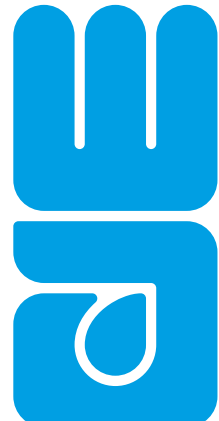




Strengthening Municipal Finance for Sustainable Sanitation Service Delivery in Small Towns of South Asia



Final Report
2021



ATHENA
INFONOMICS

WaterAid



This study was commissioned by WaterAid, coordinated by Partha Hefaz Shaikh, VR Raman, Govind Shrestha, Andrés Hueso, Vanita Suneja and Khairul Islam.

The research for the study was carried out by Athena Infonomics. The research team included local consultants in each country (Reza Iftekhar Patwary and Shamima Aktar in Bangladesh, Bhitush Luthra in India and Rajan Raj Pandey in Nepal) supported by a central secretariat team consisting of Deepa Karthykeyan, Ramkrishna Paul and Maya Gainer. The team was supported by Sanjaya Adhikary in an advisory role. The research team is thankful to Guy Norman for editorial support and Niranjana Ramakrishnan for design support.

We also thank the contribution made by the several individuals in the three countries who took part in the interviews and consultations during the field research. In particular, we would like to thank the Municipality officials across the six study towns and the teams who supported us with coordinating the field visits (team members from Bangladesh Association for Social Advancement and SNV Netherlands Development Organisation, Bangladesh for Sakhipur and Jhenaidah in Bangladesh; Administrative Staff College of India and Ernst & Young for Sircilla and Dhenkanal in India).



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List of acronyms

ADB	Asian Development Bank
ADP	Annual Development Programme
BASA	Bangladesh Association of Social Advancement
BDT	Bangladeshi Taka
BMGF	Bill & Melinda Gates Foundation
CWIS	Citywide Inclusive Sanitation
FSM	Faecal Sludge Management
kg	Kilogram
KLD	Kilolitres per day
KVWSMB	Kathmandu Valley Water Supply Management Board
MCC	Micro Composting Centre
MRF	Material Recovery Facility
NGO	Non-Governmental Organisation
ODF	Open Defecation Free
SHG	Self-Help Group
TSTWSSP	Third Small Towns Water Supply and Sanitation Project
USD	United States Dollar
VAT	Value Added Tax
WASH	Water, Sanitation and Hygiene
WUSC	Water Users and Sanitation Committee



Executive summary

Bangladesh, India, and Nepal have progressed significantly in extending basic sanitation; however, services beyond improving toilet access are still at a nascent stage. Delivering safe, inclusive sanitation services along the full sanitation value chain requires municipalities to make significant investments, and to raise, allocate and manage finance. Finance is required not only for the physical infrastructure, but also for operation and management in the long term, as well as to strengthen the capacities and institutional structures required to sustainably deliver inclusive sanitation services.

Across the three countries, municipalities struggle to raise and allocate adequate funds for sanitation. Own-source revenues, such as property taxes or licensing fees, make up a relatively small share of municipal budgets, due to both the limited tax base of small towns and political concerns linked to willingness to pay. Revenue streams directly related to sanitation – including user fees, sanitation taxes, and sales of by-products such as compost – are an increasingly important contributor to own-source revenues. Municipalities depend substantially on transfers from central or regional governments, particularly for capital expenditures. These intergovernmental transfers can be unpredictable, and a large portion of the funds are “tied” and must be used for specific activities that may not match local needs. Apart from the adequacy of funds for sanitation at the municipal level, there are also challenges related to limited capacity for planning and budgeting, particularly in small towns. This study aims to identify and document good practices in urban financing for sanitation services in small towns, based on six case studies: Jhenaidah and Sakhipur in Bangladesh; Dhenkanal and Sircilla in India; and Mahalaxmi and Birtamod in Nepal. The report explores how small towns have improved sanitation services and developed financing and governance structures to sustain these improvements over time.

In Jhenaidah, the combination of a sanitation tax and user fees has enabled the municipal government to sustain operational expenses and even set aside funds to

contribute to future investments. Despite struggling financially, Sakhipur has moved closer to sustainability over time through an integrated approach to solid and faecal waste management, and has demonstrated the potential of the sale of co-composted waste as a revenue source. Dhenkanal has adopted a similar approach, implemented through local self-help groups, and is generating additional revenue by offering desludging services to nearby villages. Sircilla has developed a medium-term sanitation plan, leveraging a state initiative that makes transfers more predictable, and has facilitated smooth implementation of the plans. Mahalaxmi has emphasised the planning process and guidelines for faecal sludge management, though carrying out its plans for infrastructure investments may take some time due to the challenges faced. Birtamod has adopted an innovative clustering approach by partnering with other neighbouring municipalities to jointly finance investments in treatment facilities for faecal sludge and solid waste.

As the case studies in this report illustrate, there are opportunities for small towns to sustain operations through own-source revenues, particularly when innovative financing approaches are backed by sound planning for both solid and liquid waste management and effective public outreach. Transfers from the central or regional government are required for any major capital expenditure, and these should be made more transparent and predictable to facilitate effective municipal planning processes. Several of the municipalities studied received funding and technical assistance from donors for pilot projects: this intensive support is very useful for creating new models, but it does not ensure scale-up and sustainability. The learning from these demonstration models should be incorporated into strong government-led technical assistance programmes, to be provided alongside intergovernmental transfers, to help municipalities identify relevant interventions, develop sustainable financing models, and strengthen their financial management capacity. Drawing upon the evidence from the study, this report provides recommendations for:

- Municipal governments to:
 - Explore multiple revenue streams
 - Identify opportunities to cluster services with neighbouring localities
 - Generate demand via public engagement.
- National and sub-national governments to:
 - Dedicate sufficient annual budget for municipal sanitation service provision
 - Ensure predictability, transparency and flexibility of intergovernmental transfers
 - Provide technical assistance to municipalities on financing strategies and service delivery



Introduction

Bangladesh, India, and Nepal have progressed significantly in extending basic services, but the safe management of faecal sludge is at a nascent stage. Particularly in small towns in the region, introducing and sustaining safe sanitation services is challenging due to factors including **a)** lack of funds for capital investments, **b)** a limited revenue base for sustaining operational expenses, and **c)** lack of adequate human resources and weak planning and budgeting capacity. Although sanitation is a municipal responsibility in all three countries, the mandate to deliver sanitation services is not always matched by fiscal resources or capacity, particularly in smaller towns.

Identifying innovative approaches to public financing for sanitation is also important in the context of COVID-19. Although the pandemic has highlighted the importance of water and sanitation to public health, the implementation of ongoing water and sanitation initiatives has been severely impacted, both by delays due to physical lockdowns and the subsequent economic downturn. As municipalities work to sustain and expand sanitation access with increasingly stretched resources, efficiency and innovation in financing is critical.

This study aims to identify and document good practices in the financing of sanitation services in small towns in three South Asian countries: Bangladesh, India and Nepal. This report discusses the contextual factors that influence the financing of sanitation in small towns and the financing models available to municipal governments. It then uses the examples of six small towns (Jhenaidah and Sakhipur in Bangladesh; Dhenkanal and Sircilla in India; Mahalaxmi and Birtamod in Nepal), to explore the financing mechanisms and municipal governance structures that make it possible to finance and deliver sanitation services sustainably over the long term.



Methodology

Following a qualitative research approach, the study was conducted in three phases. The inception phase (conducted between November 2020 and December 2020), focused on understanding the context of sanitation service delivery in small towns and identification of a longlist of possible cases. The research team reviewed secondary literature and interviewed representatives of key government agencies, technical assistance organisations and donors, among others, to gain an understanding of the sanitation situation in small towns across the region, and to identify examples of small towns that have addressed common challenges through innovative financing or service delivery models (see Annex 2 for the complete list of interviews). The selection of towns from the longlist was done using the Citywide Inclusive Sanitation (CWIS) framework¹: the towns shortlisted are making progress in **a)** building institutional structures that fulfil the three key CWIS functions of *mandate, accountability and resource planning and management* and **b)** achieving the outcomes of equity, safety, and sustainability. The selection of the study towns also was intended to include interventions across the value chain and cover a range of financing models, including service charges, sanitation taxes, reuse product sales, and private financing.

In the field research phase (conducted between January 2021 and February 2021), team members visited each of the six towns and interviewed stakeholders: municipal officials, private/non-governmental service providers, technical assistance organisations, and community groups. Interviews focused on **i)** sanitation interventions currently being delivered or planned, and the financial and management constraints associated with that, and **ii)** financing mechanisms for sanitation services, including various types of revenue stream, intergovernmental financial transfers and how municipal budgets and allocations for sanitation are determined. (See Annex 3 for the basic interview guide).

In the final phase (conducted between March 2021 and April 2021), the team analysed and documented the sanitation interventions, financial strategies, financial management practices, and key lessons learned from each of the six case studies.

Limitations of the study

This study is based on specific cases and is intended to provide lessons based on the experience of the six towns studied. It does not attempt to characterise urban sanitation financing mechanisms at the country level, both because of significant variation across towns in each country and because of data limitations. None of the three study countries has a centralised, publicly available database of the sources of financing for sanitation and how funds are spent at the municipal level, which has been highlighted as a priority for systems strengthening in the WASH sector worldwide². Some of the study towns were able to provide data on the percentage of their budget spent on sanitation and the share of funding from different sources, while others were not, and the level of detail available varied. Improving the transparency and accessibility of data on financial flows (for example through the World Health Organization TrackFin initiative, which is currently being piloted in Bangladesh, Nepal and two Indian states³) would be valuable for both governments and researchers, and should be a priority going forward.

The study was initially designed to explore the financing of various types of sanitation intervention, including solid and liquid waste management interventions (greywater and blackwater) and public toilets, in addition to faecal sludge management. However, based on the interviews with sector experts and town officials, it was noted that very few small towns have appropriate greywater management systems. As most of the shortlisted towns adopted innovative sanitation financing mechanisms for faecal sludge management, the case studies have focused mainly on this area.

The towns in Bangladesh and India have made significant progress in implementing solid waste and faecal sludge management improvements, while the towns in Nepal are still in the early stages of implementation. The two Nepal case studies present the existing and planned structures for financing and management of sanitation interventions, but information on implementation is limited.



Setting the context

Defining small towns

The definition of small towns and classification of areas as “rural” or “urban” varies across the three study countries.

From an administrative point of view, there is no concept of a small town in Bangladesh. Municipalities in Bangladesh are classified based on their financial capacity and revenue sources per annum. Municipalities with own-revenue per annum of BDT 10 million (USD 118,000) or more, excluding government grants or any assistance, are considered as category A; BDT 6 million (USD 71,000) to BDT 10 million is considered category B; and BDT 2 million (USD 24,000) to BDT 6 million is considered category C.⁴

In India, the Census defines towns with a population ranging from 5,000 – 100,000 as “smaller cities” (Class 2 cities to Class 6 cities), while the Planning Department of the Ministry of Housing and Urban Affairs defines small towns as towns with a population between 5,000 and 50,000, governed by a Nagar Panchayat or a Municipal Council.⁵

In Nepal, until the 2015 federal transition, small towns were defined as having a population of 5,000 – 40,000 and perennial access to roads, grid power, and telecommunications.⁶ Following the adoption of the federal structure, “small town” is no longer an official category in Nepal; these are now part of the larger category of “municipalities”.

Given the technical and administrative differences in defining small towns, for the purpose of this study, we adopt a common definition across the three countries, in order to ensure consistency, comparability and sharing of lessons. Specifically, we define “small towns” as those with a population of 5,000 – 100,000 as of the most recent census, conducted in 2011 in all three countries. However, we note rapid

urbanisation, and current population size is likely to be higher than 100,000 in some of the towns included in this study.

Sanitation services in small towns

Across Bangladesh, India and Nepal, sanitation services in small towns blend characteristics of rural and urban areas. Small towns may be sufficiently dense to offer some economies of scale and market opportunities for sanitation service providers, but are still too small and dispersed to support a conventional urban utility. In all three countries, municipalities have a mandate to deliver sanitation services, including solid and liquid waste management and provision of public toilets. However, in practice, households often bear a significant share of the costs and responsibilities for sanitation.

Strengthening small towns' delivery of water and sanitation services has been a priority of several recent initiatives supported by central governments and external donors such as the Asian Development Bank (ADB), World Bank, and the Bill & Melinda Gates Foundation (BMGF), among others. Some of these initiatives, such as the Small Towns Water Supply and Sanitation Project in Nepal, have focused primarily on water services, while others, such as India's Swachh Bharat Mission-Urban or BMGF's grant portfolio, have focused more specifically on sanitation. Several of the selected small towns have leveraged funding and technical assistance from these initiatives to pilot new technologies and service delivery models. However, municipal government interventions covering the full sanitation value chain are still relatively recent in all three countries.

Unlike larger towns, where a percentage of the population may be dependent on centralised, networked systems connected to a sewage treatment plant, most of the smaller towns in Bangladesh, India and Nepal do not have sewered systems or treatment facilities.⁷ The lack of treatment/disposal facilities in these towns results in disposal of faecal sludge and wastewater into the open environment. Experts interviewed noted that while there are a few towns with decentralised treatment systems, these are typically pilot projects implemented by NGOs and cater to only a small portion of the town's population. Similarly, with respect to solid waste management practices, most towns have progressed only in the door-to-door collection of solid waste from households. Segregation at source and adequate disposal is still a challenge. In addition to managing faecal sludge generated from household toilets, municipalities are also responsible for the provision of community and public toilet facilities. Across small towns, these facilities are either directly managed by the municipality in collaboration with local communities, or leased out to NGOs or private operators.

The most common types of containment in small towns are holding tanks and lined or unlined pits, rather than septic tanks that provide primary treatment. Most desludging services are provided without adequate environmental or worker safety measures. Manually handled tools and buckets are widely used, especially in smaller towns where mechanised desludging equipment is not available or cannot access households in areas with narrow roads.⁸ Regardless of the desludging method, most service providers are informal and do not receive oversight or support from the municipal government, despite recent mandates. In India, a standard operating procedure guide for cleaning sewers and septic tanks was developed in 2018,⁹ and some states have introduced initiatives to provide sanitation workers with protective equipment and other support.¹⁰ However, subcontracted or temporary informal workers remain exposed to high risks in manual sewer cleaning and septic tank emptying. Bangladesh and Nepal have adopted regulatory frameworks that include occupational health and safety provisions for sanitation workers, but these have largely not been put into practice.¹¹

Equity remains an under-addressed issue across the three countries. Where households are responsible for financing their own containment hardware and emptying services, poorer families may not be able to afford quality services or have no choice but to pay high prices to meet their sanitation needs. Several donors and experts in India and Bangladesh mentioned that due to the absence of subsidies for non-sewered sanitation services, residents of small towns may already be paying more per capita for sanitation services than residents of larger urban centres with centralised sewer connections. Although some towns (including Jhenaidah) have created mechanisms for poor and vulnerable households to receive subsidies for non-sewered services, this is not yet a widespread practice.

Financing sanitation in small towns

Across the three study countries, municipal financing for sanitation falls into two broad categories: own-source revenues and intergovernmental fiscal transfers. Own-source revenues raised by the municipal government may include revenues directly related to sanitation, such as user or licensing fees, sales of reuse products like compost, or dedicated sanitation taxes. In addition, municipal governments can allocate own-source revenues generated through other taxes and fees to sanitation services. In all of the towns studied, municipalities are highly dependent on intergovernmental transfers to supplement own-source revenues. These transfers can come from a central or regional (State or Provincial) government and may be either tied (required to be spent on specific activities) or untied (able to be spent on any activity selected by the municipal government). Donor agencies are also active in the three countries, funding a mix of demonstration projects in specific cities and towns and large-scale projects administered through central government agencies.

In Bangladesh, municipalities' main own-source revenue stream is property taxes (referred to as "holding tax"), with additional revenue generated by fees for services such as issuing licenses or providing birth certificates. However, several experts noted that these make up a relatively small share of overall municipal budgets. As one technical assistance partner noted, *"Earning from holding tax is not sufficient for municipalities to manage their expenses. They depend on central government allocation."* Approximately 15–20% of the 2019–20 Local Government Division fiscal budget was made up of untied transfers to municipal governments.¹² Under this, the main mechanism for tied transfers from the central government to municipalities is the Annual Development Programme, which allocates central government funding to a set of approved projects.

Indian municipalities generate own-source revenues mostly through property taxes. While municipalities in India assess the tax amount based on location, property size and other factors, they do not have full control over the tax rates, as the power to determine property tax bands ("slabs") rests with the state government. Other own-source revenue streams may include market fees or licensing fees. The main mechanism for intergovernmental transfers is the Finance Commissionⁱ, which allocates funding from the central government to states based on population, and this funding is then distributed by state governments to municipalities. Finance Commission funds include both tied and untied transfers. Currently, of the total 15th Finance Commission (2021–26) funding recommended for municipalities with populations less than one million, 30% is allocated for drinking water, 30% for sanitation, and the remainder is flexible.¹³ The grants are divided into basic and performance-linked categories. The basic grant, which is 80% of the total amount, provides unconditional support to municipalities for provision of civic services including water and sanitation. Municipalities scoring well on performance criteria, including increases in own-source revenue and water and sanitation service benchmarks, can access additional performance-linked grants. In addition to the central Finance Commission, the constitution of India recommends that a State Finance Commission should govern the transfers made to local governments by the state; however, this is not operational in most states.¹⁴ State transfers to municipalities are mostly administered by either the State Urban Development Department or the Directorate of Municipal Administration. The central government also allocates funding through sector-specific "schemes" such as the Swachh Bharat Mission, which focuses on sanitation, and the Atal Mission for Urban Rejuvenation and Transformation, which funds urban infrastructure including water supply, sewerage, septage management and drainage (focusing on towns with a population of at least 100,000 as of the 2011 census). Funds from these schemes are allocated to

i The Finance Commission is a constitutional body formed every five years to give suggestions on centre-state financial relations. Each Finance Commission makes devolution recommendations, particularly on sharing of central taxes with states and distribution of central grants to states.

state governments, which add the project-specific state contribution to the central transfer amount and disburse the final amount to municipal governments.

Nepal's municipal governments, which were established as part of the country's federal transition in 2015 and first elected representatives in 2017, are early in the process of building up revenue generation capacity. The primary source of municipal own-source revenues is the property tax, which is calculated based on factors such as building size and proximity to roads. However, in fiscal year 2018, own-source revenues made up only about 5% of urban municipalities' budgets.¹⁵ Municipal governments receive most of their budgets from intergovernmental transfers from the federal and provincial levels. In fiscal year 2020-21, transfers to the local level made up 17.8% of the federal budget.¹⁶ The federal Equalisation Fund distributes untied funding to municipalities based on their population; however, 84% of the federal WASH budget is tied ("conditional funds").¹⁷ Conditional funds create a pool of resources for specific activities, and municipalities interested in carrying out those activities can apply to the Ministry of Federal Affairs. If approved, the amount allocated is determined by the size of the municipality's population.

Across the towns studied, intergovernmental allocations to sanitation are required to meet the capital expenses for sanitation infrastructure, while operations and maintenance expenses are financed by intergovernmental transfers, own-source revenues, or a mix. To ensure the long-term sustainability of sanitation services, municipalities need to identify adequate and predictable sources of finance at the local level. Supplementing intergovernmental transfers and municipal revenue sources such as property taxes with revenues directly related to sanitation (such as user fees, sanitation taxes or product sales) is an important contributor to financial sustainability, as illustrated in the case studies.

Common financing challenges

Many municipalities across Bangladesh, India, and Nepal struggle to raise adequate own-source revenues. A limited municipal tax base means many small towns cannot raise enough revenue to cover all of their recurring expenses, let alone finance investments. For Bangladesh and India in particular, experts noted that in addition to the small revenue base, capacity for collection is very low. In Nepal, the recently created municipal governments are still relatively early in the process of developing their revenue collection capacity.

Apart from the limited tax base and poor collection efficiency, political considerations may limit revenue collection. In Bangladesh, numerous experts noted that political motivations can keep municipal tax rates low. As one put it, *"The elected Mayor always tries to keep [the holding tax] lowest so that the citizens will be happy and elect him in the*

next election. So, earning from holding tax is not sufficient for municipalities to manage their expenses."

In addition to reluctance among municipal leaders to impose taxes, citizens' willingness to pay taxes or fees present a problem. A lack of confidence in municipal governments' capacity to deliver reduces residents' willingness to pay for new services or investments, whether through existing taxes or new sanitation-related fees. *"If services are not good, they don't want to pay even if they are able to pay,"* an interviewee in Nepal said. In addition, residents may not be convinced of the importance of the problem. In Bangladesh and Nepal, several interviewees mentioned a lack of awareness of the need for safe sanitation services (beyond ending open defecation) as contributing to low willingness to pay. However, as an expert who works with local governments mentioned, this can be overcome by communicating with the public and demonstrating good performance: *"Users have the ability and willingness to pay if they are assured that the municipality will provide sanitation services to them... if people can be provided service and motivated, they will pay."*

With limited own-source revenues available, small towns depend heavily on intergovernmental transfers. However, interviewees in all three countries noted that the size of transfers was unpredictable from one fiscal year to the next, making it difficult for municipalities to plan ahead. For example, in the case of India, one expert observed that municipalities *"don't know how much money they will get till the end of the year. So, there is no budgetary allocation or planning."* As higher levels of government set funding priorities, relationships can play a role, increasing the uncertainty and leaving less-connected municipalities behind. This challenge was particularly significant in Bangladesh, where an interviewee observed, *"there is always a competition between municipalities to advocate their individual city needs to the central government for budget allocation,"* and several others noted that political connections influenced funding allocations. However, this issue also arose in interviews in India and Nepal.

In India, municipalities' reliance on tied funds shifts significant control over their budget priorities to state and central governments. According to one expert, *"they rely on state grants for their finances, because they don't have any local sources... a lot of the grants that come from above are scheme based, and schemes mean that you have to spend it in a certain way."* Another Indian expert added, *"Unless and until the state decides the top priorities, they will adopt the incremental budgeting model, what has been done in the last year ... Budgeting is defined by the priorities set by the state."* In Bangladesh, an interviewee pointed out a similar problem, with priorities shaped by donors rather than higher levels of government: *"Municipalities receive some sort of funding from donors or government like vacutugs or faecal sludge treatment plant*

construction support. Unfortunately, most of this funding is done without any business plan... Resources are just handed over to municipalities without proper capacity building support.” This issue was less prominent in Nepal, although one donor expressed similar concerns.

Across all three countries, limited capacity for planning and budgeting at the municipal level adds to the financing challenges. According to one Indian expert, *“there is absolutely zero planning for many things... there is pressure to spend the money, they know how to spend money on assets and things like that and hence, they will do that. And money is usually spent in a very misaligned manner. They don’t know what they need, so they’ll just end up buying whatever is available.”* Similarly, in Bangladesh, a technical assistance partner said, *“municipalities don’t have any city sanitation plan. So, they actually don’t know where to invest.”* In the case of Nepal, *“due to a lack of proper planning, the resources haven’t been able to [be] utilised properly,”* one interviewee said. Another added that in Nepal, *“most of the Palikas [municipalities] don’t even have a master plan. Budget programs are not developed by targeting or focusing on plans.”* The small size and limited capacity of municipal administrations across the three countries means most staff time is spent on ad hoc daily activities and limited time is spent on strategic thinking, planning and monitoring. Without adequate staff time, technical knowledge, and long-term budget predictability, small towns cannot develop a vision and budget for short, medium, and long-term investments and service improvements, particularly in technical areas such as sanitation.

The combination of these factors creates a low-revenue, low-service equilibrium in small towns. The municipal government lacks the resources to deliver reliable, high-quality sanitation services or improve its technical capacity, and the absence of these services increases residents’ reluctance to pay because they do not have the confidence that their contributions will be used effectively. Moving to a new equilibrium of high-quality sanitation services financed in significant part by locally generated revenues is a challenge that often requires a combination of strong political commitment, innovative approaches, and technical and financial support. Documenting the financing strategies that some of the small towns have demonstrated to achieve improved sanitation service delivery is the focus of the case studies.



Case studies

The six small towns selected for this study were chosen to highlight a variety of sanitation financing and governance mechanisms across Bangladesh, India and Nepal. The towns vary in the extent to which sanitation interventions have been implemented, the extent of external financial and technical support, and their capacity to sustain sanitation service delivery. While most small towns in the region lack the external support that these six small towns have received, these case studies offer lessons on public financing strategies and governance mechanisms that can help other small towns sustainably finance and deliver sanitation services. Summary tables comparing the towns' sanitation interventions and financing mechanisms can be found in Annex 1.

01/ Jhenaidah, Bangladesh

Overview: Jhenaidah (population 188,822)¹⁸ is a Category A municipality located in Khulna division in southwest Bangladesh. Jhenaidah has been an early adopter of faecal sludge management (FSM) practices in Bangladesh and is a leader in the adoption of new financing models such as a sanitation tax and engaging private operators for emptying services. The town relies entirely on on-site sanitation systems, with only 35% of containment units considered environmentally safe as of 2014.¹⁹ Emptying and transport services are delivered mostly by informal manual emptiers, but the municipality now delivers emptying services to approximately 20% of the population through a contract with a formally constituted private operator. Faecal waste is treated at a municipal faecal sludge treatment plant with a capacity of 40 kilolitres per day (KLD).

Sanitation Interventions: Jhenaidah is the first municipality in Bangladesh to construct a faecal sludge treatment plant, using land available near the city landfill, with funding from the Department of Public Health Engineering under the Secondary Towns Water Supply and Sanitation Sector Project funded by the ADB.²⁰ Jhenaidah also received a desludging vehicle from the Local Government Engineering

Department under the Second Phase of the Urban Governance Infrastructure Improvement Project funded by the ADB. However, initial demand for FSM services was low. Households made very few emptying requests, and the desludging vehicle was either idle or rented out to nearby towns, to empty containment units at public institutions such as government offices or schools.

In 2014, Jhenaidah was selected for an FSM project funded by BMGF and implemented by SNV Netherlands Development Organisation. It was chosen based on the existence of a treatment site and desludging services, as well as strong interest in FSM from the municipal leadership. The project included an upgrade of the faecal sludge treatment plant, provision of two new desludging vehicles, and technical support to the municipality for developing a fee structure and business model and creating demand.

Promotion of FSM services was a key element of the project. The municipal government and SNV carried out consultation meetings in each ward, the lowest administrative unit of the town, to raise awareness and determine desludging fees, and used events like World Handwashing Day and World Toilet Day to encourage safe emptying. They also organised “block desludging”, in which the municipality and SNV conducted a promotional campaign in specific blocks or wards, registered desludging requests, offered incentives for desludging on a specific day, and mobilised desludging vehicles to serve households in a particular location on the designated day, which both increased visibility of the service and minimised fuel and transport costs.

As demand for desludging services increased, the four-person municipal Conservancy Department struggled to manage the requests in addition to their other responsibilities. Increased usage of the desludging vehicles also led to frequent breakdowns and repairs, occasionally resulting in losses for the municipality. In 2018, the municipality decided to contract a private operator, the AID Foundation, to provide desludging services and manage operations and maintenance of the treatment plant. Approximately 20% of households now desludge using the mechanical services, while the remaining 80% continue to rely on manual emptiers because the containment systems are either inaccessible to desludging vehicles (mainly due to narrow roads) or because the containment system is not suitable for desludging by the vehicles.

Financing Strategy: Jhenaidah finances sanitation service delivery using several revenue streams: registration fees for emptying, emptying fees, and a sanitation tax. AID Foundation collects an annual registration fee of USD 13.6ⁱⁱ for septic tanks and USD 6.8 for pit latrines, which is valid for one year from the first trip. These fees are

ii 1 US Dollar = 84.5 Bangladeshi Taka

transferred to the municipal government. Customers also pay a separate fee for each trip (for septic tanks, USD 6 for the first trip, 4.70 for the second, and 3.50 for the third; for pit latrines, USD 4.70, 3.50 and 3.50), which is retained by the AID Foundation to cover operations and maintenance. Households that cannot afford the fees can make a request to their Ward Councillors for a subsidised rate. The Foundation's costs include salaries for a driver, two emptiers, and a treatment plant caretaker, additional per-trip incentive payments for the desludging team, fuel, and routine maintenance. These expenses are covered by the trip fees and AID Foundation makes an annual surplus of USD 1420.

In contrast to operations and maintenance, capital expenditure for Jhenaidah's faecal sludge treatment plant and desludging vehicles to date has been provided by the central government and external donors (ADB and BMGF). SNV has also made some contributions to support major repairs of the desludging vehicles.

To help finance future sanitation investments, Jhenaidah introduced a sanitation tax in 2017. This has been implemented under the purview of the Local Government (Paurashava) Act, 2009 and later reinforced in the institutional and regulatory framework, which states that the municipality can impose a sanitation tax as per the tax schedule released by the Local Government Division. The tax is calculated in the same way as the property tax and other municipal taxes, and the rate is currently 12% of the property tax for institutions, and 5% for residential buildings. The municipality plans to increase the residential rate to 12% over several years. Although the municipal government has been able to save some revenues from the sanitation fees and sanitation tax to contribute to co-financing, a municipal government official noted that *"large investments like construction of treatment plants and purchase of desludging vehicles will always need assistance from our government or development partners."* The mayor encourages his team to actively pursue opportunities to access central government funds for building infrastructure and facilities, but intergovernmental transfers are often not planned and uncertain, especially since Jhenaidah's progress in sanitation has made it a lower priority for central funds. The mayor also advocates directly with development agencies for new sanitation projects in the town and hopes that the potential for co-financing from municipal sanitation revenue will help attract new projects.

Financial Management: The AID Foundation is responsible for collecting both registration fees and trip fees, including sales tax ("VAT" in Bangladesh). Each month, the Foundation provides a cheque for the total collection of registration fees to the municipality, while keeping the trip fees to cover their costs and make a surplus. At the end of the month, the AID Foundation submits its total costs, revenues and an operations log with the cheque to the municipality. The registration fees are deposited in a dedicated municipal account for sanitation, while VAT collected on registration fees is deposited to the municipality's central registry. If funds from the

municipality are required for major repairs, the AID Foundation can make a request to the municipal government.

The municipal government collects the sanitation tax directly from households, and the revenues are allocated to the dedicated sanitation account. This account is intended to be ring-fenced to finance contributions towards major repairs of the desludging vehicles, purchase of new vehicles, and co-financing of large sanitation investments. However, in practice it has occasionally been used for other expenses at the discretion of the mayor and municipal council, such as payment of sanitation workers' salaries when there was a shortage in the central fund. The municipality has a three-person accounting team that is responsible for expenses and revenue management for the entire municipality. There is an annual audit as per the municipal operational guidelines. Both the emptying fees and sanitation tax rates were determined with extensive technical support from SNV, to assess the costs of service provision and the amount of revenue necessary to sustain the services.

Jhenaidah Lessons Learned

Jhenaidah offers an example of the revenue potential of FSM services, particularly in combination with strong municipal leadership, public engagement, and efficient mechanisms to structure operations and maintenance.



Small towns can generate significant own-revenue: Jhenaidah has made a strong effort to generate revenue from multiple sources, to support its sanitation initiatives. The municipality and AID Foundation collect sufficient revenue to cover operations and maintenance of the desludging vehicles and faecal sludge treatment plant, generate a surplus for the private operator, and save funds for major repairs and partial co-financing of future investments. However, capital expenditure to date has been supported by the central government and donors, and this support likely needs to continue.

Creative solutions are necessary to deal with municipal staffing issues: Often small towns do not have the technical or financial capacity to sustainably provide sanitation services. In Jhenaidah, the town has reduced the administrative burden on the municipality's small Conservancy Department staff, limited requests from customers for subsidised fees, and saved on staffing by contracting FSM operations to the AID Foundation. The municipality now plays an oversight role, including spot-checks and monitoring of customer satisfaction.

Technical assistance on financing strategies and service delivery is valuable: Technical support from SNV played a critical role in Jhenaidah's sanitation improvements. Initially, the faecal sludge treatment plant and desludging vehicle were underutilised, and the municipality only succeeded in increasing safe practices and generating revenue once the investments in hardware were paired with SNV-supported efforts to create demand and develop a business model. While this kind of intensive technical assistance, funded here by BMGF, is not very scalable, municipal officials are confident about carrying forward the sanitation services themselves, financed by taxes, registration fees and emptying fees, once the technical assistance ends.

Public engagement is very important: Public outreach has been critical to Jhenaidah's progress in sanitation, and particularly to its ability to raise revenue. While the town currently provides emptying services to only 20% of the population, the sanitation tax is levied on all properties in the town. This was made possible by a series of consultation workshops and outreach activities. To date the municipality has not had any difficulties around compliance with either the tax or the fees, and lower-income households can make requests for subsidised fees. Extensive promotional activities were critical to create demand for desludging services, which eventually positioned the municipality to develop a contracting arrangement with the AID Foundation. The municipality is optimistic that it will be able to incrementally extend services to the rest of the town.

02/Sakhipur, Bangladesh

Overview: Sakhipur (population 30,028)²¹ is a Category A municipality in Bangladesh, located roughly 80 kilometres northwest of Dhaka. The municipality generates close to 10 tonnes of solid waste per day and approximately 15 KLD of faecal sludge. The town relies entirely on onsite sanitation systems, with 95% of the toilets connected to pit latrines and 5% connected to septic tanks. 50% of households with pit latrines have emptied them at least once, as have 90% of households with septic tanks. All septic tanks in the town are mechanically emptied, compared to only 38% of the households with toilets connected to pit latrines. Mechanically emptied faecal sludge is disposed at the treatment plant. 43% of faecal waste generated in the town is safely managed.²² Sakhipur has been presented as a model for improving sanitation services in Bangladesh, including formalisation of FSM and introduction of co-composting of organic and faecal waste.

Sanitation Interventions: In 2015, Sakhipur constructed a co-treatment plant for faecal sludge and kitchen waste with technical and financial assistance from WaterAid Bangladesh and implementation support from the Bangladesh Association of Social Advancement (BASA). Although land availability was a challenge, the mayor donated personal land for the faecal sludge treatment plant. Construction was financed by WaterAid, at a cost of USD 118,000. WaterAid and BASA have also supported the purchase of two desludging vehicles with capacities of 400 and 1000 litres. On-demand desludging and operations and maintenance of the treatment plant is carried out by the municipality, which has trained members of low-income communities to operate the desludging vehicles and run the treatment plant. Due to the stigma associated with sanitation work, staff turnover presented a challenge at first, but occupational health and safety measures and reliable income have resulted in a more stable workforce.

Initially, collecting the organic waste required for co-composting was difficult, because when the plant was constructed, Sakhipur had no solid waste collection system. BASA assembled a garbage truck (locally manufactured, mounted on a tractor engine) and contracted teams of people to collect organic waste from the markets, which was purchased for USD 0.01 per kilogram (kg) to ensure adequate supply for co-composting at the plant. In 2018, the municipality introduced solid waste collection for households and contracted a private partner, Joha Enterprise, to collect household waste and bring it to the treatment plant.

The municipal government has played a leading role in raising public awareness and demand for water, sanitation and hygiene (WASH) services, supported by community volunteer teams trained by BASA. Councillors and municipal officers often directly reached out to the communities to invite them to join WASH knowledge sharing events, facilitate subscriptions for solid waste collection, or assist in placing requests and making payments for desludging. WASH awareness and education activities in 9 communities and 5 schools are supported by WaterAid with direct involvement of the municipality.

Financing Strategy: The municipality collects desludging fees of USD 6 per trip for the 400-litre vehicle and USD 12 for the 1000-litre vehicle. The fees have been increased over time in consultation with residents, from USD 4.70 per 1000 litres to the current USD 12. According to the municipal government, the desludging vehicle is in high demand and typically makes one or more trips per day, generating an average monthly revenue of USD 710.

For solid waste collection, Joha Enterprise initially charged a monthly fee of USD 0.35 per household, which was later increased to USD 0.70. At first, the municipality (funded by WaterAid) paid Joha Enterprise a monthly subsidy of USD 71, but as the number of household subscriptions to the service increased, the subsidy was

discontinued. The company now serves more than 900 households with solid waste collection services and provides several trucks of solid waste to the treatment plant for free. In exchange the enterprise expects continued municipal support for the occupational safety and health of the garbage truck workers, and support for promotional activities to generate more revenues from solid waste collection. The municipality earns an average of USD 3,850 annually from the sale of compost produced at the co-treatment plant. The “Sakhi Compost” is sold to local farmers through a partnership with the Department of Agricultural Extension, which provides stable demand for all 18 tons of compost produced each year. In addition, the municipality charges fees to visit the co-treatment plant, which is widely viewed as a model, resulting in additional revenue of USD 1,905 in 2020.

The municipality’s costs include USD 355 per month for supplies and minor maintenance, and USD 497 per month for salaries for the treatment plant staff and desludging vehicle operators. The town generates yearly revenue of USD 14,275 from the emptying fees, sale of compost and plant visiting fees. While the revenue generated is more than the town’s operational expenses, over the past few years, the town also had to spend USD 6,000–8,000 on capital infrastructure-related maintenance including repair of desludging vehicles, compost turner machines, and repair/(re)construction of the treatment plant. BASA officials indicated that the revenues earned from the emptying service and co-composting plant are not sufficient to cover costs and a 30% subsidy is still required from BASA, though the dependence has gradually been decreasing. BASA has committed to support Sakhipur Municipality for another four years, which will provide some time for the municipality to raise more revenues to sustain operations. A sanitation tax is one of the main options under consideration by the municipality to increase its revenue. Alternatively, the town also explored the option to increase the capacity of the compost treatment plant with the goal of generating more revenue from compost sales, but later the idea was dropped following a financial and market assessment.

Financial Management: Sakhipur Municipality is struggling financially, particularly due to COVID-19. Taxes and license fees, the key own-source revenue streams, have been significantly affected by COVID-19. A large part of the municipal revenues is needed to support salary costs, and the municipality is clear that it will require external support for any future capital expenditure. Donor funding and intergovernmental transfers are important sources of financing for the municipality. WaterAid and BASA in particular have played a critical role in supporting sanitation expenditures. Currently, BASA with support from WASTE Netherlands is also supporting Sakhipur to promote private sector participation to achieve integrated and sustainable municipal solid waste management services. As a Class A municipality, Sakhipur is also eligible for funding from the central government’s Annual Development Programme (ADP), which allocates funding to municipalities

based on their need and capacity to implement, primarily for infrastructure construction. While Sakhipur has already requested that the Local Government Department supply a desludging vehicle under the ADP, the town has not yet received any confirmation.

The municipality is responsible for financial management, although BASA has provided guidance on issues such as planning and recording expenses and preparing updated financial statements through an annual Citywide Inclusive Sanitation Planning exercise. Based on the identified needs, the municipality submits requests for government transfers and for contributions from BASA. All contributions from BASA are transferred by cheque to the municipality account, including revenues from desludging services, compost sales and entry fees to the treatment plant. The payments to the workers and others are completed by the accounting department at the municipality.

Sakhipur Lessons Learned

Despite its financial challenges, Sakhipur has made progress toward sustainable sanitation services and inspired other municipalities to adopt integrated solid and faecal waste management.

Municipal own-revenues are significant but not yet sufficient:

Sakhipur has relied heavily on funding from BASA and WaterAid and expects to require support for another four years. Although the municipality generates some revenue from desludging fees and compost sales, it is currently covering only 70% of the costs of service delivery. As a small and financially struggling town, Sakhipur also does not generate sufficient revenue from other sources, such as taxes or licensing fees, to finance the remaining 30%.

Intergovernmental transfers are not seen as a reliable option to fill the gap: although Sakhipur is eligible for Annual Development Programme (ADP) funds, these are primarily for infrastructure construction, and the municipality also has to compete to be awarded projects.

Collaboration with local stakeholders has played a key role:

Integrating faecal sludge and solid waste management and collaborating with Joha Enterprise and the Department of Agricultural Extension has created an effective business model for Sakhipur's co-compost. While the municipality initially provided a subsidy to Joha Enterprise to kickstart the collection process, as the capacity of the enterprise improved and subscriptions to the service increased, the subsidy was phased out. Joha Enterprise now

provides a stable supply of organic waste for co-composting. Additionally, the partnership with the Department of Agricultural Extension, which markets the compost to local farmers, assures sales of the entire 18 tons of co-compost produced at the treatment plant at a price of USD 0.22 per kg. The “Sakhi compost” has become well-known among local farmers for its quality and is in high demand. Although sanitation services overall are not yet fully recovering costs, these partnerships provide a valuable revenue stream for the municipality.

03/Dhenkanal, India

Overview: Dhenkanal, located in the central region of Odisha State, is a small town with a population of 67,158 as of the 2011 census. Discussing the town’s success in improving both solid and liquid waste management, a state official mentioned that Dhenkanal is often seen as the *“torch bearer for other smaller towns”* in the region for sanitation interventions. Dhenkanal municipality is responsible for the provision of public and communal toilet facilities, solid waste management and faecal sludge management. In addition, the municipality also provides support to households for individual toilets, approves building plans including the toilet structure, and manages drainage systems.

Sanitation Interventions: Access to sanitation increased significantly between 2017, when 34% of households practiced open defecation, and 2020, when Dhenkanal was certified ODF.²³ Dhenkanal currently has 23 operational public toilets, compared to only four in 2017. The town is entirely dependent on on-site sanitation systems, with 62% of households dependent on pit latrines and 38% using toilets connected to septic tanks.²⁴ The municipal government operates three desludging vehicles to collect and transport faecal waste generated from the on-site sanitation systems to a faecal sludge treatment plant, which was constructed in 2018 and is designed to handle 27 KLD of faecal waste. As of January 2021, the treatment plant was operating at 41% capacity. In February 2021, the town started accepting faecal sludge from 17 nearby *Gram Panchayats* (covering 95 villages) within 10 kilometres of the town. Dhenkanal district is one of the first in the country to demonstrate this urban-rural convergence for the treatment of faecal sludge.

The town generates close to 1,500 kg of organic waste and 1,000 kg of non-compostable waste per day. In 2020, the town established six Micro Composting Centres (MCCs) and a Material Recovery Facility (MRF) under the ‘Mo Khata’ (My Compost) programme.ⁱⁱⁱ Dried faecal sludge from the faecal sludge treatment plant is mixed with organic waste at the MCCs to produce compost.

iii The ‘Mo Khata’ initiative was launched as a ‘wealth from waste’ project for optimum utilisation of bio-degradable waste in the state through decentralised micro-composting centres.

Financing Strategy: In the 2019–20 financial year, 6% of Dhenkanal's total budget was from own-source revenue, while the remaining 94% was from state and central transfers. Own-source revenues included collection of property taxes, renting of market areas and other activities. Revenue generated from sanitation services includes desludging fees and public toilet leasing revenues. During the financial year 2019–20, 17% of the total revenue generated was allocated for sanitation-related expenses. User fees from solid waste management services, desludging fees from neighbouring villages and sales of compost are very recent additions to own-source revenue generation.

The municipality is entirely dependent on intergovernmental transfers and donor funds for capital investments for solid and faecal waste infrastructure. Capital expenditures for desludging vehicles, battery-operated vehicles for collecting solid waste, public toilets and the MRF/MCC facilities have been financed by state transfers. For the faecal sludge treatment plant, the municipality received funding of 400,000 USD^{iv} from BMGF. This investment represents almost 10% of the total 2019–20 fiscal budget, and municipal officials noted that small towns with a population of 100,000 or less can at best allocate 3–5% of their total municipal budget for the capital investment required for setting up a treatment facility, meaning external support will be required for any similar investments. For operational expenses, the town relies entirely on the revenue generated from the sanitation interventions. According to municipal government representatives, the revenue generated from sanitation is primarily ring-fenced for sanitation activities and for the payment of the sanitation workforce salaries.

The municipality collects a desludging fee for removing faecal sludge from the households. The town charges a fee of USD 13.79 per trip for emptying containment units of residential buildings and USD 20.68 for non-residential buildings. While these are the rates for providing services within the town, the municipality charges USD 17.23 per trip for the provision of desludging services to the neighbouring rural areas. For the 2019–20 financial year, the municipality generated an average monthly income of USD 2,208 from desludging fees. The revenue generated from desludging fees is primarily used to pay the salary of the Self-Help Group (SHG) members who operate and maintain the faecal sludge treatment plant and manage the desludging vehicles: there are ten members who receive a combined monthly salary of USD 1,792. The remaining surplus from the desludging fees and the sale of compost is utilised for fuel, repairs and maintenance of the desludging vehicle; and for operations and maintenance of the treatment plant, including power consumption, protective equipment and other activities.

User fees and compost sales from solid waste management are an emerging revenue source for Dhenkanal, and municipal officials believe they will be able to

^{iv} 1 US Dollar = 72.56 Indian Rupee

generate close to USD 15,700 per month from solid waste user fees and processing the solid waste generated in the town. The town is optimistic about this estimate because a similar model has been successfully implemented in the nearby town of Paradeep.²⁵

User fees are based on building size, ranging from USD 0.58 to USD 1.24 per month. The compost generated from solid waste (co-composted with treated faecal sludge) is sold at USD 0.14 per kg by the municipality to the Forest Department, which uses it as a fertilizer for non-food bearing trees. There is a government order published by the State Housing and Urban Development department facilitating this transaction. The reusable non-biodegradable waste is sold to ragpickers at USD 0.069 per kg, while the non-reusable items are sent to the cement factory. The state government in compliance with the National Green Tribunal has passed a Government Order stating that all municipal plastic waste that cannot be further recycled is to be sent to the nearby cement plants for burning in their kiln.

Operations and maintenance of a few public toilets in the town is done by the Indian NGO Sulabh International. The toilet blocks constructed by the Municipality with funding support from the state government are leased out to Sulabh and the lease is renewed after every five years. User fees at these blocks are determined by Sulabh in consultation with the municipality.

Financial Management: Dhenkanal's approach to sanitation service delivery relies heavily on local SHG members, which has helped the municipality keep costs low and provide livelihood opportunities. In 2015, when the State distributed desludging vehicles to towns, a Government Order was released requiring urban local bodies to engage private operators for the operations and maintenance of the vehicles. After several unsuccessful attempts to engage private operators, the municipality contracted Blue Water Company, a social enterprise, without requiring the security deposit originally specified by the State. This provided a transitional period for SHG members to learn to operate and maintain the faecal sludge treatment plant and desludging vehicles with support from Blue Water Company. After one year, the SHGs took over operations and maintenance of the desludging vehicle and the treatment plant, with supervision by the municipality. While Blue Water Company provided an end-to-end service, conducting daily operations and maintenance activities and ensuring the efficiency and performance of the treatment plant, currently the municipality is responsible for the performance of the plant and the SHG members are only responsible for daily operations and maintenance. In addition to increasing the overall accountability of the municipality to higher state-level authorities like the State Pollution Control Board for performance monitoring, engaging the local SHGs also helped the municipality reduce its costs.

SHG members are also central to Dhenkanal's solid waste management services. At the frontline, SHG members are responsible for the segregation and door-to-door collection of solid waste, and transport the waste in battery operated vehicles to the MRF and MCCs. These facilities are operated by 4-5 SHG members per centre. For both solid waste and FSM services, SHGs are appointed either directly by the municipality or through their area and city level federations. In addition to the members' monthly salaries, the appointed SHGs are paid an incentive of 10% of the total revenue generated from various sources, including the sale of compost, reuse of waste, and tariffs and user fees collected.

Despite Dhenkanal's progress in delivering and financing sanitation services, there is a clear gap in terms of planning for sanitation interventions. The town does not have a master plan or a city sanitation planning document. According to the municipal accounts officer, the annual fiscal budget is determined simply by adding a 10% increment to the previous financial year's budget, rather than conducting a needs assessment or budget allocation following the interventions listed in a planning document. State initiatives, such as the 'Mo Khata' initiative, drive budget allocation and disbursement at the local level. For every initiative, the state Urban Development Department releases a Government Order, which prescribes the utilisation structure of the funds transferred. For instance, in Dhenkanal during the upcoming fiscal year 2021-22, it is expected that the majority of their funds will be focused towards the 'Adarsh Colony' initiative, focusing on the transition of slum areas and improving the living condition of lower-income households.

Dhenkanal Lessons Learned

Despite being a small town, Dhenkanal ranks as one of the top towns among the East Zonal Ranking of Swachh Survekshan 2020, an annual survey of cleanliness, hygiene and sanitation in villages, cities and towns across India. This success is in part because Dhenkanal was able to invest in safe solid and liquid waste management using funds from the state government and BMGF.



Own-revenue covers operational expenses but not capital expenditure: Dhenkanal depends on intergovernmental transfers and donor funding for capital investments in public toilet infrastructure, treatment plant and vehicles. Such investments can position municipalities to be financially sustainable and potentially make a surplus, as Dhenkanal expects to do from its composting operations.

Technical assistance was valuable: Many small towns lack the technical capacity to plan and implement sanitation interventions on their own. In Dhenkanal the interventions were possible because the town received technical assistance from state government bodies such as the State Housing and Urban Development Department and NGOs like Practical Action Foundation, Centre for Policy Research, CDD Society and Blue Water Company, among others. For instance, the municipality's engagement of SHGs to sustainably operate the faecal sludge treatment plant and manage desludging services was made possible through a continuous handholding process where the SHG members were trained by the Blue Water Company on the specifics of the daily operations and maintenance activities.

04/Sircilla, India

Overview: Sircilla, a small town located on the banks of Maner River in the state of Telangana, had a population of 75,640 as of the 2011 census. In 2018-19, seven neighbouring villages were merged into the town, increasing its population to 92,091. Sircilla is expanding its sanitation services using a planned and incremental approach. Sircilla Municipality is providing all basic sanitation services including provision of public toilets; support for conversion of insanitary to sanitary household toilets; segregation, collection, and processing of solid waste; faecal sludge management; street sweeping; and provision and maintenance of stormwater drainage systems and an effluent treatment facility. The town is also planning to implement wastewater treatment systems soon.

Sanitation Interventions: Sircilla's sanitation interventions are decided based on **a)** the proposals listed in the city sanitation plan that was developed by the City Sanitation Task Force and **b)** the gaps observed and complaints received during the daily morning visits by a core team of officials comprising of chairperson, commissioner, engineers, planners, ward councillors, and sanitary inspectors to each of the town's 39 wards in rotation.

The city achieved ODF status in 2017, and ODF+ status in 2019.²⁶ 6,000 insanitary toilets were converted to sanitary toilets²⁷ and 260 new toilets were installed. The city now has 13 public toilet blocks, one mobile toilet facility, one innovative bus toilet for women, and several bio toilets (with biodigester as containment unit) at public places like petrol pumps and bus stations. The city is completely dependent on onsite sanitation systems, of which 70% are lined structures and 30% are unlined structures.²⁸ There is

an operational 18 KLD faecal sludge treatment plant that was commissioned in 2019 and receives faecal sludge from six licensed private desludging operators. The town regulates these operators by issuing them an annual license against a fee, providing them with protective equipment and installing a Global Positioning System (GPS) in each vehicle. The GPS helps in monitoring the route followed, preventing illegal dumping and keeping fuel consumption in check. More than 15% of fuel costs have been saved since the GPS was installed. A private company is paid a fixed monthly rate to operate and maintain the treatment plant and meet the discharge standards.

The city produces approximately 23 tons of organic waste, 7 tons of dry waste, 10 tons of construction and demolition waste and 6.4 tons of inert waste per day. More than 95% of households adhere to five types of waste segregation at source: wet, dry, domestic hazardous (such as medical waste and sanitary pads), textile (produced by the many informal weavers in the town), and beedi leaf waste. 100% door-to-door collection is in place, with dedicated waste collection vehicles for commercial areas, poultry waste and silt waste deployed by the municipality. The municipality passed a council resolution on solid waste management rules to be followed in the town, followed by communication campaigns conducted with the help of SHGs. Several SHGs monitor segregation at source. Waste processing is done at the town's integrated resource park, which comprises a dry resource collection centre, compost yard, vermicomposting unit, faecal sludge treatment plant and a landfill site. Currently, 95% of the waste generated in the town is being collected and 55% of the waste is processed either through windrow composting followed by vermicomposting, or through recycling of dry waste after further segregation at the collection centre. Roughly 40% of the waste is disposed of in the landfill site. The collection centre is operated by women SHG members.

Financing Strategy: For the 2019–20 financial year, 26.3% of Sircilla's total budget was from its own-source revenue, and the rest was from state and central transfers. Own-source revenues include taxes such as the property tax and non-tax resources like rentals, licensing fees, and water charges. The sanitation-related sources include garbage collection charges, trade license fees, and sale of compost. Operation and maintenance expenses (including worker salaries) for sanitation services are met using the municipality's own-source revenue. Sircilla was able to raise USD 1.71 million (37% tax revenue and 63% non-tax revenue) in 2019–20. The town achieved 85% collection efficiency of property tax (both private and government) and collected additional funds from market fees, rental, property mutation fees, trade license fees, advertisement fees, penalties, etc. While the contribution made by the sanitation sector to the municipality's own-source revenue is only 5%, the percentage allocation of own-source revenue towards meeting sanitation operational expenses has increased over the years from 27.5% in 2018–19 to 34.35% in 2019–20.

Desludging fees are in the range of USD 25 to 35 per trip, which is retained by the private operators to cover their costs. The municipality currently charges fees for solid waste collection only in commercial areas, but the town is planning to incorporate user charges for other households as well. The segregated organic waste is sent for windrow composting followed by vermicomposting and the segregated dry waste is sent to the dry resource collection centre operated by SHGs. The collection centre can generate USD 2,500 to 3,000 each month, which is more than enough to pay salaries to workers and leave the SHGs with a profit.

Major infrastructure investments, including construction of public toilets, treatment plant, collection centre, compost yard, and procurement of equipment and vehicles, are done using the funds transferred from the state and central government. Capital Project Funds are provided to the cities in three heads: Plan Grants, Non-Plan Grants and Other Grants. The Plan Grants and other grants are tied grants whereas the Non-Plan Grants are untied, and municipalities can decide where to spend the money. In 2019–20 the municipality received USD 4.8 million, of which 15% was untied. Roughly 14% of capital investments done by the municipality using the Capital Project Funds were dedicated to sanitation-related works. Sircilla has also used a combination of Swachh Bharat Mission funds, *Pattana Pragathi* (City Development) programme grants from the state government, and Corporate Social Responsibility funds to build public toilet complexes.

Financial Management: Under the '*Pattana Pragathi*' programme of Telangana State, Finance Commission funds (an untied transfer from the central government) along with State matching funds are now released monthly to each town. This provides municipalities with a continuous flow of money, which they can utilise for implementing projects at the local level. The State Municipal Administration & Urban Development Department issued a Government Order listing interventions that cities can undertake using these funds, with sanitation being the top priority.²⁹ The cities can also use these funds to complete unfinished projects, provided the project is listed in the guidelines. The proposed projects are approved in council board meetings before utilisation of the funds. Sircilla has used these funds to finance the town's public toilets, compost yard, stormwater drains, dry resource collection centre, and faecal sludge treatment plant and to buy assets like dustbins and vehicles for collection and transport of waste. Detailed project reports have been prepared for three decentralised wastewater treatment facilities. The town has already commissioned a common effluent treatment plant which treats 0.5 MLD of wastewater to rejuvenate the lake, with funds received under the *Pattana Pragathi* programme.

Though the city is able to raise considerable funds from its own sources, there is scope for increasing the amount of funds raised by sanitation services, which are

funded in large part by other own-source revenues. The state still plays a major role in shaping city-level interventions through the conditions on tied intergovernmental transfers.

Sircilla Lessons Learned



Sircilla is one of the top ranked towns in the south zone of the Swachh Survekshan 2020 in the less than 100,000 population category. As the town is a constituency of a politician in power in the state assembly, the town got access to an extra source of development funds, but the town has nevertheless shown tremendous improvement in the last few years.

City sanitation planning was useful: Having a City Sanitation Plan and a Shit Flow Diagram has helped the city understand the current sanitation situation in the town; identify gaps across the sanitation value chain; and develop, prioritise and implement technical, financial, institutional and regulatory interventions. A sanitation team of municipal officials visits one ward each day and observes first-hand what needs their attention; this gives residents the opportunity to share any concerns, and helps inform future interventions and project prioritisation. For instance, the town first implemented a faecal sludge treatment plant and is now planning solutions around greywater management. The City Sanitation Plan also helped Sircilla in understanding various sources of funding that the municipality can tap, and guides the town to develop annual development plans. The combination of a sanitation plan and reliable funding under the Pattana Pragathi programme has helped the town systematically carry out sanitation interventions.

Capacity development was critical: The town made sure they had the right mix of professionals in the core sanitation team, including town planners, civil engineers, environmental engineers, sanitary inspectors and accounts officers. In addition to having all core sanitation positions filled (including five engineers and two sanitary inspectors), the town also made sure that staff received regular training. This strengthened capacity has helped the town not only develop its own City Sanitation Plan with limited external technical support, but also to prepare its own tender documents and onboard a private operator for the operations and maintenance of the faecal sludge treatment plant.

05/Mahalaxmi, Nepal

Overview: Mahalaxmi Municipality (population 62,172) is located in Lalitpur District, Province 3 of Nepal, approximately 13 kilometres from the capital, Kathmandu. Mahalaxmi has been a leader in sanitation planning and regulation in Nepal, but implementation of its planned interventions is in the very early stages. 67% of households in Mahalaxmi rely on on-site sanitation systems, while 33% (in core urban areas of the municipality) are connected to a sewer network constructed by the central government. Holding tanks are the most common type of onsite sanitation system (65%), followed by pits (24%) and septic tanks (11%). Approximately 1% of the population does not have access to a toilet and uses a neighbour's toilet or public toilets, which are operated by private entities with no involvement by the municipal government.³⁰ Emptying services are provided by unregulated private desludging operators, who charge USD 30^v per trip, or by manual emptiers. However, most containment units in Mahalaxmi were constructed in the last 10 years, and 78% of them have not yet been emptied. Most desludging operators discharge the waste in the open, and the sewer network also discharges wastewater into the environment untreated. There is a small faecal sludge treatment plant with a treatment capacity of 6 kilolitres per week. The faecal sludge treatment plant is located on the grounds of an orphanage run by an NGO, which pays for the operation of the plant and uses the water, compost, and biogas produced. There is no clear information on the hygiene aspects of use of these by-products on farmland and any potential health impact in the surrounding households. Desludging operators pay a tipping fee of USD 4.25 per trip to the treatment facility, but the treatment plant treats only a limited portion of the faecal waste generated in the municipality.³¹

The total amount of solid waste generated in the municipality is about 59.8 tons per day, of which 40.6 tons is organic waste.³² Solid waste is currently collected from households by a private service provider and transported to a collection facility 2 kilometres away in the neighbouring municipality of Lalitpur for a fee of USD 3 per month (though households considered vulnerable pay USD 2.60 per month.) The Kathmandu municipal government collects solid waste from the collection facility and transports it to a treatment plant 22 kilometres away for processing. The same private provider employs approximately 20 sanitation workers who clean the streets around Mahalaxmi's market area, for which shopkeepers pay a fee of USD 3 per month. The municipal government is not currently involved in solid waste management service provision and does not generate revenue from this service. The municipality recently entered into a Memorandum of Understanding with the private service provider to supply protective equipment to sanitation workers. Options to co-treat organic and faecal waste are under consideration.

Sanitation Interventions: The approach taken in Mahalaxmi has emphasised planning and building capacities and frameworks for sanitation before constructing infrastructure or intervening directly in the FSM market. The municipality's first major initiative has been the development of FSM bylaws, enacted in March 2020. The bylaws, which integrate ISO 24521 guidelines, create municipal regulations on **a)** mandatory septic tanks in new house construction, and as a precondition for property sales; **b)** safe emptying, transportation and treatment of faecal sludge; **c)** occupational health and safety of sanitation workers; and **d)** prohibited acts, such as discharge of untreated excreta into water bodies or open drains, with penalties for noncompliance.³³ Mahalaxmi is also in the final stages of developing a Citywide Inclusive Sanitation Plan, which provides a detailed assessment of sanitation services in the municipality and options for improvement, and a Climate Resilient Sanitation Safety Plan. However, the municipality is just beginning to operationalise and enforce the bylaws, and the plan has been drafted but not finalised or implemented.

To date, no major investments in sanitation have been made. Mahalaxmi plans to invest in treatment infrastructure, which municipal officials see as a necessary step to enforce the bylaws on safe emptying and disposal of faecal waste. The Kathmandu Valley Water Supply Management Board (KVWSMB) and Municipality planned to jointly finance construction of a new faecal sludge treatment plant in Mahalaxmi, with 80% of the financing contributed by KVWSMB and 20% by the municipality. However, the procurement of a contractor for treatment plant construction has been put on hold due to local opposition to the proposed site, and the municipal government is currently exploring alternatives. Once a solution has been found, the municipality is interested in purchasing a vacuum truck to provide desludging services directly and/or regulating private desludging operators by introducing licensing and scheduled desludging.

Financing Strategy: Mahalaxmi's budget for sanitation is currently heavily reliant on intergovernmental transfers, with own-source revenues making up a much smaller share. Own-source revenues, primarily from property taxes, provide only USD 5,800 of Mahalaxmi's 2020–21 sanitation budget. The municipality does not yet generate any revenues from liquid or solid waste management services. According to the municipal finance officer, Mahalaxmi has allocated USD 3,225 for sanitation from the Federal Equalisation Fund, which is an untied transfer allocated to every municipality in Nepal based on its population. Untied transfers from the provincial level provide USD 6,880. Federal conditional funds (including reimbursable grants and loans) provide another USD 16,615.

Under the existing plan, capital expenditure for the faecal sludge treatment plant, estimated to cost USD 86,000, was envisioned to be financed primarily by KVWSMB, which also planned to cover operations and maintenance for the first three years.

The municipal government would then be responsible for the costs of operations and maintenance, which it is expected to finance by allocating funds from its overall budget (made up mostly of intergovernmental transfers). However, these plans are on hold due to the dispute over the treatment plant site, and the municipality may proceed with a different treatment option.

In addition to intergovernmental transfers and own-source revenues, Mahalaxmi's sanitation interventions have been supported by external donors, primarily BMGF, which has provided funding to ENPHO, a local NGO, to provide technical assistance services to the municipal government.

Financial Management: The municipal budgeting process begins at the ward level, with each ward preparing a budget (subject to a fixed ceiling) that is presented to the municipal secretariat and approved by the assembly. A central budget for municipality-wide projects and recurring expenditures is administered by the Mayor and Deputy Mayor. Funding for local sanitation projects is allocated from this pool. The municipality develops multi-year budgets for projects that are expected to last more than one fiscal year, but these are not yet linked to any longer-term development plans. Eventually, long-term budget planning for sanitation is expected to be linked to the Citywide Inclusive Sanitation Plan.

Improving Mahalaxmi's capacity to plan and budget for sanitation interventions is a key element of the ongoing technical assistance effort. The municipality has established a "sanitation cell" responsible for enforcing the bylaws, which is currently staffed by one municipal engineer, with one support person from ENPHO. The project is also considering the development of an integrated municipal information system that would help track revenues and budgets across funding sources.

Mahalaxmi Lessons Learned

Mahalaxmi is relatively early in the process of strengthening its sanitation services, with plans and bylaws developed but not yet fully implemented. To date, no major investments have been made, and the municipality is not yet responsible for significant recurring expenditures. However, lessons on governance and planning for sanitation services can be drawn from Mahalaxmi's experience so far.

Planning is key for developing sanitation interventions:

Mahalaxmi's sanitation interventions have been deliberately sequenced to emphasise planning and regulation first, followed by infrastructure investments. Interviewees observed that some past projects in Nepal have over-emphasised infrastructure construction:

less attention was paid to building capacities and long-term plans for operations and financial sustainability, resulting in “white elephants.” However, infrastructure, particularly for treatment, remains integral to Mahalaxmi’s plans. With the planned faecal sludge treatment plant on hold due to the dispute over the site, it is crucial for the municipal authorities to explore and put into place appropriate technological options to treat faecal sludge. More sludge will be generated in septic tanks once the bylaws are in full operation, and this will require a treatment facility and a licensed operator for emptying and transport.

Public engagement is key: Despite strong political commitment to sanitation by Mahalaxmi’s mayor, the issue remains a relatively low public priority. ENPHO and the municipal government have conducted public outreach using videos, pamphlets, and other methods, but noted that public awareness on the importance of safely managed sanitation remains low. Without public buy-in, ensuring compliance with the municipality’s septic tank requirements or finding a suitable location for a treatment facility is expected to be challenging. In addition, elected officials’ political incentives lead to an over-emphasis on highly visible projects such as roads, at the expense of sanitation. With municipal elections on the horizon, officials have reason to be concerned about backlash from communities objecting to the proposed treatment plant site or residents unhappy with enforcement of the bylaws. Both political will and further public outreach will be necessary to advance Mahalaxmi’s plans.

Collaboration with local stakeholders is essential: Nepal’s municipal governments are very new. Prior to their formation, user committees had a significant role in water and sanitation, for instance in implementing the ODF campaign and operating small to medium water and sanitation projects. There is not yet any formal mechanism for the municipality to coordinate with water users and sanitation committees, but they remain influential. Having them on board with the FSM project could help overcome some of the local resistance to site options and enhance community engagement: unless the committees have a voice and role in implementation, they will not feel ownership of the project.

External technical assistance has played a major role: ENPHO has been closely involved in assisting the municipality to develop

the bylaws and sanitation plan, establish the sanitation cell, conduct public outreach, design the planned faecal sludge treatment plant, and supply ready-to-install septic tanks.

06/Birtamod, Nepal

Overview: Birtamod (population 82,592) is the largest municipality in Jhapa district, Province 1, in eastern Nepal. Birtamod municipality relies entirely on on-site sanitation. As of 2015, 24% of households in the municipality did not have access to toilets.³⁴ There was a major toilet construction initiative as part of the national ODF campaign, and Jhapa District was declared ODF in December 2018. An estimated 95% of toilets in Birtamod are either holding tanks or pit latrines, with very few septic tanks with soak pits. There are currently no public toilets in Birtamod. Desludging services are provided by the Charali Water Users and Sanitation Committee (WUSC) and informal private operators. Birtamod has collaborated with neighbouring municipalities to jointly finance a faecal sludge treatment plant and has joined a public-private partnership with another group of municipalities to formalise solid waste management services.

Sanitation Interventions: Birtamod is part of a group of municipalities (also including Mechi Nagar and Buddha Shanti, located to the east of Birtamod) that have jointly invested in a faecal sludge treatment plant located in the town of Charali, which lies on the boundary of the three municipalities. The treatment plant is managed by the Charali WUSC, and the WUSC also delivers emptying services on demand in all three municipalities. The treatment plant has an installed capacity of 27 KLD, but it is operating far below capacity. This is in part because many containment units in the three municipalities using the plant were built relatively recently, during Nepal's ODF campaign, and have not required desludging yet.

Currently, solid waste is collected by the Birtamod municipal government and dumped without engineered processing or treatment. However, the municipality is contributing to a public-private partnership to develop a solid waste management facility that will include a waste-to-energy plant, composting, recycling, and disposal of the remaining waste in a sanitary landfill, serving Birtamod and two other nearby municipalities, Kankai and Arjun Dhara. The facility is expected to begin operations in approximately six months.

Financing Strategy: For both faecal sludge and solid waste management, Birtamod has adopted a strategy of contributing financing to joint projects in neighbouring municipalities rather than developing separate infrastructure. The faecal sludge

treatment plant was constructed under the Third Small Towns Water Supply and Sanitation Project (TSTWSSP), which is funded by the ADB and implemented through the federal Department of Water Supply and Sewerage. Municipalities are required to contribute 15% of the capital expenditure for projects under the TSTWSSP, with the remaining 85% coming from the project funds. Birtamod, Mechi Nagar and Buddha Shanti collectively financed the municipal contribution of USD 117,343, with each municipality paying a percentage based on their population and expected usage of the treatment plant. Birtamod, the largest of the three municipalities, relies entirely on the treatment plant to treat the municipality's faecal waste and contributed 57% of the capital infrastructure. Buddha Shanti, which is a smaller, rural municipality, contributed 29%. Mechi Nagar, which also invested in another treatment plant and relies on this one to serve only two of 15 wards, contributed 14%. The percentages were negotiated over the course of a year and formalised in an agreement between the municipalities, TSTWSSP, and the Town Development Fund.

Operation and maintenance of the faecal sludge treatment plant is currently being carried out by the contractor that built it, but this responsibility will be transferred to the WUSC in July 2021. The primary funding source for operations and maintenance will be payments from the three municipalities to the WUSC. An agreement on how the municipalities will share costs is being finalised, but it is expected that each will contribute a fixed percentage of the costs, in a similar way to the sharing of the capital expenditure. The WUSC also charges a tipping fee of USD 2.5 to private desludging operators that deposit sludge at the treatment plant, but this is not expected to cover the operating expenses. The operational costs of emptying and transport services provided by the WUSC (driver salaries, fuel, etc.) are covered by the desludging fee of USD 21 per trip, but this does not cover maintenance of the desludging vehicles, and the WUSC is considering raising the fees in the future. (Other private desludging operators charge USD 26 per trip.)

Birtamod is also collaborating with two other municipalities on the solid waste management facility. The project is being developed as a public-private partnership, with a private company KBARE&SWM contributing approximately 50% of the capital expenditure; of the remainder, 40% is provided as a grant by the federal government (funded by the World Bank), and 10% (for the office building) by one of the participating municipalities, Kankai, where the facility will be located.

To finance operations and maintenance of the solid waste management facility, the three municipalities are collecting a variable sanitation fee from all residents. The fee is calculated based on factors including the type of building, its size, and the type of road it is located on. In Birtamod, the amount ranges from USD 0.4 (for a single-shutter shop or a one-storey house adjoining the highway) to USD 42.5 (for a Class A hospital) per month. The municipalities will each contribute a portion of the revenue

collected to pay the private company to operate and maintain the facility. The total amount to be paid for operations and maintenance and the share that will be contributed by each municipality are currently under negotiation, but the company has requested a total of USD 935,000 per year, with USD 425,000 to be paid by Birtamod due to its larger population and USD 255,000 each from the smaller municipalities of Kankai and Arjun Dhara. The payments from the municipalities – along with sales of biogas, liquid manure and compost produced at the facility – are expected to fully cover operating expenses and enable the private company to make a profit.

Financial Management: Birtamod's contribution to the construction of the faecal sludge treatment plant was allocated from the municipality's general budget, which is treated as a pooled fund combining intergovernmental transfers and revenues such as the property tax. The municipality began collecting the sanitation fee (which will be used for the municipality's contributions to operations and maintenance for both the treatment plant and solid waste management facility) in 2020. Because the fee is new, the municipal government is uncertain how much revenue it will generate. It is likely that a higher rate and/or additional allocations from the general budget will be required to meet the municipality's obligations.

For faecal sludge management services, the WUSC collects desludging fees and tipping fees directly from service users. The committee's secretariat prepares an annual budget and shares it with Birtamod, Mechi Nagar and Buddha Shanti municipal governments, as well as the TSTWSSP. However, the allocation to the WUSC for the first two years has been fixed as part of the capital investment for the treatment plant, so there has not been a need to make additional budget requests of the three municipalities; rather, the budget is provided for transparency. Revenue collection and budgeting is managed by the WUSC's Accounts Officer, but the WUSC expressed concern about a lack of adequate human resources to manage the treatment plant and associated accounts. The three municipalities are in discussions to create a separate committee that would be responsible only for management of the treatment plant, while the WUSC would continue to deliver desludging services. This is expected to somewhat increase salary costs but to improve service efficiency and reduce the burden on current WUSC staff. For solid waste management, KBARE&SWM will not be responsible for collecting revenue directly from customers; it will receive a fixed annual payment from the Birtamod, Kankai, and Arjun Dhara municipal governments.

Determining each municipality's contribution is the most complex part of these joint arrangements. The negotiations to arrive at the division of the municipalities' contributions to the faecal sludge treatment plant capital expenditure were contentious and took approximately a year. Operations and maintenance for the

treatment plant is expected to be allocated similarly, but the agreement has not been finalised. Negotiations are also ongoing on the total amount to be paid to KBARE&SWM and how it will be shared between the participating municipalities. It is unclear how these agreements will be updated over time.

**Birtamod
Lessons
Learned**



Birtamod has adopted innovative co-financing strategies to introduce both faecal sludge management and solid waste management services, and while these are in the early stages of implementation, there is strong potential for operational sustainability based on a combination of revenues from the services and municipal own revenues.

Birtamod presents an interesting example of a cluster approach: Rather than investing in infrastructure built in the municipality, the municipal government has helped finance a faecal sludge treatment plant and solid waste treatment facility shared with neighbouring municipalities. This allows the municipalities to share the capital costs and achieve economies of scale. This strategy can also be used to avoid some of the disputes over siting encountered elsewhere. However, negotiations over how much each municipality should contribute took a year for the initial investment in the faecal sludge treatment plant, and are still ongoing for operation and maintenance costs of the treatment plant and the solid waste management facility. These cost-sharing arrangements will be formalised through official agreements, but maintaining the agreements over the long term or updating the municipalities' contributions could present a governance challenge.

Multiple revenue streams have been developed to achieve operational sustainability: Birtamod has emphasised generating revenue from both solid waste and faecal sludge management services. The municipality aims for the services to be largely financed using sanitation-specific revenues, with limited support from the municipality's general revenues. This is in part because of officials' confidence in residents' willingness to pay for sanitation services, but also because of the unreliable and personalised nature of intergovernmental transfers, which make up a large share of the general budget. Because of the municipality's distance from Kathmandu, it is observed to be more difficult for municipal officials to build relationships with the federal government and leverage those relationships to secure funding. This has contributed to

Birtamod's interest in raising new revenues locally to support sanitation service delivery.

Collaboration with local stakeholders has played a key role: In the case of faecal sludge management services, a transition is in process, from the contractor (hired to build the faecal sludge treatment plant and operate it for the first two years) to the Charali Water Users and Sanitation Committee (WUSC). WUSC staff have been seconded to the treatment plant contractor to learn how to operate the plant, positioning the local team to take over operations in July 2021 when the contractor's 2-year operation and maintenance period ends. It is unclear whether this will reduce the overall costs to the municipalities sharing use of the treatment plant, but reliance on local human resources rather than external expertise may reduce the risk of staff turnover and provide a skilled employment opportunity in the municipality.



General findings

Learning from the six towns allows identification of several cross-cutting themes, detailed in this section.

Intergovernmental transfers

Across the six towns studied, it is challenging to finance capital investments in sanitation infrastructure using own-source revenues. Philanthropic funding has been used to fund infrastructure in a few of these towns, but this is not replicable at scale. A financial model which has worked at least to some extent in all of the six towns studied is use of central or regional level government transfers to finance capital investments. These transfers can be in the form of tied or untied grants, as seen in Sircilla, where the Finance Commission funds disbursed under the Pattana Pragathi state programme are a key source of funding, both tied and untied. Transfers can also include blended debt financing, as in Birtamod, where the participating municipalities contributed 15% of the capital expenditure for the faecal sludge treatment plant and the remaining 85% was funded under the TSTWSSP. However, these funds can be unreliable and are often provided as ad-hoc funds linked to programmes, making them better suited to one-time capital investments than ongoing operational expenditures. Funding for faecal sludge management in Jhenaidah was scattered across two programmes, and in Sakhipur, the municipality is still awaiting confirmation from central government for release of funds to purchase additional emptying vehicles. Improving the predictability of intergovernmental transfers would help small towns make better use of national budgets for faecal sludge management, wastewater treatment and solid waste management. Moreover, a majority of transfers to municipalities across the three countries are tied to specific activities (see Financing sanitation in small towns above). As a consequence, the types of activities supported by central and regional governments play a major role in shaping municipalities' sanitation interventions. At times, this leaves less flexibility for municipalities to decide on the basis of local needs. It is also important that small towns have the tools and knowledge to tap into these resources. There needs to be technical guidance, capacity building and handholding support provided to smaller municipalities on how to access intergovernmental transfers, as often municipalities are not familiar with the processes.

Own-source revenue

The case studies illustrate that there is potential for municipalities to sustain their operational expenses from own-source revenues. Mechanisms to raise revenue from sanitation services include user fees (which were common across all of the towns), the sale of compost as seen in Dhenkanal and Sakhipur, or a dedicated sanitation tax/fee as seen in Jhenaidah and Birtamod. Additionally, where there is high potential for the town to sustain their operational expenditure and generate a surplus from user fees, sanitation taxes, or product sales, towns can ring-fence the revenue generated for sanitation activities, so it can be used for future capital investments or for cross-subsidising service fees for the poor and vulnerable. Central or regional governments can create an enabling environment for small towns to generate substantial own-source revenues from sanitation. In Sakhipur, Jhenaidah and Dhenkanal, municipalities partnered with agricultural departments to build a market for compost produced by the municipalities. This helped in creating demand for the co-compost the towns produced, providing the municipalities with a stable revenue stream. In Dhenkanal and Sircilla, the state livelihoods missions converged with the Swachh Bharat Mission to use employment of self-help group members in the sanitation sector to improve both the quality of life of marginalised groups and sanitation service delivery.

The table below provides a snapshot of different sanitation-related revenue streams implemented across the six towns.

Country	Municipality	Sanitation -Related Revenue Streams
Bangladesh	Jhenaidah	User fees (FSM); annual registration fee (FSM); sanitation tax
	Sakhipur	User fees (FSM and SWM); compost sales; treatment plant visitor fees
India	Dhenkanal	User fees (FSM, from residents and neighbouring villages; SWM ^{vi} , from residents only); public toilet leasing; compost sales
	Sircilla	User fees (FSM and SWM); licensing fees; compost sales
Nepal	Mahalaxmi	Not yet adopted
	Birtamod	User fees (FSM); sanitation fee ^{vii}

vi Across the six towns, user fees for FSM are collected per trip at the time of service, while the user fees for SWM are collected from households monthly.

vii Birtamod's sanitation fee is collected from all residents and is calculated based on building size and type using methods similar to the property tax. Although the municipality refers to it as a fee, the design is similar to Jhenaidah's sanitation tax.

Municipal planning and budgeting.

Developing comprehensive medium- and long-term sanitation plans positions municipalities to design financing mechanisms to meet their needs and use available funds more effectively. In Sircilla, budgeting is informed by the city sanitation planning document. The planning document coupled with monthly disbursement of funds under the *Pattana Pragathi* programme allows the municipality to prioritise sanitation interventions and allocate funds accordingly. In addition, municipal officials also conduct regular visits to the town wards to identify areas that need immediate attention. Mahalaxmi has also emphasised development of a long-term sanitation plan. If successfully linked to annual budgets, this would represent a shift from the standard budgeting process, which has placed a lower priority on sanitation compared to more visible and politically salient projects like roads. However, other municipalities, such as Dhenkanal, simply base their budgets on the previous financial year, with new initiatives determined by state-level funding allocations. In a context of heavy reliance on tied transfers, this may be rational; however, by not developing long-term plans and budgets, municipalities are missing an opportunity to advocate with central and regional governments for the funding and flexibility they need to deliver sanitation services.

Multi-area cluster approaches and co-financing.

Co-financing and clustering of towns can be an efficient approach to establish treatment infrastructure for small towns that may not have the financial resources required for major investments. In Dhenkanal, the faecal sludge treatment plant was initially designed for the town but is now accepting faecal sludge generated from 17 nearby *Gram Panchayats*. Similarly, the faecal sludge treatment plant used in Birtamod is designed to cater to three municipalities. In Dhenkanal, service fees from households in nearby villages increase revenue generation, while in Birtamod, this serves as a cost-reduction mechanism by sharing the capital and operational expenses with two other municipalities. However, cluster approaches require detailed efforts to allocate contributions to capital expenditure, operational expenses, and responsibilities among the collaborating towns. In Birtamod, negotiations over how much each of the three municipalities would contribute to the capital investment took a year, and discussions on how to divide operational expenditures are ongoing. For the clustering approach, municipalities may need additional technical assistance provided by the government agencies or the development partners to assist in designing the operational strategy and structure the collaboration, including the sharing of costs and the responsibilities of each town in the operations, maintenance and performance monitoring of the treatment plant.

Public awareness and willingness to pay.

Making land available for faecal sludge treatment plants is often contentious, especially when people are not familiar with the technology or convinced of its

benefits. In the cases of Mahalaxmi and Sakhipur, residents objected to the treatment plants being located nearby. Sakhipur's mayor eventually had to donate land for the treatment plant, while the issue is still unresolved in Mahalaxmi. Similarly, without investments in public awareness, towns may face challenges in raising demand for sanitation services, impacting revenues through emptying fees and taxes. In Jhenaidah, demand for FSM services was initially very low, but improved once the municipality carried out a range of awareness and promotional activities, including ward-level consultations, block desludging, and leveraging events to celebrate World Handwashing Day and World Toilet Day. Additionally, to ensure acceptance from lower-income households, Jhenaidah provides a mechanism to request emptying services at a subsidised rate.

External support for technical assistance.

Given the capacity constraints small towns face, it is reasonable for them to depend on other agencies for technical assistance. This can come from state level government bodies like the Housing and Urban Development Department of Odisha, which provided guidance to Dhenkanal Municipality on the technical aspects of solid waste management facilities, or not-for-profit development organisations like SNV in Jhenaidah, WaterAid in Sakhipur, Practical Action in Dhenkanal and ENPHO in Mahalaxmi, which have supported the municipalities to design and carry out sanitation interventions. The intensive support provided to several of the municipalities studied is not realistic to deliver at scale, but these demonstration projects provide valuable learning to inform other towns' approaches, particularly if they are used to test a variety of technologies and service delivery models. Towns such as Dhenkanal and Jhenaidah also illustrate the importance of structuring technical assistance to support a transition to independent municipal ownership of the services. In Dhenkanal, the town was initially supported by a consortium of NGOs and private operators, and their engagement was leveraged to build the capacity of the town officials and the local self-help group members who are now delivering sanitation services in the town themselves. Similarly, SNV played an active role in designing the business model and sanitation tax in Jhenaidah, which has put the municipality in a position to sustainably finance its sanitation services. However, a critical next step is to strengthen government-led mechanisms to deliver similar forms of technical assistance at scale, with an emphasis on tailoring solutions to the local context and strengthening municipal systems to ensure sustainable service delivery.



Recommendations

Strengthening municipal financing for sanitation requires improvements at the municipal, national and sub-national level as listed below. Although the focus is on governments at all levels, development partners also have an important role to play in enabling government initiatives, particularly by supporting municipalities to demonstrate new approaches and partnering with central and regional governments to build government-led systems to deliver capacity building at scale.



Municipal governments

- 1. Explore multiple revenue streams to achieve operational sustainability.** In several of the six towns, municipal governments and private service providers were able to generate sufficient own-source revenues to finance operations and maintenance of existing sanitation assets, and in some cases even make a surplus. User fees are not the only financing mechanism available, and the six study towns illustrate the value of building multiple revenue streams. This can include levying a sanitation tax or generating revenue from sales of compost produced by mixing organic waste and treated faecal waste. Adopting a variety of revenue streams can better position municipal governments to sustainably finance sanitation service delivery, as well as attract private sector participation.
- 2. Identify opportunities to cluster services with neighbouring localities.** Clustering can help municipal governments reduce costs, increase revenues and/or avoid the difficulty of finding a suitable site for treatment facilities. By pooling their resources, the municipalities can benefit from economies of scale and reduce costs

by sharing fixed operational expenses. Though implemented at the municipality level, support from regional governments is crucial to set up governance structures for sharing of costs and responsibilities, and for facilitating collaboration among municipalities.

3. Generate demand via public engagement. Additional sanitation taxes and fees are unpopular and difficult to implement unless citizens are aware of the need for safely managed sanitation, and unless they feel that the service they will receive matches their financial effort. A strong public engagement initiative can help municipalities generate demand. Public engagement is also critical to prevent and resolve challenges in securing treatment plant sites.



Central and regional governments

1. Dedicate sufficient annual budget for municipal sanitation service provision, including by leveraging existing programmes in other sectors.

Intergovernmental transfers are vital to municipal water and sanitation services. Central and regional governments should dedicate substantial budgets to support capital expenditure, long-term operations and maintenance, and institutional strengthening at the municipal level, taking into account each municipal government's specific requirements and plans. They can also leverage resources from departments and ministries in other sectors, such as agriculture and forestry (building a market for the sale of compost) and livelihoods (employment opportunities in sanitation). Along with programme/scheme-linked allocations, Governments should also allocate dedicated operational budgets for sanitation in their annual fiscal transfers to municipalities.

2. Ensure predictability, transparency and flexibility of intergovernmental transfers.

A common problem cited across the studied towns and by national experts was the unpredictability of intergovernmental transfers. Without clarity on the timing, rules and amount of funds, municipal governments cannot develop medium- to long term budgets or investment plans. Sufficient allocation of annual transfers, and a regular schedule for delivering the allocated budget, would provide a critical building block for stronger municipal planning and budgeting processes.

Intergovernmental fiscal transfers across the three countries tend to be “tied,” and are allocated to municipalities to implement specific types of activities: some intergovernmental transfers need to be tied, but a proportion of the total transfer needs to be flexible enough to align with the needs of municipalities and support a variety of sanitation interventions.

3. Provide technical assistance to municipalities on financing strategies and service delivery. All of the municipal governments studied received significant technical assistance from development partners: piloting new technologies or business models, strengthening financing strategies, etc. After the initial “role modelling” phase, it is important that regional and central governments step in and provide technical assistance at scale, providing guidance and building the capacity of the municipalities to access intergovernmental transfers, manage the funds effectively, develop business plans and sustainably deliver safe sanitation services.



Annex I: Summary of tables

Table 1: Summary of sanitation interventions

Town	Faecal Sludge Management				Capacity of treatment plant (in KLD)	Responsibility for Operations and Maintenance of Treatment Facilities	Solid Waste Management		
	% households with access to OSS types	Availability of mechanical emptying services	% OSS mechanically emptied	Availability of a treatment plant			Segregation at source	Collection and Transport	Treatment
Jhenaidah	Septic Tank: 39.1%; Pit latrine: 60.1%; No onsite container: 0.8% ³⁵	Yes; provided by the AID Foundation, a social enterprise, through a contract with the municipality.	20%	Yes; constructed by DPHE with ADB funding and upgraded by SNV with funding from BMGF in 2016.	40	AID Foundation is responsible for the O&M of FSTP.	NA	NA	NA
Sakhipur	Septic Tank: 5%; Pit latrine: 95%	Yes; provided by the municipality.	~40% (all toilets connected to septic tanks and 38% of pits)	Yes; Funded by WaterAid Bangladesh and implemented by BASA, constructed in 2015.	8	The municipality manages the co-treatment plant.	No; Private operator does segregation after collection.	Done by the private operator.	Co-treatment - Organic solid waste, dried faecal sludge and sawdust are mixed to produce compost.
Dhenkanal	Septic Tank: 38%; Pit latrine: 62%	Yes; provided by Self Help Groups (SHGs).	42% ³⁶	Yes; Funded by BMGF and constructed in 2018.	27	SHGs are responsible for O&M of the FSTP while municipality monitors performance.	No; segregation is done by SHG members	Done by SHG members.	Segregated organic waste is processed along with dried faecal sludge and sold as fertilizer. The plastic waste is sent to cement factory for processing.
Sircilla	Septic Tank (including fully lined tank): 75%; Pit latrine: 25% ³⁷	Yes; provided by six licensed private operators.	Data unavailable	Yes; funded by Government of Telangana and commissioned in 2019.	18	O&M of the FSTP is done by Blue Water Company; SHGs manage the solid waste treatment facility.	More than 95% of households adhere to five types of waste segregation at source	Done by SHG members.	50% of the waste collected is composted or recycled. The rest is disposed at a landfill site.
Mahalaxmi	OSS: 64% (Septic/Holding Tank: 76%; Pit: 24%); Sewer: 33%	Yes; provided by unregulated private desludging operators.	39%	Yes; owned by a local NGO and established in collaboration with the municipality, ENPHO, Saligram Child Centre, CDD society and BORDA	0.86; The FSTP can treat 6 KL of sludge per week.	FSTP is managed by a local NGO that provided land to construct the FSTP.	No	Done by an unregulated private operator, which takes waste to a collection point in a nearby town.	Not available
Birtamod	Holding tank/pit latrine: 95%.	Yes; provided by Water Users and Sanitation Committee (WUSC) and by unregulated private operators.	Data unavailable	Yes; jointly owned by Birtamod and 2 other municipalities. Constructed under the TSTWSS Project funded by ADB.	27	Currently done by the contractor who built the facility. The Water Users and Sanitation Committee will take over in July 2021.	No	Municipality provides the collection and transportation service for solid waste management.	Municipality is contributing to a public-private partnership to develop a solid waste management facility

Table 2: Summary of towns' financing mechanisms

Town	Sanitation Infrastructure Capital Expense Source			Operational Expense Source for Sanitation Infrastructure			Efficiency in meeting costs
	Intergovernmental fiscal transfer	Own-source Revenue	Donor Funding	Emptying fees	Sale of end products	Others	
Jhenaidah	ADB fund for construction of FSTP was disbursed by DPHE under "Secondary Towns Water Supply and Sanitation Sector Project". LGED also provided desludging vehicles under "UGIIP-II" project funded by ADB.	Sanitation tax: 12% of the property tax for institutions, and 5% for residential buildings. Municipality plans to use the collected tax amount for co-financing in sanitation infrastructure development.	SNV upgraded the existing FSTP using BMGF funding (100,130 USD)	Septic tank: USD 6, 4.70 and 3.50 for first, second and third trip Pit: USD 4.70, 3.50 and 3.50 for first, second, and third trip. *Retained by Aid Foundation	NA	Registration fees for emptying service: USD 13.6 for septic tanks and USD 6.8 for pit latrines. This registration fee is valid for a year.	Revenue generated covers operational expenditure
Sakhipur	NA	Insufficient revenues generated to spend on capital investment	Co-treatment plant financed by WaterAid and BASA (USD 118,343). Two desludging vehicles were provided under the same project.	USD 6 and 12 per trip for vehicles of 400 and 1000 litres capacity. Generates an average monthly revenue of USD 710.	Municipality sells compost to local farmers at USD 0.22 per kg. Annual sale for 2020: USD 3,850.	Solid waste collection fee: USD 0.70 per household/per month.	Revenue generated does not cover operational expenditure
Dhenkanal	94% of 2019-20 fiscal budget was in the form of transfers. Capital expenditures for the desludging vehicles, battery operated vehicles for collecting solid waste, public toilets and the MRF/MCC facilities have been financed by state transfers.	Collection of property taxes, renting of market areas, desludging fees and leasing of public toilets and other activities.	The FSTP was funded by a grant from BMGF (USD 408,652)	Within town: Residential building: 13.79 USD per trip; Non-residential building: 20.68 USD per trip; Nearby rural neighbouring areas: 17.23 USD per trip. For the 2019-20 financial year, the municipality generated an average monthly income of 2,208 USD from desludging fees.	Municipality sold co-compost to the Forest Department at USD 0.14 per kg generating a monthly revenue of USD 15,700.	Solid waste collection/user fee: ranging from USD 0.58 to USD 1.24 per building/per month	Revenue generated covers operational expenditure
Sircilla	73.7% of 2019-20 fiscal budget was in the form of transfers. Town has utilised 14th/15th Finance Commission funds, state matching funds, SBM funds, and Pattana Pragathi linked grant for capital expenditure.	Own-source revenues include taxes such as the property tax, rentals, licensing fees, water charges, garbage collection charges, sale of compost etc.	NA	USD 25 to 35 per trip. *Retained by private operators Operators must incur the cost of GPS installation (107 USD), uniforms and PPE to meet the requirements for obtaining the license (69 USD per year). ³⁸	Solid waste collection centre generates 2,500 to 3,000 USD/per month. This amount is enough to pay salaries to workers and earn profit for the SHG members.	Solid waste collection fee is currently levied only in commercial areas ranging from USD 0.69 to USD 2.06 ³⁹	Revenue generated covers operational expenditure
Mahalaxmi	To date, no major investments in sanitation have been made. The municipality planned to construct a new FSTP, with 80% of the financing contributed by KWSMB and 20% by the municipality, but this is on hold due to disputes over the site.	NA	Funding from BORDA (USD 45,000) to construct the existing small FSTP in 2016. ⁴⁰	USD 30 per trip *Retained by private operators	NA FSTP is managed by an NGO, which uses the end products. The municipality does not generate revenue from this service.	Tipping fee paid by operators to caretaker (hired by the NGO) for disposal of faecal sludge: USD 4.25 per trip Solid waste collection fee: USD 2.60 to 3 per month *Retained by private operator	Revenue generated does not cover operational expenditure for the FSTP (no
Birtamod	The FSTP was constructed under the Third Small Towns Water Supply and Sanitation Project (TSTWSSP), which is partially funded by the Asian Development Bank (85% of the total cost) and implemented through the federal Department of Water Supply and Sewerage.	Three municipalities including Birtamod shared 15% of the total FSTP CAPEX which is USD 117,343. Birtamod provided 57% of the total municipality contribution.	NA	USD 21 per trip On demand mechanical emptying service is provided by WUSC and by unregulated private operators. *Retained by private operators and WSUC	NA	SWM Collection fee: USD 0.4 to USD 42.5 per month per property. Tipping fees for disposing faecal sludge at the FSTP: USD 2.5 per trip	Revenue generated does not cover operational expenditure



Annex II: List of stakeholders interviewed

No.	Interviewee	Organisation
National Level Interviews		
Bangladesh		
1	Sharmishta Debnath	Department of Public Health Engineering (DPHE)
2	Dr. Abdullah Al-Muyeed	CWIS Cell - DPHE
3	Md. Faisal	Municipal Association of Bangladesh
4	Dr. Tanvir Ahmed, Alauddin Ahmed, Azizur Rahman	ITN BUET
5	Shahidul Islam and Tanveer	SNV
6	Uttam Kumar Saha	Practical Action
7	Habibur Rahman	Water & Sanitation for the Urban Poor
8	Elma Morsheda	Asian Development Bank
9	Shantanu Lahiri	World Bank
10	Partha Hefaz Shaikh, Imamur Rahman, Shakhawat Hossain, Sumon Kumar Saha	WaterAid
11	Shofiqul Alam	UNICEF
12	Humayun Kabir	UNDP
13	Gunjan Barua	Independent Consultant
India		
1	Prof. S. Chary, Uday and Aparna	Administrative Staff College of India
2	Bhawna Prakash	Ernst and Young
3	Mahima Vijendra	Indian Institute for Human Settlements
4	Suraj Kumar	IPE Global
5	Depinder Kapur, Jyoti	National Institute of Urban Affairs
6	Arumugam Kalimuthu	WASH Institute
7	Abhinav Akhilesh	KPMG
8	AK Gupta	RCUES Lucknow
9	Manas Rath	BORDA/Blue Water Company
10	Anju Dwivedi, Anindita Mukherjee	Centre for Policy Research
11	Raman VR	WaterAid
12	Swati Singh Sambyal	UNDP
13	Sasanka Velidandla	Independent Consultant
14	Krishna C Rao	Independent Consultant
15	Rajivan K	Independent Consultant
Nepal		
1	Kamal Shrestha	Project Director, KUKL
2	Prabhat Shrestha	Project Directors, DWSSM
3	Sunil Das	Ministry of Water Supply
4	Chakrabarti Kanth	DUDBC, MoUD
5	Ishwar Marhatta	DoLI, MoFAGA

6	Nawraj Pyakuryal	HPCIDBC
7	Bipin Dangol	Islamic Development Bank
8	Shiva Prasad Paudel	Asian Development Bank (ADB)
9	Sanjaya Adhikary	Former ADB Consultant
10	Rubika Shrestha	World Bank
11	Bidhya Pokharel	Japan International Cooperation Agency
12	Sudha Shrestha	UN HABITAT
13	Dr Sudan Panthi	World Health Organisation
14	Mingma Sherpa	Simavi
15	Deepak KC	TetraTech
16	Govind Shrestha	WaterAid
17	Bikesh	UWSSP, ADB
Town Level Interviews		
Sakhipur, Bangladesh		
1	Kamrul Islam	Secretary, Sakhipur Municipality
2	Mahmudur Rahman	Assistant Engineer
3	Ibrahim Aman	WASH Project Manager, BASA
4	Mohammd Zahid Hossain	Councillor, Ward 5
5	Arjina Begum	Female Councillor
6	Harun ur Rashid	Conservancy Inspector
7	Shadhana Rani	FSM Service Client - Sakhipur
8	Masud Hawladar	Technical Officer - Monitoring, BASA
9	Zakir Hossain	Community Mobiliser, BASA
Jhenaidah, Bangladesh		
1	Saidul Karim Mintu	Mayor, Jhenaidah
2	Md. Badr Uddin	Community Development Officer
3	Shamsul Alam	Conservancy Inspector
4	Kamal Uddin	Engineer
5	Saad Ahmed Chand	Health Coordinator / IT in-charge
6	Shahin ul Alam Rana	Project Coordinator, AID Foundation
7	Fayezur Rahman	SNV City Coordinator - Jhenaidah
8	Md. Golam Mostofa	FSM Service Client - Jhenaidah
9	Md. Ruhul Amin Munshi	former SNV City Coordinator - Jhenaidah
Dhenkanal, India		
1	Atanu Kumar Samanta	Executive Officer, Dhenkanal Municipality
2	Rasmita Mishra	Assistant Executive Engineer, Dhenkanal Municipality
3	Parbati Sahoo	Junior Engineer, Dhenkanal Municipality
4	Santosh Kumar Mohanty	Sanitary Inspector, Dhenkanal Municipality
5	Bibhuti Bhusan Swain	Sanitation Incharge, Dhenkanal Municipality
6	Gagan Bihari Sahoo	Tax Collector, Dhenkanal Municipality
7	Hrudananda Mohanty	Centre for Policy Research (former Practical Action)
8	Prasanta Kumar Mohapatra	Chief Engineer, Odisha Water Supply and Sewerage Board
Sircilla, India		
1	V. Sammaiah	Municipal Commissioner
2	T. Venkateshesaiah	Executive Engineer, Sircilla Municipality
3	Raghu Soma	Environmental Engineer, Sircilla Municipality
4	B. Venkatesh, K. Varun	Municipal Assistant Engineer, Sircilla Municipality
5	S. K. Ansar	Town Planning Officer, Sircilla Municipality
6	Prabhakar	Technical Officer, Sircilla Municipality
7	Venkat Raman	Sanitary Inspector, Sircilla Municipality
8	B Aruna	Junior Accounts Officer, Sircilla Municipality
9	Srinivas	Private Desludging Operator

10	Sai Kiran	Faecal Sludge Treatment Plant Operator
11	Sri P Srinivas Reddy	Regional Director, Commissioner and Director of Municipal Administration (CDMA), Telangana
12	Prof. S. Chary, Ram Mohan	Administrative Staff College of India
Mahalaxmi, Nepal		
1	Rameshwor Shrestha	Mayor, Mahalaxmi Municipality
2	Prashant Thapa	City Engineer, Mahalaxmi Municipality
3	Prabesh Khatri	Finance Officer, Mahalaxmi Municipality
4	Sanjib Bikram Rana	Executive Director, KVWSMB
5	Bhawana Sharma	ENPHO
6	Rajendra Shrestha	ENPHO
Birtamod, Nepal		
1	Dhruba Kumar Shiwakoti	Mayor, Birtamod
2	Deepak Chapagain	SWM Representative, Kankai Birta Arjun Renewable Energy and SWM (KBARE & SWM) Co. Ltd.
3	Lal Bahadur Thebe	Water Users and Sanitation Committee (WUSC) Chair, Charali
4	Shrawan Kumar Dhamala	Water Users and Sanitation Committee (WUSC) Accounts Officer, Charali



Annex III: Interview guide

Context

Responsibilities, Service Delivery and Budget (Municipality: Mayor, City engineer, Town Planner, Accounts Officer; Others: Technical Assistance Partner)

- What sanitation services are the municipal government involved in?
 - o Provision of public and community toilets
 - o Solid waste management (collection, segregation, transportation, treatment, reuse)
 - o Faecal Sludge Management (containment unit retrofitting, emptying, transportation, treatment, reuse)
 - o Services for sanitation workers
 - o Maintenance of sewerage, drainage lines
 - o Others
- Which of these interventions are planned and implemented by the ULB and which ones are planned and driven by the national and state level stakeholders?
- Are there any other stakeholders (parastatals, NGOs, CBOs, etc.) involved in any of these services? If so, how does the municipal government coordinate with them?
- Which ones does the municipal government consider a priority? And why?
- Is there a separate budget component for these activities in the municipal budget? Which ones are new additions to the budget component? And since when have they been introduced?
- Please fill in the following table for the city:

Services	Budget in 2019-20				
	Planned	Actual	Percentage from OSR	Percentage from IGFT	Percentage from other sources
Public Toilets					
Community Toilets					
SWM					
FSM					
Others, depending on the service delivered					

Financing Strategy

Financing Sanitation Services (*Municipality: Chief engineer, Town planner or Accounts officer*)

- Is the town currently implementing/planning to implement any sanitation related project? If yes, how are they planning to finance the project?
- What are the different sources of capital expenditure?
 - What challenges did the town face in accessing these funds? How did they overcome those challenges?
 - Does the town expect these sources will be available for future investments? How does the town plan to mitigate unavailability of these funds?
 - Were there other possible sources of capex? If yes, why did the town not access them?
 - Did the availability of finance influence technology selection, or was the choice of technology driven by the available financing (e.g. a particular donor was interested in building faecal sludge treatment plants)
- How is operations and maintenance financed?
 - What do users pay, and how are the payments structured?
 - What other sources of funding does the town rely on, and how sustainable are these sources over the long term?
 - Is the town able to meet all the expenses incurred from the user fees, tariffs and any other source revenue?
 - What portion of operations and maintenance (O&M) funds comes from the town's general budget vs. dedicated sanitation revenue streams?
 - Has the financing source for O&M changed over time?
- Why did the municipal government adopt a particular financing model? Where did the idea for this financing model come from, and why did they think it would be effective?

Own-source Revenues (*Municipality: City Commissioner, Chief Engineer, Town Planner, Accounts Officer; Others: Technical Assistance Partners*)

- How does the municipal government generate revenues for sanitation services?
 - General municipal revenues (property tax, market fees, etc.)
 - Sanitation-specific revenues (sanitation tax, service fees, product sales, etc.)
- How are the above-mentioned revenue streams determined? What was the process to determine the property tax, sanitation tax, tariffs, etc.?
- Is sanitation specific revenue ring-fenced for sanitation activities?
- Which revenue streams generate the most funding for sanitation and why?
- Which revenue streams have underperformed expectations?
- Are levels of revenue generated from different streams expected to change over time?

Intergovernmental Fiscal Transfers (*Municipality: City Commissioner, Chief Engineer, Town Planner, Accounts Officer; Others: Technical Assistance Partners, Central/State/Regional level government stakeholders administering transfers*)

- What proportion of transfers received is tied/untied?
- What is the process for intergovernmental budget transfers?
- How predictable are the amount and timing of transfers? Are there budgeting/ planning strategies or mechanisms for coordination with other levels of government that can address unpredictability?
- Are these transfers also allocated to line departments/parastatals within the town?

And is there a functional overlap?

- For other stakeholders:
 - o How do state/central government institutions make decisions about the allocation of transfers?
 - o Is there competition for budgets between allocations to line departments and transfers to municipalities? Are there functional overlaps that lead to competition for funds or over/under allocation?

Financial Management

Planning (*Municipality: City Commissioner/Mayor, Chief Engineer, Town Planner; Others: Technical Assistance Partners*)

- Why did the municipal government decide to take action on sanitation (across all services listed in the contextual setting) when it did?
- How did the municipality decide what interventions to pursue? How did financial considerations (availability of funding for specific interventions, financial sustainability) influence those decisions?
- Were the interventions part of a structured medium to long term plan? Does the town have/follow any planning document (master plan, city sanitation plan)?
- For schemes/interventions planned at the national level, what role do municipalities play? Is there a mechanism for municipal governments to contribute to national-level plans, or for national stakeholders implementing interventions in the town to collaborate with the municipal government?

Budgeting (*Municipality: City Commissioner, Chief Engineer, Town Planner, Accounts Officer*)

- What is the municipal government's budgeting process? Does the municipal government develop budgets covering more than one fiscal year?
- How does the municipal government decide how much money to allocate to sanitation? Are there strategies that have successfully increased the allocation of funds to sanitation?
- How do towns link their goals and plans to their budgeting process?
- Once budget is developed, is it required for the state, district or regional

department to approve and release funds? Is there any linkage between the budget developed and the IGFTs?

- Is the municipality accountable for the funds allocated and spent? To whom do they report on the quality of service delivered and the funds allocated for service delivery? Is there any account auditing process in place?

Institutional/Financial Management Capacity (*Municipality: City Commissioner, Chief Engineer, Town Planner, Accounts Officer*)

- Who within the municipal government is responsible for:
 - o Revenue collection
 - o Planning for sanitation services
 - o Developing the municipal budget for sanitation
 - o Hiring third party sanitation service providers, developing their contracts, and monitoring their performance (where applicable)
 - o Overseeing expenditures on sanitation
 - o Monitoring performance
- What are the key challenges municipal staff have in carrying out these functions?
- What steps has the municipal government taken to strengthen its financial management capacity? (Training, hiring, monitoring, introducing new tools/ guidelines/processes)
- How have other stakeholders (state/central governments, donors, NGOs, etc.) supported municipal governments to strengthen their capacity? What has worked well, and what hasn't?
- What are the key remaining capacity gaps? What additional support would the municipality like to see?
- Has municipal financial management improved? (As shown by increased allocation of funds to sanitation, increased ability to cover O&M/capex, increased revenue collection efficiency, other)

Inclusion and Participation

Social Inclusion (*Municipality: City Commissioner, Chief Engineer, Town Planner; Others: Technical Assistance Partners*)

- What mechanisms, if any, are in place to ensure sanitation services are accessible and affordable to poor and vulnerable households?
- Is there any subsidised rate for delivering services to the poor and vulnerable? How are these subsidies structured?
- How does the municipal government gather information about who to target for these mechanisms/benefits?
- What are the costs of special provisions for the poor and vulnerable, and how are they financed?

Public Engagement and Accountability (*Municipality: City Commissioner, Chief Engineer, Town Planner*)

- How does the municipal government communicate information about sanitation service delivery to residents?
- What mechanisms are in place for residents to shape sanitation priorities or monitor service delivery performance, based on citizen feedback?
- How does public communication and participation influence the town's ability to collect revenues? Has revenue collection or willingness to pay increased over time?



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WaterAid is an international not-for-profit, determined to make clean water, decent toilets and good hygiene normal for everyone, everywhere within a generation.

WaterAid is a registered charity

Australia: ABN 99 700 687 141.

Canada: 119288934 RR0001.

India: U85100DL2010NPL200169.

Sweden: Org.nr: 802426-1268, PG: 90 01 62-9, BG: 900-1629.

Japan: 特定非営利活動法人ウォーターエイドジャパン
(認定NPO法人) WaterAid Japan is a specified non-profit corporation
(certified NPO corporation)

UK: 288701 (England and Wales) and SC039479 (Scotland).

US: WaterAid America is a 501(c) (3) non-profit organization.

