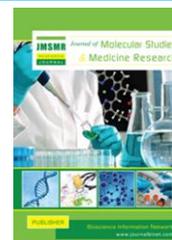


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## Assessment of children health condition of urban slum area: a case study on Khulna municipality, Bangladesh

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### ABSTRACT

*The present study is an attempt to reveal the health condition and the accessibility of the selected basic services of the slum children of Khulna city. A qualitative interpretative approach was followed to analyze the data gathered through multi-method data collection approaches consisting of observation, structured questionnaire surveys and informal interviews in inside and outside the community. A total of 400 households with 200 respondents (100 parents and 100 children) were interviewed through a random sampling method and a few focus group discussions were organized to get a real and detail present and the past picture of the study area. Information on socio-economic background, facilities of basic services, condition of children's health, education, sanitation practices along with other facilities such as medical facilities were collected. In the study area, only 10% children can complete their secondary school certificate and the other deprive because of poverty and unconsciousness. There are very limited accesses to safe drinking water supply and sanitation facilities in slum area. Moreover, the children are living in an unhygienic and overpopulated environment for a long time. Although 100% latrine is pucca (i.e., constructed by brick and cement materials) in the study area, most of the children's feces is dispose in open spaces. Hand washing practices is also not proper among children where only 60% children use soap after defecation and 5% children use soap before taking meal. That's why the children are suffering from frequent waterborne disease. The highest affecting disease is diarrhea (40%). From the study results it is also found that, parents in the slum are not enough knowledgeable about child health care. Although various non-government organizations and government organizations are trying to solve the urgent problems in order to achieve millennium development goals.*

**Key words:** Water supply, sanitation, health facility, hygienic condition, Khulna City Corporation and urban slum

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### I. Introduction

In recent times, Bangladesh has been witnessing rapid urbanization; it is even more rapid within the passing of time which is projected by the national census conducted in 2001. The study showed that, over the previous 10 years, the population in urban areas of the country had grown by 38 per cent,

compared with only 10 per cent in rural areas (Bangladesh, 2003). Hossain (2003) noted that in 1974, only 7.86 per cent of the total population lived in urban areas. This figure had reached 20.15 per cent by 1991, and it is anticipated that the urban population will reach 36.78 per cent by 2015. In Bangladesh, rural poverty, river erosion and better employment opportunities in urban areas are the reasons that an increased number of rural people move to the cities especially in urban slum areas. These slum people often exert tremendous pressure on the already scarce urban utility services and other amenities of urban life, resulting in a lack of access to basic services relating to primary health and public health services, such as water, sanitation, waste disposal and food safety. In general slums are unforeseen neglected parts of cities wherever housing and living conditions are horrendously lacking (The World Bank, 2001). In Bangladesh, only 72 per cent of the urban population has access to the water supply (Bangladesh, 2005). No urban area except Dhaka (the capital city) has a conventional sewerage system (Asian Development Bank, 2008).

As elsewhere in the Third World, slums and squatters in Bangladesh attracted not much attention from the public health policy makers. The health impact originated from socioeconomic status has been extensively studied focusing on mortality and morbidity (Papa et al., 2009). Studies on the effects of environmental factors on slum dweller's health in the context of Bangladesh are scarce. Few studies have been done on urban environmental health situation in the informal settlements (Salahuddin & Islam, 1982; Hussain et al., 1999). In the last two decades the researchers have paid much more attention to livelihood and quality of life of slum people. Studies have confirmed that low economic status lead to higher rate of mortality and morbidity. In both the developed and developing country, the relation between socioeconomic status and health exhibits a common pattern: the lower the socioeconomic status the poorer the health (Singh et al., 1996; Papa et al., 2009). Keeping in mind the above scenario the current study has set out three objectives; to study the socioeconomic situation of the study area, to outline the environmental condition and to assess the children's health condition of slum children.

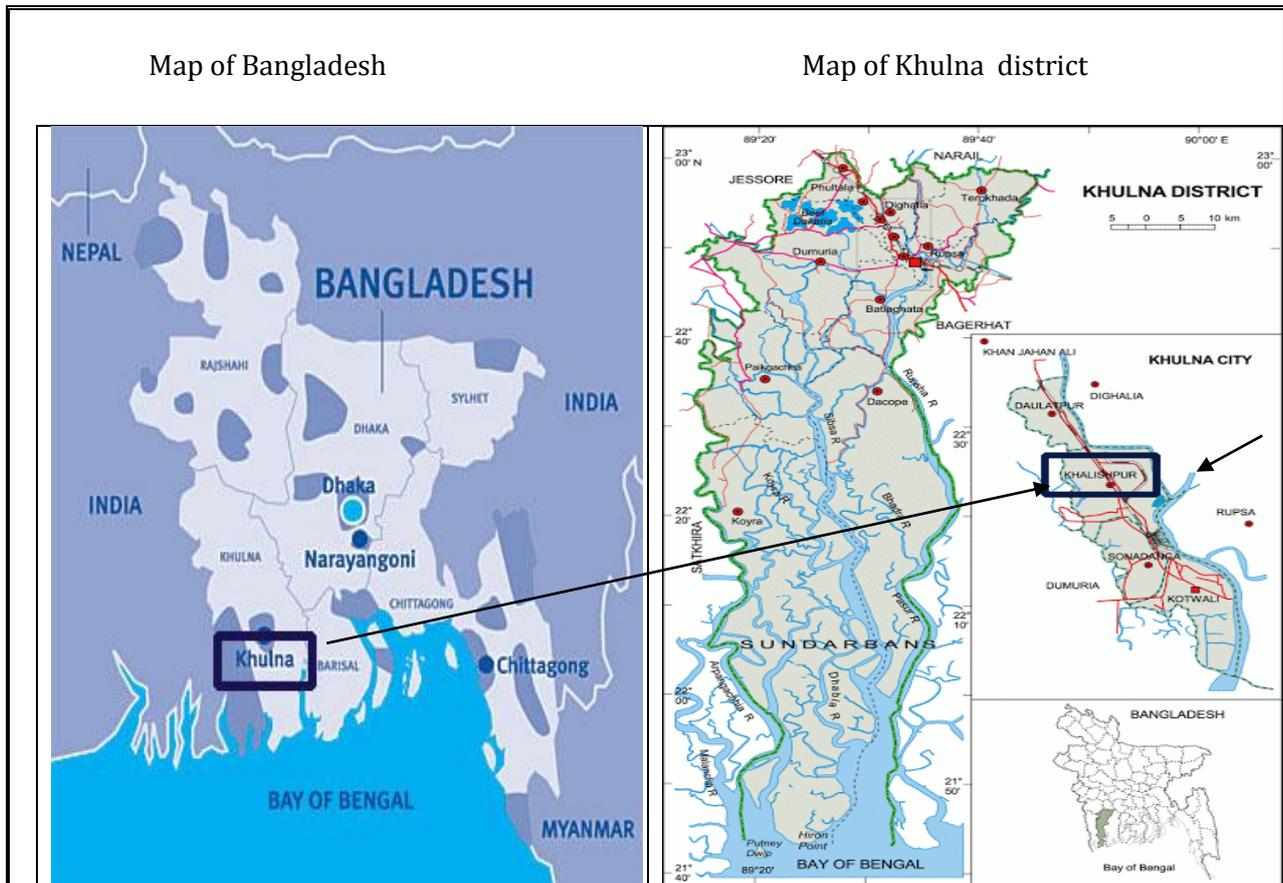
The slum areas of Khulna Municipality is not exception either and also represent various environmental, economic and social problems that have severe impacts on the healthy life of slum people specially the slum children. To ensure a good quality of life of slum children the environmental conditions of the slum dwellers are of utmost importance. In order to obtain accurate data on the magnitude of environmental problems and to find out the basic services provided to the slum children by their family and government, a detail survey has to be undertaken. This would help to find out the conditions of the slum children of Khulna city. The present article will also discuss the access of slum children to the basic services such as food, shelter, education and health services. It will also identify what needs to be done to cope with the problems faced by the slum children to ensure sustainable development goals. The specific objectives were to observe the present health condition of slum children, to observe access to pure drinking water and sanitation services and to find out disease pattern and access to health facilities by slum children.

## II. Materials and Methods

**Study area:** In spite of relevant attempts made by different nations to improve the conditions of the urban poor that are living in slums and squats the quality of life has yet to be improved. The case in Bangladesh is a good example of this. Khulna, the third largest metropolitan city of Bangladesh, is no exception of this scenario. Geographically Khulna is located at 22° 49'N latitude and 89° 4'E longitudes and occupies an area of about 46 sq. km. Presently the Khulna City Corporation (KCC) is composed of 31 wards with a population density of 180 persons per hectore (Environmental Maps and Workbook Project for Khulna City, 1999). Khulna gained its formal town status after the establishment of the municipality in 1884 and in 1961 it became the headquarters of Khulna division. During late 1950s and 1960s this divisional headquarter became an important center of industrial development. In the late 1980s and early 1990s with the establishment of Khulna University and Khulna Medical College, Khulna gained additional impetus for further socio-economic and physical development.

A study by Mortuza (2000) shows that there are 172 slums located all over Khulna city. During 1992 - 1999 the average annual population growth rate was 7.3 percent compared to 1 percent during 1976.

At present 13 % of the city's population live in slum areas in which about 3.5% are children. Being the regional center of south-western part of Bangladesh the slum population of Khulna city is expected to increase with the rate of urbanization. There is an urgent need to pay adequate attention to improve the living environment of the children of slum areas, which will ultimately contribute to Khulna's sustainable development for the future.



### Location of the study area in Khulna city of Bangladesh

**Data collection and analysis:** To conduct the study two types of data sources are utilized, the first are primary data, i.e., field surveys conducted by the authors during 2014 in the selected slum area of Khulna city. The second data source is secondary materials, relevant to the study. A qualitative interpretative approach was followed to analyze the data gathered through multi-method data collection approaches consisting of observation, structured questionnaire surveys, household case history and informal interviews in inside and outside the community. The study slum, namely Purabari slum, Peoples slum, Crescent slum, Alamnagar Slum and Khema Slum have a total of 400 households with an 200 respondents(100 parents and 100 children) were interviewed through a random sampling method and a few focus group discussions were organized to get a real and detail present and the past picture of the study area. Information on: (1) Socio-economic background, (2) Facilities of basic services, (3) Condition of children's Health, education, sanitation practices along with other facilities such as medical facilities were collected.

The data analysis was divided into two parts, the first was the analysis and an accurate phenomenon that was observed has been developed. The second part of the analysis focused on the interpretation of the collected data. This approach was complemented by insights gained from simple quantitative analysis, for example frequencies and cross-tabulation. A combination of quantitative and qualitative data analysis was used to grasp a better understanding of the real picture that exists in the study area.

### III. Results and Discussion

**Socio-economic status of the slum dweller:** From the survey results it have been found that, most of the slum people (65%) are day labor while some are in small job, business and other profession such as driving. The economic status of the people is also low (2000-8000/month) to provide basic needs to their children.

**Educational status of the slum children:** Educational status of the slum children is quite good at the primary level that is about 80% but only 10% of them can complete their secondary school certificate. About 15% of them are engage in various works such as in workshop, in small business and in household work. In spite of being restriction on child labor some parents send their children to earn some money whereas some dishonest business man want to keep children in work because of low wages. Again about 5% children engage in begging and other leisure activities which are shown in the figure below.

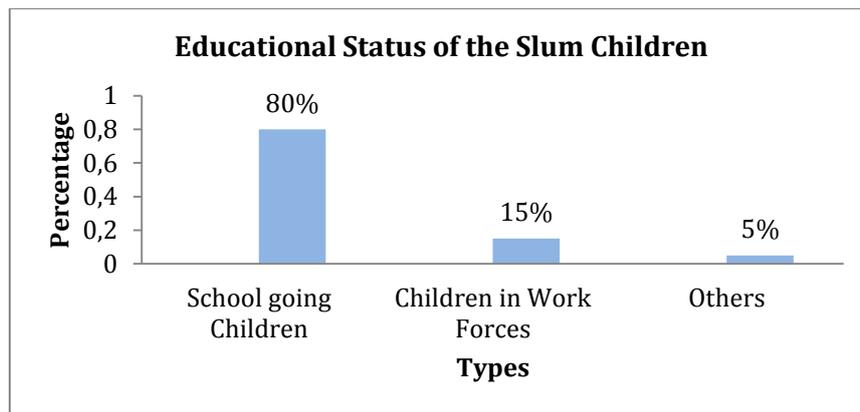


Figure 01. Educational status of the slum children

**Nutritional status of the slum children:** A total of 100 children (age limit 4-10 years) participate in the study, among which about 53% children do not maintain the body- mass index chart that is, they are malnourished, whereas only 17% children have the standard value for body-mass index.

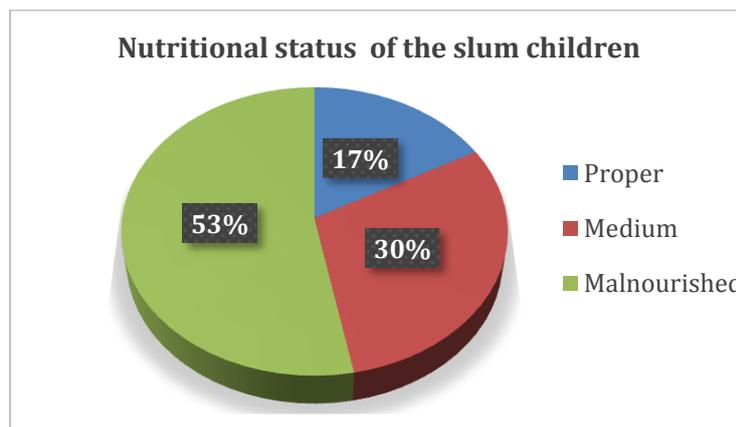
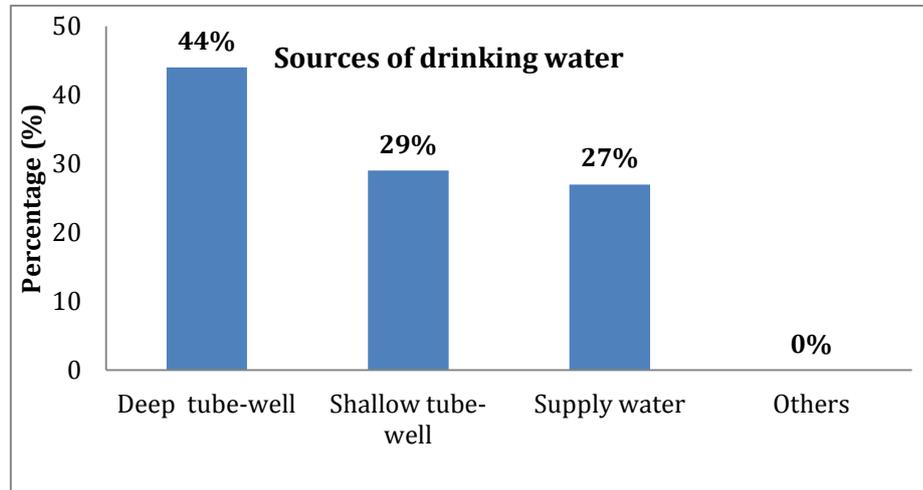


Figure 02. Nutritional status of the slum children in the study area

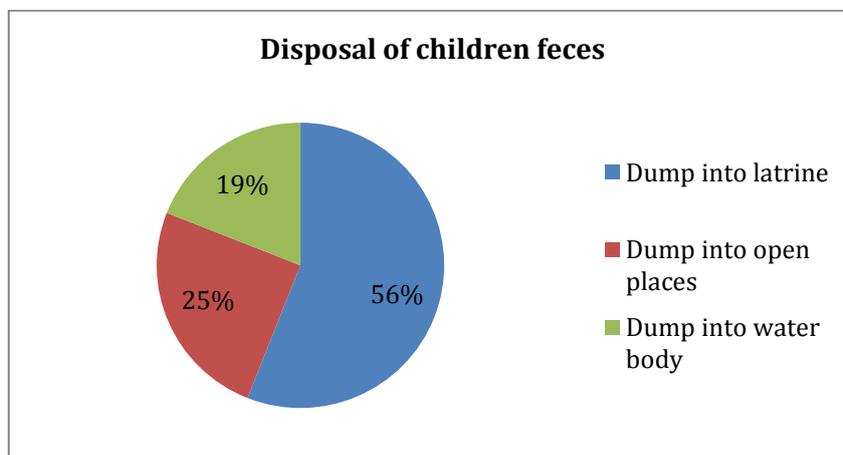
**Sources of drinking water:** Slum dwellers mainly use deep and shallow tube-well water without further treatment (such as boiling, water purifying tablet) for their drinking purposes, some use supply water that are delivered by the KCC authority. The existing sources of water supply are not sufficient for the rapidly growing population of the slum. A long line of people for water collection is a daily phenomenon of this slum. This scenario is also shown in figure 03 below.



**Figure 03. Households' sources of drinking water**

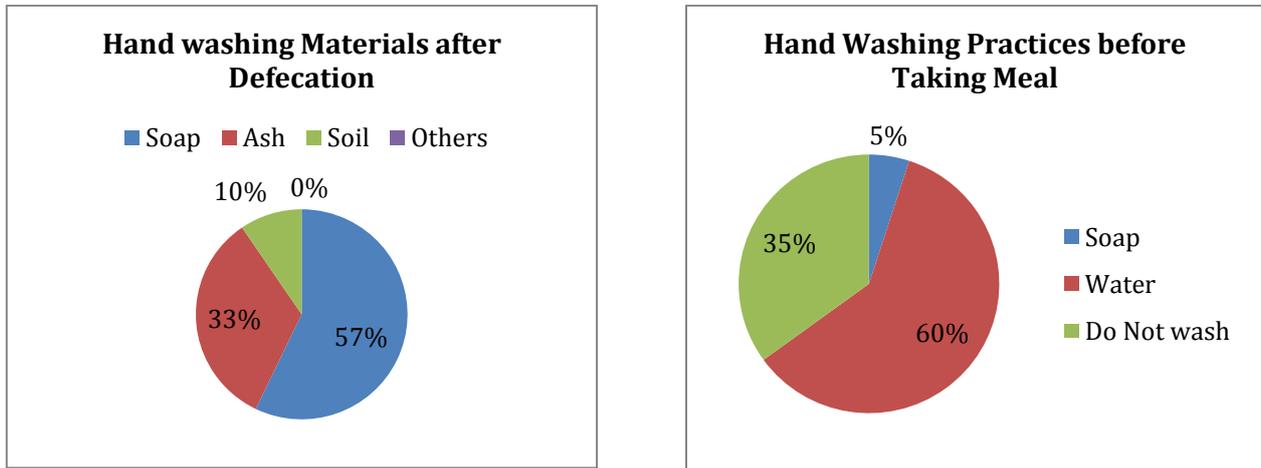
From the study area, it is found that 44% of the households are collected from deep tube-well, 29% of the households are collected from shallow tube well and 27% of the households are collected from supply water.

**Types of toilet facility and children defecation practice:** Sanitation is a term which means some equipment, processes and systems to keep the places clean and healthy by removing human waste. From the study area, it is found that 100% pucca toilets are being used by the slum dweller for defecation purposes this is because of some NGOs involvement. But Children younger than 3 years defecate in the open homestead compound. This is either due to the height of the latrine door, or because of the design of the squatting plate. It is however, unrealistic to expect that children should use a fixed place for defecation, while their parents defecate indiscriminately. The children's defecation practice of the study area is shown in figure. In the study area, 56% of children feces are disposed in latrines, 25% disposed in open place and 19% disposed in small latrine are shown in figure below.



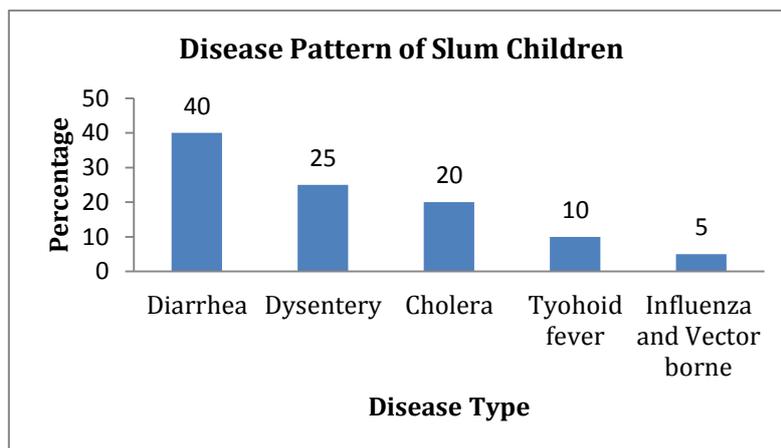
**Figure 04. Disposal of children's feces.**

**Hand washing practices and materials:** In the study area, about 100% children said that they wash their hand after defecation but only 65% children wash their hand before taking food. But there is a variation in the hand washing materials. About 60% children wash their hand with soap, 35% with ash and 10% with soil after defecation but only 5% children wash their hand with soap, 60% wash hand with water and 35% of the children do not wash their hand before taking meal which is shown in the figures below.



**Figure 05. Hand washing materials in the study area**

**Children’s disease types in slum area:** In slum area, children mainly lived in unhygienic environment with limited facilities. In addition to these slum dwellers are not enough knowledgeable about health and sanitation practices in daily life for healthy life. That’s why most of the slum children suffered from various diseases mostly the waterborne diseases. Besides, influenzas and other vector born diseases also occur frequently. The disease pattern of slum children are presented by the following figure below.



**Figure 06. Percentages of waterborne diseases in the study area.**

From the figure, it has been found that children mainly suffer from diarrheas and it happens several times in a year. Most of the parents (54%) use family treatment in this case and the rest take advice from doctor. Again only 66% parents can make saline in home and 34% do not know how to make saline. In slum area, 80% children get the vaccination and the other 20% do not get the vaccination. The reason behind this is unconsciousness of parents. Survey results show that, most of the health service provider institution situated less than 1km distance from slum area.

**Role of GOs and NGOs in improving sanitation status:** In the study area, KCC, local commissioner and numbers of NGOs were playing an important role to improve health and sanitation conditions of slum children. Survey result also shows that, role of NGOs is greater than government organizations in improving health and sanitation condition of this slum. Most of the NGOs arrange regular focus group discussion program and various awareness programs on health and sanitation practices. They also provide financial support to build sanitary latrine in slum area. On the other hand, government organizations ensure safe drinking water facilities, health facilities, and electricity facilities in slum area.

Nearly one third of total urban populations of Bangladesh live in slums and squats. Most of these people are economic migrants from rural areas with a large number contribute to the informal sector, yet their role in economy and rights are overlooked by the formal sectors. Their suffering is manifold

in cities; inhuman living and working conditions and forced and frequent eviction by the authorities are a common phenomenon. To achieve sustainable Development goal it is urgent to make all children of our country safe and healthy and it can be possible through the proper attention of the respective authority.

#### IV. Conclusion

Problems with slums and squatters are the common phenomenon not only in Khulna City but also in other urban areas of Bangladesh. For the last few decades, the growth of urban population is extremely high. This is due to high migration rate of rural to urban areas as well as the natural increase of population. The major cities of the country contain large number of slums and squatter settlements where the large portions of urban population are living who often overlooked by the legal authority in the case of their basic needs. The study results represent that more than half of the total slum children are malnourished due to poverty. The slum dwellers even do not get pure and sufficient drinking water facilities, only 44% people get their drinking water from the deep tube-well and almost 29% people get their drinking water from the shallow tube-well and 27% people get their drinking water from the supply water. That is why the most common and frequent disease among children is diarrhea, dysentery and other water borne diseases. Again more than 44% parents dispose their children feces into open space and in water body, which is another important reason of frequent water borne diseases among slum children. Hand washing practice is also another reason for this. In the study area, only 60% children wash their hand with soap after defecation and only 5% children wash their hand with soap before taking meal. Lack of awareness among parents often enhances all the health related problems of children in slum area.

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