

A photograph of a worker in a blue uniform, hard hat, and face mask standing in front of a blue SWEEP water truck. The truck has a large blue tank and the word 'SWEEP' written on its side. Another worker is visible in the background near a yellow container. The scene is outdoors with trees and a building in the background.

WSUP

Water & Sanitation
for the Urban Poor

SWEEP Rapid Market Assessment Dhaka, Bangladesh

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1 INTRODUCTION

Based on insights gained from the diagnostic and profiling of SWEEP and its customers it has been identified that the most pertinent target market that will grow future revenue is large, high-income businesses, including those run as large-scale housing complexes. Currently, the number of large customers that are served by SWEEP only accounts for 17% of total jobs, however the revenue generated from these customers is ~60% of the total.

Targeting larger customers, with greater-sized septic tanks is both a short-term, and long-term plan for financial sustainability. However, the SWEEP customer diagnostic focused only on the past customers that had previously availed the SWEEP services. As such, while a basic ratio of existing customers is known, the actual market size of these different segments in and outside of the Dhaka market remains unknown. To effectively determine potential growth, demand and future revenue it is necessary to conduct a rapid market assessment to better understand these dynamics.

2 OBJECTIVE

The objective of the rapid market assessment is to:

1. Identify the market indicators for the target customers in Dhaka city ensuring that attributes of the potential customers are known. This should be completed for:
 - a. Target businesses
 - b. High-Income Residential
2. Identify additional markets, outside of Dhaka city, where the SWEEP service could easily expand while capturing greater revenue.

3 METHODOLOGY

3.1 Internal-Dhaka: Residential

Identify three major high-income residential areas in central Dhaka that don't have access to the sewer network. In each area, (which are preliminary identified as Mirpur, Uttara, and Bashundhara), identify a sub-location in which to conduct the study. These sub-locations will need the following attributes:

1. Majority (greater than 75%) of the inhabitants/buildings are residential
2. Must have census statistics to understand the population, density, and households in the area

In each of the three areas, a random sample of residences (at least 30 in each) will be interviewed in a very short survey to understand basic information

- Number of apartments
- Number of floors of building
- Size of septic tank
- Number of people per apartment
- Last time emptied/Frequency of empty
- Amount paid for the service

3.2 Internal-Dhaka: Businesses

In addition to the above assessment for high-income potential customers of SWEEP, a second rapid assessment of the market will need to take place to help inform about the number of large businesses that may exist within the Dhaka area. This research will be targeted to specific businesses that have proved themselves in the past to be good potential SWEEP customers, namely:

- Malls or shopping centres
- Commercial office buildings
- Schools
- Factories

To complete this section of the rapid market assessment, there were two sequential work streams: secondary research to identify the existing institutions that do not have access to the sewer network, and then a short survey to understand septic tank sizes. During this survey, the following data will be gathered:

- Type of institution (mall, factory, office building or school)
- Size of building (dimensions, floors)
- Number of Employees
- Size of Septic Tank
- Last time emptied/Frequency of emptying
- Amount paid for the service

3.3 External-Dhaka:

To complete a rapid market assessment of an area external to Dhaka, and to gauge whether the area is suitable for SWEEP expansion, there are six major questions to be answered:

1. Willing City Corporation - Is there an existing City Corporation and what is their interest in working in collaboration to improve sanitation services in their locale?
2. Limited Access to Sewers - Is there a high percentage of the population in the location that does not have access to sewer systems, requiring the use of septic tanks?
3. Majority Manual Emptiers - Are those septic tanks currently emptied by the status quo in Bangladesh, which are manual emptiers?
4. Safe Sludge Dumpsite - Is there a safe location where collected sludge, can be dumped?
5. Adequate Market Size - Is there an adequate market, based on previous experience in Dhaka, that can afford the SWEEP services?
6. Potential Business Partners - Is there an acceptable pool of potential profitable businesses that may be willing to take on the challenge of launching and managing a SWEEP service?

The above questions will be answered through both primary and secondary research. Interviews and surveys will help gauge all questions except for the first. The first question, regarding the availability of a city corporation, will act as a preliminary stop-gate for further research.

The questions above can be answered through the following contacts and methods:

Interviewee:	Question to be Answered
City Corporation	Willing City Corporation
	Limited Access to Sewer Lines
	Majority Manual Emptiers
	Safe Sludge Dumpsite
BBS	Adequate Market Size
Walking Survey	
Chamber of Commerce	Majority Manual Emptiers

To complete the walking survey in each potential area:

1. Target three different residential areas of the potential location (three in Gazipur and three in Narayanganj).
2. Walk for one mile randomly along the residential street in any direction. (three one-mile walks will be completed in Gazipur and Narayanganj each)
3. Count the number of residential buildings and note how many stories each has
4. Log total numbers into a spreadsheet

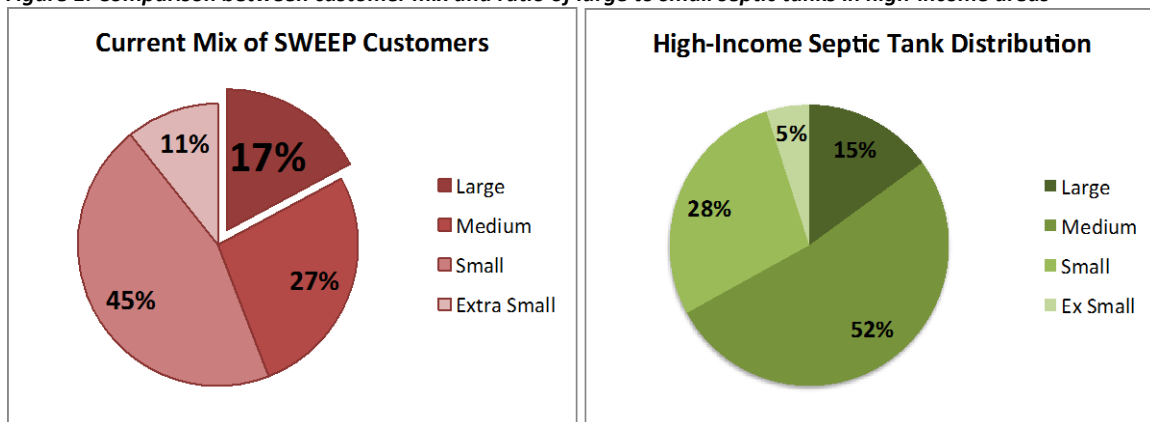
4 OUTCOMES

The rapid market assessment was conducted to inform both on the ability to effectively target larger customers under the current SWEEP business model, and on the potential for SWEEP expansion into secondary cities outside of Dhaka central. The outcomes of this research point to a large potential for changing the customer mix in Dhaka as well as the fact that outside of Dhaka, there are two potentially suitable cities for SWEEP expansion.

4.1 Internal-Dhaka: Residential

Within Dhaka, the rapid market assessment was geared towards identifying the potential to change the current customer mix, which at the moment is focused on smaller, less lucrative customers. Via a survey conducted in three high-income areas of Mirpur, Bashundhara, and Uttara it was found that the actual ratio of large to small septic tanks was not in line with the current customer mix. Roughly 150 landlords were interviewed, making the results representative of buildings in those high-income areas. And, while these areas did not have access to sewers they also saw a majority of customers that would be categorized as having a medium or large sized septic.

Figure 1: Comparison between customer mix and ratio of large to small septic tanks in high-income areas

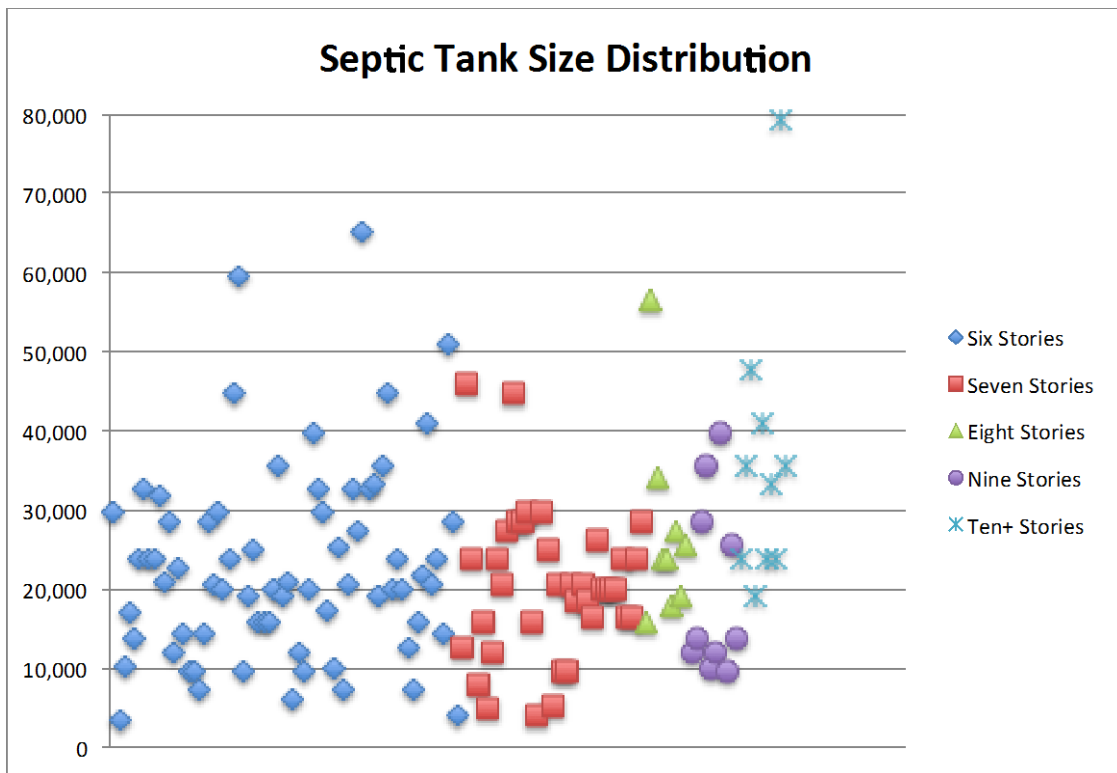


Specifically, there was a vast difference between the number of medium-sized customers that exist and those that were served. This insight provides support for SWEEP’s ability to target and reach larger customers to help sustain the business.

However, while it appears that in general there are more medium-sized septic tanks to reach in high-income areas, the challenge of how to target them, without wasting marketing resources, still exists. What was uncovered across the three areas is that unfortunately, the overall size of a building, either in terms of number of floors or number of apartments, was not a significantly strong indicator for the size of a septic tank. This insight comes with one caveat, in that no building with five stories or less had a large septic tank.

But, as Figure 2, below, demonstrates, there is a vast distribution between septic tank sizes in different sized buildings. While it may be possible to target buildings with more floors, this is no guarantee of finding a septic of a large size. In fact, many of the surveyed buildings above six stories still had small septic tanks.

Figure 2: Septic tank size distribution in different sized buildings in Dhaka

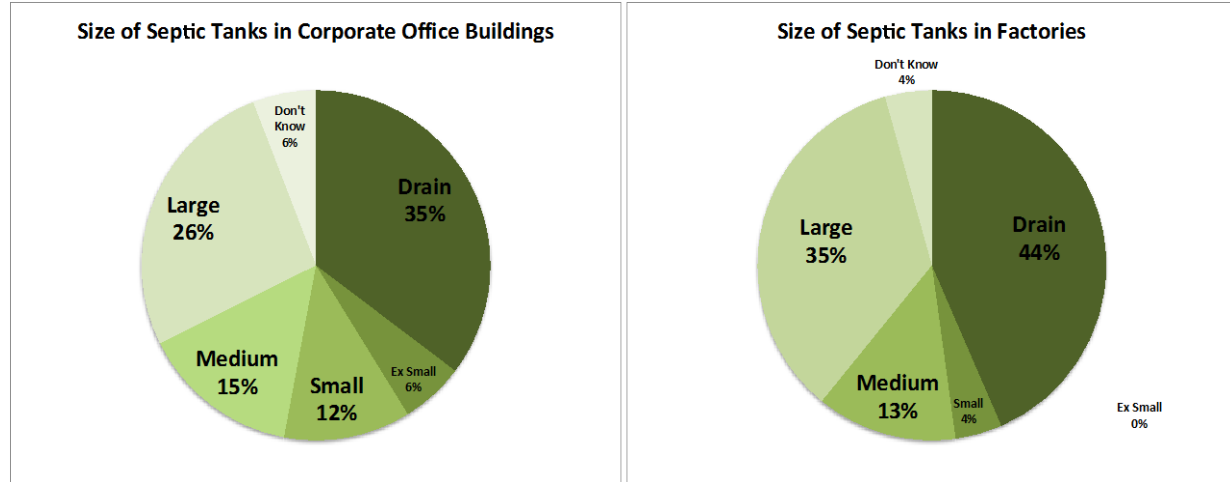


4.2 Internal-Dhaka: Businesses

Regarding businesses, it was found that certain sectors had the potential to be more lucrative than others. Insight from past customer data demonstrated that businesses both were least cost-conscious and had the greatest potential to have large septic tanks. This was confirmed through surveys that targeted commercial office buildings, shopping centers, schools and

colleges, and factories. Overall, the factories and office buildings were shown to have the greatest potential in terms of large tanks, but also had a high risk for targeting with marketing activities, as a significant portion reported being illegally connected to a drain.

Figure 3: Factories and corporate office buildings have large septic tanks



4.3 External-Dhaka

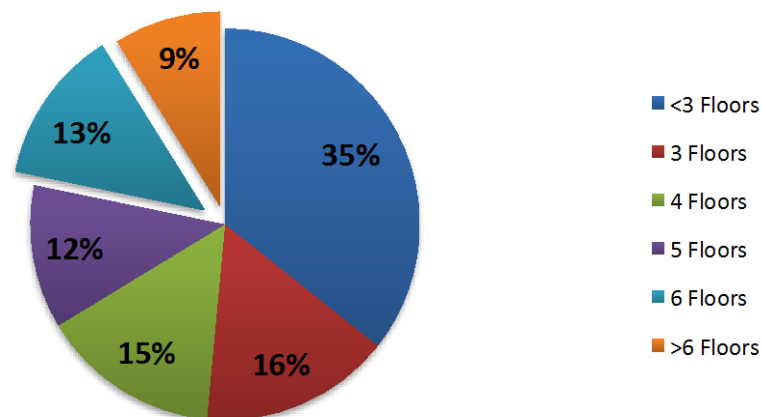
External to Dhaka, the team first started with secondary desk research to narrow down potential areas where a rapid market assessment could be implemented. In the end, the team reviewed five potential locations and found that only two, Gazipur and Narayanganj, were suitable for potential expansion. This was due to the fact that while there are a multitude of factors that determine suitability for SWEEP expansion, access to an organized City Corporation, through which the public-private partnership would be implemented, is a requirement. Only Gazipur and Narayanganj are governed by a city corporation, and as such they were the suitable areas for the second stage of the rapid market assessment.

Gazipur:

1. **Willing City Corporation** – Yes – In the past they have had partnerships with UPPR, CARE, JICA, BRAC and Prodiapon. They are accustomed to working with partners and rated their interest and willingness to partner, as a 10 of 10, stating they urgently needed help in providing these services.
2. **Limited Access to Sewers** – Yes – Currently all in the area depend on on-site sanitation solutions as there are no sewer lines available for connection.
3. **Majority Manual Emptiers** – Yes – Manual emptying is conducted with a bucket and spade and the contents are dumped into a local drain, just as in other areas utilizing manual emptiers.
4. **Safe Sludge Dumpsite** – No - There are no sewer treatment facilities or sludge dumping points. Usually sludge is dumped in surface drains or water bodies, some is also buried.

5. **Adequate Market Size** – Yes – While Gazipur is overall less wealthy than Dhaka, featuring an average income of roughly 35,000 BDT monthly as compared to Dhaka where the average is 45,000 BDT, there are significant residences and businesses to provide an adequate market. To begin, within residential areas, the actual income of the tenants is less important than the income of the landlords. Therefore, if there are enough buildings that are large, it can be assumed that the rent earned from the tenants is enough to warrant the payment of the SWEEP service. The WSUP team has estimated that, based on the area and the rents typically paid, a building above three floors would generate 80,000 BDT in rent per month for the landlord.

Figure 4: The majority of residences in Gazipur have less than six floors



However, to be profitable it is important for the SWEEP service to be able to target and serve as many large customers as possible, having greater than 33 cubic meter tanks. Previous research in Dhaka has shown that buildings above six stories are more likely to have large septic tanks than those below six stories, but that it is very difficult to gauge the size of a septic tank in a building by viewing external features, such as apartments or number of floors. As Figure 4, above, demonstrates, the vast majority of the residential buildings in Gazipur are less than six stories, indicating that many septic tanks will be of a smaller size.

While the above may negatively affect the overall profitability of a SWEEP service in Gazipur, the market of roughly 2.5 million people is adequate to find sufficient customers, especially considering the number of businesses and factories available for service.

The rapid market assessment in Gazipur revealed that for businesses, the market is quite large. The BBS service, which is responsible for implementing the census, gave the following figures for the number of specific businesses that were available and operating in Gazipur:

Figure 5: Number of businesses available for service in Gazipur

Hospitals/clinics/diagnostic/medical colleges	65
Corporate offices	2451
Factories	1886
Schools/colleges/madrasas/kindergartens	621
Universities	6

The above figures show a significant market for targeting businesses, which in the past have proved to be less cost conscious and more likely to have large septic tanks. In addition, the rapid market assessment in Dhaka also demonstrated that while factories and corporate office buildings may be up to 50% likely to have an illegal drain access, they have a high percentage of large septic tanks.

In terms of low-income customers, who can be served as part of the PPP between the service provided and the city corporation, the total population is roughly 200,000.

6. **Potential Business Partners** – Tentative – The Chamber of Commerce in Gazipur has stated that they currently have 1,500 members but that over 5,000 businesses collected applications but never returned them. The major risk in Gazipur in terms of finding a business to run the SWEEP program is that only 5%-10% of the businesses located there actually have offices and headquarters in the area. Most are headquartered in Dhaka, making management of a remote business potentially challenging.

Gazipur Conclusion:

While there are some challenges, such as the location of an appropriate dumpsite for the sludge that is collected, and the potential lack of high-income areas, Gazipur overall appears very suitable for SWEEP expansion. The city is vast, with a high population and has a significant number of factories and offices, none of which have access to sewers.

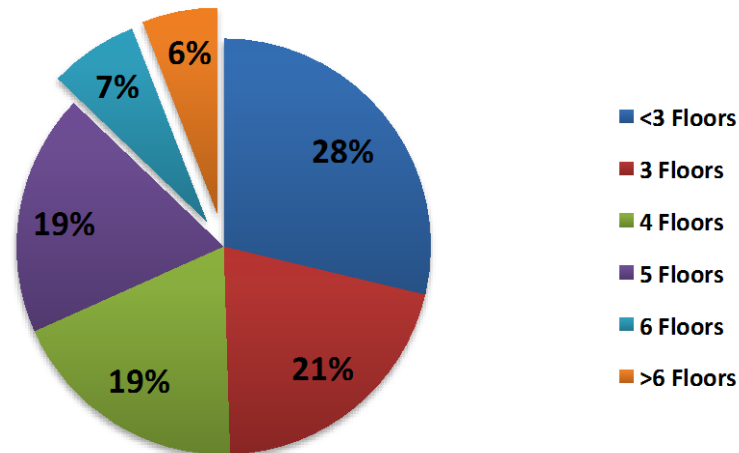
Narayanganj:

1. **Willing City Corporation** – Yes – While the city corporation for Narayanganj expressed a great need (10/10) for help with sludge removal services, they appeared only “satisfied” with the partnerships they have had in the past with organizations like Aid Bangladesh, ADB, UPPR, JICA and GIZ.
2. **Limited Access to Sewers** – Yes – Currently all of Narayanganj depends on on-site sanitation solutions as there are no sewer lines in the area.
3. **Majority Manual Emptiers** – Yes – Currently sludge is emptied in the traditional way and emptied at random into surface drains and water bodies.
4. **Safe Sludge Dumpsite** – Tentative - There is a treatment facility in Pagla but currently sludge is not taken there. Toilets are mainly connected to drains and sludge is dumped in surface drains or water bodies.

5. **Adequate Market Size** – **Yes** – The population of Narayanganj is slightly less than in Gazipur, at roughly 1.6 million people, but this is still an adequate market for SWEEP service. Comparing to Gazipur again, the area is also slightly less wealthy, with incomes averaging roughly 33,000 BDT per month.

As with Gazipur, Narayanganj also features residential areas that have buildings that are less tall, potentially indicating smaller septic tanks than are seen in residential areas of Dhaka. Figure 6, below, demonstrates this fact.

Figure 6: The majority of residences in Narayanganj have less than six floors



However, despite this fact, it is believed that at current income levels, any building with three floors and above would have sufficient rental income to afford the service. This insight is based on previous customers of the SWEEP service.

Finally, despite the residential areas being slightly smaller than desired, the business sector appears to have sufficient customers to warrant an expansion. While factories and corporate buildings have the best potential for large septic tanks, Narayanganj features roughly the same number of both as is seen in Gazipur. Even taking into account the potential that 50% of these are illegally connected to a drain, the potential market for offices and factories is roughly 2,000.

Figure 7: Number of businesses available for service in Narayanganj

Hospitals/clinics/diagnostic/medical colleges	91
Corporate offices	2315
Hotels	19
Factories	2000
Schools/colleges/madrasas/kindergartens	402
Universities	Unknown

6. **Potential Business Partners** – Yes - The Chamber of Commerce has 1,700 current members, which is more than in Gazipur, and they also state that they only have about 33% of the total businesses registered. As an improvement over Gazipur, roughly 50% of the businesses in Narayanganj are actually headquartered locally and don't have their head offices in Dhaka, which could make managing the business easier.

Narayanganj Conclusion:

As with Gazipur, Narayanganj has a sufficient market size and the support systems potentially in place to uphold a public-private partnership. Due to the fact that there is a potential treatment facility in the area that could be used as a safe dumpsite, Narayanganj is recommended as an expansion area above Gazipur. In both areas, it is important to note that due to smaller septic tanks in residential areas, the business may have to work harder to earn the same revenue and profits.