

3.6 Assessment for Settlement Identification for Bulk Volume of Wastewater Generation

3.6.1 Data Requirements

1. Building with type of use and number of floors

3.6.2 Stepwise Process Flow Details

- Step 1: Gather Building Data

The initial step in the process involves gathering the relevant building data. This includes a building-level land-use map which details the characteristics of each building such as its type (e.g., residential, institutional), the number of floors it has, and other relevant data.

- Step 2: Import Data into GIS

Import this data into your QGIS document. Make sure the data is correctly geo- referenced to ensure accurate analysis.

- Step 3: Identify Key Buildings

Next, use a selection query to identify key buildings that are likely to generate large volumes of wastewater. This includes high-rise buildings (those with more than three floors), apartment complexes, and institutional buildings such as residential schools, colleges, and hospitals.

- Step 4: Categorize Buildings

Having identified these key buildings, categorize them as 'Bulk Wastewater Generators'. You can create a new field in the building layer's attribute table for this category, and assign each of the identified buildings to this new category.

- Step 5: Visualize and Analyze

Finally, visualize these buildings on the map for a clear understanding of their distribution across the city. This could involve using different colors or symbols to represent the different categories of buildings. Analyze the spatial pattern of these buildings for insights into the bulk wastewater generation in the city.

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Figure 12 Illustrations of identifying settlements of bulk wastewater volume generator, Sherpur (Bangladesh)
Source – CWIS spatial analysis, Inn pact Solutions and GWSC

3.6.3 Output Application

Buildings that produce significant wastewater should be prioritized for on-site treatment, particularly if they're near water-sensitive areas, given the considerable environmental and health risks. Recognizing these bulk generators can guide us in two ways. For government buildings, we can suggest interventions and financial aid to establish on-site wastewater systems. For private buildings, regulation and monitoring can gradually improve conditions. Including these generators in building bye-laws ensures future buildings consider wastewater management, promoting both immediate and long-term improvement