

Sanitation Condition of Low-Income Areas in Sylhet City and Ways to Its Improvement

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Abstract: The sanitation condition of low-income areas of Sylhet, the northeastern divisional city of Bangladesh, is remarkably poor. The major objectives of the study were to assess the sanitation conditions of the low-income areas of the city as well as to find out the ways to improve the situation. Five different slums were selected from different wards depending upon the severity of existing sanitation conditions. Necessary information was collected by questionnaire survey and visual inspection from the selected slums. Several motivational programmes were conducted for building up their awareness about health and sanitation. Depending upon the availability of land, willingness of landowners, number of users and land topography various types of low-cost sanitary units were installed with the active participation of the inhabitants. Regular monitoring was performed to observe the behavioural and other changes of the communities. The appropriateness of provided types of latrines was also evaluated. Before undertaking the research work, only 14.5% of the targeted dwellers were observed using sanitary latrines. Now this figure has been sharply increased to almost 78%. Besides, active participation of the beneficiaries at different stages of the programme made them responsible for using and maintaining the toilets.

Key words: Slum, sanitation, health and hygiene, motivational works, low-cost sanitary latrines.

Introduction

Sylhet, the northeastern divisional city of Bangladesh located on the bank of the river Surma, is a major tea-producing region of Bangladesh. It is also the place where large-scale natural gas exploration activities are undertaken. As a result of these extremely labour-intensive economic activities, a large number of low-income workers live in and around Sylhet city. Besides these, there are rural pushes (landlessness, unemployment, natural disasters etc.) and urban pull (employment opportunities) encouraging the migration of rural poor to the Sylhet city. Like other cities of Bangladesh, the present scenario of sanitation system of Sylhet City is also miserable. Almost no latrines or urinals

are seen in low-income areas. They defecate at open spaces, hedges, drains and bushes. Only about 16% of the slum dwellers of Sylhet city have access to use sanitary latrines (Sarkar et al., 2001). Moreover, the water they use for drinking and other domestic purposes is far below the permissible water quality standard. As a result many kinds of diseases spread by water, soil, flies, mosquitoes and air etc. The deteriorated sanitation scenario causes severe environmental degradation, which affects the total environmental condition of Sylhet city. The improvement of the environmental condition of Sylhet city mostly depends on the improvements of sanitation condition of the slum areas. Any initiative for the improvement of such conditions in slum areas needs knowledge of the baseline situation i.e. the existing situation of basic services. This study was undertaken to assess the sanitation condition of the low-income areas

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of Sylhet City and thus to take some initiatives for the improvement of existing situation (Ahmed et al., 2003).

Objectives

The major objectives of the study are stated below:

- To assess the existing socio-economic, water supply, sanitation and health-hygiene conditions of some selected low-income areas of Sylhet city.
- To identify the most suitable types of low-cost sanitary latrines to provide to different types of communities of those low-income areas.
- To evaluate the appropriateness of selection of provided latrine types.
- To identify the socio-economic and other constraints in installation and use of sanitary latrines.
- To monitor the behavioural changes after providing the sanitary facilities and intensive motivational work for practicing appropriate defecation systems.

Methodology

Five different slums (Table 1) were selected depending upon population density, sanitation condition, income status etc. Necessary information and data were collected by visual inspection, questionnaire survey and using other participatory tools from these slums. For questionnaire survey at least twenty-five families were randomly selected from each study area. Gender issues were seriously considered in conducting survey works.

Several motivational programmes (such as meeting with residents and land owners, rally with colourful placards, lectures on health and hygiene etc.) were conducted for building up their awareness about health and sanitation.

Some sanitary units (27 in number) of different types were installed with the active participation of the inhabitants by rendering voluntary works in these areas.

Table 1: Names and their locations of the study areas

<i>Name of the slum</i>	<i>Located at</i>	<i>Ward no.</i>
Subhani Ghat	Southeast part of Sylhet city	15
Charadighir Par Sheikh Ghat	Central portion	16
(Ghashitoola)	Southwest part	10
Subid Bazaar		
(Bonkola Para)	Northwest part	7
Lakkatura	Northern portion	17
Akhalia		
(included later)	Northwest part	9

Depending upon population density, educational and financial status, availability of free space, willingness of landlords to provide lands, willingness of users to share and maintain the toilets, number of toilets and location for installation were selected. It can be mentioned that as no one of the landlords of Subhani Ghat slum was interested to provide land for installation of toilets, Akhalia slum (Table 1) was selected instantly and information about its existing sanitation condition was collected. A wide range of alternative low-cost sanitation technologies are available in Bangladesh, such as simple pit latrine, single and twin ventilated improved pit latrine, reed odourless earth closet latrine, community latrines etc. (Ahmed and Rehman, 2000). Among these, single pit, twin pit and community latrines were selected for installation in study areas. Substructure of the toilets consists of R.C.C. rings (five for each pit) and slabs with water sealed pan. For superstructure C.I. sheets for roof, bamboo for columns and beams and 'Torja' (bamboo fence) for door and sidewalls were used. For twin pit latrine, P.V.C. pipes were used to interconnect pan, inspection hole and the pits and bricks were used for the construction of inspection hole.

The socio-economic and other constraints during installation and use of sanitary latrines were identified by close observation. The appropriateness of provided types of latrines was also evaluated. Regular monitoring was conducted for half a year to observe the behavioural changes of the communities and improvement of sanitation, as well as health-hygiene condition.

Data Analysis and Results

The Existing Situation

Socio-economic Condition

To assess the income and educational level, at least twenty-five families from each study area were surveyed. It was found that most of the inhabitants are very poor (monthly income is below Tk. 4000) and illiterate (Figures 1 and 2). Even, the literacy rate was found only 12% in one study area (Subid Bazaar). Consequently, they have no ability and willingness to pay for maintaining their health and hygiene condition. Moreover, most of them are not aware of it.

Existing Water Using Scenario

From survey works, it is observed that most of the people of the study areas, except in Subhani Ghat, use tube-well water for drinking purposes. In Subhani Ghat, there is scarcity of tube-well or dug-well, as a result, 20% of the inhabitants are bound to use pond water even for drinking

No. of families (%) on the basis of monthly income (TK)

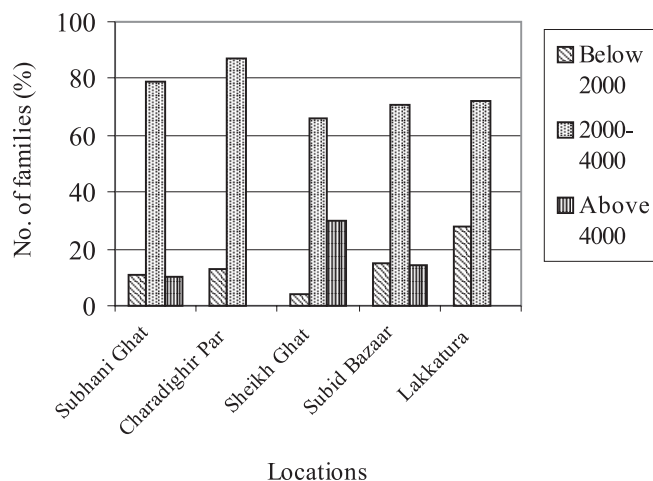


Figure 1: Average income levels of different study areas.

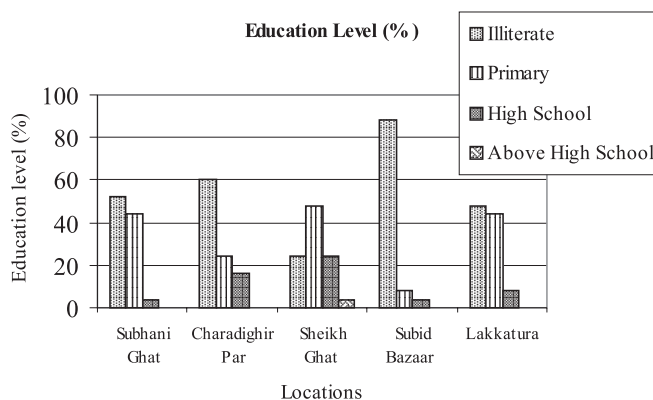


Figure 2: Distribution of educational qualification (%) of different study areas.

purpose. A significant number of people of study areas have to depend on ditch/pond water for household purposes, which is very unhygienic. There are no treatment practices (e.g. boiling of water, sedimentation, filtration, coagulation) available to treat the water. Figure 3 depicts the water-using pattern for household purposes rather than drinking in different study areas.

Existing Sanitation Practices

Due to poverty and lack of proper sanitation knowledge the people of these areas are not accustomed to sanitation practices. The general sanitation facilities include low cost sanitary latrines, unsanitary latrines, open defecations (open space or nearby small canals). Slum dwellers frequently use open space or canals (49.83%) for defecation purpose. Almost all children defecate at open places, as most of their parents think that the children's

Water use scenario

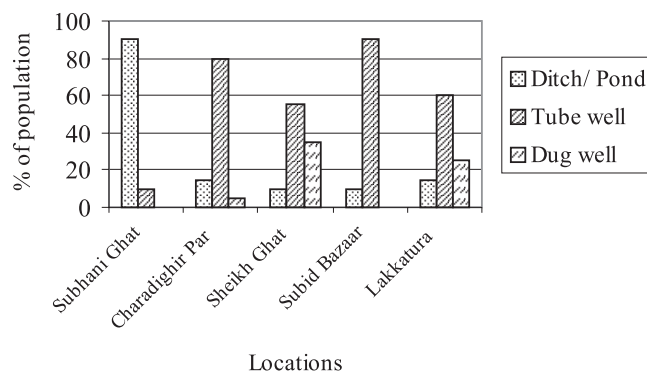


Figure 3: Water using pattern for household purposes.

faeces are not harmful as of adults. Although on an average 50.17% people have some kind of sanitation options, in some places (Charadighir Par and Subid Bazaar), there is an acute scarcity of latrines. Some latrines were found using more than 100 times per day. The defecation condition of these areas is shown in Figure 4.

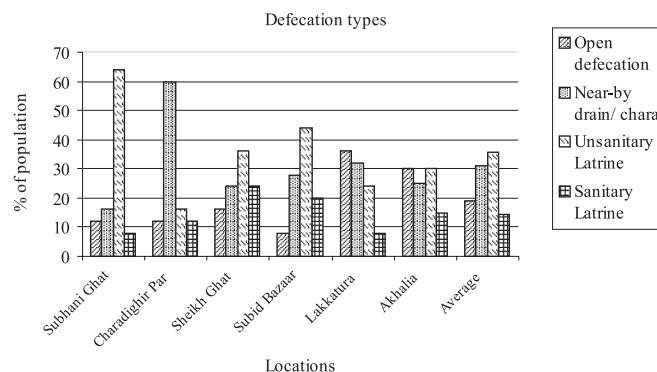


Figure 4: Distribution of latrine used in different study areas.

The following common problems related to existing sanitary facilities of all study areas were identified by the survey work:

- Due to unhygienic sanitary conditions inhabitants, especially children, often suffer from many water-borne diseases like diarrhoea, amoebic dysentery, bacillary dysentery, typhoid, jaundice etc.
- Overflowing of excreta is a common problem for most of the latrines.
- Due to absence of disposal facilities, location of many latrines need to be changed.
- Number of users is very high, so they have to wait in the queue at peak hours.

- Poor condition of latrines without shade does not permit uses in rainy season.
- Bad condition of superstructure creates privacy problem.
- Location of the sanitation units at higher places on the hills especially in Lakkatura tea garden discourages the access of children to the latrine.
- Severe odour problem was observed in most of the places.
- Views of the latrines are aesthetically very unpleasant.

From the analyses, it can be summarized that the following factors are mainly responsible for the existing sanitation condition:

- Illiteracy
- Lack of knowledge about health and hygiene
- Poverty
- Lack of free space
- Lack of willingness of the land owners and the dwellers
- Unwillingness to clean the latrine or empty the filled pits
- Behavioural problems
- Superstitions (“Women must not use the latrine after elder male-in-laws”- a common belief of the workers of ethnic minority groups of tea gardens)
- Geographical condition (hilly areas)

Drainage and Solid Waste Disposal

There is practically no drainage arrangement and solid waste disposal facility in any of the slums. In most cases earthen makeshift channels are used to remove the excess water from the immediate vicinity of the water sources without leading to any other main drainage system. Solid wastes are disposed off at roadside bins, open spaces, water bodies and drains.

Obstacles Identified during Installation of Sanitary Latrines

During the installation, different types of problems were encountered in different locations. No one of the inhabitants of Subhani Ghat was interested to provide land for installation of toilets. So this site was abandoned for further study. In some sites (Charadighir Par, Subid Bazaar) landowners were not co-operative in latrine construction. In some cases landowners were found feeling shy to take any financial support for installation purpose. At Charadighir Par and Sheikh Ghat the tenants were not interested to take toilets, as they were afraid of increased house rent. The users of Lakkatura were more

interested to defecate in the open space rather than a latrine because, they think that inadequate water in the locality may clog the system and increase the complexity. Inhabitants of Charadighir Par and Subid Bazaar were interested to install the latrine near the drain so that they can connect it to the drain when the pit will be filled up as they think the disposal of waste from the pit is cumbersome. Some of them took the project as a complex and clumsy work since it requires proper management and maintenance. Scarcity of free place for the installation of sanitary latrine was found at Charadighir Par and Lakkatura. Hilly area and lack of water source made the construction work tough at Lakkatura. Skilled mason was not available at Akhalia. Moreover, high table of ground water and loose soil of this location increased complexity in installation. High table of ground water was observed also at Sheikh Ghat, which is situated on the bank of River Surma.

Monitoring and Evaluation

Most of the people especially women became conscious about sanitation after the motivational works. Hygiene practices have been developed among them due to availability of sanitary latrines. They use sanitary latrine regularly and help their children to do so. Open defecation was remarkably reduced. Now these areas are almost free from odour. Before undertaking the research work, only 14.5% of the targeted dwellers were observed using sanitary latrines. Now this figure has been sharply increased to almost 78% (Figure 5).

Health condition of the people of the concerned area has been improved to some extent, as spreading of many diseases specially water-borne diseases has been reduced and most of the inhabitants are using now soap or at least ash to wash their hand after defecation.

Active participation of the beneficiaries at different stages of the programme made them more responsible

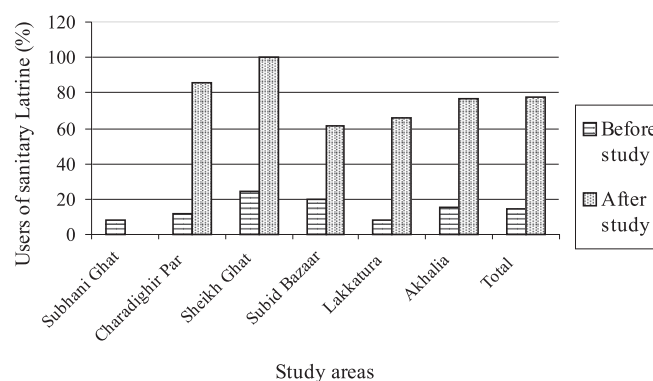


Figure 5: Percentage of sanitary latrine users before and after the research work.

for using and maintaining the toilets. House owners and caretakers try to clean the latrines properly. Even then, some latrines were found clogged. One of the reasons of carelessness about maintenance of these latrines may be the absence of financial contribution of the users.

Some people were found not using the provided latrines (Figure 6). The reasons identified behind this were inadequate water sources near the latrines, unwillingness to share the latrines, tough topographical condition in hilly areas and superstition (women must not use the latrine after elder male-in-laws). Thinking that having a sanitary latrine is very prestigious for a family, which only the guests must use, also was a reason for not using the provided latrines in some cases.

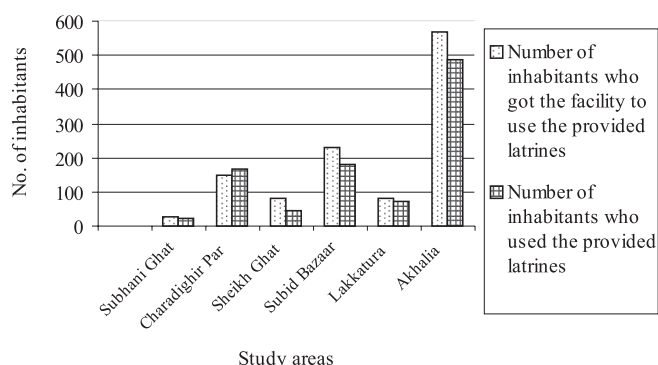


Figure 6: Number of inhabitants who got the facility to use the provided latrines and the number of them who use it.

Conclusion

From the extensive year-long study the following conclusions could be drawn:

- Overall health and sanitation condition of the study area was worse before starting the research works. Poverty, lack of knowledge and awareness about health and hygiene, unwillingness, superstitions etc. were responsible for the deteriorated condition of the sanitation system. This situation has improved as a result of the intervention. Before undertaking the research work, only 14.5% of the targeted dwellers were observed using sanitary latrines. Now this figure has been sharply increased to almost 78%. Most of the inhabitants are using now soap or at least ash to wash their hands after defecation.
- Concentrated motivational works, such as poster, meetings, rally with colourful placards and festoons, lectures on health and hygiene, group discussions etc. on targeted people remarkably changed their behaviours, attitudes and superstitions about their defecation practices.

- Due to poverty most of the people cannot afford the sanitary latrines, although they became aware of healthy sanitation by the motivational works. Providing latrines free of costs improved the sanitation condition of the locality significantly.
- Voluntary participation of the inhabitants at different stages of the programme made them responsible for using and maintaining the toilets properly.
- Twin pit latrine requires more space, high cost and excessive water for cleaning. Moreover, due to unwillingness to share and complexity in maintenance, twin pit latrine was found not suitable for use in most of the places. The disadvantages mentioned above were also observed for community latrine although its installation cost is less than other types of latrines. Under the circumstances, it was observed that single pit latrine is more suitable for most of the study areas.

Recommendations

On the basis of field observations and analysis of the gathered information the following recommendations may be proposed for the further improvement of the sanitary condition of low-income community in Sylhet city:

- Beneficiary participation must be ensured while taking any initiative for the development of the existing sanitation condition.
- Extensive educational programmes and publicity through mass media, meeting, poster, motivational lectures to the general public etc. should be undertaken to increase the awareness of the people about the health and hygiene practices and the environmental pollution.
- Steps should be taken to improve water supply system in parallel with providing sanitation facilities to maintain healthy sanitary environment.
- Necessary disposal facilities of wastewater should be upgraded.
- Selection of type and quantity of sanitary units should be made according to the users' numbers.
- Monitoring programme should be continued for a long period to enhance the achieved improvements about sanitation in project areas.
- Experience from others, like different GOs and NGOs working for sanitation, academicians and civil societies should be shared to get better results.
- Further studies on large scale should be implemented to cover all the low-income areas of Sylhet city.

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