

Environmental Condition of the Slum Dwellers of Rajshahi City, Bangladesh

I.U. KHAN¹, M. R. ISLAM², M. M. HASAN³

¹Department of Urban and Regional Planning, RUET, Bangladesh (shuvo.play@gmail.com)

²Department of Urban and Regional Planning, RUET, Bangladesh (rashiq.urp@gmail.com)

³Department of Urban and Regional Planning, RUET, Bangladesh (mahmudhasanbipul@gmail.com)

Abstract

There is no controversy over the fact that environment is a serious issue on the earth and it creates greater impact on the natural being. Because of increasing population it results in slum dwellers and quarter settlement, among that it plays a vital role on the slum dwellers. It has been established that poverty such as lack of access to clean water, inadequate sanitation, poor waste disposal, improper drainage and lack of access to open space are the major determinants of environmental condition of the slum dwellers. This paper is prepared based on the people of the slum dwellers of the Rajshahi, third divisional city in Bangladesh. The research population was based on 30000 families, live in different slums in Rajshahi City Corporation (RCC). The paper shows an informative analysis of environmental problems in slums and impact on slum dwellers. It also suggest that while a total clearance of the slum in the study areas may not be feasible because of the cost elements, inconvenience and other logistic problems it might cause. The environmental condition is dependent variable while the environmental factors are independent variables. Data were collected via questionnaires, personal interview, direct observation, and focus group discussion. The analysis was based on five slums around the RCC. The sample size was 150 for the interview and the confidence level was 95%. Above all, some suggestion has been designed like Urban Partnership for Poverty Reduction Project (UPPRP) which encompasses provision of water and sanitation facilities. Environmental campaign will not only degrade the environmental threats but also allow a functional, enduring and pleasant environment.

Keywords: *Slum, Environment, Sanitation, Drainage, Waste Management.*

1 Introduction

Bangladesh is the eight largest populous country of the world. According to the census report of 2011, the total population of Bangladesh is 14, 23,19,000. The growth rate is 1.34 per cent. Rajshahi is one of the most densely populated cities in Bangladesh. Population is increasing day by day in Rajshahi city. Rajshahi is now experiencing a period of cramped population growth and migrants are mainly responsible for this high growth rate. About 7000 people increase in every 10 years. The population of Rajshahi city is now 4, 49,756 (Source: *Bangladesh Population Census, 2011*). Experts say that 50 per cent of the total population of Rajshahi city live in slums with inadequate facilities. The total number of slums in the rajshahi city corporation area is approximately 45 (Source: *RCC*). Most of the slums are situated in motihar, boalia, binodpur, katakhali, railgate, padma residential area and laxipur area. We selected five slums from different places of Rajshahi for this survey to show the environmental condition of the slum dwellers of Rajshahi City. Some recommendations will be presented for better planning for the slum-dwellers.



Figure 1. Map of Rajshahi City

Our study area was five –Badurtola slum, Ramchandrapur slum, slum of west side of Padma Residential area, Vodra slum, Slum of Bornali mor to court station area.

Overall objectives of the survey is to collect information to access the present state of environmental conditions, health, sanitation, drainage condition among the slum dwellers in the areas covered by the survey.

The study would access the livelihood status of slum dwellers by analyzing the available facilities including basic requirements of sanitation facilities, drainage system, sewerage system, health facilities, waste management and overall existing condition of slum areas.

1.1 Methodology and Limitation

Selection of area: Among the various slums and squatter settlements for low income people this project is selected five slums located in different places of City Corporation to show the overall condition of Rajshahi slum.

Reconnaissance survey: To see the existing housing, environmental, utility facilities, a reconnaissance survey was made after selecting the area.

Identifying Goals and Objectives: The objective were selecting on basis research topic.

Literature Review: The overall condition of slums varies from region to region, countries to countries. So at this stage extensive literature review including journal defined on going and completed slum projects have been done in different context. This literature review gives us a direction for surveying.

Preparing Questioners: On this step the questionaries' is prepared. The responding slum dwellers were provided with the questionnaire's and asks to fill them up.

Pilot Survey: From each slum three people are targeted for interview to find out lacking's of the questioners.

Sample Design: From each slum 30 peoples of different ages are targeted for interview. So our sample size is 150. Random sampling (for pilot survey) & cluster sampling (for data collection) method have been used for surveying.

Data collection and Analysis: The data was collected from primary sources. Respondents are requested to give us answer of the questionnaires. Then the data are being analyzed and major finding have been collected.

Formulation and Recommendation: After analyzing the data the report is being formulated with key findings. We try to give some possible solution for their existing problems.

There were some limitations of the survey. The sample size was small to represent the overall conditions of all slums of Rajshahi City Corporation. Resources and manpower which are allocated for the proposed research was very limited, the data collection was limited only within 150 respondents of Slum dwellers of Rajshahi city and lack of awareness of the interviewees about their rights.

2 Data Analysis

Some environmental factors are described below. Whereby its indicate the environmental condition overall.

2.1 Sanitation:

Human waste disposal system is a mixture of several modes, including the traditional mode of bucket latrines. Most of the sanitation systems are unhygienic. This is explained by some environmental factors.

2.1.1 Structure of Toilet:

Table 1. Distribution of toilet structure according to their condition (Field Survey 2015)

Categories of Structure	Frequency	Percent
Pakka	70	46.67
Kaccha	65	43.33
Hanging	15	10
Total	150	100

Here about Half of the total toilets are found in pakka condition because of some development projects like UPPRP has taken to improve toilet condition and it is found around 46.67%. Which indicates friendly & livable sanitation environment. Some kacha toilets also found around the slums which is 43.33%. But some hanging toilet are also found in some different slums which is in periphery of the town. Here the sanitation environment is so inhabitable. The solid and water disposal aren't disposed in proper way.

2.1.2 Quality of Toilet:

Table 2. Distribution of toilet according to their quality (Field Survey 2015)

Categories of Qualities	Frequency	Percent
Bad	61	40.67
Moderate	68	45.33
Good	16	10.67
Very Good	5	3.33
Total	150	100

Some of the cases Moderate toilet condition around 40.67% is found. Where minimum livable environmental condition is observed. But some other cases badly toilet condition has been observed. Which is about 45.33%. Here it indicates most of the cases toilet conditions are unhygienic. Living condition in such an environment is beggar description.

2.1.3 Shared Toilet:

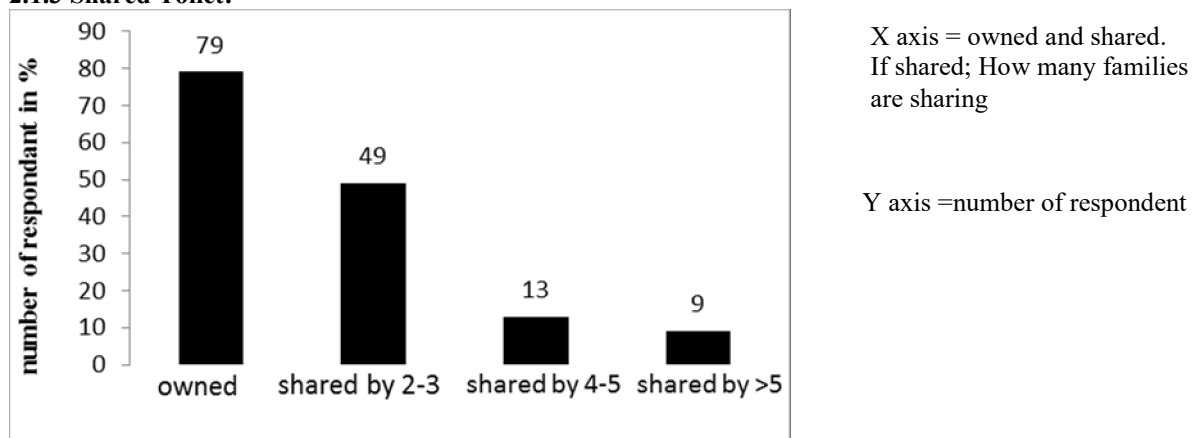


Figure 2. Shared Toilet Users Percentage (Field Survey 2015)

In the circumstances of figure 1, most of the toilets are found in respondent's own condition. Which clear indicate that several livable environment is existed. But some shared toilets are also found where most of the toilets are found unhygienic. Here it is come to know that where shared toilets increase by the family no. the environmental condition is unhealthier, unhygienic.

2.2 Waste dumping

Waste dumping has an important impact on the slum environment. Waste dumping is necessary to decompose the waste. But when it is dumped on place near people's house then it will cause many harmful effects on people.

2.2.1 Condition of waste management

The condition of the waste management was observed not good. After the questionnaire survey we observed that 18% respondent thought that their waste management system was effective and 82% respondent thought that it was non-effective. Here non-effective means there is no waste management system available. From their responses we can easily perceive the condition of waste management is not good. Some slum dwellers beside the river say they threw their daily waste directly to the river water. It is very harmful for river and thus the environment. The river water became polluted by this occurrence. They use the same water for their daily purpose. For that reason they are affecting by water type diseases.

2.2.2 Waste dumping place

In the slum area no such dumping place where the dump their waste. There is no connection between slum and government. Government does not provide any facilities to the slum dwellers that's why most of the cases they does not use dustbin.

Table 3. Dumping Place (Field Survey 2015)

Categories of dumping place	Percent
Dustbin	3.93
open space	50.57
River bank	23.04
Canal	21.34
Other	1.12

Only 3.93% family use dustbin for dumping. Around 50.57% people of the slum dwellers of Rajshahi city corporation use open space as their waste dumping place. And other people throw their waste on the river and canal. And that is completely unhygienic for the slum dwellers.

2.3 Health

Living condition in urban slums is worse than those in the poorest rural areas of the country. This can be attributed partly to the slum's exceptionally unhealthy environment. Many of the most serious diseases in cities are environmental because they are transmitted through air, water, soil and food or through insect or animal vectors.

2.3.1 Accessibility

We try to find the accessibility of hospital within the slum dweller. And there around 88% families of those five slums get hospital accessibility and 12% family doesn't get it. Here among the 12% people some says that they cannot bear the expense of the treatment so they cannot access the hospital.

2.3.2 Disease Type

Lack of urban environmental services coupled with other socio-economic and housing attributes might have had an impact on the environment and public health .The overall health status of slum dwellers is reflected in the common diseases like diarrhea, cholera, fever and headache as well as various diseases. Among the 150 respondents 44% slum dwellers attacked by diarrhea and 38% attacked by others diseases like fever, headache etc. as well as 18% attacked by cholera.

2.4 Drainage

The term "drainage" is heavily related with the environment. Drainage is the natural or artificial removal of surface water, sub-surface water, storm water, rain water, domestic water from any area. Only a Poor drain can easily hamper the whole environment. From direct field survey it was observed that most of the drainage are not good. And not good drainage percentage was 81.333%, good drainage was 16.67%, very good drainage was only 2%. From this statistics we can easily understand that the condition of drainage of Rajshahi slums. The poor drainage adversely effect on environment. Absence of drain cause erosion, it cause flooding, which greatly effect on their health and cause many waterborne diseases like cholera, diarrhea etc. After some interval drainage maintenance is required to ensure that they continue to function effectively. Regular cleaning of drains helps to remain free flowing, prevent clogging and overly keep the environment healthy. From direct field survey it was found that about 39.99% drainage were maintained by the city corporation. 30.67% were maintained by the

community base organization. And other such as self NGOs etc. maintained 30% of the total drainage of the slum.

2.5 Open spaces

Open space is the lungs of the city. It is the place for mental relaxation. Open space is mainly describe as all the public or private land open in character which link human with nature. For being a healthy community it is necessary to have some open space on that area.

From direct field survey it was found that 85 respondents said that they are accessible to open space, and 65 respondents said they don't accessible with open space. And percentage of accessibility is 56.67 and non-accessibility is 43.33%.it was cleared that almost half of the respondent are not accessible to open space

Here most of the cases the open space provider is the government. And 90% of the total open space are provided by the government, NGOs provided 6% open space, private organization provide 2% open space. And other like self-provider provides 4% open space.

3 Recommendations

The objective of this survey is to picture the environmental conditions of Rajshahi slum dwellers. There are lots of problems among the territory of the slum dwellers. To reduce the impact of those problems some recommendations can be taken. Some of these recommendations are follows:

- a. Financial support from Govt. & non-Govt. authorities.
- b. Mass awareness program should arranged by the city corporation with environmentalist, healthcare service providers, waste handlers, and common people. (Rahman and Jakia, 2014).
- c. It is needed to educate the people about the danger of living in disheveled environment. (Owoeye and Adedeji, 2013).
- d. Local government should undertake measures to improve the physical environment of the dwelling places, proper drainage, sewerage system and adequate water supply. (Sufaira, 2013).
- e. Slum clinic or mobile clinic van should be arranged for treatment of common morbidities and health promotional activities. (Sufaira, 2013)
- f. Provide facilities by private NGO.

4 Conclusion

At the end we can clearly feel the environmental condition of slum people of Rajshahi city. We all know that how important the environment for being a healthy community. Proper environmental management is the best key to control the situation. Problems such as sanitation, unsafe water, drainage, waste management must be concerned to the authority and they need to take many policies to taken control over those problems. At first the need is the awareness among people, and they need to obey the rules and regulation. We all live together in the community, it is our duty to make our community clean, habitability and healthy.

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