An Innovative Idea Against the Inferior Situation in Urban Slum of Khulna city

Atif Aninda Rahman[1]
SK Farjana Faruk Nitu[2]
Md. Nazmul Haque[3]

Introduction

One of the main reasons why pandemic in slum areas could be highly deadly is because of the dense population, unhygienic livelihood and carelessness. Informal settlements have a population about 10 times heavier than that of a normal neighborhood which leads to be a production center of diseases (Neiderud, 2015). Potable useable water has always been a rare sight for the urban slum dwellers (Mahabir, Crooks, Croitoru, & Agouris, 2016). People living in this urban slum and having less or no access to proper healthcare facilities has fallen into different kinds of fatal diseases (Corburn, et al., 2020). Likewise, respiratory diseases similar to COVID-19 can come up due to this unsettling healthcare conditions (Ezeh, et al., 2017) (Lilford, et al., 2017). Worse

The city of Mumbai in India, location of Dharavi slum holds 97,000 residents per square mile which proves very difficult to maintain social distancing and also the proper distribution of daily utilities (AL JAZEERA, 2020). In favelas of slums in Brazil the people living don't even access to cleans water that are supplied by pipes, also don't have the financial stability to buy soap for sanitization purpose (Law, 2020). Here rapid economic slippage was seen due to COVID-19. 70% of the residents of the slum said since the pandemic the income of the people dropped down rapidly. That also happened in a place where the daily income is less than 5 USD (Bôas, 2020). In the city of Lagos nearly three quarters of total 26 million people lives in slum (Wallace & Alake, 2019).

COVID-19 mostly affected from the very first at Dhaka city the capital (Dhaka Tribune, 2020) holding about nine million people of whom 40% are slum dwellers (McPherson, 2018). Not having the expected amount of medical equipment and ventilators across the country and also the capital the hospitals had to face a huge task to provide healthcare

[1] Undergraduate Student, Department of Urban and Regional Planning, Khulna University of Engineering and Technology, Khulna Email: atifaninda56@gmail.com

[2] Undergraduate Student, Department of Urban and Regional Planning, Khulna University of Engineering and Technology, Khulna   Email: farjana.urp42@gmail.com

[3] Lecturer, Department of Urban and Regional Planning, Khulna University of Engineering and Technology, Khulna Email: nhaque13@urp.kuet.ac.bd

facilities with limited resources. Surprisingly a study showed of presence of antibody of about 74% in the body of slum people of Dhaka referring it as herd immunity (Tajmim, 2020). Another study showed that about 5.7% of the slum people caught COVID-19 which shows for keeping their cycle of life moving and working immunity developed automatically.

In Khulna city there are about 1134 slums which covers about 8.14% of the total area of Khulna City Corporation (Bangladesh Bureau of Statistics (BBS), 2015). Living in slums and depending on informal sectors there are vast lacking of daily utilities in the slum areas both economic and physical. These lacking lead towards different disasters of which COVID-19 is the latest and up until now the most prominent. In this study the existing scenario of a slum during this COVID-19 situation in Khulna city was surveyed and presented. As like the other places people depending on the informal sectors lost their jobs and income stopped
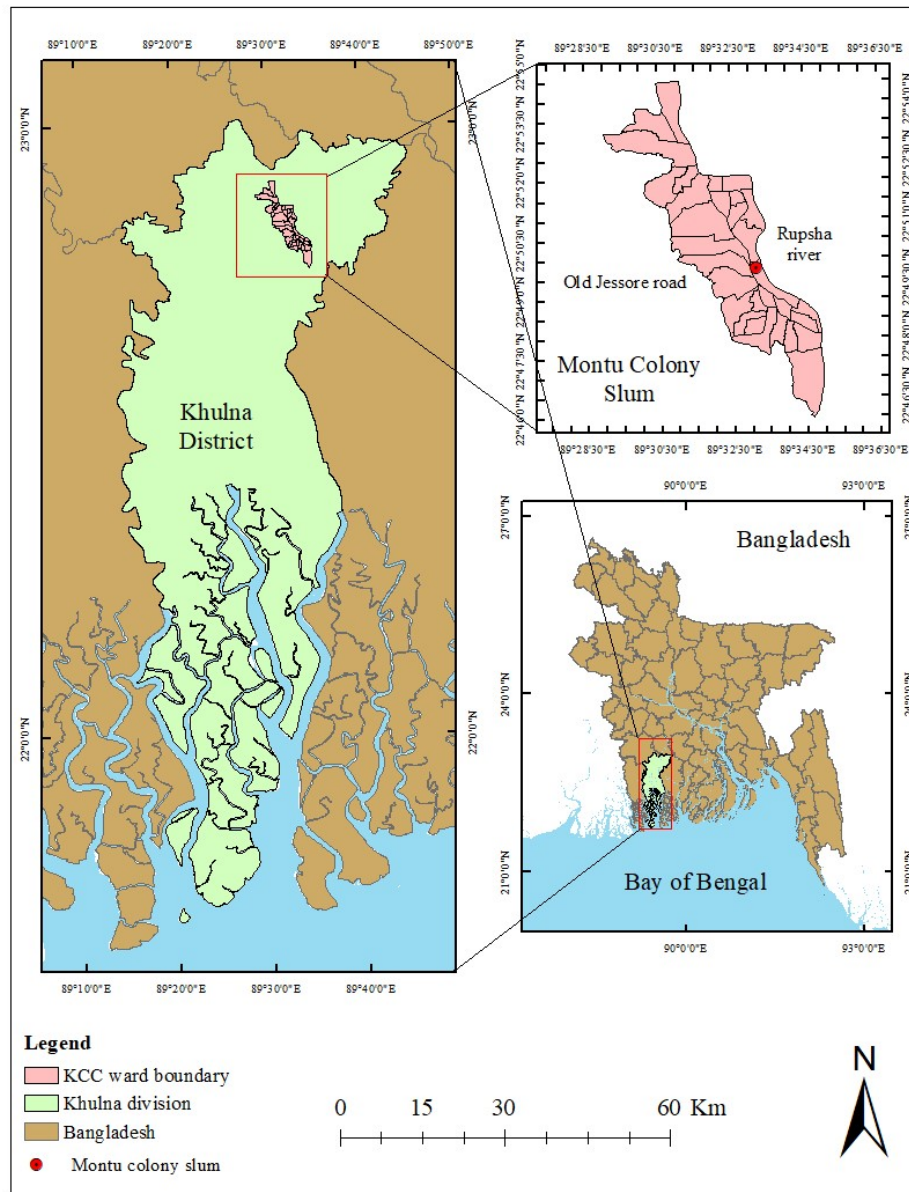
The main objective of the study is to investigate the existing scenario of a railway slum of ward-21 of Khulna city and propose some ideas for betterment of the public health issues by initiating an urban plan.

Study area

The railway slum of ward 21 in Khulna city otherwise known as the Montu colony slum is located on the east of old Jessore road, west of Bhairav river, south if Khalishpur and north of the railway station and BIWTA ghat according to figure 1. Ward 21 is moreover located on the center of the KCC boundary and it is close to the city centre. About 1052 households and 456 people live in this slum (Alam & Mondal, 2019) This study will help in creating a scope for understanding the economic scenario of the slum dwellers of Khulna city.

Methodology

A questionnaire was designed based on the necessities of the study keeping in mind the demographic data as well as the social and economic data. A survey was conducted taking about 25 samples all over the slum and analyze it accordingly afterwards. Comparison was done with slums of global context as well as with the national context as well for the sake of analysis. Finally, a scenario has been developed with necessary ideas to subsidy the crisis situation.

Figure: 1 Location of Montu colony slum in ward-21 in Khulna city

Findings and observation

Three major sectors were given emphasis while collecting information from the slum. Mainly economic, health and level of consciousness data were taken. These major three sectors have been presented in three separate tables. The findings were mainly the current health condition, hygiene situation of sanitary latrines etc.

Table: 1 Financial condition of slum people before and during the pandemic

Sector	Perspective	Amount	Before (No. of people)	After (No. of people)
		2000-5000	27	4
		5000-8000	13	5
	Earning	8000-10,000	6	4
		>10,000	4	2
Economic		200-500	27	13
	Savings	500-1000	5	3
		1000-1500	7	4
		>1500	4	2
		1000-2000	33	12
		2000-3000	9	5
	Investment	3000-5000	5	4
		>5000	3	1

From the table: 1, it is seen that earning, investment and savings all reduced with the pandemic's arrival. Earning members all had temporary jobs which came to a pause suddenly and their life also came to a standstill. Works were unavailable for people and it's true that savings were not possible of helpless people. A great impact was noticed in the context of earning, saving and investment sector in time period of lockdown.

Table: 2 Condition of health of slum dwellers

Perspective	Category	Percentage
Affected disease of different ages	Children	60%
	Adult	18%
	Middle age	15%
	Women	7%
Time of sickness	Almost every time	55%
	Sometimes	35%
	Rarely	10%
	Never	0%
Different cases disease	Fever, cough	57%
	Respiratory disease	21%
	Both fever and respiratory	4%
	Others symptom	18%
Cause of reluctance to test corona	Lack of scope	20%
	Lack of consciousness	12%
	Financial problem	45%
	Fear or nervousness	3%

In most of the cases during this time fever and cough were common diseases and children were mostly affected by it. Maximum of them were not able to test for Corona for lack of financial stability that also caused by corona. So, a deadly circle was created among them by COVID-19. Health condition deteriorated massively not getting any treatment with constant fear of COVID-19. Lack of clean potable water for daily use and carelessness about disinfecting hands with soap water was a common thing. As well as the condition of sanitation was also very poo resulting the public health condition of that place to be not satisfactory.

Table: 3 Level of consciousness in the people

SL No.	Scenario	Yes	No
01	Sanitizer uses in outside	90%	10%
02	Knowledge about treatment of affected people	64%	36%
03	Allow the relative come from Dhaka/others places	80%	20%
04	visit the neighbor's house	76%	24%
05	Allow for children to go outside	68%	32%

Almost all slum dwellers were alert in the initial period of pandemic. But at present 40 % people are response to use mask. The more half of the respondent are not use mask for different purposes in different places. This lack of consciousness ultimately led to massive public health concerns.

Policies and proposals

On the basis of the above observation it can be seen that COVID-19 has posed great problem to the existing dwellers of the montu colony slum. The addressed concerns were no sufficient utilities during pandemic like proper healthcare services, stable income generation process, concerns and consciousness during pandemic. So, a proper work management policy framework has been proposed below which would consist a committee for addressing the public health concerns. Also, a fund management committee has been proposed which would carefully monitor the proper distribution of fund. Moreover, it is an urban plan to address the public health problem.

Developing a framework for public health

Head of director call a metting for stakehoder

Problem identification of general people

assigning a committee to evaluate the most basic requirements

Fixing project vision and fund calculation

A legal manuscript provided to the head fund manager for fund requirement

Take a tentative policy (maintain minimum fund,short term,transparensy,su staiainability)

A proposal submission to NGO for trainer/engineer for project

Committee monitoring the work update and assiging laborer (from local people)

Also monitoring the equity distribution of utilities by a specific committee
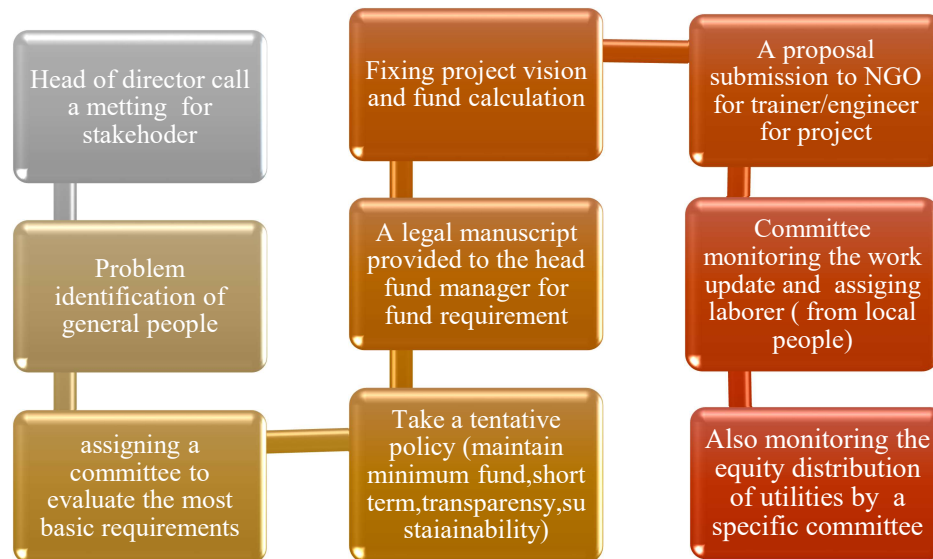
Figure: 2 A regulatory blueprint for addressing public health

This committee will connect between the heads and the stakeholders. There will be representative from the slum people who will present the problems of the people to the director. The committee will evaluate it and propose solution against it. All of this will be backed by a vision for the overall betterment of the slum dwellers. Monitoring committee will work constantly to see the progress of the works which will be done by the local people. The committee will assign the local people. There will be a team which will collect 10 Tk. from each members every month which will be used for their necessary utilities. A fund management team will monitor the proper distribution of the finances. An executive committee will be there who will monitor the overall program and all activates will be reported daily to that team. A group of laborers will be assigned for manpower from the slum. Lastly, there will be a monitoring and evaluation committee whose job is to monitor the overall distribution of utilities and works of other committees.

This will mainly back the public health issue of the area. Keeping in mind the economic sector giving emphasis on the health and general people's conscience about the public health during disaster time is the main addressing point. For the findings it was seen that maximum people caught cold and respiratory diseases but could not take any medications regarding it. Also, the consciousness level, concerns about social distancing and wearing masks were absent in the dwelling people. So, it will enable people to easily submit their health-related issues both in case of COVID or others and also necessary steps for testing will be provided as per as the need. Also, consciousness campaign and miking will be done for raising awareness about the severity of corona.

Table: 4 All committee is consisting in every year by the election of local people's vote

Sl no.	Committee Name	No of Member	Activities
01	Money collection committee	10	To collect data properly in each household
02	Fund management committee	5	Check requirement proposal and approve
03	Executive committee of management authority	12	To assign the program vision and laborer
04	Laborer committee	Negotiable (Depend on project)	To collect the manpower
05	Monitoring and evaluation committee	20	Monitoring and evaluation the project and inform the head of management authority

Fund management scheme

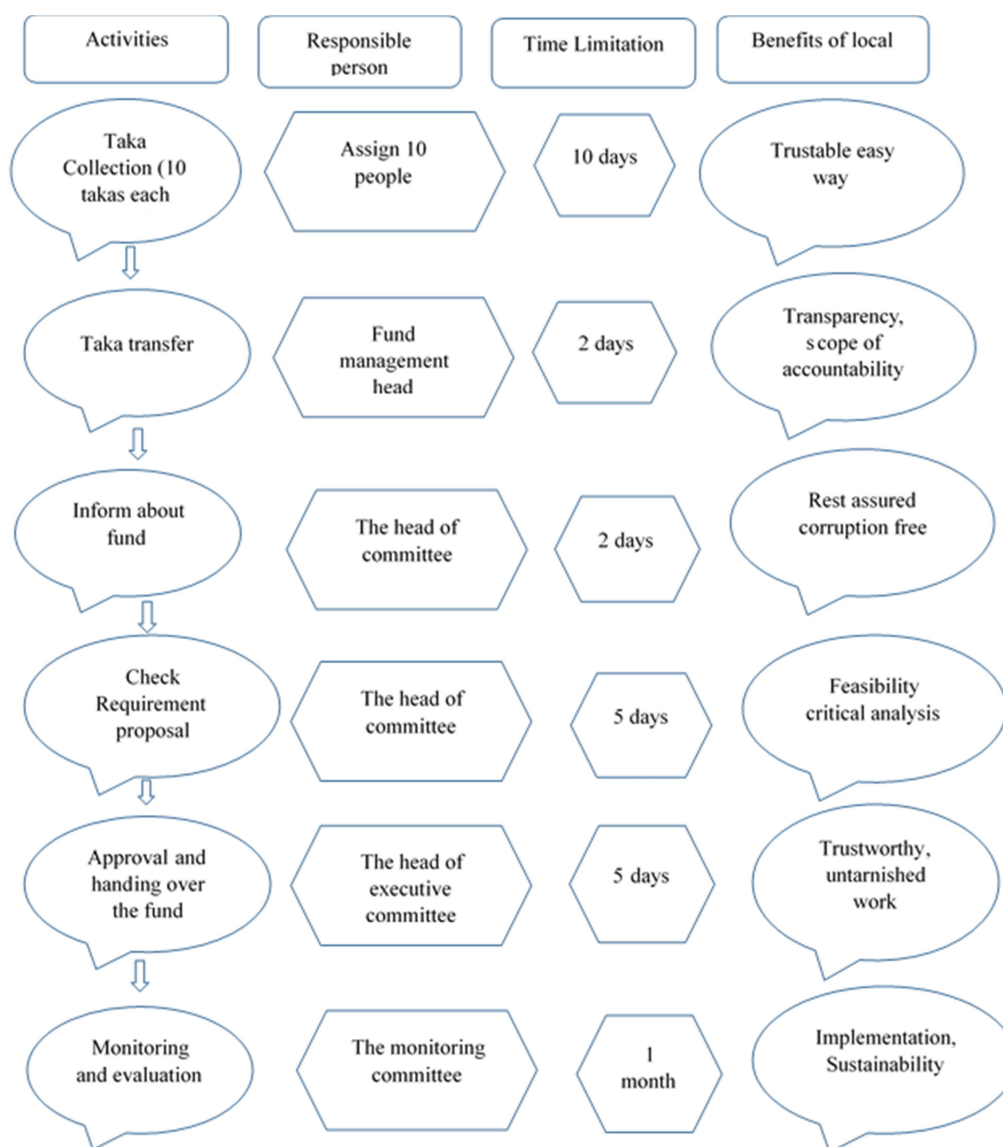| Activities	Responsible person	Time Limitation	Benefits of local
Taka Collection (10 takas each	Assign 10 people	10 days	Trustable easy way
Taka transfer	Fund management head	2 days	Transparency, scope of accountability
Inform about fund	The head of committee	2 days	Rest assured corruption free
Check Requirement proposal	The head of committee	5 days	Feasibility critical analysis
Approval and handing over the fund	The head of executive committee	5 days	Trustworthy, untarnished work
Monitoring and evaluation	The monitoring committee	1 month	Implementation, Sustainability

Figure: 3 A substructure of fund management for public health

The fund management committee will be the core team of the overall system. 10 people will be assigned in this team for collection of 10 Tk. from each household. Based on the fund and existing problem the committee head will come with a solution from the proposals. Thus, approving it he will hand over the fund for its implementation. Also, the monitoring and evaluation will go on amidst this process.

Conclusion

Difficulties and casualties are a common thing when it comes to a disaster let alone a pandemic. COVID-19 has changed the lifestyle of people all over the world. It has put a huge hole to the public health condition both to the local and international level. Also, findings showed severity of sanitation, complacency in hand sanitization, not getting proper treatment etc. The management committee proposed will serve in optimized problem identification as it contains people from high end to the people of root level. With the proposed ideas and policies by the expert medium of the committee a proper sustainable solution will be achievable. This management team is not only assigned for COVID-19 but will also be able to address other disasters which might pose a threat to a certain community.

References

AL JAZEERA. (2020). *Concerns after Mumbai's Dharavi slum reports COVID-19 cases*. Retrieved April 3, 2020, from https://www.aljazeera.com/news/2020/04/03/concerns-after-mumbais-dharavi-slum-reports-covid-19-cases/

Alam, M., & Mondal, M. (2019). Assessment of sanitation service quality in urban slums of Khulna city based on SERVQUAL and AHP model: A case study of railway slum, Khulna, Bangladesh. *Journal of Urban Management, 8*(1), 20-27.

Bangladesh Bureau of Statistics (BBS). (2015). *Census of slum areas and floating population 2014. Preliminary survey report, Statistics and Information Division, Ministry of Planning, Government Peoples' Republic of Bangladesh (2015)*. Retrieved from http://www.bbs.gov.bd/WebTestApplication/userfiles/Image/Slum/Preli_Slum_Census.pdf

Bôas, B. (2020). *Valor Economico*. Retrieved January 1, 2020, from https://valor.globo.com/brasil/noticia/2020/01/24/favelas-tem-poder-de-compra-de-r-1198-bi.ghtml

BudgetIT. (2016). *LAGOS' INFORMAL SECTOR Taxation & Contribution to the Economy*. Lagos.

Corburn, J., Vlahov, D., Mberu, B., Riley, L., Caiaffa, W., Rashid, S., . . . Ayad, H. (2020).
Slum Health: Arresting COVID-19 & Improving Well-Being in Urban Informal
Settlements. *Journal of Urban Health*.

Dhaka Tribune. (2020). *Covid-19 body count reaches 175 with Dhaka recording 95 deaths*.
Retrieved May 2, 2020, from
https://www.dhakatribune.com/bangladesh/2020/05/02/coronavirus-bangladesh-
records-5-more-deaths-another-552-new-cases-in-24-hours

Dupeyron, B., & Segatto, C. (2020). *The Conversation*. Retrieved April 21, 2020, from
https://theconversation.com/just-like-trump-brazils-bolsonaro-puts-the-
economy-ahead-of-his-people-during-coronavirus-136351

Ezeh, A., Oyebode, O., Satterthwaite, D., Chen, Y., Ndugwa, R., Sartori, J., . . . Lilford, R.
(2017). The history, geography, and sociology of slums and the health problems
of people who live in slums. *The Lancet, 389*(10068), 547-558.

Law, J. (2020). *How The Coronavirus Is Impacting Favelas In Rio De Janeiro*. Retrieved April
29, 2020, from https://www.forbes.com/sites/joshualaw/2020/04/29/how-the-
coronavirus-is-impacting-favelas-in-rio-de-janeiro/#54dc04233ee3

Lilford, R., Oyebode, O., Satterthwaite, D., Melendez-Torres, G., Chen, Y., Mberu, B., . . .
Ezeh, A. (2017). Improving the health and welfare of people who live in slums.
The Lancet, 389(10068), 559-570.

Mahabir, R., Crooks, A., Croitoru, A., & Agouris, P. (2016). The study of slums as social
and physical constructs: Challenges and emerging research opportunities.
Regional Studies, Regional Science, 3(1), 399-419.

McPherson, P. (2018). *The dysfunctional megacity: why Dhaka is bursting at the sewers*.
Retrieved march 21, 2018, from
https://www.theguardian.com/cities/2018/mar/21/people-pouring-dhaka-
bursting-sewers-overpopulation-bangladesh

Mostafa, N. (2018). Critical Care Medicine: Bangladesh Perspective. *Advanced journal of
emergency medicine, 2*(3), e27.

Neiderud, C.-J. (2015). How urbanization affects the epidemiology of emerging infectious
diseases. *Infection Ecology & Epidemiology, 5*(1).

Okwumbu , R. (2020). *Lagos State threatens to revert to full lock-down*. Retrieved May 10,
2020, from https://nairametrics.com/2020/05/10/lagos-state-threatens-to-revert-to-
full-lock-down/

Tajmim, T. (2020). *Dhaka slum dwellers develop herd immunity*. Retrieved October 12, 2020,
from https://tbsnews.net/coronavirus-chronicle/covid-19-bangladesh/45-dhaka-
population-develops-covid-19-antibodies-144205

Tanni, T., Hasan, M., Azad, A., & Bakali, B. (2015). State of the Environment in Slum Area: A Case Study on Khora Slum, Khulna. *Journal of Environmental Science and Natural Resources*, *7*(1), 295-304.

UNICEF, WHO. (2019). *1 in 3 people globally do not have access to safe drinking water – UNICEF, WHO*. Retrieved June 18, 2019, from https://www.who.int/news/item/18-06-2019-1-in-3-people-globally-do-not-have-access-to-safe-drinking-water-unicef-who

Wallace, P., & Alake, T. (2019). *Bloomberg*. Retrieved December 20, 2019, from https://www.bloomberg.com/news/articles/2019-12-20/lagos-building-luxury-homes-in-face-of-affordable-housing-crisis