

## The Impact of Worst Fire Prevention Plan and Disaster Management at High Density Urban-Area: A Case Study of Ali Enterprises

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Received date: January 24, 2019; Accepted date: February 01, 2019; Published date: February 08, 2019

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Citation: Saif-ul-Islam M, Shaik MA, Shahid MU, Karim R, Ishtiaq M (2019) The Impact of Worst Fire Prevention Plan and Disaster Management at High Density Urban-Area: A Case Study of Ali Enterprises. Glob Environ Health Saf. 2019, Vol.3 No.1: 2.

### Abstract

Pakistan has become a dangerous country for man-made and natural disaster. In September 2012, enormous textile industry disaster, namely Ali Enterprise; caught a massive fire incident. The destructive incident happens at high-density urban-area in the history of Karachi. The purpose of this study is to determine the positive solution and method; reducing the harmful hazards for protecting the life of peoples. The significant factors of disaster management designed with respect to careful design structure, evaluation and analysis factor that manage hazards. The emergency plan and disaster management have become important factors to diminish the hazards of disasters. The public participation also responsibility to follow the rules and regulation related to health and safety. The top management organization is unconscious about these essential and competitive parameters. This study illustrates that better fire prevention plan and disaster management facilities have a great positive impact on the economy of the country. Every organization should need to focus on fire prevention training and disaster management planning for all the employees at the workplace. The country economy can be boost-up by implementing the better fire accident prevention plan and disaster management programs for achieving sustainable development.

**Keywords:** Fire prevention plan; Disaster management; Fire emergency condition; Ali enterprise

### Introduction

Pakistan has become the dangerous country for man-made and natural disaster [1]. In September 2012, enormous textile industry disaster, namely Ali Enterprise; caught a massive fire incident. The destructive incident happens at high density

urban-area. The total 650 peoples were working inside the factory; approximately 255 workers were killed and 57 injured in the fire, measured the most thoughtful industrial accident in Karachi history [2]. They could not escape from the blazing fire. Buildings were only one accessible exit and other internal door was closed. Windows on the top floor of this multi-storied building was concealed by iron grill. This was main causes for the heavy loss of human life [3]. In 1992, huge fire incident at Khlong Toey port, Bangkok; 300 families became homeless as slum homes burnt down [4]. After this incident; The Thai government realize to change the conventional methods of fire protection extinguish department. In 1993, again massive fire disaster takes place in the Kader Toy Factory in Thailand. The total 188 people were killed, moreover 500 were seriously injured. Most of the victims were rural families and young female workers. It means Thai government had failed to improve the capability of firefighting techniques after Khlong Toey fire incident. After this incident, Thai government creates awareness and gets help from the western countries for better equipment related with fire safety [5].

### Components of disaster management plan

Globally, several studies have been arranged to reducing the negative impact of fire disaster. The purpose of this research is to find out the better solution and method; reducing the harmful hazards for protecting the life of peoples. The significant factors of disaster management designed with respect to careful design structure, evaluation and analysis factor that manage hazards [6].

1. Identification of chemicals, woods, hazards, operation and processes.
2. Determine the dangerous zone.
3. Release the toxic gasses from plant.
4. Release scenario, results related with fire hazard, heat hazard, intoxication and radiation.
5. Recognition of essential facilities in vulnerable zone.

6. Need of some sector for coping with disaster situation.

## Methodology for the Disaster Management Plan

Furthermore, the societies or individuals have several techniques to reduce the negative effects of this disaster. There are some distinct components of comprehensive disaster management are given below.

1. Mitigation,
2. Willingness,
3. Improvement,
4. Feedback.

Now, the emergency plan and disaster management has become the importance factors to diminish the hazards of disasters. The public participation also responsibility to follow the rules and regulation related health and safety [7].

### Safe area selection

The place where chances of disaster more; should be recognized and transfer the peoples to save place. It is also the most essential factor that could reduce the hazards in case of emergency condition.

### Optimum path

The disturbing path may be reduced after using the computing tools and shared and discussed problems with the related authority.

### Emergency care and transport for the injured

The Mega city Karachi, Pakistan has less development infrastructure of emergency plan and disaster management. The reason is worst management plan and corruption of Sindh Government. Furthermore, Sindh government corruption is unparalleled in world [8]. The Supreme Court directed ordered to the chief secretary about to utilization over Rs.15 billion development funds in Sindh [9]. The three government hospital should provide the medical aid in case of emergency accident. The medical facility is very important to build the effective disaster management in an urban area.

## Fire Emergency in Karachi

Karachi is the business hub of Pakistan. This city generates 70% revenue tax for the economics of Pakistan. It has 18 big

towns with competing commercial activities. The overall situation of city is like a Ruin and un-planned, the reason of lacking management and planning due to the worst political influences in the city.

### The Fire sectors condition in mega city, Karachi

The capital of Sindh province is Karachi, also the biggest city in Pakistan. It is located on the north-west of the Indus River Delta. The Karachi has the largest commercial and huge mega buildings city because of political hub, philanthropic, economic, cultural and educational, as well as the largest port of the country [10,11]. Instead of this, no proper rescue plan to reduce the negative influence of the fire disaster in Karachi. Some commercial places such as Bori-bazar, Saddar, Jamia-cloth and Muhammad Ali Jinnah road is always under a threat of fire because of compactly population and poor internal conditions. The narrow street creates problem for fire tenders during the rescue operation. In addition of this, Karachi fire department has lack of safety equipment's, technology, fire fighters and snorkels. The lack of government funding and interest creates the negative impact in the society. Only 10 fire stations are working out of 18 fire stations. The 10 fire station have the less capacity to control the massive fire accidents in Karachi as shown in **Figure 1**. The fire fighters are not Some of them are not enough to go to fire tender. The late rescue operation has many errors in our fire department at the top as it is not in advance Technology or equipment. Due to the lack of public interest, the staff is not trained according to international standards and fund [1].

### Current problems in Karachi

The Karachi fire departments are facing tremendous problems relating the fire disasters.

1. There is no proper infrastructure between the government and fire department.
2. Strange relation among the fire tenders.
3. Latest technologies are needed.
4. There is no any good fire hydrant in firefighting department.
5. There is lack of funding to fire department.
6. The fire officers have less potential orders and sources.
7. The education syllabus is without fire prevention subject.
8. Still this country based on without fire prevention department.

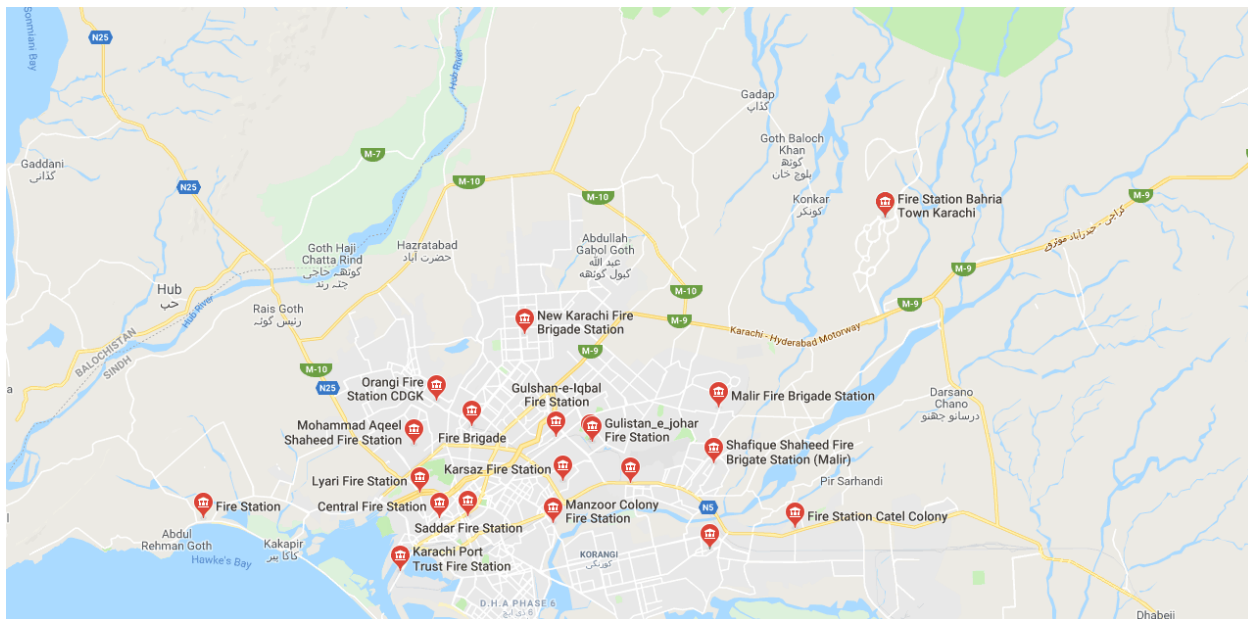


Figure 1 Fire Station Karachi (Source: Google map data, 2019).

## Several Fire Accidents in Karachi

### 11th September, 2012-The Garment Factory "Ali Enterprises"

1. A three storey industry in Karachi fully burned.
2. 300 Killed in Pakistani Factory Fires.
3. Capital of between \$10 million and \$50 million.
4. Employed between 1,200 and 1,500 workers [12].

### 11th March, 2017-Rajwani Denim, Karachi

1. A three storey industry in Karachi.
2. A severe fire explosion on August 11, 2017.
3. Burns more than three days due to poor fire tenders.
4. Fire water tenders were taking water from nearest Yunus textile mill.
5. Result in building fully collapse.
6. Thousands of workers have deprived from their jobs [13].

### 5th July 2018-Foam Factory, Zia Moor, Karachi

1. A section of the building collapsed due to the intensity of the fire and explosions.
2. Five fire fighters were injured.
3. Fifteen fire brigade vehicles were sent to the site and tried to control the blaze but were unable to.
4. Fire lasted more than 3 hours and as of 12 pm the intensity of the fire was increasing and the fire brigade was unable to control the fire.

5. \$1 million worth of damage [14].

### 12th March, 2018-Textile Factory Ahsanabad, Karachi

The blaze erupted in a textile factory located in industrial area of Ahsanabad at around 4:45 pm. Initially, a few fire engines were sent to control it, but later on realizing the gravity of the situation, more fire engines were called in from across the metropolis to meet any eventuality. As many as 16 fire engines put out the fire at around 8:30 pm and cooling work was continuing [15].

### 5th December 2016-Karachi's Regent Plaza hotel

1. 12 persons killed in fire.
2. 75 others injured.
3. Three trucks from the fire brigade reached the site and started an operation to rescue the guests.
4. The firefighters were unable to contain the blaze after three hours.
5. Reasons of death casualties "no fire exits or fire alarms" [16].

## Research Objectives

1. Make the comprehensive fire prevention plan and disaster management plan for the urban and commercial area of Karachi.
2. Provides the better road infrastructure for rescue operation.

3. Raises the issues related fire disaster with rescue agencies and government institutions.

## Case Study of Ali Enterprise Baldia Town Garment Factory

Ali enterprise was playing important role in the economy of country. It was situated at Hub river road. The United State

and Europe brands were the customer of this industry. As shown in **Figure 2**, the total 2000 workers were working there. The total capital income knitted garment, hosiery, and manufactured denim nearly \$10 million to \$50 million. Karachi town list and Union Council with approximate population is listed in **Table 1**.



**Figure 2** Ali Enterprise and Baldia Town Production Zone (Source Google map data, 2019).

**Table 1** Karachi town list and Union Council with approximate population.

Town	Fire station	No of UC	Category	Population
Lyari Town	1	11	Commercial cum Residential	6,07,992
Saddar Town	1	11	Commercial	6,16,151
Jamshed Town	2	13	Residential	7,33,821
Gadap Town	0	8	Low density	2,89,564
SITE Town	1	9	Commercial	4,67,560
Kemari Town	3	8	Commercial	3,83,778
Shah Faisal Town	1	7	Residential	3,35,823
Korangi Town	0	9	Commercial cum Residential	5,46,504
Landhi Town	1	12	Commercial cum Residential	6,66,748
Bin Qasim Town	1	7	Commercial cum	3,15,684
Malir Town	0	7	Residential	6,04,763
Gulshan-e-Iqbal Town	1	13	Residential	6,46,662
Liaquatabad Town	0	11	Residential	6,49,091
North Nazimabad Town	1	10	Residential	5,00,000
Gulberg Town	1	8	Residential	4,53,490
New Karachi Town	1	13	Commercial cum Residential	6,84,183

Orangi Town	1	13	Residential	7,23,694
Surjani town	1	8	Commercial cum Residential	4,06,165

### Technical analysis

Furthermore, industry without fire prevention plan and disaster management lead to economic losses and damages like Ali Enterprise, Baldia town factory, Karachi. It was massive disaster in the history of Karachi. When fire erupted due to highly chemical and dyes and engulfed the all three-storey building in very short time. So there were no any rescue teams who control this fire. After 75 minutes, the fire fighters came without potential powers. Already discussed in previous study that Karachi is like a derelict city at that time, the Karachi people are thirsty due to unavailability drinking water. The majority of the workers were illiterate. Most of the casualties due to stampede, the worst traffic condition become the main reason; which effected the rescue operation. The three government hospitals were also very far away from this industry. Industry were without safety equipment's, safety

officers, disaster management plan, training related fire-safety and personnel protective equipment's (PPE).

### Fire tender route

The finest route provides the first relief operation to victims through the fire tenders. After the fire Baldia town factory, the fire fighters and tenders reached their after seventy-five minutes; which produces the negative consequences in the shape of nearly 300 people died. **Figure 3** shows that there were three fire stations which were near the Ali Enterprise.

1. SITE Fire Station,
2. Baldia Town Fire Station,
3. Lyari Fire Station.



**Figure 3** Distances between three Fire Station and Ali Enterprise Factory.

**Figure 3** tells that the distance was not too much. So why fire tenders came late at incident place. There are several reasons like Traffic jam, non-availability of potential resources, lack of management between fire station and emergency preparedness planning.

Baldia Town Fire Station	7 Km
SITE Fire Station	3 Km

### Traffic condition

Lyari and SITE town both are the commercial hub of Karachi, Pakistan. The road is very congested and densely populated area. The fire tenders could not reached on time for rescue operation. The roads and traffic are the main problems for fire departments. **Table 2** shows the distance between fire station and Ali Enterprises.

### Lack of coordination between public services agencies

The incident Baldia town factory became highly terrible due to poor disaster management and fire prevention plan. There was no any proper channel between the government sector and rescue agencies.

**Table 2** Distances between Three Fire Station and Ali Enterprise Factory.

Fire station	Total distance (Km) from Ali Enterprises
Lyari Fire Station	5 Km

### Conclusion and Recommendation

The research purpose is to find out impact of worst fire prevention emergency plan and disaster management in high density urban-area. It is very important to carry out studies in a comprehensive way to identify the fire risk factors. Particularly, this study will contribute better fire prevention plan and disaster management for Pakistani industries to

develop improvements in the workplace. The top management organization is unconscious about these essential and competitive parameters. The fire prevention plan and disaster management facilities have a great positive impact on the country economy. Every organization should need to focus on fire prevention plan and disaster management. Safety training should be compulsory for all the employees at the workplace. This recommendation will improve the infrastructure of disaster management plan and fire prevention plan. It will contribute the achievement and positive results in the future. The rescue help line number should be visible in all buildings. The industry should strictly follow the fire safety codes. The government safety officer should visit physically to check the condition of fire prevention plans and disaster management facilities at the workplace. The economy of any country can be boost-up by implementing the better fire accident prevention plan and disaster management programs for achieving sustainable development.

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