

Assessing the Health and Water Supply Status of Rajshahi City Corporation Slum Units Through Participatory Approach

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Abstract

People move to cities due to both "push" and "pull" factors. Economic, social, and infrastructure issues can stymie potential growth, resulting in the growth of slums and the health and water supply issues that accompany them. This research focuses on the health changes of the poorest residents of Rajshahi City Corporation. To assess water supply conditions in the slum region, a random sample of a systematic questionnaire survey is used. The poll, which covers 5 of 103 slums, has a 95% confidence level and a 5% margin of error. The study encourages public participation through focus groups. According to the findings, 78.5% had acute diseases, the most common of which was fever (47%), and 16.5% had chronic diseases. Focus group discussions cited diabetes and jaundice as two prevalent chronic diseases. The government's and non-governmental organizations' healthcare services were insufficient. 45.9% were concerned about water quality, with 91.9% relying on tube wells for drinking water. Numerous participants in the focus group discussion identified interruptions in the water supply as a top concern. This study informs program development and relief efforts in slums, and it will be a valuable resource for future research.

Keywords: *rural push factors; urban pull factors; rajshahi city corporation; slum; focus group.*

1. Introduction

Bangladesh is a developing country which have a high population density. Its urban population is 28% of its total population (Bangladesh Bureau of Statistics, 2015). This urban population is increasing day by day because of rapid urbanization. Employment opportunities, access to higher education, access to better facilities, industrialization etc. are some factors which are responsible for Urbanization (Dana, 2011). Almost half of 28% urban population live in the four largest cities Dhaka, Chittagong, Rajshahi, and Khulna (Bangladesh Bureau of Statistics, 2015). These major urban centers have slums and squatter settlements. According the Slum Census of 2014, it is found that only these four cities have 11899 number of slums which is 85.02% of total slum number. Rajshahi City Corporation is one of the leading City Corporation of Bangladesh have 103 slums, 10214 number of households and 38,541 number of population (BBS, 2014). The number of slum population has been increasing in Rajshahi, but the facilities are same. Poor housing, high population density and crowded room environment, low socio-economic status, lack of security of tenure, lack of utility services like gas facility, electricity connection, piped water supply, lack of proper solid waste disposal are some common scenarios of slum area. The relation between socio-economic status and health has a common pattern, the lower the socio-economic status the poorer the health condition will be (Latif et al., 2016). Lack of proper water supply and sanitation system is another characteristic of slum area. In slum area a great portion of the households use unsecured latrine and deposit their waste into road side drain and open places, which contaminates water sources, groundwater and the general environment. As a result, a great number of the population in Bangladesh undergoes different kinds of water and

excreta-borne diseases.(Zahanggir Alam et al., 2013). So, it is an immediate concern to develop the overall condition of the slum people of Rajshahi City Corporation. That's why our study focuses on assessing the Health & Water supply condition on the people of Rajshahi City Corporation slum area.

2. Methodology

We chose the topic to address the problems of slum dwellers. Then, among the 103 Rajshahi City Corporation slums, we chose 5 to represent the overall conditions of slums in Rajshahi. The objectives were then prepared.

Table 1. Ward wise sample distribution

Name of the Area	Ward number	Sample Collected
Sweeper Colony	11	85
Ponchoboti Slum	23	53
Talaimari Slum	25	122
Slum near Padma Residential Area	26	70
Dhorompur Slum	28	51

The research was carried out using a mixed method that included both qualitative and quantitative methods. The survey was carried out using a well-structured questionnaire. The qualitative method was combined with focus group discussions. Focus group discussions are a primary data collection tool of the participatory approach and are particularly useful for eliciting information. During our research, we used both primary and secondary data collection methods. The majority of the information was gathered through physical surveys. Some came from secondary data sources (journals, annual reports, research papers, relevant books, newspapers, and thesis papers). The sample size was determined using a simple random sampling technique. The sample size was 381 at 95% confidence and a 5% margin of error. First, we conducted a reconnaissance survey in the Talaimari slum to get a general picture. Following the reconnaissance survey, we conducted a physical survey from June 30 to July 17, 2022. For this study, two focus group discussions were held: one in Talaimari slum and one in Sweeper Colony. There were 8-10 people in each focus group discussion. The collected data was analyzed using various SPSS tools. Finally, we represented our data with tables and appropriate graphs and charts using Microsoft Excel software.

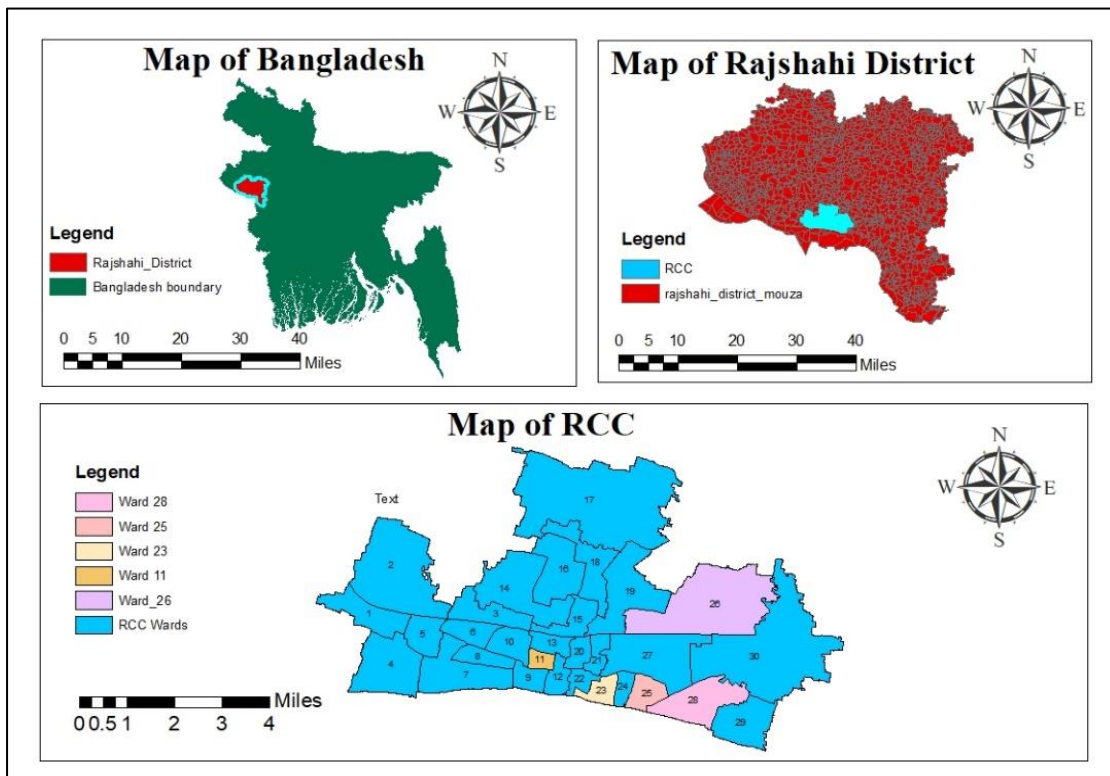


Figure 1. Location of Study Area

3. Analysis

3.1 Demographic Condition

Table 2. Status of educational qualification

Educational Qualification	Response
Illiterate	53.8%
Primary	35.7%
SSC	5.2%
HSC	0.5%
Madrassa	3.7%
Other	1.0%

This table shows that 53.8% people are illiterate, 35.7% people were educated to primary level and very low percentage of people gone to SSC, HSC and madrasa level. In our study there was 57.2% male and 42.8% female people. The maximum respondents were from age category 16 to 30 and age category 31 to 45.

3.2 Ward wise acute & chronic disease

Table 3. Acute disease status of slum people different wards

Response	Ward No. 11	Ward No. 23	Ward No. 25	Ward No. 26	Ward No. 28
Yes	45.9%	84.9%	98.4%	78.6%	88.2%
No	54.1%	15.1%	1.6%	20%	11.8%

Table 4. Chronic disease status of slum people different wards

Response	Ward No. 11	Ward No. 23	Ward No. 25	Ward No. 26	Ward No. 28
Yes	45.9%	84.9%	98.4%	78.6%	88.2%
No	54.1%	15.1%	1.6%	20%	11.8%

These two tables show that, Acute diseases is maximum in Ponchoboti Slum (ward 23) which is 84.9% and minimum in Sweeper Colony (ward 11) which is 45.9%, chronic diseases is maximum in ward no 11(43.5%) and lowest in ward no 23(1.9%).

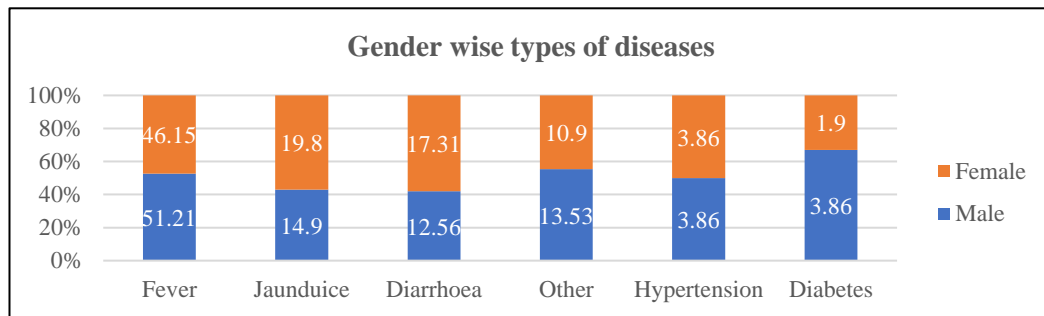


Figure 2. Percentage of people affected in different diseases by gender

The stacked column chart in figure 2 indicates that majority of the male (51.21%) and female (46.15%) are suffering from Fever. Moreover, Jaundice and Diarrhea is also common disease among slum people. Diabetes, Hypertension and others kinds of diseases are less in slum people.

3.3 Type of Treatment of Slum people

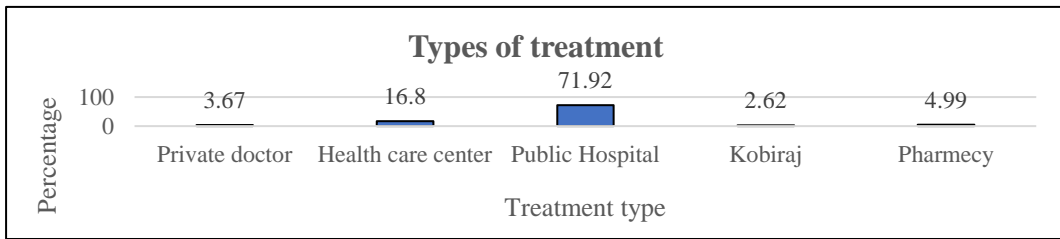


Figure 3. Slum people treatment type

This bar chart in figure 3 represents that slum people are heavily depended on Public Hospital, as 71.92% people take treatment from public hospital, like Rajshahi Medical College. They also take treatment from private doctor, Health Care Centre and Pharmacy and a little portion (2.62%) of people take treatment from kobiraj.

3.4 Health Service Provided by Government/ NGO

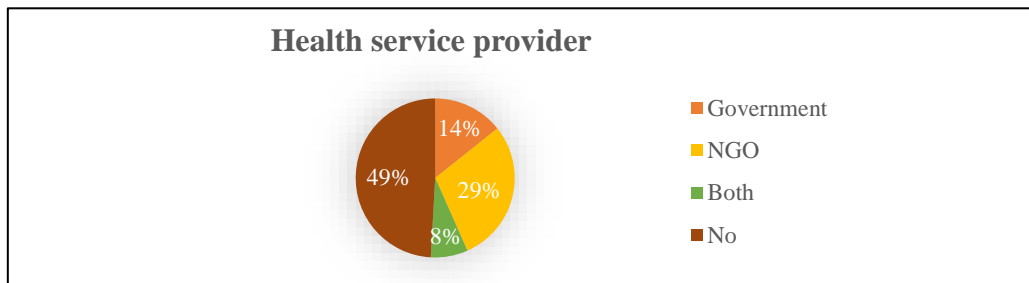


Figure 4. Government/ NGO health service providing condition

This pie chart shows maximum slum people (49.61%) are deprived of all kinds of health service. 14.41% people get health service from govt, where 28.35% from NGO and 7.61 % from both.

3.5 Toilet type

Table 5. Toilet condition in percentage

Toilet type	Response
Private	38.8%
Share with other families	21.8%
Public	23.1%
No toilet/field	16.3%

This table 5 shows that maximum people around 38.8% use private toilet, 21.8% people share their toilets with other family, 23.1% use public toilet. The bad news is that 16.3% people are deprived of toilet facility.

3.6 Other significant issues regarding utility & health condition

Table 6. Utility & Health condition detecting issues of slum people

Topic	Yes/ Satisfied	No/ Dissatisfied
Health Care Accessibility	32%	68%
Prescribed Medicine Intake	80.6%	19.4%
Vaccination	98.2%	1.2%
Ambulance Service	27%	73%
Smoking	32%	68%
Electricity Facility	57%	43%
Gas Facility	0%	100%

Affected by Natural Disaster	48%	52%
Entry of Waste Collecting Van	37%	63%

From this table 6 we can see that majority people are vaccinated and take prescribed medicine which indicates their health awareness. But, accessibility towards health care center and ambulance service are not in good situation. Again, 55% people are acknowledged with electric facility but other utility condition like gas line and entry of waste collecting van is miserable.

4. Analysis of water supply status

4.1 Water supply related problem

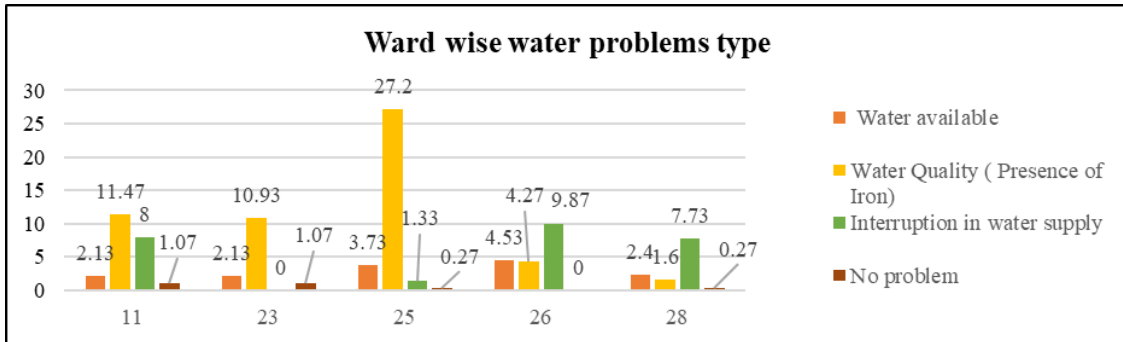


Figure 5. Ward wise type of water supply problem

From figure 05, we see, water quality problem is major in Sweeper Colony (ward 11) and Talaimari slum (ward 25). Besides, interruption in water supply is suffering by the Ponchoboti slum dwellers (ward 23), slum near Padma Residential Area (ward no 26) and Dhorompur slum (ward 28).

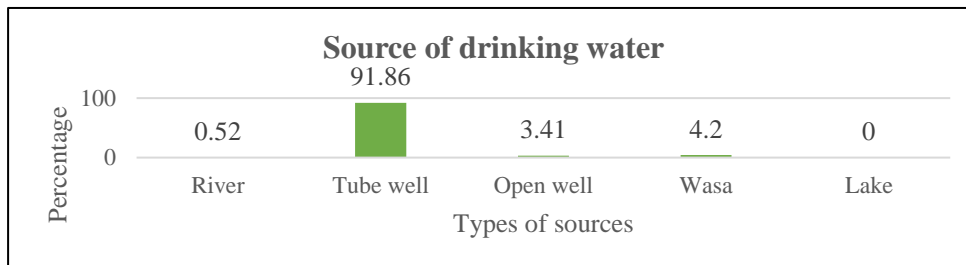


Figure 6. Source of drinking water in slum

Most common source of drinking water is tube well which is observed from figure 06 and other source of drinking water are WASA and open well. No one in our study are drinks water from lake.

Table 7. Factors indicating water supply condition

Topic	Yes/ Satisfied	No/ Dissatisfied
Municipal Water Supply	46.2%	53.8%
Water Supply Problem	78.7%	21.3%
Problem in Tube well	17.1%	82.9%
Satisfaction in Drinking Water	42%	52%
Proper Sewerage Function	35.70%	64.30%

The table 07 gives us an overview of water supply state where nearly 80% people have problem in water supply, more than half of total respondents are not connected with municipal water supply. Besides, majority of the people

are dissatisfied with the drinking water condition and more than 60% people do not have proper sewerage system. The good news is more than 80% people have assured us they don't face any problem in tube well water

5. Analysis of focus group discussion

Participants said that diabetes and jaundice are two common disease they are facing. They added that, health care center accessibility is not good. Generally, they go to Rajshahi Medical College for severe problems and in general case they rely on local pharmacy. They all answered in the positive while questioning about prescribed medicine intake and vaccination. Health service provided by Government and NGO is not satisfactory for them. Electricity facility is provided among the participants but they are not acknowledged with Gas facility. Majority of their house are semi-pucca and katcha. They have average toilet condition which should be developed. Very few wastes collecting van come to their area. So, they dispose waste in open space or beside river. In our discussion, majority said they are connected to municipal water connection line. They told us about their problem in water supply and specifically suffering from water quality and interruption in water supply. The participants have septic tank in their house which indicates good sewerage system. Discussing about health and water supply status, participants expressed that, they are in trouble with mosquito. Besides, some accidents occur while setting up electric pole in their area.

6. Conclusion

Slum people have lots of sorrows and sufferings. They are deprived of their rights and cannot fulfil their daily needs. Our study focuses on the health and water supply condition of slum area in Rajshahi City Corporation and concludes that most of the slum people are suffering from acute disease and fever-jaundice are most common type of health disease. Health care accessibility, doctor availability, ambulance service and government- non-government activity is not up to the mark. Living condition and utility service are poor but toilet type is moderate. Majority don't have municipal water connection and problem with water supply and the main problem is quality of water. Tube well is the main drinking water source which does not have any serious problem but consumers are dissatisfied on the quality. Sewerage system of the slum area is not good. So, we can say that overall health and water supply condition of slum area is poor and it should be an immediate concern to develop the condition by the Government, non govt organization (NGO) and local administration.

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