

A study on fire preparedness in Kurmitola Bihari Camp Slum, Dhaka, Bangladesh

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ABSTRACT:

Slum is an unhygienic area which is known for providing cheap shelter and facilities, lacking of basic services like low standard living, unhealthy sanitation, congested housing system, unsafe environment, shortage of water supply, illegal and unsafe electricity system and many other things. This research represents the fire preparedness scenario of the residents of Bihari camp in Dhaka City. The aim of the study was to analyze the situation of the fire hazard in the Bihari community, identify the risks and vulnerabilities as well as investigate the fire preparedness measures in the community. In Bihari Slum community the main challenges were poor knowledge of coping with fire, the little knowledge of awareness, lack of the adequate resources for dealing with fire, insufficient helping from the govt. and so on. This research revealed the low preparedness level existing among the slum dwellers due to these challenges. Almost 95% of people had not taken any preparedness measures for reducing the fire risks. This research recommends that considering the risk factors of the fire in the area, the practice of the fire preparedness needs to be placed.

KEYWORDS: Bihari camp; Fire risk; Barriers; Community; Safety measures

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I. INTRODUCTION

Among all the urban hazards, fire is one of the most frequently happening hazard in Dhaka City. According to International Federation of Medical Students' Associations (IFMSA) report, calamity is a severe interruption of the running of a public or a society at any scale due to harmful events interacting with conditions of exposure, susceptibility and capacity, resulting in one or more of the following: human, substantial, commercial and ecological losses and influences (Ahmad and Murray, 2018; Green et al., 2019). A disaster is a phenomenon which can be natural or man-made, small-scale, large-scale, frequent, non-frequent, a slow onset and a sudden onset. It is most important for the people to know about the disasters and managing the disaster by designing effective, realistic and coordinated planning. As well as, Bangladesh is also vulnerable because of huge population, unplanned and illegal structures, poor utility management and unawareness which lead into a large number of urban hazards. In Bangladesh from 2014 to 2016, the reported fire incidents set up in the newspaper and other news portals occurred often and the most happenings came about in Dhaka city along with the nearby areas (Islam and Hossain, 2018). As people are migrating from village to town, most of the people end up in the slums in terms of searching work or livelihood. In case of the Bihari camp slum in Mirpur, the scenario is just like the same as the other slums. Most of the people started to live there after the liberation war and till today they are dealing with various problems like poor sanitation and drainage system, improper water supply, unplanned waste disposal along with the presence of fire risks. According to Ahmed (2018) study, Bangladesh was the 5th most vulnerable country to disasters in the world on the basis of disaster risk index 2016. Shanty settlements are built with poor quality housing where the absence of basic services and facilities is significant as well as prone to fire hazard. Dutta (2018) reported that according to the news report of March 13, 2018, since 2010, only in Dhaka city over 4500 houses have been destroyed and 22 people killed because of the slum fire. A report of World Vision Bangladesh shows that fires particularly in slums are common because of the typically flammable building materials in slums, (timber, bamboo, etc) fires ignite and blowout without difficulty, particularly during the month of March to May in summer season (Helen, 2019; Dutta, 2018). On December 4, 2015, at least 526 shanties were gutted in a fire in Boubazar slum of Karail (Mintu, 2017). On June 16, 2018 at least 65 families had their homes destroyed in the devastating fire at the Fashertek Balur Math slum in Vatara of Dhaka caused by the cooking fire (Rabbi, 2018). Moreover, On January 1, 2018 and February 17,

2018, 100 shanties were destroyed in Karwan Bazar slum and 200 shanties were burnt in Bashbari slum area of Mohammadpur respectively (Mollah, 2018; Razon and Ahmad, 2017). This slum fire causes disruption in social and economic sector including loss of life, destruction of health and properties. In addition, on July 30, 2020, fire has been occurred again in the Bhasantek area of Mirpur (Anonymous, 2020). To protect the community against fire disasters or hazards, disaster preparedness leads to policies and procedures to enable an effective response during the event. A devastating fire had also break out 4 years ago at Kurmitola Bihari Camp where at least nine people including eight members of a family were burnt and several houses were affected. Besides this recent fire occurrence, the area had faced this type of fire hazard several times in past years. But no research has been conducted in that area to address the level of post-disaster preparedness in that community. In this research our focus is to identify the post fire hazard preparedness and assess their preparedness level for the future fire incident. In our study, it is found that, though the area has several risks of causing fire, the preparedness level of the community is so poor. Accordingly, this study investigates the main sources of fire hazards in the Bihari camp as well as shows the scenario of the fire preparedness among the slum people. Also, some issues that need to be addressed are recommended with guidance in the study after observing the situation in Kurmitola Bihari Campslum.

II. MATERIALS AND METHODS

Study Area

Through the discussion with the slum dwellers, almost 3/4 lakh people lived here in the shanty houses and heavily polluted by human refuse, garbage, soot, dust, and other wastes. Because of this pollution, Islamic relief Bangladesh organization has helped the residents by donating 3 tube wells and 2 sanitary latrines have been built also for sanitation. Some houses were pacca houses and some were katcha houses which was called “Jhupri house”. In the Jhupri houses, the floors were made by mud and roof were made by tin or bamboo. The room number was one or two and almost 8/10 people lived in per house. Besides this, the electrical wires were attached with some bamboo sticks which was very risky for the residents.

Sample Design

In this study purposive sampling was used to select the target people. For deriving the main information about the preparedness level and why they are not preparing themselves were answered by in depth interviews and detailed information with the help of open-ended and close-ended questionnaire. 15 respondents were selected in the sample of adult to middle-aged group and the interview had been taken from the heads of the family or the earner of the family.

Data Collection

Apart from the questionnaire above, qualitative data was collected by the use of in-depth interviews informally with the informants. Besides this, the policies and the concepts related to the slum fire was collected from the secondary data sets such as relevant articles, papers, and news portals.

Table 1: Bangladesh Fire Service and Civil Defense (BFCD) report on fire incident for 10 years in Dhaka (Anonymous, 2016).

| Year | Total fire incident | Approximate property damage (USD) | Death tolls |
|------|---------------------|-----------------------------------|-------------|
| 2006 | 9542 | 298.45 | 91 |
| 2007 | 9196 | 386.55 | 160 |
| 2008 | 9310 | 288.6625 | 229 |
| 2009 | 12182 | 382.375 | 118 |
| 2010 | 14682 | 407.0625 | 63 |
| 2011 | 15815 | 366.8625 | 365 |
| 2012 | 17504 | 602.9875 | 210 |
| 2013 | 17912 | 974.6375 | 161 |
| 2014 | 17830 | 449.15 | 70 |
| 2015 | 17488 | 1071.1875 | 68 |
| 2016 | 16858 | 300.5375 | 52 |

Data Analysis

In this study, thematic analysis method was used for analyzing the data followed by Alhojailan (2012) method. The interpretation of the respondents’ thoughts is significant in terms of giving the most appropriate explanations for their behaviors, actions and thoughts. This fits in well with the features that were involved in the process of thematic analysis (Hatch, 2002; Creswell 2003).

III. RESULTS

Gender of Respondents

Out of all participants of this study, 53% was male and 47% female. Most of the male and female members of this camp were working inside their home because of their occupation style.

Age of Respondents

Out of 15 respondents 2 of them were in 18-25 years, majority 8 people were in between 26-35 years and 5 people were more than 35 years. It may be derived in this way that the respondents were experienced and had enough understanding to take an interest in the study.

Marital Status

About 67% of total respondents were married and 33% were unmarried. This indicates a typical normal society.

Occupation

All of the respondents were employed. This clearly indicated the variation of economic activities associated with low income. Though the wage was so less but most of the housewives were taken part in embroidery tasks.

Duration of Stay

Most of the residents of Kurmitola Bihari Camp told that they were living here after their birth. The findings stated that 2 persons were living here for 20 years, 10 persons were living here for 20 to 40 years after their birth and 3 persons who migrated from Bihar to this region in the time of independence.

Frequency of Fire Incidents

People of this camp experienced some memorable fire incidents three times. First one is about 30 years ago where the whole camp was burnt out till ash and many people died. The second major incident was about approximately 15 years back from present time and the condition was like the first one. The third fire incident was about 4/5 years back. In this incident 20 houses were destroyed and 11 persons were died.

Causes of Fire Incidents

Among 15 respondents 8 persons blamed the poor electricity system for the recent fire incidents, 7 persons considered the reason behind the incidents as unawareness and the kerosene oil. Again they also mentioned the filters of cigarettes were thrown anywhere and the narrow lanes, houses made with fences driven forward the fire incident and turned into a disaster. The electric poles were so wonky that it could be eradicated anytime. Moreover, all the people lived here cook by firewood stove or kerosene.

Knowledge of Fire Safety Mechanisms

In the Kurmitola Bihari Camp, only 13% respondents had knowledge about fire safety mechanisms and the rest of them (87%) had no idea about fire safety mechanisms. This is a matter of concern that the majority portion of the respondents were ignorant about fire safety mechanisms.

Stored Flammable Materials

When we asked the respondents about flammable materials in the Camp, they told about kerosene oil that they used for cooking to survive. Most of the people in the camp were involved in embroidery tasks, these clothes and yarns were so flammable in terms of fire accident. Besides many families made paper box here for their livelihood. These papers could be act like a flammable material in the time of fire incident.

Response during Fire Breakout

As most of the residents were illiterate so they did not have any idea about fire safety mechanisms. We asked about response in fire breakout they said that freak out and leave the place as soon as possible. If someone is capable enough to carry another then he/she will carry another person. Only 2 persons among 15 respondents had followed the bucket and water therapy in terms of turn out the fire.

Response from Government and Non-Govt. Organizations

All of the respondents complained that government did not give any kind of support regarding fire incidents. But some non-government organizations gave them support after fire incidents but that was not sufficient enough to cope up.

Future Participation in Fire Fighting

All of the respondents were agreed to participate in such activities that would reduce the destruction and loss of lives in the time of fire. So, it can be said that if government or any other organizations will come to give them training about firefighting they will willingly participate in those activities. Moreover, other factors are present that fasten the fire incident e.g. kerosene oil that is used for cooking daily food, clothes and yarns used for embroidery tasks, papers used to make paper boxes. The use of bucket, water and sand is still their first response during a fire incident. The most natural thing they do during the incident is shout and calling for help. We unfolded that majority of the residents do not know about fire safety mechanisms. The reasons are explained by low education level, less economic activities and deficiency of public awareness programs by government. The combination of lack of knowledge and less effort by government is increasing the risk day by day. They understand the gruesomeness of a fire incident but the economic condition and education level retain them from the back. The prime solution of fire problems for the Kurmitola Bihari Camp people is to increase public

awareness to prepare the community about fire incident. This awareness must be happening to individual level; the approach should be door to door that everyone can be concerned by the awareness program. In addition to young and strong peoples should be trained by government and fire service. Some equipment that may have the ability to reduce the intensity of fire in the primary condition should be provided by the authority that the locals can control fire till the fire brigade come. Moreover, one important finding of this study that improves the condition of the camp is government should give an eye to this deprived community to improve their economic condition; because if there is no rice on the stomach, it does not come to save life.

IV. Discussion

A community's participation during the calamity can develop the maintainable reduction of hazard (Raheem et al., 2013). Another researcher declared, slum settlements are always at a risk of fire as the materials used in it are flammable and combustible materials; such as, timber, bamboo, tin and so on (Ahmed, 2014). Among the total respondents huge responded about lack of knowledge of fire appliances, poor education, low-grade financial actions, deficient of experience and inadequate public awareness programs by experts (Edobot, 2017) which supports our findings. To make certain the implementation and avoid the system of susceptibility, suitable machinery is needed to develop on both distinct and union level (Chowdhury, 2017). Another study found that in Kibera slum, most of the reason of fire was unattended cookers, prohibited tapping of electrical energy, flammable production constituents and insignificant awareness of firefighting mechanisms (Edobot, 2017). These findings are also similar to our results. Virtuous supervision of fire safety is needed to confirm that fires are not likely to happen, to be controlled or enclosed rapidly, efficiently and carefully. About 80% households are in such a situation that it is very tough to alive in there (Tanni et al., 2014).

V. Recommendations

As Bihari Camp have some historical conflict with government but we need to plan something from humanitarian context. We need to plan some initiatives considering their social and economic condition. Considering the situation, this study recommends in three specific parts:

Institutional Strengthening

Majority of the people of Bihari Camp have no minimum knowledge regarding fire hazard and preparedness. There are some schools inside the camp driven by NGOs. We should increase academic knowledge about this issue to educate kids of the camp with the help of these schools. Most of the Biharies do not know the do's and don'ts activities during a fire incident and do not know the fire service helpline number. Regular training by fire service and finally government should be more concern about this special community for fire safety.

Planning and Construction

As the lanes were so narrow and houses were made of fence, the narrow lanes could cause great obstacles in the time of fire. Proper implementation of building code and electricity supply management should be improved.

Awareness at Individual Level

Awareness building can be possible using electronic media, door to door camping. This door to door camping can help them to understand about the fire risks and preparedness. At last, increasing active participation in fire drill on regular basis can be another individual level awareness program.

Limitation of the Study

No research had been done before regarding the fire preparedness for our study area. So this was completely a new finding for us. That's why we were depending on the news portals and the discussion with residents. There were several articles had been published regarding the fire hazard in slum but very few of them had focused on post fire preparedness scenario in the community. Due to the shortage of time, the study cannot cover many things which should be enclosed. For that reason, there were some flaws and lacking in this study.

VI. CONCLUSION

From this qualitative study, conclusions can be drawn that the nature of the camp and the residents were in a vulnerable situation in terms of fire hazard. It is observed that the most important reason behind their risk was "Lack of knowledge". They had no measures or fire safety mechanism taken to reduce the fire risk in the area. From humanitarian context government should be more concern about their fire safety mechanisms. Though it is very difficult for a single organization to provide necessary support and help this community

regarding fire management, so we need to come forward together to help this vulnerable and deprived community with proper guidance and creating individual awareness among the locality.

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