



# Faecal sludge management

## A critical challenge for the cities in the developing countries

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### Abstract

80% area of Dhaka city is not covered by sewerage network. Buildings in these uncovered areas are connected with drainage systems that take sludge and wastewater to the surface waterbodies. Nearly 55% of the buildings in these areas even do not have any safety tank. Toilets in those building are directly flushed to the drainage network. 22.7% of these drains are open while the remaining 77.3% are storm drainage which is connected to the rivers outside the city. Only 16% buildings need their pits/ safety tanks emptied because there is no drain available nearby. Emptied sludge from these pits is mostly dumped into the open waterbodies within or outside the city. Thus, almost all FS generated in the areas that is not covered by the sewerage network goes to the surface water. The regulatory framework do not allow this practice but lack of enforcement and unavailability of service provisions force people adopt this rather risky practice that ultimately harm most people in the city.

### INTRODUCTION AND OBJECTIVE

City populations are growing faster than the city infrastructure can adapt which created multifaceted problems to its citizens. The problems are more acute in the developing country contexts where the pace of development is rather slow compared to high rate of rural to urban migration. Dhaka city, one of the fastest growing mega cities in the world, with a current population of nearly 15 million and with a growth rate of about 3%, faces serious environmental threat due to its limited sewerage network coverage and faecal sludge (FS) management facilities. This paper mainly highlights the potential environmental consequences of this huge problem.

### METHOD

There is a FS treatment plant available in Dhaka but the sewerage network to bring sludge from the pit to the treatment plant is only available in about 20% areas of the city. There is no FS management system available for pit/septic tank emptying, transportation and treatment for the remaining parts of the city. This study examined 507 residential buildings selected by a random sampling procedure from areas that are not covered by sewerage network to find out how FS is managed in the areas outside the coverage of sewerage system.

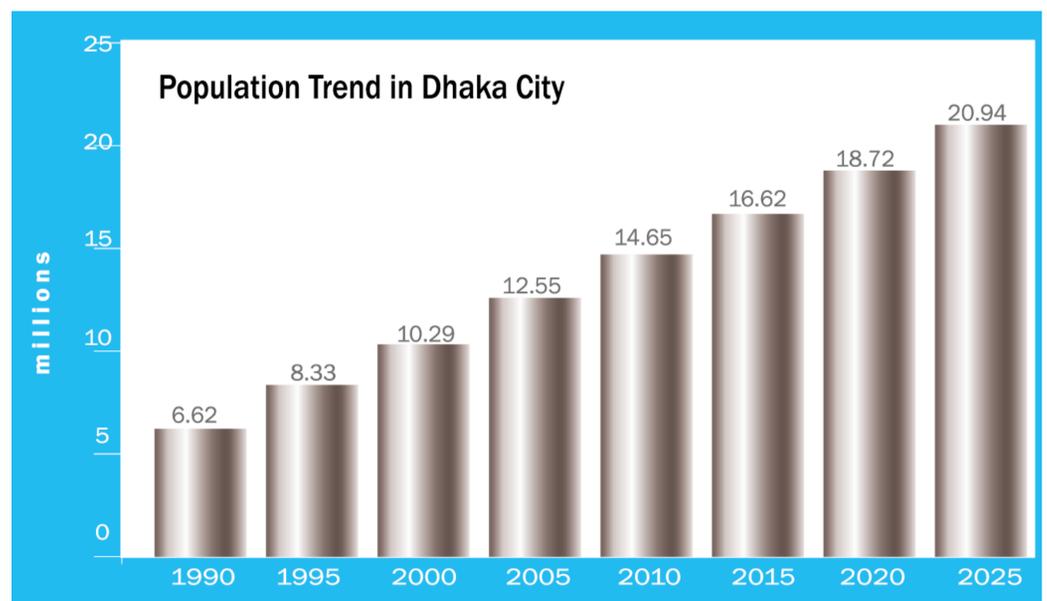
### FINDINGS

This study shows that most of the sludge and wastewater from most of the buildings outside the sewerage coverage in the city enters into the environment untreated that pose high environmental and public health risks to the entire population of the city. Areas where there are no sewerage network available people connect their pit/ septic tank with the available drainage systems that ultimately take sludge and wastewater to the surface waterbodies (rivers, canals, etc). Nearly 55% of the buildings examined in the study even do not have any safety tank. Toilets in those building are directly flushed to the drainage network. 22.7% of these drains are open while the remaining 77.3% are storm drainage which is connected to the rivers outside the city. Out of the total sample, only 16% buildings need their pits/ safety tanks emptied because there is no drain available nearby which to connect the pits. Emptied sludge from these pits is mostly dumped into the open waterbodies within or outside the city. Thus, the study suggests that almost all FS generated in the areas that is not covered by the sewerage network goes to the surface water that potentially risk the people in the city as a whole and neighboring communities. However, the problem is not very easy to deal with.

### CONCLUSIONS AND SUGGESTIONS

The regulatory framework do not allow this practice but lack of enforcement as well as unavailability of service provisions encourage or force people adopt this rather risky practice that ultimately harm most people in the city by regenerating the risks of faecal matter re-enter into the domestic environment. Poorer groups who mostly dwell in unsafe environment are most sufferer of this; however, the risk remains also high for those who practice safe sanitation.

Until recently, most emphasis is given in Bangladesh to achieve universal sanitation coverage with limited success. However, this study suggests that if the issue of sludge management is not taken proper care of the achievements gained by the increased sanitation coverage may not yield optimum gains or may shatter the health gains achieved through increased sanitation coverage. It is therefore important that FS management is considered as an integral part of the whole sanitation system. There are examples of successful private-public cooperation on FS management in many countries. Lessons from those countries could be used to initiate similar case in Bangladesh.



Source: World Urbanisation Prospects: 2009 Revised Population Database

