMG in October 2019, the Government of India (GOI) declared India open defecation free (ODF). Phase II of SBMG, currently underway, focuses on ensuring sustained ODF behaviors, leaving no one behind, and solid and liquid waste management—collectively referred to as ODF-Plus. As a result, there is continued public investment in sanitation and hygiene service delivery and HR.

With approximately 45,000 villages, Bihar State has a considerable sanitation and hygiene workforce. Bihar has over 146,000 elected Panchayat functionaries who are partially involved in sanitation and hygiene, 200,000 sanitation workers, 8,000 sanitation supervisors, and 72,000 masons. With an aim to have at minimum one sanitation supervisor per GP and two sanitation workers per ward (the smallest administrative unit under GP), at the time of the assessment these staff had been hired in around 50 percent of the Panchayats in Bihar. This is in addition to a large force of accredited social health activists, such as Anganwadi Workers,¹ auxiliary nurses and midwives, schoolteachers, and *Swachhagrahis* (volunteer community sanitation workers responsible for leading communication and community mobilization activities) who support sanitation and hygiene interventions in the state.

However, despite advice to states from the Department of Drinking Water and Sanitation (DDWS) to establish a project management unit (PMU) using DDWS information, education, and communication funds for improved capacity, **only 5 out of 36 states/Union Territories have a PMU at the state level.** The process of hiring staff is reportedly cumbersome and needs approvals at multiple administrative levels, depending on the position. While funds for program implementation are not a constraint at present, institutional strengthening to meet capacity building (CB) needs of the required workforce would likely necessitate a several-fold increase in the funds earmarked for this purpose.

Considerable opportunities exist to reengage the *Swachhagrahis*. They were mobilized in large numbers during SBMG Phase I and while the numbers of active *Swachhagrahis* have dropped, they could be re-engaged using incentive mechanisms. This would not only help states and districts mobilize people for collective action but could also provide great support to the GPs in planning, implementation, and management of solid and liquid waste management (SLWM) services and assets.

¹ An Anganwadi Worker is a community-based front-line worker of the Integrated Child Development Scheme Program. They are typically women and play a crucial role in promoting child growth and development.

Opportunities also exist in the form of **emerging private sector and market prospects** to respond to the needs of SBMG Phase II. Masons trained in Phase I need to be retrained to fast-track construction of SLWM assets. Community-based organizations, such as self-help groups, cooperatives, and others, exist that can assume responsibility for waste collection, transportation, and management. Private groups can be given the responsibility of managing district and block-level Plastic Waste Management Units (PWMUs) and fecal sludge management plants proposed under the SBMG.

Despite concerted investment in sanitation and hygiene workforce capacity development, some gaps remain. The national government has a clear Rural Sanitation Strategy for 2019–2029 (DDWS 2019) and guidelines on hiring and building capacity of sector functionaries as well as a CB plan for Panchayats. These include many CB initiatives, such as resource centers, help lines, interactive voice response system (IVRS)-based information systems², satellite studios, and Swachh Sangraha (Knowledge Management Portal of the SBMG), supported by non-sectoral efforts such as through the civil service Capacity Building Commission. In addition, a cadre of state-level master resource and district resource persons has been formed to support training of trainers and district-level and Panchayat Raj officials.

However, the current approach to CB is **strongly focused on output-oriented training instead of holistic capacity development**, focused more on the number of people trained than on ensuring broad-based capacity strengthening, including ensuring shifts in attitudes and belief systems. Trainings makes limited use of adult and experiential learning approaches. Regarding impact monitoring, there is no database on the number and types of people trained, nor analyses of their contribution to program outputs and outcomes. There also is no incentive-based environment for capacity development of functionaries involved in sanitation and hygiene service delivery.

There is a **lack of educational institutions** and of physical and information and communications technology (ICT) infrastructure for the provision and delivery of formal courses and degrees on sanitation and hygiene, particularly at state and district levels. A limited number of institutions are producing trained water, sanitation, and hygiene professionals, and there is limited involvement of civil society organizations in CB on sanitation and hygiene. The key resource center CB model used in SBMG Phase I has been discontinued.

RECOMMENDATIONS

From the analysis, several high-level recommendations emerged. These focus on national-, state-, or local-level actions that should be considered across multiple states or the country as a whole, rather than focusing on Bihar in particular. Recommendations 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.

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

I. Partner with the private sector for service delivery of post-containment functions

DDWS needs to attract and engage better with the private sector to bridge capacity gaps especially at the district, block, and GP levels. Some of the post-containment functions of emptying and transport, treatment, disposal, and reuse could be transferred to the private sector. In SBMG Phase II, this combines tasks like solid and liquid waste management through the establishment of PWMUs and fecal sludge management units. Private sector agencies exist that can perform these post-containment

² Automated telephone system that combines pre-recorded messages or text-to-speech technology to engage callers, allowing them to access information without a live agent.

functions and national and state governments need to release calls for expressions of interest to identify potential agencies to transfer these functions to. Rural local bodies (RLBs)³ should retain the responsibility of oversight and supervision of these functions and agencies but will require capacity building to ensure service standards and manage service contracts.

2. Reengage the cadre of volunteers

State governments need to reengage their volunteer field force (i.e., *Swachhagrahis*) and hire where vacancies exist, so that all villages have one active *Swachhagrahi* to support program communication and implementation. These *Swachhagrahis* need to be trained, skilled, and incentivized as per the guidelines and provisions of SBMG Phase II and using provisions of the Fifteenth Finance Commission (XVFC) fund. This may require reinforcement by the DDWS and Government of Bihar (GOB) through separate advisories (e.g., instructions or letters) to raise GP awareness of the existing provisions.

INSTITUTIONS RESPONSIBLE FOR POLICY AND OVERSIGHT IN CONJUNCTION WITH TRAINING INSTITUTIONS

3. Create a combined and non-lapsable pool of funds for capacity development

DDWS could create a fund for CB using SBMG funds and XVFC grants tied to RLBs/Panchayat Raj institutions (PRIs) for use at all levels to achieve improved capacity.⁴ Such funds should be non-lapsable so that unspent funds in one fiscal year would roll over and remain available for the same purpose in subsequent years. States, districts, and subdistrict-level agencies could utilize the funds as a basis for a CB plan that could be approved by DDWS and state departments responsible for sanitation and hygiene, in an effort to streamline CB interventions in the country.

4. Coordinate action on capacity development for sanitation and hygiene

Ministries and Departments of Health, Panchayati Raj, Education, Rural Development, Women and Child Development, Disaster Management, and others independently conduct CB of their field staff on sanitation and hygiene. It is recommended that all departments and ministries develop integrated resources (e.g., training modules, training aids, resource persons, learning products, communication material) to ensure comprehensive and integrated CB of field staff. DDWS should create a CB coordination committee under the aegis of the Secretary of DDWS with secretaries of all other concerned departments as members, for convergence on CB efforts directed at RLBs.

INSTITUTIONS RESPONSIBLE FOR TRAINING AND CAPACITY DEVELOPMENT

5. Strengthen modalities and content of capacity development offerings

To counteract the output oriented, quantitative approach to capacity building of sanitation and hygiene service delivery stakeholders and better define and measure training outcomes, training methods should be devised that go beyond information provision, to focus on knowledge building, skill development, exposure to best practices, self-paced learning arrangements, and inputs for an appropriate attitude and belief system. This could be supported by increased use of ICT tools and multi-modal delivery like the SBMG Academy and the CB Commission's Integrated Government Online Training (iGOT) system to enhance effectiveness, the IVRS-based training systems used by DDWS, and learning platforms like *Swachh Sangraha*.

³ RLBs are the Panchayat Raj institutions at District, Block, and Gram Panchayat level.

⁴ The DDWS manual for the utilization of XVFC (DDWS 2021) tied grants to RLB/PRIs for water and sanitation.

I.0 INTRODUCTION

I.1 BACKGROUND AND OBJECTIVE OF THE ASSESSMENT

With less than a decade remaining to reach Sustainable Development Goal (SDG) Target 6.2, to “by 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations,” many countries still lag significantly behind. Accelerating progress toward universal sanitation and hygiene requires 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 sector workforce capacity needs assessment, focused on Sub-Saharan Africa and South and Southeast Asia. The objectives of the assessment were to:

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

In light of the identified lack of information in this space, the capacity needs assessment concentrated on rural sanitation and hygiene and was designed to assess the HR capacity needed to deliver safely managed area-wide sanitation and basic hygiene sustainably and at scale, with emphasis on on-site sanitation. The overall assessment included six country-level capacity needs assessments (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).

Over the past decade or so, India has demonstrated strong commitment and has invested and mobilized substantial financial and human resources to eradicate open defecation and ensure universal access to sanitation and hygiene services. In addition to a focus on completing these efforts, India now needs to pivot toward sustaining gains made and ensuring safely managed services, including through safe emptying, treatment, and disposal of fecal waste, with associated implications for the required HR capacity and skills. India was included as one of the six country-level CNAs to understand and learn from both the efforts to date and those now required to mobilize, employ, and capacitate the required workforce with the right skills and knowledge to achieve and sustain India’s sanitation and hygiene goals. The country assessment was informed by the key questions guiding the overarching sanitation and hygiene sector capacity needs assessment:

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 sanitation and hygiene sectors?

This report presents the findings and recommendations from the India CNA conducted from August to October 2022. The main audiences for this report are the Government of India (GOI) and its country-

level partners, including international nongovernmental organizations (NGOs), local NGOs, training and education institutes, and development partners, on the identified capacity needs and sector dynamics.

1.2 METHODOLOGY

The country assessment framework presented in Annex I includes important definitions, geographical area definitions, and a categorization of key functions deemed essential to perform sanitation and hygiene programming and service delivery. This framework served as the basis for the analysis of human resource capacity needs in India.

The India capacity needs assessment was conducted with substantial support and in collaboration with the Department of Drinking Water and Sanitation (DDWS) at the national level; the Department of Rural Development (DoRD) for Bihar at the state level; and the District Administration of Banka and rural local bodies (RLBs) (also referred to as Panchayat Raj Institutions)⁵ at the district level. Key stakeholders at the national, state, and district levels were consulted on the current HR capacity status and requirements. Over 25 key informant interviews (KIIs) were held with officials from the National Institute for Transforming India Aayog, DDWS, GOI, DoRD, Government of Bihar (GOB), United Nations (UN) agencies at the national and state levels, international NGOs, private sector entities, and research and academic institutions (see Annex 2). Focus group discussions were held in three blocks and two Gram Panchayats (GPs). This included sanitation workers, sanitation supervisors, *swachhagrahis*, a Block Coordinator, a District Coordinator, and the men and women living in the GP to get their impressions on the status of rural water, sanitation, and hygiene (WASH) capacity at the various levels. The assessment team conducted a literature review to understand the national and state governments' approach to capacity building (CB), current modalities of CB, HR status, and demand and priority actions relevant for the sanitation and hygiene sectors.

The assessment involved reviewing capacities at the national level and then conducting a deep dive into capacities at the state level in Bihar (Figure 1). Bihar was selected as it is one of the poorest states of India, with relatively little development partner presence, where, despite substantial effort, progress toward reaching its sanitation and hygiene goals has been slow. In Bihar, Banka District was selected for more in-depth analysis because of its low sanitation coverage as reported regularly by different national studies. In Banka District, the assessment team visited three blocks and two GPs selected by the District

Sample in Banka



Figure 1. Sample Chosen for Capacity Needs Assessment in Banka District

Administration. The GPs were selected to represent the workforce deployed in the GPs and were selected based on whether they had made steps or not to 1) sustain open defecation free (ODF) status, and 2) implement Solid and Liquid Waste Management (SLWM) work. Additionally, the distance from the district headquarters was considered to allow data to be collected within the limited time available.

⁵ The Panchayat Raj has a three-tier system and consists of the village level administration (Gram Panchayat), the block level administration (Panchayat Samiti) and the district level administration (Zila Parishad).

The assessment findings were presented to District Administration and senior officials of the GOB. In addition to incorporating feedback from these sessions, the report captures the latest update provided by District Administration and state government representatives on status, key initiatives, and priority actions being undertaken to address and augment HR capacity for sanitation and hygiene.



Figure 2. Capacity Needs Assessment Discussion with Sanitation Workers in Banka, Bihar

I.3 LIMITATIONS OF THE ASSESSMENT

The capacity needs assessment was conducted in one district out of 38 in Bihar and 766 districts in India and hence findings of the assessment are not representative for the country. Additionally, the duration of the assessment of two months limited the amount of HR data and geographical coverage that could be gathered. The study findings could not be presented to DDWS within the timeframe of the assessment, as the Additional Secretary was transferred. However, broader validity was sought through stakeholder consultations with a varied set of national- and state-level stakeholders. The findings of the assessment were vetted by Banka District and Bihar government officials.

2.0 SECTOR CONTEXT AND ENABLING ENVIRONMENT

2.1 PROGRESS TO SUSTAINABLE DEVELOPMENT GOALS 6.2.1 AND 6.2.2

The GOI launched Phase I of the Swachh Bharat Mission (Grameen) (referred to as SBMG) on October 2, 2014, with the goal of achieving ODF status nationwide by October 2, 2019, as a tribute to Mahatma Gandhi on the 150th anniversary of his birth. The focus of this national program was on bringing about behavior change for improved sanitation and hygiene behaviors. From 2014 to 2020 (acknowledging toilet construction continued into SBMG Phase II, which followed Phase I when it was officially concluded in October 2019), more than 100 million toilets were constructed and handwashing facilities with soap and water ensured for over 80 percent of the rural population. As a result, all 36 states/union territories declared themselves ODF by October 2, 2019.⁶ Progress on sanitation and hygiene has been captured by national studies and evaluations and reported by the World Health Organization/UN Children’s Fund (UNICEF) Joint Monitoring Programme (JMP). The most recent nationwide study, conducted by *Swachh Survekshan Grameen (DDWS 2022b)*, an independent verification agency, reported the sanitation coverage in rural areas to be 95.4 percent.⁷ Table 2 presents the progress on sanitation and hygiene as reported by JMP and DDWS studies.

TABLE 2. PROGRESS ON SANITATION AND HYGIENE IN INDIA

POPULATION	RURAL POPULATION (%)	AT LEAST “BASIC” SANITATION COVERAGE (%) (JMP)	SANITATION COVERAGE (%) (COUNTRY REPORTED)	AVAILABILITY OF A HANDWASHING FACILITY WITH SOAP AND WATER AT HOME (%) (JMP)	AVAILABILITY OF A HANDWASHING FACILITY WITH SOAP AND WATER AT HOME (%) (COUNTRY REPORTED)
1.41 billion (2021) (World Bank, n.d.)	65	67.8 (2020)	95.4 (2022)	60 (2020)	80 (2022)

In September 2019, just before the ODF declaration, the DDWS and Ministry of Jal Shakti (MOJS) developed a 10-year Rural Sanitation Strategy (DDWS 2019) to ensure the sustainability of ODF outcomes and SLWM in rural areas. This strategy is intended to guide state and local governments, policymakers, implementers, and all relevant stakeholders including the people of rural India on the way forward. SBMG Phase II is to be implemented from 2020 to 2025, with a focus on creating and sustaining ODF-Plus villages,⁸ including ensuring ODF sustainability, and covering all villages with SLWM (DDWS 2020). Phase II also aims to cover newly emerged households⁹ and ensure that no one is left behind in having access to toilet facilities. Over 10 million household toilets and over 200,000 community sanitary

⁶ SBMG implementation was guided by the SBMG Guidelines issued by the DDWS: <https://swachhbharatmission.gov.in/SBMCMS/guidelines.htm>.

⁷ See: <https://swachhbharatmission.gov.in/SBMCMS/writereaddata/Portal/Images/pdf/ssg-2022-flyer.pdf>

⁸ ODF-Plus activities are expected to lead to “total sanitation,” or “sampoorn swachhata.” It includes several components related to safe management of sanitation services (containment, emptying, transport, treatment, disposal and/or reuse), solid and liquid waste management, and sustained ODF behaviors.

⁹ In rural areas, new households emerge after a son leaves his father’s house to set up his own household.

complexes¹⁰ have been built since October 2019 to either upgrade the quality of toilets, upgrade from shared to individual household latrines, cover new households, or those left behind under Phase I, and to ensure sustainability of ODF outcomes (DDWS 2022a).

In addition to budgetary allocations from DDWS and the corresponding state share (states cover approximately 40 percent of the total project costs), the remaining funds are being provided through Fifteenth Finance Commission (XVFC) grants to RLBs¹¹ (DDWS 2021), the Mahatma Gandhi National Rural Employment Guarantee Scheme (MNREGS), revenue generation models, and others—particularly for SLWM. Annex 3 presents the various program components and their funding norms proposed under SBMG Phase II.

2.2 BIHAR: AN OVERVIEW

Bihar is the twelfth largest state in India in terms of geographical area (99,200 sq. km) and third most populous (104,099,452). Despite recent improvements in its socio-economic environment, Bihar is still one of the least developed states in the country with respect to human development indices.

Given its context, Bihar has done noticeably well in terms of delivering sanitation and hygiene services to a large majority of the population. Only about 26 percent of households had toilets in 2014, when the SBMG Phase I was launched. Since then, an additional 11.3 million toilets have been built, and all GPs were declared ODF by District and State level teams. However, the GOB has acknowledged that some households have been left out, due to various reasons such as lack of space and private land on which to build toilets, poverty, illiteracy, and others. The GOB has undertaken a survey to estimate the sanitation coverage gap and is working on a “No One Left Behind” program to ensure all households have access to a toilet. Field visits in Banka revealed that new toilets are being built and community sanitary complexes have been constructed to cover households without access to an individual toilet.

Bihar consists of nine divisions, 38 districts, 101 sub-divisions, 534 blocks, 8,463 GPs, and 45,102 revenue villages.¹² Panchayat Raj institutions (PRIs) at the district, block, and village levels are the Zila Parishad, Panchayat Samiti, and GP, respectively.

2.3 FUNCTIONS AND ACTORS TO DELIVER

The GOI has instituted a five-tier mechanism (National/State/District/Block/GP) for implementation of sanitation and hygiene programs in rural areas (Figure 3). The latter three (District, Block, and GP) are also referred to as PRIs or RLBs. The PRIs are constitutionally mandated local governments that have central responsibility for sanitation and hygiene service delivery. They receive funds from programs such as the SBMG, the XVFC, and the State Food and Civil Supplies Corporation to hire staff to support planning, implementation, and operations and maintenance (O&M) of sanitation and hygiene assets.

¹⁰ A community sanitary complex is a facility which is built when there is no space available or when there are financial constraints for constructing an individual household latrine. It is used, owned, and maintained by community members. It is located within the community.

¹¹ The Finance Commission is a constitutionally mandated body that is at the center of fiscal federalism. Its core responsibilities are to evaluate the state of finances of the Union and state governments, recommend the sharing of taxes between them, outline principles determining the distribution of these taxes among states, and recommend allocations for Panchayats. See: https://swachhbharatmission.gov.in/SBMCMS/writereaddata/portal/images/pdf/Manual_for_utilisation_of_15th_FC_tied_funds.pdf

¹² A revenue village is defined by the revenue system – how taxes and tariffs are selected. This is a parallel system to the institutional administrative units. Hence a revenue village is not equal to a village or to a ward.

A Mission (a multi-year program) is developed by the DDWS at central level. Currently DDWS has two such programs: the SBMG Phase II and Jal Jeevhan Mission. The Special Secretary of Drinking Water and Sanitation is the Mission Director, who is assisted by additional secretaries, joint secretaries, directors, deputy secretaries, and technical advisors. Together they form the central mission and have the responsibility to develop policy and guidelines for the program, provide technical and financial resources, and monitor program outcomes. The central mission also has various cells (units) that take responsibility for smaller parts of the large program. For example, the monitoring and management information system (MIS) cell that is responsible for monitoring and evaluation (M&E) and information management and the communication cell that is responsible for preparing and implementing the annual and long-term

Communication Plan for the SBMG. This cell coordinates with the Ministries of Information and Broadcasting, Door Darshan, All India Radio, National Film Development Corporation, and other communication agencies on the plan. The

communication cell also monitors the Communication Plan and state activities to ensure commonality of focus and purpose. DDWS also has their own project management unit (PMU) and PMUs supported by development partners like the Bill and Melinda Gates Foundation and Quality Council of India. These include a PMU on SLWM and one on cleaning of rivers. The PMUs have dedicated experts for CB, and they support the states and districts in planning and implementation of CB activities.

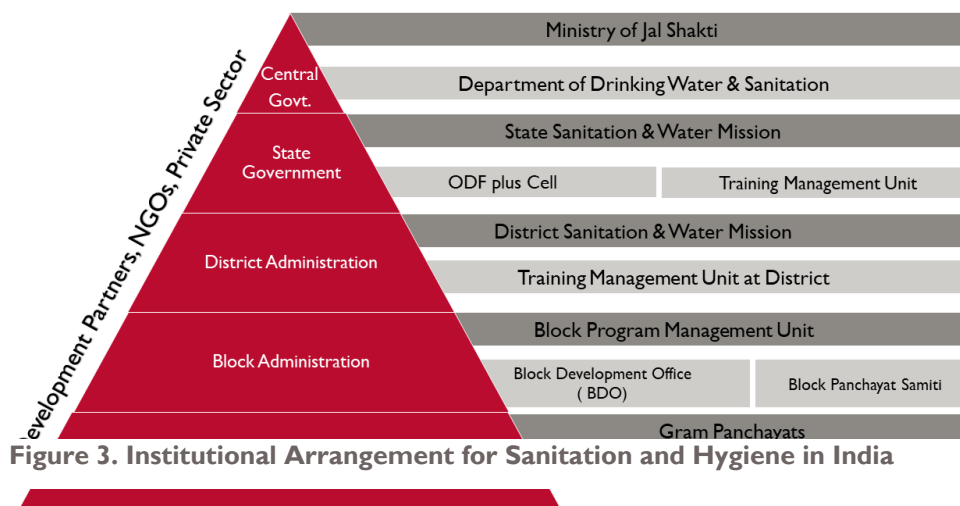


Figure 3. Institutional Arrangement for Sanitation and Hygiene in India

2.3.1 STATE-LEVEL INSTITUTIONAL ARRANGEMENTS

At the state level, a corresponding State Swachh Bharat Mission Grameen (SSBMG) has been established under the aegis of the Rural Development Department, which is responsible for implementing the rural water supply and sanitation program in the state. The SSBMG is headed by a senior state-level official, who supervises implementation of the SSBMG in the project districts in the state, facilitates convergence (coordination and dovetailing of resources) between line departments, ensures preparation of the Annual Implementation Plan for each district as per requirements, consolidates the same into the Annual Implementation Plan for the state, shares and discusses this plan with the DDWS, receives grant-in-aid from the national level and disburses it to the District Water and Sanitation Missions/Zila Parishad/District Rural Development Authority as per requirements.¹³ Table 3 presents key institutions and staff and their core functions in Bihar.

¹³ The Bihar Sanitation Program, entitled Lohiya Swachh Bharat Abhiyaan, is guided by the Guidelines for Lohiya Swachh Bharat Abhiyaan of Bihar.

TABLE 3. KEY INSTITUTIONS, FUNCTIONS, AND STAFF SUPPORTING SANITATION AND HYGIENE IN BIHAR'S SSBMG

KEY INSTITUTIONS	KEY STAFF	KEY ROLES
Apex Committee (highest state-level committee)	<ul style="list-style-type: none"> • Chief Secretary, GOB (Chairman) • Principal Secretaries of <ul style="list-style-type: none"> – Rural Development – Public Health Engineering Department – Panchayati Raj – Finance – Health – Agriculture – Urban Development – Information and Public Relations Department – Disaster Management • Secretary, Pollution Control Board • Experts of Sanitation, Water, Behavior Change, Capacity Development from NGOs by the Permission of the Chairman 	<ul style="list-style-type: none"> • Vision and policy promulgation • Intersectoral convergence • Review and approval of plans and monitoring implementation
Executive Committee	<ul style="list-style-type: none"> • Mission Director • Director(s) of Cells (i.e., units) • State Coordinator • State Finance Manager 	<ul style="list-style-type: none"> • Development and oversight of districts' Annual Implementation Plan preparation • Supervision of the SSBMG implementation in the project districts in the state • Facilitation of coordination between line departments • Bridge between Districts and DDWS • Disbursement of grant-in-aid from the national level to the District Water and Sanitation Missions
State PMU	<ul style="list-style-type: none"> • Mission Director • Director (s) of Cell (i.e., units) • State Coordinator • State Finance Manager • Consultant, CB and HR Department • Consultant, Information, Education and Communication (IEC) • Consultant, Monitoring, Learning, and Evaluation & MIS • Consultant, SLWM • Consultant, Public Financial Management System • Accountant • Project Manager (ODF-State [ODF-S] Group) • Consultant, SLWM (ODF-S Group) • Consultant, IEC & CB (ODF-S Group) • Consultant, Technical (ODF-S Group) • Office Assistants • Data Entry Operator 	<ul style="list-style-type: none"> • Support for development of State Annual Implementation Plan • Support for policy coordination • Technical assistance for program implementation • Training and CB • Monitoring and supervision

2.3.2 DISTRICT-LEVEL INSTITUTIONAL ARRANGEMENTS

A District Swachh Bharat Mission Management Committee/District Water and Sanitation Committee (DWSC) is responsible for planning, implementation, monitoring, and supervision of the program. This committee is chaired by the District Collector/Magistrate comprising all district-level officers of relevant departments and all BDOs/block-level officers in charge of sanitation planning and monitoring. DWSC achieves departmental coordination, and staff from all allied departments (e.g., Health, Nutrition, Education, Information, and Public Relations) are involved in convergent action, monitoring, and supervision of the program. The DWSC key staff and their functions are listed in Table 4.

TABLE 4. KEY INSTITUTIONS AND THEIR ROLES AND RESPONSIBILITIES ON SANITATION AND HYGIENE AT DISTRICT LEVEL IN BIHAR

KEY INSTITUTION	KEY STAFF	KEY ROLES
DWSC	<ul style="list-style-type: none"> • District Magistrate • Deputy Development Commissioner • Director, District Rural Development Authority • District Coordinator, the SBMG • Executive Engineer, Public Health Engineering Department • District Panchayati Raj Officer • Chief Medical Officer • District Program Manager- Jeevika • District Program Officer, Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA) • District Consultant, SLWM • District Consultant, IEC & CB • District Consultant, Monitoring, Learning, and Evaluation & MIS • Executive Engineer, MNREGS • District Agriculture Officer • Executive Officer, Urban Development • District Information and Public Relations Officer • District Program Officer, Women and Child Development • Development partners 	<ul style="list-style-type: none"> • District-level planning and oversight of implementation • Funding to GPs • Implementation of program components • CB of block and GP staff • Implementation of national- and state-level guidelines issued from time to time

2.3.3 BLOCK-LEVEL INSTITUTIONAL ARRANGEMENTS

All states have established a PMU at the block level, which works as a bridge between the district and the GPs and provides continuous support in terms of awareness generation, motivation, mobilization, training, and mentoring of village communities and GPs. The BDO leads the block-level implementation with support from the block coordinator. The block-level structure, key actors, and their core functions are presented in Table 5.

TABLE 5. KEY FUNCTIONARIES AND THEIR FUNCTIONS AT BLOCK LEVEL RELATED TO SANITATION AND HYGIENE IN BIHAR

KEY INSTITUTION	KEY STAFF	KEY ROLES
PMU	<ul style="list-style-type: none"> • BDO • Block Coordinator • Circle Officer • Block Panchayat Raj Officer 	<ul style="list-style-type: none"> • Ensuring achievement of ODF villages • Ensuring arrangements for SLWM in rural areas

	<ul style="list-style-type: none"> • Block Medical Officer • Block Agriculture Officer • Block Officer, MNREGA • Assistant Engineer, MNREGA • Block Program Manager, Jeevika • Child Development Program Officer • Block Education Extension Officer • Development Partner 	<ul style="list-style-type: none"> • CB of GP-level staff • Monitoring and verification of results
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2.3.4 GP LEVEL

GPs are at the lowest level of PRIs, and their legal authority is derived from the 73rd Constitutional Amendment of 1992, that deals with rural local governments. The GP is divided into wards, and each ward is represented by a Ward Member who is directly elected by the villagers. The Secretary of the GP is a non-elected representative, appointed by the state government to oversee GP activities. GPs play a pivotal role in implementing programs—planning for results, mobilizing and utilizing resources, ensuring community mobilization, supervising, incurring expenses, and bookkeeping. Table 6 presents key staff and their functions at the GP level in Bihar. There are others such as Anganwadi Workers (AWWs),¹⁴ Accredited Social Health Activists (ASHAs), schoolteachers, and self-help groups (SHGs),¹⁵ that play a role in sanitation and hygiene promotion at GP level. Annex 4 provides an overview of the types and numbers of sanitation and hygiene staff at the GP level in Bihar.

TABLE 6. KEY FUNCTIONARIES AND THEIR FUNCTIONS AT GP LEVEL RELATED TO SANITATION AND HYGIENE IN BIHAR

KEY INSTITUTION	KEY STAFF	KEY ROLES
Gram Panchayat Implementation Committee	<ul style="list-style-type: none"> • Mukhiya and Sarpanch (GP Head) • Gram Panchayat Secretary (Panchayat Sachiv) • Representative of block • One male ward member • One female ward member • One female representative of community-level federation • Technical Officer, MNREGA • GP Rojgar Sevak (Village employment servants - supports technical officer MNREGA) • PM Awas Sevak (Housing servant supporting the Pradhan Mantri Awas Yojana initiative of the Government of India to provide housing for all) • Kisan Salahkaar (Agricultural advisor) • Sanitation Supervisor • Sanitation Worker • Swachhagrahi (Volunteer) 	<ul style="list-style-type: none"> • Ensuring all households have access to a toilet, and that they use them • Ensuring all village institutions have access to toilet • Ensuring ODF sustainability • Ensuring planning and implementation of SLWM • Ensuring resource planning and financial management

NGOs and the private sector also played a critical role in community mobilization, behavior change communication (BCC), and support for the construction and maintenance of sanitation and hygiene infrastructure during implementation of SBMG Phase I. Trusts, private sector institutions, and others

¹⁴ An AWW is a community-based front-line worker of the Integrated Child Development Scheme (ICDS) Program. They are typically women and play a crucial role in promoting child growth and development.

¹⁵ The self-help groups created under the National Rural Livelihood Mission also provide support in planning, implementation, and management of sanitation and hygiene services.

contributed in various ways including financial and technical assistance to GPs. However, their engagement in SBMG Phase II has decreased noticeably. The assessment found that only WaterAid and the Aga Khan Foundation had some contribution in supporting the SBMG Phase II implementation in select districts of Bihar state. Implementation of the SBMG Phase II in Banka was not supported by any NGO.

3.0 HUMAN RESOURCE CAPACITY

3.1 SANITATION LABOR MARKET

While there are no formal estimates of the number of people involved in sanitation and hygiene service delivery in India, it was estimated as part of this assessment that it is likely more than 10 million people. Each state has dedicated departments, missions, and officials working full-time on sanitation and hygiene. Most states also have hired people directly on contracts to work as sanitation workers, motivators, supervisors, and cleaners. Over 3.2 million elected PRI members, along with over 1 million ASHAs (the frontline workers of the Health Department in rural India), and over 1.2 million staff of the Integrated Child Development Scheme (ICDS) (i.e., Auxiliary Nurse Midwives [ANMs] and AWWs), support the GPs in implementing the sanitation and hygiene programs. Hundreds of thousands of schoolteachers, GP Secretaries, and MNREGS staff also directly support the implementation of sanitation and hygiene interventions. In Bihar alone, as per estimates, over 400,000 staff support implementations of sanitation and hygiene services in rural areas, supported by some 200,000 contracted sanitation workers. Table 7 presents estimates of the total workforce (aged 15 years and above), including the informal work force and those supporting sanitation and hygiene in India (as estimated by the assessment team).

WORKFORCE (MILLIONS)	FEMALE WORKFORCE	UNEMPLOYMENT¹⁶ (%)	YOUTH UNEMPLOYMENT¹⁷ (%)	INFORMAL WORKFORCE (%)	WORKFORCE ACTIVE IN SANITATION
437.2 (Center for Monitoring Indian Economy n.d.)	23.5 (World Bank n.d.a)	6% in rural India	28.26 (ILOSTAT n.d.)	87 (Oxfam 2022)	10 million

Working in the sanitation sector has become more attractive only of late. Because of the increased focus and prioritization of sanitation resulting from the SBMG, the number of jobs in the public sanitation sector rose quickly. Several private sector institutions also welcomed the opportunity to join the Indian government in its mission. Over the last decade, management companies like KPMG, PricewaterhouseCoopers, Deloitte, and Ernst and Young have started providing management and HR support to national, state, and district governments in sanitation. Together, the public and private sector created job opportunities in sanitation. These job opportunities helped destigmatize the sector, showing that people could make a living in these previously unwanted, low caste jobs. The assessment team found that over this decade, government and private institutes started formal training programs and courses on WASH, attracting people to work in the sanitation and hygiene sectors. The SBMG raised the profile of sanitation workers, *Swachhagrahis*, and government service providers. The Prime Minister of India himself met these constituencies and appreciated their efforts and work. This has not only attracted more people to the sector, but also helped retain existing staff.

Furthermore, Panchayati Raj institutions (District, Block, GPs) have been provided with the means to create jobs locally. They hire contractors, SHGs, youth groups, and individuals like masons, technicians, and *Swachhagrahis* to support sanitation and hygiene service delivery. The PRIs' ability to hire workforce locally has worked well, as GPs identify people locally, which makes it easier both for the employer and

¹⁶ Center for Monitoring Indian Economy definition of unemployment rate - Unemployment Rate = Unemployed/Civilian Labor Force

¹⁷ Number of unemployed 15–24-year-olds divided by youth labor force (of the same age available for work).

employee/volunteer. The employee/volunteer does not have to travel long distances, is aware of the community dynamics and on-the-ground reality, and thus is likely to be more effective compared to an outsider.

3.2 CURRENT HR CAPACITY

The operational guidelines of the DDWS provide a clear structure and indicative numbers of staff to be deployed at various levels and with commensurate funding to ensure adequate HR and capacity exist for effective implementation of the SBMG.

3.2.1 NATIONAL LEVEL

DDWS has a well-defined institutional structure and HR to lead the implementation of the SBMG in rural areas. The MOJS Minister leads DDWS and the department has a secretary, additional secretary and mission director, joint secretaries, deputy director general, directors (2), deputy secretaries (4), undersecretaries (2), assistant directors (2), technical officers, section officers (3), pay and account officer (1), and a seven-member team from the National Informatic Centre (NIC). It is supported by two technical PMUs, which have over 25 subject matter experts. The national team has the responsibility to support capacity building of staff employed at various levels for implementation of the SBMG.

3.2.2 STATE LEVEL

As per the SBMG guidelines (both Phases), each state must have a State Water and Sanitation Mission (SWSM), which is headed by a senior state-level official and adequate staff for program planning, technical assistance to districts on program implementation, financial management, and administration and support roles.

States have been allowed to augment their capacity by hiring experts directly at state, district, block, and GP levels or through agencies who provide experts for program support and advice at the state and district levels. DDWS and the states have hired subject matter experts to augment the HR capacity at national, state, and district levels. Table 8 provides details of additional subject matter experts and consultants deployed by GOI that are working at various levels (including on CB), illustrating the still modest number of experts active, particularly at state level.

TABLE 8. EXPERTS DEPLOYED ON SANITATION AND HYGIENE AT DIFFERENT LEVELS		
1	Total number of consultants/experts working at national level on the SBMG	25
2	Total number of consultants/experts working at state level on the SBMG	131
3	Total number of consultants/experts working at district level on the SBMG	1,460
4	Total number of consultants/experts working at block Level on the SBMG	8,000

In Bihar, state-level consultants and a pool of state resource persons, district consultants, and district resource persons of the DoRD carry out orientation and training of Panchayat Raj staff. Bihar recently revived nine extension training centers (ETCs) called the Mukhiya-Sarpanch Training Institutes in Patna, Muzzafarpur, Darbhanga, Saharsha, Gaya, Munger, Bhagalpur, Purnia, and Sivan. The Bihar Institute of Public Administration and Rural Development (BIPARD) has plans of opening four additional ETCs in Patna, Bhagalpur, Purnia, and Muzzafarpur, and is in the process of acquiring land for these at Purnia and Muzzafarpur. Once fully operational, these centers will help train staff working at the district, block, and GP levels and could potentially include more sanitation and hygiene related training.

To supplement the above, DDWS has created provisions enabling states to augment HR capacity using IEC and CB program funds.¹⁸ This allows states to hire additional HR through expert agencies, ranging from UNICEF to international consulting firms, and deploy them at state and district levels as illustrated in Table 9. This is not yet applicable in Bihar.

TABLE 9. STATES THAT HAVE EMPLOYED PMUS FOR SANITATION AND HYGIENE		
PARAMETERS	NAME OF THE STATES	NAME OF THE INSTITUTION WORKING AS PMU
States having a PMU at state level with SBMG funding	Andhra Pradesh	Andhra Pradesh Urban Infrastructure Asset Management Limited
	Mizoram	WASH Institute
	Punjab	KPMG
	Rajasthan	Egis Consulting
	Odisha	PricewaterhouseCoopers
States having support from other government and non-government sources	Assam	UNICEF India
	Karnataka	Consortium for DEWATS Dissemination Society
	Madhya Pradesh	UNICEF India
	Tamil Nadu	UNICEF India
	Uttar Pradesh	UNICEF India
	Kerala	Suchitwa Mission
	Andhra Pradesh	Swachh Andhra Corporation

In Bihar, a SWSM is led by the Secretary of DoRD with assistance from a senior government official serving as mission director. A team of seven consultants (5 male and 2 female) with expertise in different functional areas support and advise the state and districts on program planning and implementation. All 38 districts have a District Coordinator, and 464 out of 534 blocks have a Block Coordinator. Bihar also reported having over 35 paid state and district resource persons who support field implementation. Key constituents, their approximate numbers and key roles related to sanitation and hygiene in Bihar are presented in Table 10.

TABLE 10. KEY CONSTITUENTS, THEIR APPROXIMATE NUMBERS AND KEY ROLES RELATED TO SANITATION AND HYGIENE IN BIHAR			
KEY CONSTITUENCIES	NUMBER	ROLES AND RESPONSIBILITIES	FUNCTIONS
State Government Officials	10 approx.	Policy, funding, technical assistance to districts	Strategy Policy and Coordination
State-level Consultants	11	Technical assistance, implementation support, monitoring, and CB of district-level functionaries	Oversight and Support
District-level Government Officials	152	District-level planning and financial management	Oversight and support

¹⁸ DDWS Advisory on allowing use of IEC and CB funds for the establishment of PMUs: <https://jalshakti-ddws.gov.in/sites/default/files/clarification-regarding-hiring-of-project-management-unit.pdf>

TABLE 10. KEY CONSTITUENTS, THEIR APPROXIMATE NUMBERS AND KEY ROLES RELATED TO SANITATION AND HYGIENE IN BIHAR

KEY CONSTITUENCIES	NUMBER	ROLES AND RESPONSIBILITIES	FUNCTIONS
District-level Consultants	152	Planning and implementation support to block and GPs, monitoring, and CB	Oversight and support, monitoring
District-level Data Entry Operators	76	Data entry, analysis, information management and reporting to state and center	Monitoring
Block-level Officials	534	Supervision of block-level implementation. Implementation support to GPs and villages	Oversight and support
Block-level Consultants	464	Implementation supervision, support to GPs, monitoring, CB of GPs, sanitation workers, and <i>Swachhagrahis</i>	Oversight and support, community mobilization and engagement, monitoring
Block-level Data Entry Operator	534	Data entry, analysis, and reporting to district on sanitation and hygiene implementation	Monitoring
GP-level Officials	8,442	Planning and implementation support, financial management, monitoring and reporting above of physical and financial progress	Oversight and support, community mobilization and engagement

However, it has been acknowledged by state officials that attracting people with expertise in BCC, plastic waste management (PWM), and fecal sludge management (FSM) has been difficult. In the last recruitment drive in 2020, the GOB could get only 24 CB specialists of 38 that were needed; similarly, SLWM specialists for all districts could not be recruited. The GOB is hiring an agency to establish a PMU at state headquarters, with requisite expertise on program management, BCC, SLWM, M&E, and other needed skills. Through this agency, the GOB proposes to deploy one expert per district to augment the capacity at the district level.

3.2.3 DISTRICT LEVEL

In line with SBMG guidelines, Banka District has a functional DWSC with the district magistrate providing strategic guidance and leadership to the mission, led by the Deputy Development Commissioner who provides operational leadership and leads the day-to-day functions. Officials of allied departments such as rural development, health, Panchayati raj, etc. and three consultants with expertise in program management, IEC, CB, and SLWM support the mission senior leadership. The assessment found that all districts in Bihar have a district coordinator in place. The Banka District team, however, expressed the need to be exposed to best practices on BCC related to SLWM, PWM, and promotion of community ownership and management of SLWM infrastructure.

3.2.4 BLOCK LEVEL

The BDO, a state government official, leads implementation of sanitation and hygiene at the block level. A Block Coordinator, who is hired on contract, supports the BDO and leads the operational aspects of the program. The BDO and Block Coordinator work with the RLB, Gram Panchayat sanitation supervisors, and *Swachhagrahis* to achieve mission objectives. The assessment undertaken in Banka revealed that only 8 out of the 11 Blocks had a full-time Block Coordinator. In the three blocks of Banka where the assessment was conducted, the assessment team found that the BDO and Block Coordinator are experienced in sanitation and hygiene but need to be oriented and exposed to SLWM implementation. The BDO and Block Coordinator need to start using the manuals and toolkits

developed by GOI to support implementation and popularize them among GPs, sanitation workers, and *Swachhagrahis*. The block team suggested that having an additional coordinator at the block level would add efficiency and effectiveness to the program. This would help scale up implementation in all the villages in one iteration and allow better monitoring of program outcomes.

3.2.5 GRAM PANCHAYAT LEVEL

GPs are the main actors in implementation of rural sanitation and hygiene. The head of the GP (Sarpanch/Mukhiya) is supported on operational and financial aspects by a Gram Panchayat Secretary, who is a government official. *Swachhagrahis* provide assistance on program implementation on the sanitation software side (e.g., BCC, demand generation, and masons provide infrastructure construction assistance).

GOB is augmenting the capacity of GPs by hiring one sanitation supervisor per GP, and two sanitation workers per GP ward. Bihar has over 8,000 GPs and over 100,000 wards. A GP can have 10–15 wards depending on the population of the GP. The average number of wards per GP is around 13. This has substantially augmented the available capacity for sanitation and hygiene in Bihar. This decision allows each GP to have a team of over 25 people dedicated to sanitation and hygiene functions. The assessment found that the sanitation workers are involved mainly in supporting households to build toilets, promote continuous use of toilets, and undertake SLWM activities in the ward (noting that masons are not considered sanitation workers, unless they are contracted as such). The sanitation supervisor provides oversight to the functions being carried out by sanitation workers and supports the GP in planning for ODF-Plus activities. This is an unprecedented opportunity to step up implementation of sanitation and hygiene. However, these sanitation supervisors and sanitation workers will need training, exposure, and on-the-job support to successfully fulfill their waste management duties.

With regard to gender, Bihar was the first state in the country to establish a 50 percent quota for women in PRIs, through the Bihar Panchayat Raj Act of 2006. While the assessment did not identify the exact numbers of male and female staff currently, a substantial part of PRI functionaries, including in sanitation, are women.

SWACHHAGRAHIS AS FOOT SOLDIERS FOR BEHAVIOR CHANGE

The SBMG emphasizes the need for intense behavior change campaigns including interpersonal communication (IPC) for achieving sustainable sanitation outcomes. *Swachhagrahis* are the foot soldiers of the SBMG and the motivators for bringing about behavior change with respect to key sanitation practices in rural areas. As per GOI guidelines, every village should ideally have at least one *Swachhagrahi*, with preference given to women candidates.

The assessment team found that the DDWS has developed detailed guidelines for *Swachhagrahi* engagement in planning, implementation, and monitoring of the SBMG. The guidelines also suggest a specific activity-wide incentive structure for *Swachhagrahis*, including post-ODF activities. An incentive is needed for continued engagement of *Swachhagrahis* to use their expertise to support community mobilization and behavior change activities in villages.

As per the guidelines (DDWS 2018), *Swachhagrahis* can receive up to Indian Rupee (INR) 150 for construction and sustained use of every household toilet they triggered (the latter being monitored through surveys). This could either be given as a lump sum on achievement of a particular milestone or in a phased manner from the IEC budget. Often the *Swachhagrahi* also receives an award amount, as decided by the state/district, for each ODF-declared village. For sustaining village ODF status, *Swachhagrahis* will undertake activities listed in Table 11 and may receive payment from the IEC budget, subject to confirmation on achievement of the same.

TABLE 11. INCENTIVE STRUCTURE FOR SWACHHAGRAHIS		
NO.	ACTIVITIES	ALLOWABLE PAYMENT OF INCENTIVE
1	Geotagging of toilet in a village	Up to INR 5/ toilet
2	First verification of each household in the village (within 3 months of ODF declaration of the village) along with IPC/IEC activity to ensure community awareness and participation leading to ODF being sustained	Up to INR 10 per household (verification and IPC)
3	Second verification/subsequent sustainability verification of each household (within 9 months of ODF declaration of the village) along with IPC/IEC activity to ensure community awareness and participation leading to ODF being sustained	Up to INR 15 per household (verification and IPC)
4	Ensuring conversion of household's dysfunctional toilet to functional toilet: Repair of broken pan, clear clogged pipes and drains, repair broken doors/walls/roof, etc.	INR 25/ toilet
5	Ensuring retrofitting of previously constructed toilets (as per safe technology), e.g., addition of a second pit to a single pit toilet, construction of soak pit with septic tank, construction of separate pits for in situ toilets etc.	INR 25/ toilet
6	Ensuring following SLWM activities in the village and creating public awareness on the O&M of the assets constructed: Construction of solid (pucca) and covered drains (one time); Construction of community soak pits (one time); Construction of community compost pits (one time); Construction of community biogas plants	INR 200 per village (assuming the village will comprise 50-100 households)
7	Ensuring activities for visual cleanliness in the village: maintenance of drains (monthly); maintenance of biogas plants (monthly); cleaning of ponds, drains, streets, local markets, etc. (biweekly); early morning/evening Nigrani (surveillance), along with the other Nigrani Samiti members (weekly); organizing Ratri chaupals/village meeting on the issue of Swachhata/ODF sustainability (monthly)	INR 200 per village (assuming the village will comprise 50-100 households) per activity
8	Facilitating ODF sustainability activities Repair and cleanliness of toilets in institutional buildings of Schools, PHCs, community toilets and sanitary complexes, Anganwadi centers- monthly basis Observance of days of national importance viz. Independence Day, Republic Day as well as ODF day/Swachhata day to commemorate the ODF status of the village Construction (one time) and maintenance (monthly) of Model Toilet at GP level ODF branding in the village- wall writings, erection of display board/plaque announcing the ODF status of the village Passing of resolution in the Gram Sabha for the following: ODF Declaration of the village ODF verification of the village post-ODF declaration, any new families/households to essentially self-construct their toilet	INR 200 per village (assuming the village will comprise 50-100 households) per activity
9	Facilitating self-construction of toilets by any new families/households post-ODF declaration of the village	INR 25/ toilet

Swachhagrahis also receive non-financial incentives, including recognition by governments at different levels. They are recognized by different public and private organizations (e.g., recognition/awards by government). Some creative rewards have also been introduced in different states and districts, such as Lunch and Dinner of Champion *Swachhagrahis* with the district collector. Some states also choose to

give incentives such as passes and discounts for travel through public transport/train; provision of insurance (medical and/or life insurance); and Atal pension scheme.

DoRD/GOB reports having over 11,000 *Swachhagrahis* who are supported and monitored through a mobile app called *Swachh Gaon Hamara Gaurav* (SGHG app). Bihar also claimed to be paying the *Swachhagrahis* incentives for seven days of work every month for a campaign that they are supposed to carry out in their GP. Assessment in blocks and GPs of Banka District revealed that the *Swachhagrahis* are supporting the GPs in program



Figure 4. Women Swachhagrahis in India

implementation, but they have not been paid for many months. They continue to work as they expect to become sanitation supervisors—a new post that GOB created at GP level to undertake sanitation and hygiene functions. They have rich and varied experience of supporting sanitation and hygiene functions gained through intense engagement in the SBMG Phase I, and it would be beneficial for the mission to retain them and pay the incentives as defined in the guidelines. The guidelines issued by GOI on utilization of XVFC grants also provide a window to use administrative funds to pay the volunteers (DDWS 2021) The DDWS and GOB need to reinforce this through separate advisories (e.g., instructions or letters) to raise awareness about these provisions, so that the district and block administrations can start paying the *Swachhagrahis*.

MASONS FOR CONSTRUCTION

Bihar reported having formally trained 72,000 masons across the state to support construction of twin pit toilets and over 9,000 community sanitary complexes. The masons were trained and certified under the SBMG with the objective of supporting households to build toilets and were hired for toilet construction either by households directly or by GPs. Under the SBMG Phase II, the masons are expected to retrofit toilets to ensure all single pit toilets are converted to twin pit toilets and that all septic tanks have soak pits. These masons also are supporting GPs to construct SLWM infrastructure and are being paid from SBMG funds. Bihar also has initiated toilet clinics managed by DWSC that support construction, repair, and O&M of toilets. While Bihar has started to (re)train these masons on construction of SLWM infrastructure, there is some scope to make this more systematic so that they can be deployed across GPs for speedy and quality construction of SLWM infrastructure.



Figure 5. Construction of a Soak Pit in Bihar

4.0 SUPPLY OF HUMAN RESOURCES

4.1 SUPPLY THROUGH COORDINATING, COOPERATING, AND WORKING (ACROSS) SECTORS AND INDUSTRIES

National and state governments in India have well-established mechanisms of sharing personnel and resources to maximize attainment of mission objectives and program results. At the national level, the SBMG is supported by Ministry of Statistics and Program Implementation on monitoring and surveys, NIC on data and information management, and an economic advisor from the Ministry of Finance on a permanent basis. Personnel from these agencies work as an integral part of the DDWS team and support various functions. The GOI also has a program called *Swachhata* Action Plan, through which all departments and ministries plan, commit to, and implement sanitation-related activities under the overall coordination of DDWS. DDWSs at the national level and within several state governments receive support from development partners, government-owned organizations like corporations and (training) institutions, autonomous institutions (set up by GOI for specific purposes), and technical teams of various departments to implement sanitation and hygiene programs.

The assessment found that seven states in India have support from development partners, international NGOs, and government institutions for sanitation and hygiene implementation (as seen in Table 8 Section 3.2.2). Research for the assessment also revealed that UNICEF and others had earlier provided staff and personnel to state and district governments. These resources support state and district teams in planning, CB of district-level functionaries and program monitoring.

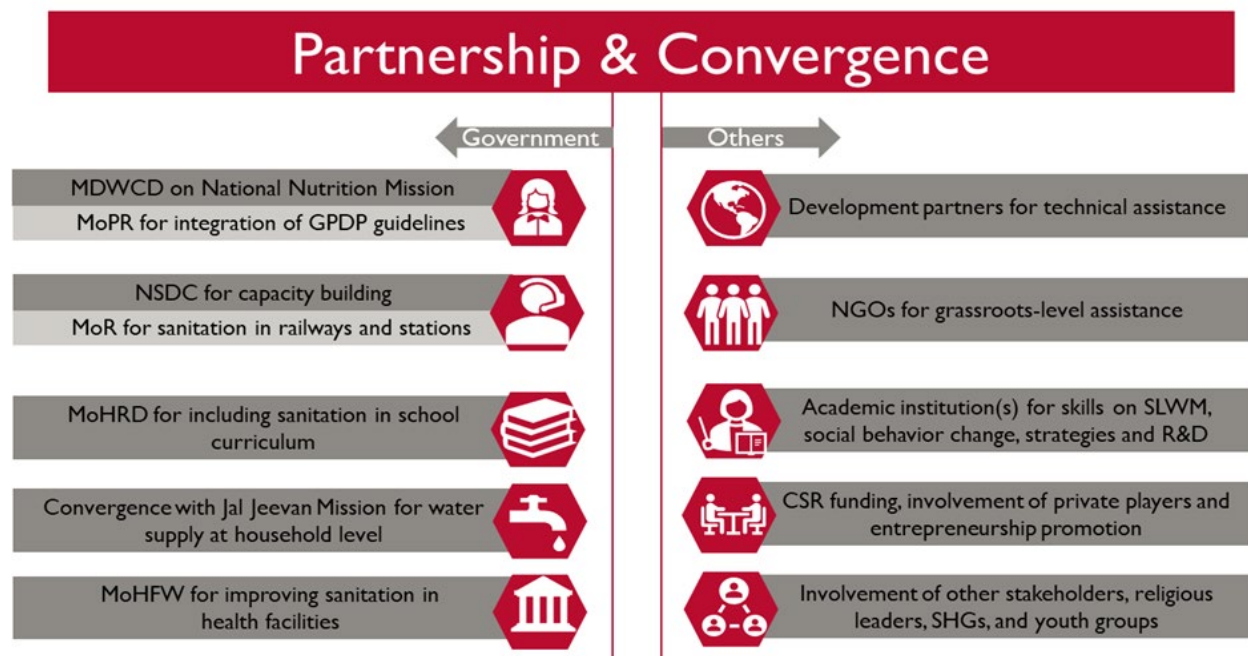
The GOI and the states have a well-established mechanism for inter-governmental, inter-departmental and inter-sectoral partnerships and convergence. SBMG partners with Departments of Health, Nutrition, and Education on convergent action on WASH in villages and schools. It joins with the national water program (i.e., Jal Jeevan Mission) to ensure water for sanitation and hygiene. The SBMG also partners with the private sector and academic institutions for technology development, and research on promoting sustainable sanitation and hygiene. Figure 6 depicts the partnerships and convergence (coordination) achieved by DDWS.

The assessment in Bihar also found that cross-sector cooperation is happening in the state to support implementation of sanitation and hygiene at the GP level. Technical staff from the Health, Education, Rural Development sections from the Public Health Engineering Department (PHED) and Panchayati Raj, support implementation of the SBMG at district, block, and GP levels. ASHAs, AWWs, PHED engineers, MNREGA technical staff, district program managers of *Jeevika* (a livelihoods program in Bihar) were supporting the GP in implementing SBMG components. The technical staff of MNREGA were reported to be providing training to masons and supporting on-the-ground technical implementation and supervision of ODF-Plus activities. DoRD officials (like the district Program Manager *Jeevika*, Block Program Manager *Jeevika*, cluster-level field coordinator), and Panchayati Raj Department officers (like the GP secretaries and District Panchayat Raj Officer and Block Panchayat Raj Officer), were supporting implementation of SLWM in villages.

Coordination and cooperation among departments and programs is noticeable at the GP level, where functionaries of the Health Department, Drinking Water Department, Women and Child Development Department, Panchayati Raj Department, and others work in unison. ASHAs, who are functionaries of the Health Department, ANMs who are functionaries of ICDS, the GP secretary from the Panchayati Raj Department, barefoot engineers from PHEDs,¹⁹ and SHGs join to support implementation of the SBMG.

¹⁹ Barefoot engineers are people, mostly women, trained by the Barefoot College in various fields including water, solar, health, education, environment, communication, and livelihoods.

However, there is a felt need to augment capacity of functionaries from these departments on SBMG Phase II components, so that they can better support the program.



MDWCD: Ministry of Women and Child Development; MoPR: Ministry of Panchayati Raj; NSDC: National Science Centre, Delhi; MoR: Ministry of Railways; MoHRD: Ministry of Human Resource and Development; R&D: research and development; CSR: corporate social responsibility; MoHFW: Ministry of Health and Family Welfare.

Figure 6. Partnerships and Convergence between Departments for Sanitation and Hygiene in India (Adapted from DDWS 2019)

4.2 ATTRACTING STAFF FROM OTHER INDUSTRIES

The assessment found that DDWS has partnered with the India Sanitation Coalition, a federation of private sector actors, to work on creating “lighthouses” (i.e., model villages with sanitation and hygiene). The corporations that are part of India Sanitation Coalition and national and state governments are expected to work together to demonstrate sustainable SLWM arrangements in villages through use of appropriate and innovative technical options, management arrangements, and community participation. These model villages, to be created in 75 selected districts, will demonstrate effectiveness and efficiency in the implementation of SLWM arrangements that could be scaled up across the country. As part of this initiative, private sector actors would demonstrate recycling and reuse of greywater, effective decomposition and reuse of waste, management arrangements for plastic waste and fecal sludge through deployment of their personnel, management approaches, and innovation and support for creation of SLWM models. This partnership is expected to bring private sector staff from various industries to support implementation of sanitation and hygiene. Three districts of Bihar have been selected as part of the Lighthouse Initiative of DDWS. It is not yet clear whether and how the private sector actors involved in this initiative will bring in or work with the existing trained masons.

4.3 COMPETENCY DEVELOPMENT OF CURRENT STAFF

A Capacity Building Commission was constituted by the GOI through the Gazette of India on April 1, 2021 to act as the custodian of the civil services’ CB ecosystem. The Commission is mandated to facilitate preparation of department, ministry, and agency Annual CB Plans; evolve a harmonious de-

siloes approach to improve civil service capacity; drive standardization, harmonization, and shared understanding of CB activities; and create shared learning resources, including internal and external faculty and resource centers (Commission 2022).

The core purpose of the Commission is to build credibility and shape a uniform approach to CB on a collaborative and co-sharing basis. The Commission is mandated to perform the following key functions:

- Prepare an Annual State of Civil Services Report.
- Exercise functional supervision over training institutions and create shared learning resources.
- Facilitate the creation of Annual CB Plans for ministries and departments.
- Organize a global HR summit.
- Evolve a harmonious, de-siloed approach to CB initiatives.
- Undertake an audit of HR available in government.
- Recommend policy interventions in areas of personnel/HR to the Department of Personnel and Training.
- Approve knowledge partners.

The Commission has initiated a National Program for Civil Services Capacity Building (NPCSCB) with the aim of creating a professional, well-trained, and forward-looking civil service imbued with a shared understanding of India’s developmental aspirations, national programs, and priorities. The key philosophy of NPCSCB is to create an ecosystem of competency-driven training and HR management by transitioning from a “rules-based” system to a “roles-based” system.

The NPCSCB has six key pillars: Policy Framework, Institutional Framework, Competency Framework, Digital Learning Framework Integrated Government Online Training Karmayogi Platform (iGOT-Karmayogi), the electronic Human Resource Management System, and the M&E Framework.

The NPCSCB covers all civil servants (including contractual employees) across different ministries, departments, organizations, and agencies of the union government. This does not cover lower-level functionaries like Block Coordinators working on contract. DDWS is working with iGOT to create training content, modules, and collateral material for training on WASH, using the online platform for state-, district-, and GP-level functionaries.

DDWS has the dedicated budget and personnel to steer CB, mainly at the national and state level. It has developed several manuals, toolkits, a YouTube channel with learning products and videos for CB (Figure 8), an SBMG Academy that is interactive voice response system (IVRS) based (Figure 9), and a system where people can dial in and learn about the program components. It works with specialized institutions like the National Institute of Rural Development (NIRD), Hyderabad, National Environmental Engineering Research Institute, and UN organizations to support sector CB. Officials and consultants are sent to international and national training programs, and on exposure and learning trips, and they are supported to pursue e-learning. These opportunities need to be made available to functionaries at district and sub-district levels and made more systematic and institutionalized.

Capacity building of existing staff appeared to be more ad hoc at the state level, with only a minimal set of interventions undertaken so far for CB of existing staff. In Bihar, the Indian Institute of Technology (IIT)—a premier institute of India—organized a one-off training for functionaries working on sanitation and hygiene. The Institute of Livelihood Research and Training is providing training to Block Coordinators and augmenting their understanding of SLWM issues. The GOB is contemplating initiating an elective course on WASH services management along with UNICEF in the State’s Development Management Institute. The GOB is also working with BIPARD to train all its district- and block-level functionaries on components of SBMG Phase II. These initiatives will be critical for concurrent capacity development of the work force working on sanitation and hygiene.

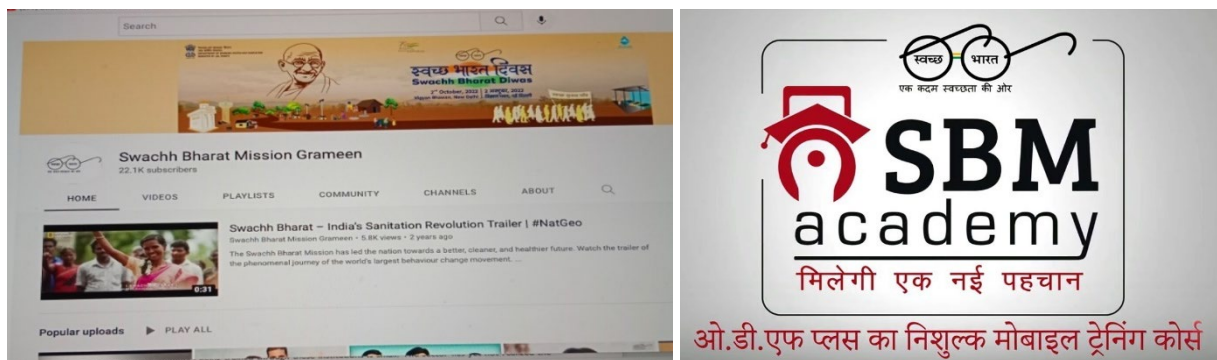


Figure 7. SBMG Learning Channel on YouTube (Left) and Logo of SBMG Academy India (Right)

4.4 NEW SUPPLY THROUGH UNIVERSITIES AND TRAINING INSTITUTES

The supply of new staff formally trained in WASH is not yet optimal in India, especially in Bihar. Several premier institutions: IIT, Roorkee, the Tata Institute of Social Service – Mumbai (TISS), and WASH Institute – Dindigul, alongside others listed in Table 12, have started offering professional courses in WASH and they produce around 30 trained professionals annually. These institutions and courses are WASH or specifically sanitation and hygiene oriented, and not directly related to the CB Commission’s work, which is broader and has a multi-sector and government focus. The University Grants Commission of India also has initiated a certificate course on WASH. But the numbers being trained through these institutions is small. The sector has not yet realized the utility of these professionals and most of them are not employed in the government WASH programs. There is a need not only to have more institutes providing professional courses on WASH to create a trained cadre of WASH sector professionals, but also to incentivize further uptake of these trainings. For example, WASH related institutions or programs can refer directly to the trainings as a requirement or advantage in their vacancy notices.



Figure 8. TISS PG Diploma Course Logo

Beyond these formal education pathways, there are also institutions providing skills training to lower-skilled or informal workers. For example, Skill Development Missions at state levels provide mason training.

TABLE 12. KEY INSTITUTES OFFERING COURSES AND CB IN THE SANITATION AND HYGIENE SECTORS IN INDIA		
	KEY INSTITUTIONS	COURSES OFFERED
1	TISS	(Post-Graduate) Diploma
2	WASH Institute	Post-Graduate Diploma
3	Institute of Livelihood Research and Training	Training on WASH for working experts
4	Development Management Institute	WASH Observatory for sector actors in Bihar (supports WASH program implementation by providing timely and rapid insights, organizing dissemination seminars, workshops, and other CB initiatives)

TABLE 12. KEY INSTITUTES OFFERING COURSES AND CB IN THE SANITATION AND HYGIENE SECTORS IN INDIA

	KEY INSTITUTIONS	COURSES OFFERED
5	Primove Pvt Ltd	Training content development and creation of Master Trainers for ODF-Plus
6	BIPARD	Training and CB of government actors on WASH, especially those at block level
7	IIT	WASH Certificate Course

5.0 ANALYSES OF SHORTAGES AND GAPS

5.1 ADDRESSING HUMAN RESOURCE SHORTAGES

The sanitation and hygiene sectors in India benefit from demonstrated political will, clearly defined policies, and fully funded programs to improve the sanitation and hygiene status in rural and urban areas. The GOI has made significant investment in building a competent HR base able to provide sanitation and hygiene services to its people in rural areas. Ministries and departments both at national and state levels have worked in tandem to ensure adequate HR capacity for sanitation and hygiene, and additional funds are being directed to RLBs for construction and maintenance of assets and services using Finance Commission funds and provisions. This is promising for the sector and is expected to result in an overall increase in jobs and functions.

However, the HR demand to meet the twin objectives of sustaining ODF outcomes and ensuring SLWM is felt across various levels. Achieving sustainability demands ability and capacity to reach the last mile, the poorest and marginalized, and ensure services for them. It also means ensuring that the improved behavior is continuously reinforced, and people and partners are trained in retrofitting, improving, and operating and maintaining the sanitation and hygiene assets.

India also needs to increasingly ensure that its sanitation and hygiene assets are designed to withstand floods, droughts, and other climatic challenges. According to the Global Climate Risk Index of 2020, India was the seventh most affected country globally in 2019 in terms of fatalities and losses per unit gross domestic product in percentage terms. Climate variability and change pose several serious risks to sustainable access and use of sanitation services delivered to the people of India. Intense climate events like floods, drought, and cyclones in many states have affected sanitation systems.

To understand both the existing and future HR capacity needs to respond to the above challenges, the assessment included a high-level mapping of existing and future capacity needs, presented in Table 13. This mapping was completed by the assessment team, based on the KIs and consultations across the different levels of government and used the geographical definitions as per Annex I.

TABLE 13. MAPPING OF EXISTING AND FUTURE CAPACITY NEEDED IN THE SANITATION AND HYGIENE SECTORS IN INDIA								
FUNCTIONS	SANITATION				HYGIENE			
	URBAN	PERI URBAN RURAL MIXED	RURAL ON ROAD	RURAL REMOTE	URBAN	PERI URBAN RURAL MIXED	RURAL ON ROAD	RURAL REMOTE
Policy, strategy, coordination (national level)								
Regulation (national level)								
Monitoring (national level)								
Regulation (district level)								
Monitoring (district level)								
Management/oversight and external support (provincial, local government, municipality)								

TABLE 13. MAPPING OF EXISTING AND FUTURE CAPACITY NEEDED IN THE SANITATION AND HYGIENE SECTORS IN INDIA

FUNCTIONS	SANITATION				HYGIENE			
	URBAN	PERI URBAN RURAL MIXED	RURAL ON ROAD	RURAL REMOTE	URBAN	PERI URBAN RURAL MIXED	RURAL ON ROAD	RURAL REMOTE
Design and construction	Green	Green	Green	Green	Green	Green	Green	Green
Sanitation only - empty and transport	Green	Green	Green	Green	White	White	White	White
O&M (includes treatment and reuse)	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Community engagement and mobilization (participation)	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Business development	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Research and design	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow

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

SBMG Phase II is technical in nature, as it involves ensuring sophisticated infrastructure in addition to putting in place management and maintenance arrangements. The new functions such as emptying septic tanks, collecting and segregating waste, managing plastic waste, and managing fecal sludge in a decentralized environment demand new skills and capacity across implementation levels. Governments will need to partner with various agencies—public and private—to perform the range of functions needed to achieve SBMG Phase II objectives. Considering the future demands to sustain investments and benefits and to prepare for the challenges of “tomorrow,” HR augmentation and capacity development will be needed in several different areas:

- **Swachhagrahis for community participation and behavior change:** Community participation and effective communication have been the hallmark of sanitation and hygiene programs in the recent past. In fact, the SBMG is considered more of a people’s movement than a government program. But it was found in discussions with district level functionaries that the enthusiasm and community connection seen in Phase I is on a decline. Multiple informants pointed out that India will need to revive and reenergize the *Swachhagrahis* that have not been utilized since achievement of SBMG Phase I objectives. They played a central role in achieving ODF outcomes, but it was generally felt by the districts that the role of *Swachhagrahis* was over, and many states started disengaging with them. *Swachhagrahis* also lost interest, as they were not being paid or assigned clear roles in Phase II. It is important to reengage them and deploy at least one *Swachhagrahi* per village to ensure that BCC efforts continue unabated. This will be central to keeping people informed and engaged on their roles and responsibilities, usage, and maintenance of facilities so that the achieved ODF status is sustained. These *Swachhagrahis* would need training and access to communication materials on a new set of key messages around sustainability, hygiene promotion, and management

of solid and liquid waste in their villages. National and state governments CB plans need to factor in this critical requirement for *Swachhagrahis*.

- **Local institutions with skilled personnel or service providers to undertake emptying, transport and O&M:** A full cadre of sanitation workers are needed to collect, transport, and manage waste in rural areas. In Bihar alone, around 200,000 sanitation workers are being deployed to achieve SLWM. A large workforce would be needed across states and districts to achieve decentralized waste management, and more awareness needs to be created around the importance of safe disposal of plastic waste and human excreta. Having a trained workforce for O&M is both urgent and important. Having built infrastructure costing over USD 25 billion and investment of over a similar amount underway, India would need to invest substantially to build a cadre of people to undertake the O&M of assets effectively. Trained and professional HR will be needed for retrofitting of toilets, management of community sanitary complexes, Plastic Waste Management Units (PWMUs), fecal sludge treatment plants (FSTPs), and construction of composting and greywater infrastructure. Personnel for these functions could be members of SHGs or youth groups, masons working for the program, as well as small private businesses such as truck owners with honey suckers, sanitary marts, production centers, plastic waste aggregators (*Kabadi walas*), etc. who are near villages and can assume this responsibility if they are accredited and memoranda of understanding for service delivery and O&M are in place. GPs have the mandate and financial resources to pay them. States and districts need to identify such people and provide training and CB on preventive and corrective maintenance. Among others, the Skill Development Mission at central and state levels that undertakes mason training should consider upgrading its course curricula and modules to factor in the new requirements.

In addition, it will be critical for national and state agencies to invest substantially in capacity strengthening of state and non-state actors, formalize informal arrangements through contracts, provide legal backing for GPs to levy charges for services and increased (financial) support for deploying high quality professionals, and set up performance benchmarks. While the GOI has provisioned substantial funds for establishing PWMUs and FSTPs or other means to manage fecal sludge, these funds are not yet allocated as requests from states and district are not yet forthcoming. Currently, there is limited knowledge and experience on setting up (decentralized) management of PWMUs and FSTPs, or alternative forms of FSM.

- **Cadre of people to ensure implementation of key rules on sanitation and waste management:** National and state governments have developed regulations for waste management to control use, disposal, treatment, and management of waste in rural areas. It will be important now to have people trained on these rules who could monitor their enforcement. While the National Green Tribunal has assumed this responsibility, its enforcement at the local level is still a challenge. The GOB has empowered the Panchayat Raj staff to ensure implementation of these rules, but it is understood that a cadre of people who could support monitoring and enforcement of these rules would be needed.

KEY RULES RELATED TO WASTE MANAGEMENT

- Plastic Waste Management Rules, 2016
- e-Waste Management Rules, 2016
- Biomedical Waste Management Rules, 2016
- Construction and Demolition Waste Management Rules, 2016
- Hazardous and Other Waste Management and Transboundary Movement Rules, 2016

Similarly, it would be important to develop health and safety protocols for sanitation workers that recognize the rights and safety of sanitation workers. Sanitation will have to be made a caste-free and non-poverty-driven occupation. There is still more work to be done around changing the indifferent or negative attitude of the public and state toward sanitation workers. The safety of

sanitation workers through use of mechanized desludging instruments, remote-controlled evacuation methods, and personal protective equipment needs to be made mandatory. Arrangements need to be strengthened to ensure that manual scavenging is eliminated from rural areas and people involved in scavenging are trained and provided other gainful employment opportunities.

In summary, there is a need to ensure that adequate capacity is created quickly and at scale both for demand-side and supply-side functions. People, institutions, agencies, and private sector suppliers and vendors need to be included in the CB remit to achieve the desired levels of success, in addition to creating the relevant positions.

3.2 ADDRESSING SKILLS, COMPETENCIES AND KNOWLEDGE AREAS

Through this assessment, the team identified a number of technical and transferable skills,²⁰ competencies, and knowledge areas that would require additional focus to achieve sustained sanitation and hygiene outcomes, in addition to the HR requirements outlined in Section 5.1. These are listed below, and further outlined in Annex 5.

- **Capacity of RLBs to effectively plan and utilize resources:** India needs to invest substantially in building capacities and capabilities of the RLB. The national average of funds utilized by RLBs (their financial absorption capacity) is low and has been identified by informants as a matter of concern. More importantly, despite the innovations of and progress made in the SBMG Phase I, decades of conforming to routine and unimaginative responses on sanitation and hygiene have conditioned RLBs to think about these issues merely from the standpoint of troubleshooting and operational expenditure, and not utilizing funds to achieve sustainable sanitation outcomes. RLBs need CB to develop realistic and inclusive GP Development Plans, effective budgeting, and timely implementation. *Swachhagrahis* and sanitation workers need to support the planning and resource allocation by RLBs by joining the planning activities and processes at the GP level, and mechanisms need to be ensured for their participation. Transferable skills linked to this point include planning, budgeting, and coordination.
- **Business and contract management by RLBs:** RLBs need to improve skills in procurement and contract management to achieve proficiency and effective services in rural areas. Commercial contracts need to be promoted in rural areas for service delivery and operation and management of sanitation and hygiene services. Issues concerning waste management and sanitation require cross-functional expertise on technology, management arrangements, and cost sharing, as well as transferable skills in establishing and managing contracts and engagement with different stakeholders in the value chain for improved services.
- **Pricing the cost of sanitation and hygiene service delivery:** India will need to soon price the sanitation and waste management cost and motivate people to pay for services, as the GOI will not be able to sustain its level of investment, especially after all infrastructure has been put in place. This may include the application of direct user fees for certain aspects of sanitation and waste management. RLBs need to be capacitated with both technical and transferable skills to conduct surveillance, establish and charge user fees, manage defaulters, and invest in awareness raising on

²⁰ Technical (knowledge and skills) refers to knowledge and skills a person has in a specific field, whereas transferable (knowledge and skills) 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).

sanitation and hygiene. DDWS would need to adequately empower and capacitate the RLBs to take on these emerging functions.

- **Resource recovery and recycling:** The GOI needs to undertake institutional and human CB to support resource recovery and recycling of the waste. The SBMG has initiated the Gobardhan Program as an integral component of ODF-Plus, which aims to convert organic, agriculture, and biowaste into compost and energy. Gobardhan units need to become engines of economic growth in rural areas by ensuring resource recovery and recycling and supplying organic manure and energy products. The scope of this intervention needs to increase manifold in the near future, and technical and managerial capability will have to be brought to bear for this to happen.
- **Climate-resilient sanitation and hygiene infrastructure:** Climate variability and change pose several serious risks to sustainable access and use of sanitation services delivered to the people of India. Intense climate events like floods, drought, and cyclones in many states have affected sanitation systems. Strengthening climate resilience for sanitation and hygiene would require action and skills on several fronts, including policy, institutional strengthening, information management systems, and construction. National, state, and district governments and RLB will have to work in unison to ensure that sanitation services and infrastructure are climate resilient. Among others, this would entail required expertise and capacities in understanding and use of hydrogeology, climate-resilient technical options, and use of remote sensing information to design, construct, and maintain sanitation and hygiene assets and services.

5.3 BARRIERS TO HUMAN RESOURCE DEVELOPMENT

India has done well in terms of HR development for achieving improved sanitation and hygiene outcomes. By and large, there is a dedicated person managing only sanitation and hygiene in each district and block. However, additional personnel are needed to ensure that the sanitation and hygiene outcomes are sustained, and SLWM arrangements are implemented successfully in rural areas. Some key barriers to HR development are:

- **Absence of a national CB program or strategy for WASH that is well understood at different levels:** The sanitation and hygiene sectors lack a well-defined and comprehensive CB program and strategy that are consistently applied at the state level. While a certain level of flexibility is expected in line with differing state needs and requirements, different states adopt different strategies, invest differently, and use different CB approaches, which makes it challenging to measure and manage CB in the country. Development partners also have their own CB programs and strategies that often are not complementary to the national or state government efforts. A national coordinated and convergent CB plan developed in partnership with states which ensures a minimum set of core CB interventions, and quality benchmarks, is needed.
- **Lack of clearly delineated funds for CB:** Though the SBMG Phase II has earmarked three percent of total funds for IEC and CB, it has been left to states and districts to decide what part of this will be used for what. Oftentimes, investment for communications or the like is construed as investment for CB. Among others, this could be addressed by directions in the SBMG operational guidelines to include strategic planning and clearly defined budgets for CB in state, district, and GP plans. Lack of clear demarcation makes it difficult to monitor the investments being made in CB.
- **Non-incentivized, non-mandatory environment for capacity development:** Achieving SBMG objectives and immediate program results are at times prioritized over strengthening institutional and individual capacity. There is no formal or noticeable incentive for participating in CB programs; it was noted that the Block Coordinators in many states have not received any formal training or CB opportunities for many years. DDWS and state governments could consider making

participation of core staff in CB activities mandatory (to be considered for promotion, salary increments, etc.) or develop other ways to incentivize and encourage engagement in CB.

- **Lacking infrastructure for capacity development:** Many states and districts lack training facilities, trainers, and opportunities for networking, communication, and learning. There is lack of nodal training institutions who systematically support capacity development of staff. The budget for capacity development available with states and districts at time restricts paying for hiring institutes and infrastructure for long-term support to CB.

5.4 NEW OPPORTUNITIES FOR HUMAN RESOURCE DEVELOPMENT

Several opportunities exist to fast-track HR development in India. Key opportunities include:

- **Partnership with CB Commission of India:** DDWS in partnership with the CB Commission could systematically train all civil servants at national and state levels on managing sanitation and hygiene programs. A partnership with the CB Commission iGOT could help build capacity of staff across the country using an online platform and resources. All training modules and resources available in the SBMG Academy could be updated to make it compliant with requirements of iGOT and then can be used for planning CB.
- **Partnership with Lal Bahadur Shastri National Academy of Administration (LBSNAA):** LBSNAA, Mussoorie is a premier training institution for the civil service in India. The academy conducts in-service and mid-career training programs for members of the Indian Administrative Service and an Induction Training Program for officers promoted to the Indian Administrative Service from state civil service. Incorporating sanitation and hygiene in their CB curriculum could help provide a cadre of civil service officers trained in sanitation and hygiene leadership.
- **The initiation of professional courses on WASH** by IIT, TISS, WASH Institute, and others have started producing a high-quality and professionally trained workforce for the WASH sector. These training institutes need to be supported to increase the number of professionals they produce every year to match the growing needs as outlined in Section 5.1, and the increasing number of jobs as witnessed in recent years.
- **Partnership with NIRD and State Institutes of Rural Development (SIRDs):** the recent decision of DDWS to establish a formal partnership with NIRD and SIRDs could also support building the infrastructure and institutional capacity to support HR development of WASH sector staff.
- **Permission to state governments to hire PMUs to build institutional, technical, and HR capacity:** The advisory issued by DDWS to permit use of IEC and HR development funds to hire PMUs with staff at state and district levels provides an immediate opportunity for state governments to increase the number of experts and high caliber HR in the states.
- **Financial provisions for HR development under XVFC:** An interesting window of opportunity has been created through the XVFC grants provided by the central government to RLBs, which allows RLBs at district and block levels to use up to 10 percent of the grant for overhead purposes, including hiring of staff and consultants. These amounts will be sufficient to hire and pay additional staff at district and block levels to strengthen capacity for management and implementation. This opportunity needs to be effectively utilized by RLBs to create, hire, and retain WASH sector staff.

6.0 RECOMMENDATIONS

Based on the capacity needs assessment undertaken in India, a number of high-level recommendations are offered. These recommendations focus on national, state or local level actions that should be considered across multiple states or the country as a whole, rather than focusing on Bihar in particular. 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 (Figure 11). Some recommendations apply to more than one category of stakeholder as indicated below. 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 14 elaborates on the recommendations and provides more detail on the responsible parties and likely timeframe.

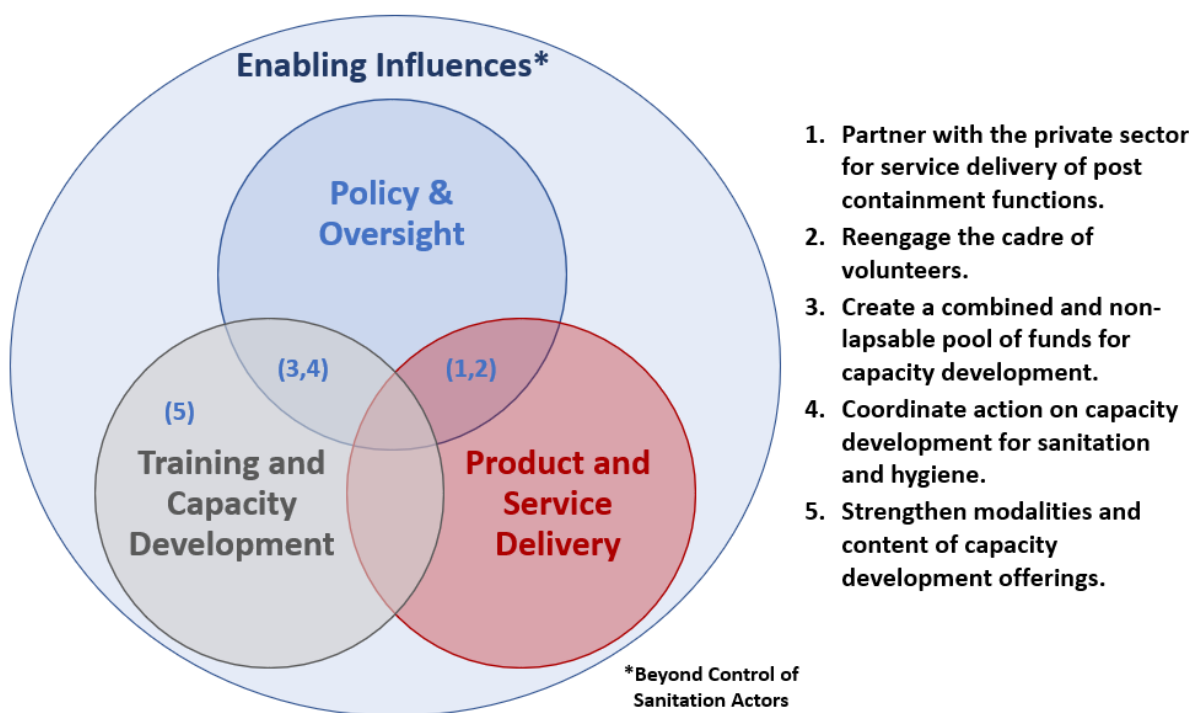


Figure 9. Overview of Recommendations

Institutions Responsible for Policy and Oversight in Conjunction with Product and Service Providers

1. **Partner with the private sector for service delivery of post-containment functions:** DDWS needs to attract and engage better with the private sector to bridge capacity gaps especially at the district, block and GP levels. Some of the post-containment functions of emptying and transport, treatment, disposal, and reuse (combined under O&M in the functional definitions) could be transferred to the private sector. In SBMG Phase II, this combines tasks like solid and liquid waste management through the establishment of PWMUs and FSM units. Private sector agencies exist that can perform these post-containment functions and national and state governments need to release calls for expressions of interest to identify potential agencies to transfer these functions to. RLBs should retain the responsibility of oversight and supervision of these functions and agencies, but will require CB to ensure service standards and manage service contracts.

2. **Reengage the cadre of volunteers:** State governments need to reengage their field force (i.e., *Swachhagrahis*) and hire where vacancies exist, so that all villages could have one active *Swachhagrahi* to support program communication and implementation. These *Swachhagrahis* need to be trained, skilled, and incentivized as per the guidelines and provisions of SBMG Phase II and using provisions of the XVFC fund. This would ensure solid support for GPs in community engagement and effective planning for SBMG Phase II results but may require reinforcement by the DDWS and GOB through separate advisories, e.g., instructions or letters, to raise GP awareness of the existing provisions.

Institutions Responsible for Policy and Oversight in Conjunction with Training Institutions

1. **Create a combined and non-lapsable pool of funds for capacity development:** DDWS could create a fund for CB using SBMG funds and XVFC tied grants to RLBs/PRI for water and sanitation for use at all levels to achieve improved capacity. Such funds should be non-lapsable so that unspent funds in one fiscal year would roll over and remain available for the same purpose in subsequent years. States, districts, and subdistrict-level agencies could utilize the funds as a basis for a CB plan that could be approved by DDWS and state departments responsible for sanitation and hygiene. Having a dedicated and non-lapsable CB fund could substantially streamline CB interventions in the country.
2. **Coordinate action on capacity development for sanitation and hygiene:** Ministries and Departments of Health, Panchayati Raj, Education, Rural Development, Women and Child Development, Disaster Management, and others independently conduct CB of their field staff on sanitation and hygiene. It is recommended that all departments and ministries develop integrated resources (e.g., training modules, training aids, resource persons, learning products, communication material) to ensure comprehensive and integrated CB of field staff. DDWS should create a CB coordination committee under the aegis of the Secretary of DDWS with secretaries of all other concerned departments as members, for convergence on CB efforts directed at RLBs.

Institutions Responsible for Training and Capacity Development

1. **Strengthen modalities and content of capacity development offerings:** The current approach to CB is through trainings that are mainly output oriented, with emphasis on quantitative coverage of various stakeholders involved in sanitation and hygiene service delivery. Training outcomes are neither well-defined nor measured. While providing adequate information is a core enabling part of capacity development, there is a definite need to focus on knowledge building, skill development, exposure to best practices, self-paced learning arrangements, and inputs for an appropriate attitude and belief system. This could be supported by increased use of information and communication technology tools and multi-modal delivery like the SBMG Academy and the CB Commission’s iGOT system to enhance effectiveness, the IVRS-based training systems used by DDWS, and learning platforms like *Swachh Sangraha*.

TABLE 14. SUMMARY OF RECOMMENDATIONS AND IMPLEMENTATION TIMEFRAME

RECOMMENDATION	WHO SHOULD LEAD/SUPPORT?	TIMEFRAME	JUSTIFICATION/ ELABORATION	WHAT DOES THIS DEPEND ON?
INSTITUTIONS RESPONSIBLE FOR POLICY AND OVERSIGHT IN CONJUNCTION WITH PRODUCT AND SERVICE PROVIDERS				
1. Partner with the private sector for service delivery of post-containment functions.				
Engage the private sector to bridge capacity gaps and	DDWS, districts, blocks and GPs	6-12 months	Private sector actors can perform service	CB at the local level for the RLBs to ensure

TABLE 14. SUMMARY OF RECOMMENDATIONS AND IMPLEMENTATION TIMEFRAME

RECOMMENDATION	WHO SHOULD LEAD/SUPPORT?	TIMEFRAME	JUSTIFICATION/ ELABORATION	WHAT DOES THIS DEPEND ON?
perform service delivery tasks especially at the district, block and GP levels.			delivery functions under oversight and quality control of public bodies and can support and contribute to capacity strengthening.	service standards and to manage service contracts.
2. Reengage the cadre of volunteers (Swachhagrahis).				
Raise awareness about the provisions of XVFC and the SBMG provisions on incentivization. ²¹	DDWS and states	0-6 months	Provisions are in place and guidance exists on incentivization of <i>Swachhagrahis</i> but district and block administrations are not sufficiently aware of these provisions or how to apply them.	DDWS directives, letter to states
Work toward having at least one active Swachhagrahi per village to support program communication and implementation.	States, districts, Blocks, and GPs	0-6 months	This would ensure solid support for GPs in community engagement and effective planning for SBMG Phase II results.	Awareness of and access to financial provisions to incentivize <i>Swachhagrahis</i> .
Ensure training and development of communication materials in line with SBMG Phase II roll out.	DDWS and states	6-12 months	Successful (re)engagement and deployment of the <i>Swachhagrahis</i> requires capacity and skills on a new set of key messages around sustainability, hygiene promotion, and management of solid and liquid waste.	National and state government CB plans need to factor in this critical requirement for <i>Swachhagrahis</i> .
INSTITUTIONS RESPONSIBLE FOR POLICY AND OVERSIGHT IN CONJUNCTION WITH TRAINING INSTITUTIONS				
3. Create a combined and non-lapsable pool of funds for capacity development.				
Delineate funds specifically for CB separately from IEC and monitor use of resources on CB as part of regular program monitoring.	DDWS and States	0-6 months	Such delineation will provide focus to CB. DDWS should decide the cost allocation along with states so that states are able to finance their CB plans.	Cabinet approval to increase allocation for CB and keep it separate from IEC

²¹ In November 2022, as a result of this India capacity needs assessment, the GOI issued a clarification on the utilization of funds for IEC and capacity strengthening, directed at the States and Union Territories: [clarification_reg_utilisation_of_funds_for_IEC_and_Admin_component_under_SBM\(G\).pdf \(swachhbharatmission.gov.in\)](https://www.swachhbharatmission.gov.in/clarification_reg_utilisation_of_funds_for_IEC_and_Admin_component_under_SBM(G).pdf)

TABLE 14. SUMMARY OF RECOMMENDATIONS AND IMPLEMENTATION TIMEFRAME

RECOMMENDATION	WHO SHOULD LEAD/SUPPORT?	TIMEFRAME	JUSTIFICATION/ ELABORATION	WHAT DOES THIS DEPEND ON?
4. Coordinate action on capacity development for sanitation and hygiene.				
Create a CB coordination committee for convergence on CB efforts directed at rural populations and RLBs.	DDWS, ministries, departments and states	6-12 months	Multi-partner coordination	DDWS secretary could chair such a committee
Develop integrated resources (e.g., training modules, training aids, resource persons, learning products, communication material) to ensure comprehensive and integrated CB of field staff.	DDWS and states, CB Commission	6-12 months	Integration of resources will contribute to more streamlined and quality assured CB.	Coordination with sectoral and non-sectoral education institutions
INSTITUTIONS RESPONSIBLE FOR TRAINING AND CAPACITY DEVELOPMENT				
5. Strengthen modalities and content of capacity development offerings.				
Improve the WASH sector CB approach and strategy.	DDWS and States	6-12 months	There is a need to improve the overall ability to perform WASH functions. This can be best achieved by focusing on knowledge building and developing skills and appropriate attitude and belief systems.	New ways of CB that go beyond training and include exposure visits, experience sharing, learning by doing, case studies and promoting a culture of continuous learning
Establish partnership with CB institutions.	DDWS and States	6-12 months	This would help achieve continuous CB and professionalize the CB function.	Availability of funds to pay for services of expert CB institutions and resource persons. Building on existing opportunities and partnerships such as with CB Commission of India, NIRD and SIRDs, Skill Development Mission, etc.
Deploy PMUs at state and district levels and augment HR capacity.	State Governments	0-6 months	This would help increase the HR capacity at state and district level to undertake CB and monitor CB outcomes.	Funds for hiring PMU at state and district levels
Develop better physical and information technology infrastructure and HR strength to ensure high-quality CB outcomes.	DDWS and States	6-12 months	This would bring the needed focus on CB and ensure availability of facilities and infrastructure to step up CB.	Funds to hire/create CB infrastructure

TABLE 14. SUMMARY OF RECOMMENDATIONS AND IMPLEMENTATION TIMEFRAME

RECOMMENDATION	WHO SHOULD LEAD/SUPPORT?	TIMEFRAME	JUSTIFICATION/ ELABORATION	WHAT DOES THIS DEPEND ON?
Develop and promote information communication technology (ICT) tools and multi-modal delivery for CB.	DDWS and States	6-12 months	Increase outreach, standardize CB inputs, and help monitoring of CB interventions and outcomes.	Development and adoption of ICT tools, partnership with iGOT of CB Commission

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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 (United States Agency for International Development [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 10 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 capacity needs assessments, this framework was primarily applied to the barrier analysis undertaken.

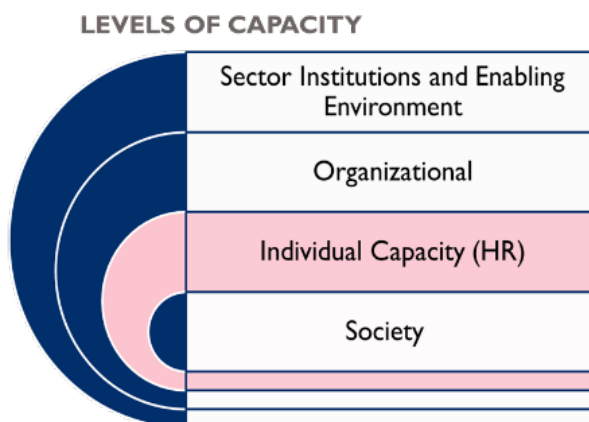


Figure 10. Framework for the Assessment

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

TABLE 15. FUNCTIONS TO DELIVER SANITATION AND HYGIENE

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

Definitions

TABLE 16. GENERAL DEFINITIONS	
Area-wide sanitation	Sanitation that goes beyond the household and the community to area-wide (district/county) or market systems-level approaches (USAID 2020)
On-site sanitation	A sanitation system in which excreta and wastewater are collected, stored and/or treated on the plot where they are generated (SSWM n.d.)
Hygiene	In this study strictly confined to fecal-related environmental cleanliness and hygiene
Capacity	Capacity refers to the ability of individuals, organizations, and societies to perform functions, solve problems, and set and achieve objectives (Fukuda-Parr et al. in Willems and Baumert 2003)
HR capacity (individual capacity)	The number of HR (personnel, or self-employed individuals) and their competencies available to perform functions, solve problems and set and achieve objectives
HR shortages	Refers to a deficit in numbers of HR needed, versus those available
HR gaps	Refers to a deficit in competencies needed, versus those available
Competency	Knowledge, skills, and abilities needed for an employee to perform their job in an effective manner
Technical (knowledge and skills)	Knowledge and skills that a person has in a specific field (e.g., Behavioral scientist – behavior change communication skills; Environmental engineer - design skills to develop a fecal sludge management [FSM] treatment plant)
Transferable (knowledge and skills)	Knowledge and skills that a person may need for their job but is not specific to that field only. These knowledge areas or skillsets are applicable across multiple jobs. (e.g., computer skills, relationship management, project management, interactive skills)
Formal workforce (ILOSTAT n.d.a)	All workers in incorporated enterprises
Informal workforce (ILOSTAT n.d.a)	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 17. GEOGRAPHICAL AREAS DEFINED (ADAPTED FROM: WATERAID 2019. GUIDANCE ON RURAL SANITATION PROGRAMMING)	
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 market-based sanitation 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 market-based sanitation 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 17. GEOGRAPHICAL AREAS DEFINED (ADAPTED FROM: WATERAID 2019. GUIDANCE ON RURAL SANITATION PROGRAMMING)

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

TABLE 18. KEY STAKEHOLDERS/INFORMANTS		
LEVEL	NAME	DESIGNATION
Central/National	Mr. Arun Baroka	Special Secretary, Drinking Water and Sanitation Department (DDWS), Government of India (GOI)
National	Mr. Rampal Singh	Deputy Secretary, DDWS, GOI
National	Mr. Karanjit Singh	Joint Director, Capacity Building (CB), DDWS, GOI
National	Dr. Anoop Tripathi	Program Analyst, DDWS, GOI
National	Mr. Vinay Teway	CB Specialist, DDWS, GOI
National	Mr. Yugal Joshi	Mission Director, Niti Ayog, GOI
National United States Children's Fund (UNICEF)	Mr. Sujoy Mazumdar	Water, Sanitation, and Hygiene (WASH) Specialist
WaterAid	Mr. Mashavan	Chief Executive Officer (CEO)
Federation of Indian Chambers of Commerce & Industry/India Sanitation Coalition	Dr. Sanjeev Shekhar	Director
Federation of Indian Chambers of Commerce & Industry	Ms. Natasha Patel	CEO
IPSOS Global	Dr. Satish Jha	Director, Swachh Survekshan Grameen
State Government	Mr. Balamurugan	Secretary, Rural Development, Government of Bihar
State Government	Mr. Rahul Kumar	Mission Director, SBMG, Bihar
State Government	Mr. Suman Lal Karna	Information and Education Communication Specialist
State Government	Mr. Kaushlendra	Human Resource Development Specialist
State Government	Ms. Sheetal Verma	CB Specialist
State Government	Ms. Neha	Management Information System Specialist
State UNICEF	Ms. Nfisa	State Representative, Bihar
State UNICEF	Prabhakar Sinha	WASH Specialist
Aga Khan Rural Support Programme	Mr. Asad Umar	Director, WASH and Health
District Government	Mr. Anshul Kumar	District Magistrate, Banka
District Government	Mr. Kaushalendra Kumar	Deputy Development Commissioner, District Banka
District Government	Mr. Mehfooz Alam	Director, District Rural Development Authority, District Banka
District Government	Mr. Uttam Prakash	District Coordinator, Banka

ANNEX 3. SBMG PHASE II FUNDING FLOWS

TABLE 19. SBMG PHASE II PROGRAM COMPONENTS AND FUNDING NORMS			
		FINANCIAL ASSISTANCE	
Incentive for construction of an individual household latrine to the newly emerging households		Indian Rupee (INR) 12,000/- as per existing norms, provided to households.	
Solid and Liquid Waste Management (SLWM) activities	Village-level SLWM activities	VILLAGE SIZE	FINANCIAL SUPPORT
		Up to 5,000 population	Solid waste management: Up to INR 60 per capita, provided to Gram Panchayat (GP). Greywater management: Up to INR 280 per capita, provided to GP.
		Above 5,000 population	Solid waste management: Up to INR 45 per capita, provided to GP. Greywater management: Up to INR 660 per capita, provided to GP.
		Note: 30% of this amount will be borne by the GPs from their Fifteenth Finance Commission (XVFC) grants. However, each village can utilize an amount of up to INR 1 Lakh (100,000) based on their requirements.	
	District-level SLWM activities	Plastic Waste Management Unit (one per block)	Up to INR 16 lakh per unit, paid to Blocks.
		Fecal Sludge Management	Up to INR 230 per capita, paid to Districts.
Gobardhan Projects ²²		Up to INR 50 lakh per district	
Community Sanitary Complexes		INR 3 Lakh	70% will be borne by SBMG Phase II 30% will be borne by GPs from XVFC
Information Education Communication and Capacity Building		5% of the total funding for programmatic components	
Administrative Expenses		1% of the total funding for programmatic components	

²² Government of India scheme that supports villages in safely managing their cattle waste, agriculture waste, and organic waste in rural areas.

ANNEX 4. SANITATION AND HYGIENE STAFF IN BIHAR

TABLE 20. STAFF SUPPORTING SANITATION AND HYGIENE AT GP LEVEL IN BIHAR			
	STAFF CATEGORY	TITLE	NUMBER
1	Gram Panchayat (GP) Head	Mukhiya	8,386
2	GP Secretaries	Panchayat Sachiv	8,442
3	Anganwadi Workers	Anganwadi workers	80,797
4	Public Health Worker	Accredited Social Health Activist	87,135
5	School Teachers	Teacher	214,000
6	Volunteer	Swachhagrahi	32,003
7	Sanitation Supervisors	Sanitation Supervisors	8,400
8	Sanitation workers	Sanitation Workers	200,000
9	Information Management	Data Entry Operators	Approx. 8,000
10	Self-Help Groups (SHGs)	SHGs	1,011,421

Source: Latest available information, multiple sources.

ANNEX 5. EXPECTED HUMAN RESOURCE REQUIREMENTS

TABLE 21. KEY FUNCTIONS AND COMPETENCIES NEEDED IN THE SANITATION AND HYGIENE SECTORS IN INDIA				
FUNCTION	ACTORS	NEW TASKS	TECHNICAL COMPETENCY NEEDED	TRANSFERABLE COMPETENCY NEEDED
Policy, strategy, coordination (national level)	Drinking Water and Sanitation Department (DDWS) Ministry of Jal Shakti	Providing policy, technical and financial assistance on Solid and Liquid Waste Management (SLWM)	Knowledge of water, sanitation, and hygiene sector issues and challenges Implementation bottlenecks Technical options in various areas including hydrogeology Next generation challenges Innovative financing mechanism	Convergent action with allied ministries Management of co-financing arrangements (e.g., with Mahatma Gandhi National Rural Employment Guarantee Scheme [MNREGS] and Fifteenth Finance Commission)
Regulation (national, provincial, local government)	National and state departments, National Green Tribunal, State Pollution Control Boards	Ensuring rules for fecal sludge management (FSM), plastic waste management (PWM), groundwater management (GWM), FSM	Setting standards Understanding of waste management, groundwater pollution, dumping and burning/incineration, etc. Making citizens aware of standards and protocols Enforcing surveillance and monitoring of measures	Stakeholder engagement Awareness and acceptance of enforcement measures
Monitoring (national, provincial, local government)	DDWS, state governments, district and block administration independent verification agents	Information technology (IT)-based monitoring, Use of independent verification agents Monitoring results	IT skills and knowledge of IT platforms Contract management of independent verification agents Feedback mechanism Results-based monitoring	Timely analysis of data and information Feedback to actors
Advocacy, monitoring, and hold responsible ²³	Centre for Science and Environment, WaterAid, AGA Khan Foundation, VISWASH Network in Bihar	Ensuring “No One Left Behind” Ensuring environmental management safeguards are followed during implementation of SLWM interventions	Monitoring implementation of “No One Left Behind” component of SBMG Environmental management measures Social audit and generating evidence on last mile reach Environmental audits and impact assessment and feedback on lapses on environmental safeguards	Influencing skills

²³ Function added in the India country needs assessment, not yet incorporated in the original functions listing.

TABLE 21. KEY FUNCTIONS AND COMPETENCIES NEEDED IN THE SANITATION AND HYGIENE SECTORS IN INDIA

FUNCTION	ACTORS	NEW TASKS	TECHNICAL COMPETENCY NEEDED	TRANSFERABLE COMPETENCY NEEDED
Management/ oversight and external support (provincial, local government, municipality)	DDWS, state governments, project management units (PMUs) at central and state levels	<p>Ensuring oversight and technical assistance for entire sanitation and hygiene value chain</p> <p>Capacity building (CB) for ensuring service standards</p> <p>Skills and trainings for contract management to state, district, and rural local body (RLB)</p>	<p>Understanding functioning of sanitation value chain</p> <p>Understanding technical options, management arrangements</p> <p>Understanding technical standards and protocols</p> <p>Providing information and experience of working on low-cost integrated solutions</p> <p>Ensuring decentralized operation and maintenance (O&M)</p>	<p>Program/project management</p> <p>Understanding processes and protocols in implementation</p>
Design and construction (in sanitation capture and containment)	DDWS and State government experts, Public Health Engineering Departments, MNREGS, Technical teams	Designing and construction of GWM options, SWM options, PWM Units, and fecal sludge treatment plants (FSTPs) for various hydro geologies	<p>Computer-aided design,</p> <p>Use of hydrogeological data while designing options</p> <p>Developing a menu of low-cost options</p> <p>Construction supervision of assets being created</p> <p>Understanding the O&M arrangements for SLWM infrastructure</p>	Customer relations/ interactive skills
Sanitation only – empty and transport	Households through private agencies	<p>Suction of fecal matter</p> <p>Honey suckers and transportation</p>	<p>Facilities for local treatment of fecal sludge</p> <p>Construction and management of FSTPs</p>	<p>Setting up network of private service providers</p> <p>Communication,</p> <p>Personal health and safety – personal protective equipment</p> <p>Scheduling transportation arrangements</p>
O&M (includes treatment and reuse) (household, municipality)	Households, Gram Panchayats, block PMUs, line departments	O&M of SLWM assets, and those related to GWM, PWM, and FSM	<p>Service standards</p> <p>Cost and revenue management</p> <p>Preventive and corrective O&M measures</p>	Contract management
Behavior changes and community engagement and mobilization (national, local)	RLB, district administration,	Communication strategy and messages for SLWM	Behavior change communication theory	Project management, scheduling, interactive, intercultural skills

TABLE 21. KEY FUNCTIONS AND COMPETENCIES NEEDED IN THE SANITATION AND HYGIENE SECTORS IN INDIA

FUNCTION	ACTORS	NEW TASKS	TECHNICAL COMPETENCY NEEDED	TRANSFERABLE COMPETENCY NEEDED
government, municipality levels)	non-governmental organizations, State and national governments	and ensuring sustainability Information dissemination on technical options, service standards and cost sharing for services Establishment of new social norms	Understanding of community approaches to behavior change Sanitation marketing Understanding the technological and cost options Facilitation skills Monitoring/data collection	
Research and design (national level, local level)	National and State governments, research institutions, development partners	Research and development on GWM, SWM, PWM, FSM technical options, management models, revenue streams, decentralized management	Understanding ground level ethos (while designing communication strategies) Designing appropriate service standards, technical options Promotion of findings of research initiatives	Monitoring (what works and what doesn't) Knowledge management and dissemination
Business development (national level, local level)	Private sector RLBs	Business and revenue models to attract local players to invest and partner in sanitation and hygiene service delivery	Understanding the contract cycle Business management (business plan development, incl identifying revenue streams, cost sharing arrangements, market analysis) Sales and marketing Supply chain management Construction Understanding available tools and options for emptying, treating/reuse Health and safety	Interactive skills, communications/relationship building project management, computer skills

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