SANITATION IMPROVEMENT ACTION PLAN

A. Situation Assessment and Government's Plans and Activities on Sanitation Improvement

1. Efforts to improve rural sanitation in India date back to 1986 when the central rural sanitation program was launched. These efforts accelerated with the launch of the *Swachh Bharat* Mission (SBM or clean India mission) in October 2014, which aims to achieve universal sanitation coverage by eliminating open defecation and a cleaner environment by 2019. The mission focuses on (i) behavior change campaigns; (ii) enhanced cash support to households for toilet construction; (iii) solid and liquid waste management; (iv) integrated approaches for planning and implementing sanitation and water schemes; and (v) convergence with other programs, such as the Mahatma Gandhi National Rural Employment Guarantee Scheme. The Government of India and the state governments support the SBM through proportionate contributions. The mission implementation in West Bengal was adapted to the local context to enhance demand for sanitation. In West Bengal, SBM is known as Mission *Nirmal Bangla* (MNB*)*.

2. The state government is currently implementing intensive rural sanitation improvement programs under the MNB, focusing on the construction of toilets, so all districts in the state can be declared open-defecation-free (ODF) by October 2019 in line with the Government of India's national targets under the SBM. West Bengal is among the best performing in India as around 91.6% of its rural population have access to toilets, and four (out of 23) districts have already been declared ODF—Hooghly, Nadia, North 24 Parganas and Purba Medinipur. Three more districts—Bardhaman, Coochbehar, and South24 Parganas—are expected to achieve ODF status in 2018. As of July 2017, among the 3,349 *gram panchayats*[1] in the state, 1,963 (58%) were declared ODF. While three out of the four project districts have either been declared or are close to achieving ODF status, Bankura district needs a significant push to improve its sanitation and achieve ODF status. The Panchayats & Rural Development Department (P&RD) of the Government of West Bengal (GOWB), the agency implementing the rural MNB, is prioritizing its implementation in low coverage districts, such as Bankura. The GOWB has confirmed that it has adequate resources to meet the targets. However, lack of a regulatory framework for fecal sludge and septage management, awareness, and capacity building at local levels, are challenges still facing the state.

4**. Mission implementation arrangements.** The P&RD has constituted a dedicated office, headed by a mission director for the implementation of the MNB. The director has the support of a state coordinator and external technical experts in key tasks such as monitoring and evaluation. At the district level, *Zilla Parishads,*[2] headed by a nodal officer, are responsible for implementing the MNB through district management units set up for the mission, while a block development officer is responsible for the mission implementation at the block level and an executive assistant is responsible for implementation at the *gram panchayat*-level.[3] The Village Water and Sanitation Committee and the Village Health, Sanitation, and Nutrition Committee have the mandate to conduct information, education, communication (IEC), and intrapersonal communication, and for monitoring toilets construction within the villages.

5. **Mission components.** The paradigm for rural sanitation promotion recently shifted from exclusive support for toilets to the inclusion of 'soft' elements such as community awareness and

[1] *Gram panchayats* are governing bodies at the village level.
[2] District council.
[3] In schools, the focus is on provision of separate toilets for boys and girls.

behavioral change to improve the efficacy and sustainability of interventions. The SBM and MNB also support a mix of hardware and software components, which include, on the hardware side: (i) household toilets; (ii) community toilets; (iii) toilets for schools and pre-primary schools; and (iv) appropriate collection and treatment systems for solid and liquid waste management (SLWM). On the software side, they support and incorporate information, education, communication and behavioral change activities at all levels, including mass-media, intrapersonal communications at the household level, and social mobilization activities, such as community approaches to total sanitation and community-led total sanitation.[4]

6. **Toilet design and beyond toilets.** According to the census of India, 2011, the twin pit pour flush is the most used toilet configuration in rural West Bengal, while flush toilets connected to septic tanks are used by around 9.3% of the rural population.[5] Beside promoting twin pits and septic tanks, the mission also promotes alternative configurations such as bio-digesters, pre-fabricated toilets with calcium silicate board, textile reinforced concrete board and fiber-reinforced plastic board. Generic designs with specifications matching Indian technical standards were developed as a guideline for toilet construction. Toilets adopted and promoted in rural areas are mostly onsite systems, which lack established systems for adequate fecal sludge and septage management (FSSM) to ensure safe handling and disposal of excreta (solid and liquid wastes).[6]

7. **Households incentives and cost sharing for toilets.** The mission provides a ₹12,000 incentive[7] for the construction of individual household toilets.[8] The incentive is shared by the Government of India and the state government in a proportion of 60:40. A beneficiary contribution of ₹900 is expected either in cash or labor, to improve toilet ownership and sustainability. The share pertaining to the Government of India is deposited in the state mission account and then transferred to *Zilla Parishads*, blocks, *gram panchayats,* and finally, to the household account of individual beneficiaries.

8. **Motivating communities.** The mission supports community-led total sanitation and community approaches to total sanitation approaches for mobilizing communities and triggering demand for sanitation to achieve ODF status. These approaches are implemented with local authorities and nongovernment organizations' assistance, while key resource centers identified by the government across the state are in charge of building the nongovernment organizations' capacity.

9. **International agencies' support in sanitation improvement in West Bengal.** The United Nations Children's Fund (UNICEF) is the major international player supporting sanitation improvement in West Bengal. UNICEF's assistance includes: (i) consulting services to the state and the districts; (ii) workforce at the block and selected *gram panchayats*; (iii) development of guidelines, monitoring protocols, and communication materials; (iv) planning and supporting communication activities; and (v) ODF verifications. The World Bank is also assisting the mission

[4] Community approaches to total sanitation or community-led total sanitation approaches facilitates communities to conduct their own appraisal and analysis of open defecation and take their own action to become open defecation free.

[5] Government of India. Census of India. 2011.

[6] Absence of a fecal sludge and septage management system often results in inadequate excreta collection and disposal (e.g., manual emptying without protective equipment or indiscriminate dumping into the environment) which exposes communities and workers to pathogens and may substantially offset the health benefits of the toilets (open defecation-free status).

[7] The ₹2,000 is reserved as community incentive for enhancing water sources and supplies in the villages.

[8] The households not covered under the 2012 baseline survey or having defunct toilets funded under the previous sanitation programs are not eligible for the mission incentives but will be supported by other government schemes or funded through corporate social responsibility and funds from local political representatives.

through its two programs entitled *West Bengal Institutional Strengthening of Gram Panchayat Program and West Bengal Institutional Strengthening of Gram Panchayat Program II*, which has been supporting 200 *gram panchayats* in West Bengal.[9]

10. **Proposed planning by the Government of West Bengal.** Table A3.1 illustrates the state's 2017–2018 action plan for MNB, which aims to reach ODF status for all districts by March 2018.

Table A3.1: Mission Nirmal Bangla – State Open Defecation-Free Status and Targets

	Total	Open Defecation-Free as of 31 January 2017	Expected Open Defecation-Free as of 31 March 2017	Target for 2017–2018				
				Total for 2017–2018	April–June 2017	July–September 2017	October–December 2017	January–March 2018
Villages	42,959	15,721	14,571	11,803	3,013	3,949	3,166	1,639
Gram Panchayats	3,347	1,583	1,358	895	245	255	236	159
Blocks	341	265	72	96	26	26	21	23
Districts	20	4	4	4	1	0	1	0

Source: Government of West Bengal. 2017. *State Annual Action Plan: 2017–2018*. Kolkata. https://amrut.gov.in/writereaddata/saap/Saap17_20/WestBengal.pdf

11. The estimated funding requirements for implementing the 2017–2018 action plan is reported in Table A3.2.

Table A3.*2*: Mission Nirmal Bangla – Funding Requirement

Component	Unit	Funding Requirements (₹100,000)			
		Government of India's Share	State Share	Beneficiary Share	Total
Information, education, communication and capacity building	-	7,952.7	5,301.8	0.0	13,254.5
Individual household toilets	2,755,418	193,654.4	4,5018.7	24,206.8	346,964.2
Sanitary complexes	2835	3,402.0	1,701.0	567.0	5,670.0
Solid and liquid waste management	848	10,176.0	6,784.0	0.0	16,960.0
Administrative charges (2%)	-	3,181.1	2,120.7	0.0	5,301.8
Total (₹100,000)		**160,038.7**	**106,125.5**	**17,482.9**	**283,647.0**
Total ($ Million)		**246.2**	**163.3**	**26.9**	**436.34**

Source: Government of West Bengal. 2017. *State Annual Action Plan: 2017–2018*. Kolkata.

B. Major Gaps and Issues

12. **Solid and liquid waste management.** Implementing an effective and sustainable SLWM in rural areas remains one of the most important challenges of the mission. SLWM projects have been implemented in only in 154 out of 3,349 *gram panchayats* of West Bengal. Lack of funds for total village coverage and limited technical options, awareness, and capacity at local levels are some of the major issues facing SLWM. An important component of SLWM is FSSM.

[9] The World Bank. 2010. West Bengal Institutional Strengthening of Gram Panchayat Program. The World Bank. 2017. West Bengal Institutional Strengthening of Gram Panchayat Program II.

13. **Fecal sludge and septage management.** As toilets coverage improves under the SBM, the number of on-site sanitation systems such as pit latrines and septic tanks will increase in rural areas, requiring FSSM.[10] Inadequate FSSM often results in unsafe excreta collection and disposal, which exposes communities and workers to pathogenic hazards offsetting the health benefits from toilet use or the ODF status.[11] Overflowing septic tanks and irregular emptying, manual scavenging, and untreated sludge and/ or septage discharge into the environment are usual scenarios in the absence of adequate FSSM.[12]

14. The SBM is not addressing FSSM in rural West Bengal fully, and specific FSSM policies and regulatory mechanisms are yet to be developed for the state.[13]

15. The major challenges related to adequate FSSM in West Bengal are:[14]
    (i) poor awareness and policy gap;
    (ii) absence of full sanitation chain approach in excreta management—from emptying to transportation, treatment, and disposal;
    (iii) lack of equipment and infrastructure (e.g., emptying trucks, safety equipment, and dedicated treatment plants); and
    (iv) lack of formal players for collection and treatment of fecal sludge.

C. PROPOSED SANITATION IMPROVEMENT ACTION PLAN UNDER THE PROJECT

16. Based on the gaps analysis as outlined above and extensive consultations with stakeholders during the project preparations, this sanitation improvement action plan was prepared for the proposed West Bengal Drinking Water Sector Improvement Project (WBDWSIP) by the GOWB and ADB, and will assist the GOWB in addressing major awareness and policy gaps while providing a full sanitation chain approach to delivering safe excreta collection, transportation, and treatment (FSSM) services to prevent environmental pollution and improve public health. The sanitation action plan includes two major components: (i) developing safe and sustainable FSSM in West Bengal, including an FSSM pilot, sanitation safety plans (SSP),[15] and state FSSM guidelines; and (ii) capacity building, awareness raising and alternatives assessment, such as recommending alternative toilet configurations suitable for West Bengal's low-lying flood-prone areas. These outputs will be delivered through the ADB loan and the Grant Fund under the project, and also technically supported by the World Health Organization (WHO) in some aspects.

[10] Sewerage systems are generally not required for rural communities in West Bengal, such as project *gram panchayats*, which have low population density for sewerage systems to be technically viable.

[11] Absence of FSSM is informally referred to as 'delayed open defecation'.

[12] The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013 by which "hazardous cleaning" in relation to sewers and septic tanks is banned. The law now provides that manual cleaning of sewers and septic tanks, if necessary, may be carried out only in very controlled situations, with adequate safety precautions, and in accordance with specific rules and protocols for the purpose.

[13] At the national level, the Ministry of Urban Development approved a National Policy on FSSM in February 2017. The policy focus is on urban areas and guides on state and urban local body-level implementation. The policy also provides the framework for the preparation of a state-level FSSM plan and service level benchmarks for sanitation (which also covers on-site sanitation).

[14] S. Sugden. 2011. *Water for People*. India. Publisher; Government of India, Ministry of Urban Development. 2017. *National Policy on Fecal Sludge and Septage Management*. Delhi.

[15] The WHO has been promoting water safety plans (WSPs) since 2004 and, more recently, SSP. WSPs and SSPs are considered international best practice for assessing and managing public health risks from drinking water supplies and sanitation. Although not mandatory in ADB's projects, ADB promotes WSPs and SSPs in loans and grants as good practices to systematically assessing risks to drinking water safety and sanitation and ensuring that significant risks are mitigated to acceptable levels.

17. **Component 1: Developing safe and sustainable fecal sludge and septage management: fecal sludge and septage management pilot, sanitation safety plans, and state fecal sludge and septage management guidelines**. This component will target collection, transportation, treatment, and disposal of fecal sludge and septage in rural areas, which is a major gap in rural West Bengal and the SBM. It will specifically target *gram panchayats* close to urban or peri-urban areas where the use of septic tanks and FSSM related issues are relatively more urgent due to population density. This component will:

(i) **Design and implement a fecal sludge and septage management pilot**. With the support of project consultants, the PIUs will conduct consultations and surveys in the selected pilot area for identifying key information of sanitation systems such as the number of septic tanks, sizes, and volumes, emptying and disposal practices, and service demand.[16] Best design solutions for an FSSM pilot will be identified after conducting an assessment of the options and reviewing aspects such as land availability, suitability, life cycle cost, long-term operations and maintenance (O&M), and roles and responsibilities of the *gram panchayats* or private operators. Sampling of representative septic tanks will also be carried out to determine the sludge quality, effluent quality, and working conditions of the tanks. Detailed design and specifications will be prepared for the proposed collection, transportation, and treatment facilities in the proposed pilot area. The specifications will include capital cost, O&M, and cost recovery strategies. Business models for private sector involvement will also be explored through consultations with private operators, *gram panchayats,* and the state. Project consultants will support the implementation of the FSSM pilot including assisting with the preparation of bidding documents, procurement of works and equipment, monitoring of construction, and O&M for 1 year;

(ii) **Develop sanitation safety plans for fecal sludge and septage management pilot area.** This component aims to develop a model tailored to the West Bengal context and institutions for consistently assessing and mitigating significant risks of onsite sanitation, which will inform stakeholders on delivering safe and sustainable FSSM services. A national and an international consultant will conduct workshops, stakeholders' consultations, and develop the SSP for the FSSM pilot following WHO's methodology and technical support. The program will also support the implementation of the pilot;

(iii) **Document lessons learned from the pilot and sanitation safety plans.** The pilot FSSM and SSP experience will be evaluated and lessons documented in a series of publications, workshops, and videos for wider dissemination, targeting technical and non-technical audiences. These outputs are expected to provide the knowledge base for rolling out and scaling up the FSSM and SSP approaches through the state;

(iv) **Develop the fecal sludge and septage management guidelines for rural West Bengal.** Consistent with the National Fecal Sludge and Septage Policy and based on lessons learned from the FSSM pilot and SSP experience, the project will develop FSSM guidelines for rural West Bengal. The guidelines will be developed in consultation with P&RD and Public Health Engineering Department and will provide a roadmap and recommendations for rolling out FSSM through the state; and

(iv) **Build stakeholders' capacity for fecal sludge and implementation of septage management and sanitation safety plans.** Following the proposed FSSM guidelines and SSP, the project will develop capacity building strategies and training modules and conduct capacity building activities for project districts' sanitation workers, private operators, *gram panchayats, Panchayat Samitis, Zilla Parishads,* and senior officials of

[16] Pilot *gram panchayats* will be representative of drought and water-rich areas and different socio-economic conditions.

SBM on issues of current practices, gaps, and improvements required for adequate FSSM and SSP implementation.

18. **Component 2: Study and recommendations on alternative toilet configurations suitable for low-lying flood-prone areas in West Bengal**. Achieving sanitation coverage in low-lying areas that are prone to inundation remains a considerable challenge, as current experience in the state indicates. This component will support a consultancy for identifying suitable toilet models for rural households in low-lying areas. The consultants will examine the performance of the existing models and their shortcomings through field investigations and recommend alternate models based on appropriate technology options and experiences for similar contexts elsewhere across India and other countries. Alternative toilet models and designs will be documented, published, and disseminated jointly with the GOWB.

19. **Sustainability.** The sanitation improvement plan will be designed and implemented in close collaboration with key institutions such as the P&RD (SBM cell), *Zilla Parishads,* and *gram panchayats*, and will be in synergy with current SBM activities and scaling up plans. The FSSM guidelines for rural areas developed under the initiative will be the first of their kind in the state. The SBM may also replicate and scale up similar FSSM pilots in other *gram panchayats* under its SLWM component. *Gram panchayats* will be encouraged to levy appropriate service charges to meet and recover the O&M costs of FSSM.

20. **Cost Estimate.** Table A3.3 details tentative cost estimates for implementing the Sanitation Improvement Plan.

Table A3.3: Cost Estimate – Sanitation Improvement Plan

A. Works and Equipment		**$**
1.1	FSSM Pilot: collection, transportation, and treatment facilities, including O&M equipment, in pilot area	
	Equipment: Fecal sludge and septage collection trucks – 3 vacuum trucks	70,000
	Plant: Treatment facilities (excluding land cost) – 1 FSSTP	500,000
O&M		
2.1	1 year O&M (assuming 5% of capital cost)	35,000
Contingencies		
3.1	Physical	35,000
3.2	Price	20,000
Subtotal on Civil Works and Equipment, including O&M and Contingencies		755,000
B. Consultancy Support		
4.1	Consultancy support for designing and supervising the FSSM pilot; developing FSSM guidelines, knowledge product, assessment and recommendation of toilet options for low-lying areas prone to inundation.	100,000
4.2	Capacity building of sanitation workers, private operators, *gram panchayats*, blocks, *Zilla Parishads*, and officials of SBM	40,000
4.3	Workshops and consultations for sharing field findings, FSSM guidelines	30,000
4.4	Design and printing of guidelines (200 copies) and knowledge product	30,000
4.5	Travel, training, and communication	20,000
Subtotal		180,000
Total Investment		900,000

FSSM = fecal sludge and septage management, FSSTP = fecal sludge and septage treatment plant, O&M = operation and maintenance, SBM = *Swachh Bharat* Mission.
Source: Asian Development Bank estimates.