

**Report On**

**Identifying the causes of the barriers that prevent fire safety projects from being installed: evidence from Nirvana Engineering Solution Limited**

**By**

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**An internship report submitted to the Brac Business School in partial fulfillment of the requirements for the degree of Master of Business Administration**

**Brac Business School**

**Brac University**

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## **Declaration**

It is hereby declared that

1. The internship report submitted is my own original work while completing a degree at Brac University.
2. The report does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The report does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I have acknowledged all main sources of help.

**Student's Full Name & Signature:**

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Nadira Binte Nazrul  
18364058

## Letter of Transmittal

Dr. Najmul Hasan  
Assistant Professor  
Brac Business School  
BRAC University  
66 Mohakhali, Dhaka-1212

### **Subject: Submission of Internship Report.**

Dear Sir,

With due respect, I am submitting my internship report on "**Identifying the causes of the barriers that prevent fire safety projects from being installed: evidence from Nirvana Engineering Solution Limited**" As per partial fulfillment of the requirements for the MBA Degree, I have completed the report based on your guidelines.

This has given me the opportunity to present my practical work experience and opinion.

I believe that this report will help you to have a positive viewpoint about me. I will be thankful if you kindly approve this report.

Yours sincerely,

---

Nadira Binte Nazrul  
18364058  
Program: MBA  
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BRAC University

## **Student Declaration**

I am Nadira Binte Nazrul, student of MBA program, Brac University, hereby declare the report titled "Identifying the causes of the barriers that prevent fire safety projects from being installed: evidence from Nirvana Engineering Solution Limited" is prepared based on primary data which has been collected through practical work experience and secondary data, under the intensive supervision of my supervisors and guidance of Dr. Najmul Hasan, Assistant Professor of Brac Business School, BRAC University.

- 1) This is original work that has not been previously published anywhere.
- 2) At this moment, the paper is not being considered for publication anyplace.
- 3) The writer's research and analysis are accurately and completely reflected in the article.
- 4) The publication adequately recognizes the contribution of co-authors and co-researchers.
- 5) The results are examined in relation to prior and continuing research.

If the Ethical Statement's rules are breached, it can have major consequences.

I agree with the above statements and confirm that this submission follows the norms of the Solid state. Ionics as outlined in the Authors' Guide and the Ethical Statement.

Nadira Binte Nazrul

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## Supervisor's Approval

This is to certify that the report on "**Identifying the causes of the barriers that prevent fire safety projects from being installed: evidence from Nirvana Engineering Solution Limited**" is prepared by "Nadira Binte Nazrul" ID#18364058 Department of MBA as a requirement of Master of Business Administration (MBA) from Brac University. This paper is an original work completed under my supervision.

She is permitted to submit the thesis paper.

.....

Dr. Najmul Hasan  
Assistant Professor  
Brac Business School  
BRAC University  
66 Mohakhali, Dhaka-1212

## **Acknowledgement**

First, I want to give thanks to the Almighty Allah for the blessing and make me able to prepare this report. This is a great opportunity and pleasure to prepare the report on **"Identifying the causes of the barriers that prevent fire safety projects from being installed: evidence from Nirvana Engineering Solution Limited"**.

I am expressing my gratitude from my heart to my supervisor Dr. Najmul Hasan Sir, Assistant Professor of Brac Business School, BRAC University for his important suggestions, guidelines, recommendation, direction, constructive criticism and continuous help without any annoyance or exhaustion to prepare the paper.

I would like to give thanks to the people who directly and i directly help me to collect data. I am expressing my gratitude to all of my office colleagues.

I would like to give thanks to all of my friends, family, near and dear ones who help me by giving inspiration, information, and help me during the course of constructing this report.

## **Executive Summary**

In Bangladesh one of the most hazardous incidents is fire incidents. Bangladesh faces more than 110,000 fire incidents and lots of damages which are not recoverable. Thousands of people were injured badly and lots of people killed in those destructive incidents. All these destructive incidents are unable to make people aware about the dangerous impact of fire. Still people show negligence to fire safety system solutions. There are some reasons for this negligence. General peoples' first concern is cost. In the perspective of Bangladesh, the fire safety system solution is costly. The main reason to make this costly is that fire safety equipment is imported from other countries. Here comes vat, custom duty, lots of maintenance and hidden costs.

Due to different types of documentational issues, and approval issue projects take a long time to complete. Here costs increase due to longer project completion time. Hidden costs include total costs due to lack of strong regulatory and inspection during construction of a building. Because all of these costs are included with total project costs and the total amount becomes very big for the clients and clients do not feel interest to install the fire safety system solution. In this report I try to discuss all possible obstacles of fire safety solution installations.

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## **List of Acronyms**

BRAC- Bangladesh Rural Advancement Committee

NESL- Nirvana Engineering Solution Limited

NFPA- National Fire Protection Association

BNBC- Bangladesh National Building Code

HS Code- Harmonized System Code

MEP- Mechanical, Electrical, Plumbing

HVAC - Heating, Ventilating and Air Conditioning

# **Chapter 1**

## **Introductory Part**

## **1.1 Introduction**

Now-a-days Bangladesh is facing lots of destruction because of fire. Example could be fire incident on 4th of April 2023 in very large and famous clothing market name Bangabazar, Dhaka (Mahmud, 2023). Thousands of shops were destroyed due to fire and businessmen faced huge losses in their business. However no death or physical injury occurred in this destructive incident. But there are lots of fire incidents in the history of Bangladesh where thousands of people lost their lives or were injured badly (Akand, 2023) Bangladesh fire service's data show that 24,102 fire incidents occurred across Bangladesh in 2022 (Molla, 2019b). Now the question is why Bangladesh faces destructive fire incidents every year. Answer is lack of awareness and other different obstacles which delay fire safety projects installations. In this report I will try to present all possible obstacles and reasons for ignoring the importance of fire safety.

## **1.2 Aim of the Report**

Due to the country's developing metropolitan areas' lack of essential infrastructure, such as fire stations, the frequency of fire occurrences has increased four times in Bangladesh over the past 20 years. Around 285,000 fires were reported in the nation between January 1, 1999, and December 31, 2020, according to the Bangladesh Fire Service and Civil Defense (Unb, 2021).

However, fire incidents increased four times but still general people are not much aware about this matter. Bangladesh's Government, Bangladesh Fire Service and Civil Defense established so many rules and regulations to avoid or reduce fire incidents. But real life implementations by individual bodies and organizations are not that much visible. My aim is to identify the reasons of unwillingness on fire safety service and the obstacles of installations of fire safety projects.

### **1.3 Objective**

The broad objective of the report is to identify all possible obstacles of fire safety projects installation in Bangladesh.

Specific objectives are:

- Identify the reasons for unwillingness on fire safety matters.
- To know the operation process of fire safety solutions providing companies.
- Identify obstacles to installations fire safety projects
- To know the gaps among different parties.

### **1.4 Scope of the Report**

I have been working in Nirvana Engineering Solution Limited as a senior executive for 2 years and have learned so many things practically. This organization gives on the job training so I have learned everything by performing my job responsibility and observing others' works. And this report I am writing on the basis of my experience. I believe This report will help the project implementation team by reducing project implementation time. Also newcomers will get an overall idea about the organization's operation process, possible obstacles in this industry also will know about where gaps could create and fire safety projects may be hampered.

### **1.5 Limitation of the Report**

- **Confidential Information**

Due to the organization's rules and regulations some information and documents are confidential. That is why it may be difficult to justify some of the statements.

- **Insufficient Data**

Though Bangladesh is facing lots of destructive fire incidents, people of Bangladesh are not much aware about this matter. All possible reasons for fire incidents, how to be careful to avoid fire incidents, these types of necessary data are not available.

- **Lack of Records**

Necessary data records are not available for the general public. For example- what type of fire fighting systems are good for residential areas, quality of fire fighting products like extinguishers, hose pipes, etc.

- **Report is based on Secondary Data**

This report is based on practical work experience as well as from secondary data. This report could be more reliable if I was able to collect primary data through surveys. Also this report is based on Bangladesh perspective.

## **1.6 Data Collection Method**

This report is written on the basis of practical work experience also from secondary data, which are available on different websites, journal and thesis papers.

# **Chapter 2**

## **Organizational Part**

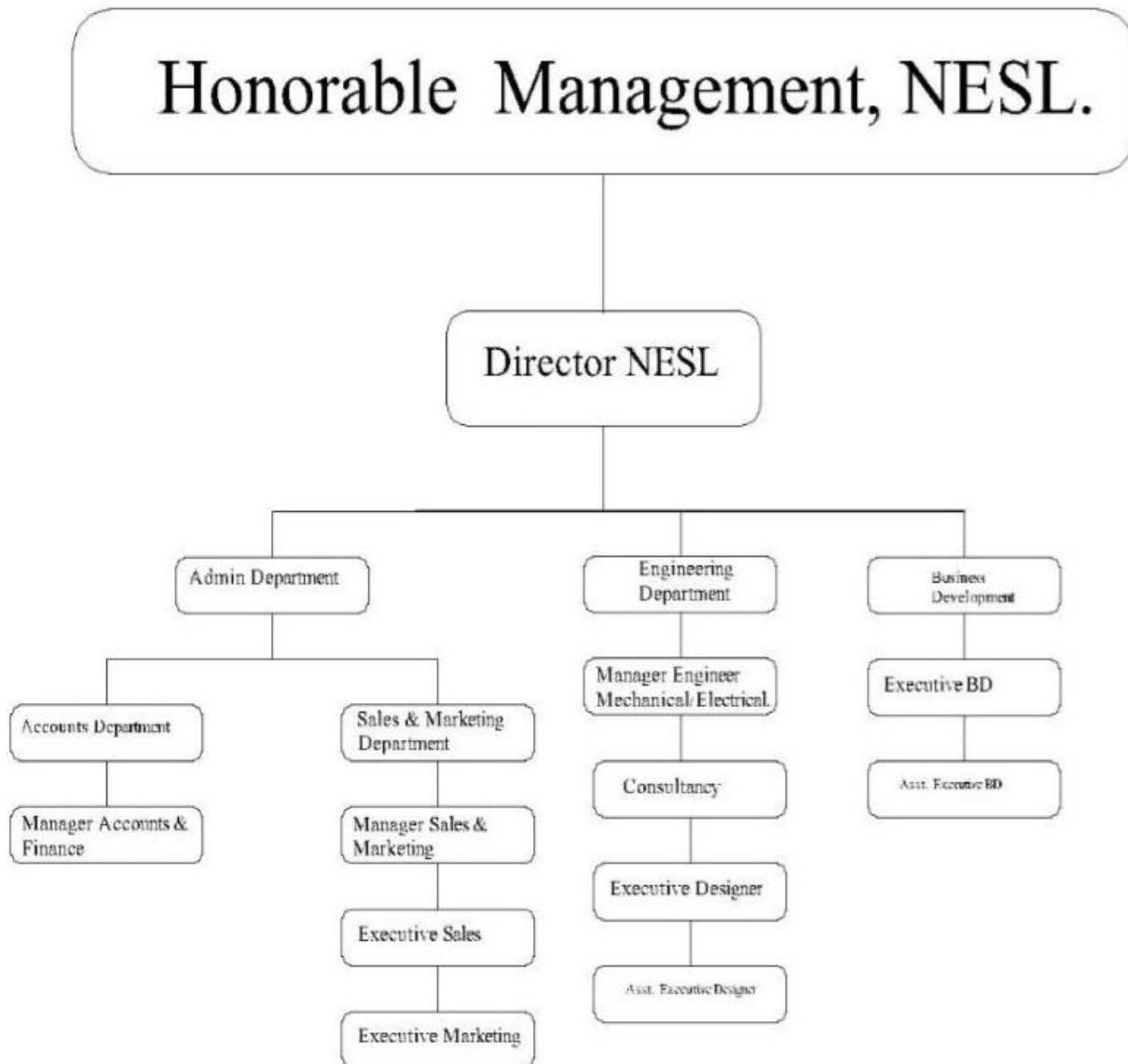
## **2.1 Background of the Organization**

The engineering firm Nirvana Engineering Solution Limited (NESL) was founded in Bangladesh in 2015. With numerous MEP, Fire, and HVAC Consultancy services, infrastructural, and industrial application projects, it has a long history of successfully completed projects throughout Bangladesh. Engineering and consulting company with a strong focus on high-end electromechanical services, owned by NESL. A nearly complete spectrum of expert engineering services can be provided by NESL'S distinctive brand of engineers. Total quality is NESL's top priority. The company's quality assurance and audit divisions answer directly to the CEO or board of directors. By taking ownership of the client's goals, developing cost-effective engineering, and being responsive to the customer's needs, NESL thinks it can build long-lasting client relationships (Nirvana Engineering Solutions Limited).



## 2.2 Organogram of the Organization

# NESL Business Organogram .



Source- <https://nes.com.bd/>

## **2.3 Porter's Five Forces Analysis of Nirvana Engineering Solution Limited**

- ❖ Risk of new organization
- ❖ Risk of substitute services
- ❖ Buyers negotiation ability
- ❖ Suppliers negotiation ability
- ❖ Intensity of competitive rivalry

<i>Criteria</i>	<i>Range</i>	<i>Facilities</i>	<i>Situation</i>	<i>Information</i>
<b>Buyers Negotiation Ability</b>	Medium	Opportunities	Favorable	1. Customers do not have power to change the rules and regulations. 2. Product prices are similar with their competitors' product prices.
<b>Suppliers Negotiation Ability</b>	Moderately	Threat	Unfavorable	1. Export products from abroad. 2. Change of currency rate creates problems. 3. Lack of trusted suppliers in this sensitive segment.
<b>Risk of New Organization</b>	Medium	Opportunities	Favorable	1. Organization must have to be certified from Bangladesh Fire Civil Defence. 2. Required skilled and certified engineers on this segment.
<b>Risk of Substitute Services</b>	Low	Opportunities	Favorable	1. There is no option of substitute as fire is a very sensitive issue and there is no alternative solution without a fire fighting system.
<b>Threat of Rivals</b>	High	Threats	Unfavorable	1. Competitors are strong enough to capture the market.

## 2.4 SWOT Analysis of Nirvana Engineering Solution Limited

Now-a-days marketing area is very competitive. By doing the SWOT analysis it is possible to find out the strengths, Weaknesses, opportunities, and threats of Nirvana Engineering Solution Limited (NESL). From the SWOT analysis it can figure out the ongoing condition of NESL.

<p style="text-align: center;"><b><u>Strengths</u></b></p> <ol style="list-style-type: none"><li>1. Skilled and experienced Workforce,</li><li>2. Effective motivation,</li><li>3. Supportive work environment,</li><li>4. Goodwill</li><li>5. Mixed structure and employees have empowerment to take decision.</li><li>6. Experienced management.</li></ol>	<p style="text-align: center;"><b><u>Weaknesses</u></b></p> <ol style="list-style-type: none"><li>1. Less Diversification,</li><li>2. Comparatively Less Familiar,</li><li>3. Less Promotional Activities.</li></ol>
<p style="text-align: center;"><b><u>Opportunities</u></b></p> <ol style="list-style-type: none"><li>1. Diversification</li><li>2. Promotional Activities,</li><li>3. More Geographical Expansion,</li><li>4. New Customer.</li></ol>	<p style="text-align: center;"><b><u>Threats</u></b></p> <ol style="list-style-type: none"><li>1. Local Competitors,</li><li>2. Product Line of competitors,</li><li>3. New Entrants,</li><li>4. Face value of local competitors.</li></ol>

In SWOT analysis two factors act as prime movers

- ❖ Strengths and Weaknesses are two internal variables that are prevalent within the issue.
- ❖ However, there are additional factors that are external, which can present a threat or an opportunity.

### Strengths

- Personnel of NESL are well-qualified, very hard workers, and strongly committed towards their tasks and responsibilities.
- The management of NESL is very experienced. For this reason, NESL became able to run the business very effectively and capture the market.
- The structure of the NESL is mixed. This organization has different departments and every department is managed by the departmental head. Employees also have authority to make decisions upto a certain level.
- Personnel of NESL are sufficiently motivated and NESL always try their best to encourage more in different ways. Such as- promotion, increment, jewel of the month, brand owner of the month, etc.

### **Weakness**

1. NESL is a service oriented organization. For this reason its diversification is less.
2. The promotional activities for general people such as leaflets, seminars, job events for fresh graduates, etc. of NESL are comparatively less than competitors.
3. As promotional activities is less so NESL is less familiar to the general people.

### **Opportunity**

1. NESL has a very good opportunity to expand its product line.
2. It is a big opportunity for NESL to do promotional activities for general people to make this organization familiar.
3. NESL can open branches in other districts of Bangladesh also.
4. NESL has an excellent opportunity to attract new customers by following different strategies, such as focus groups, cost leadership, service diversification, etc.

### **Threat**

- Some of the competitors are a big threat for NESL. Because those competitors are strong enough to capture the market.
- Some of NESL's competitors provide service as well as products, so it's easier for them to capture the market faster than NESL.
- Promotional activities of some of the competitors are more than NESL. That is why the faces of those companies are higher than NESL.
- Now-a-days this segment is in demand so lots of investors are investing in this business. So new organizations are coming in this industry.

## **2.5 Operations Management of Nirvana Engineering Solution Limited**

### **Human Resource**

The HR department of NESL tries to recruit the right person for the right position. NESL knows that, it will help to reduce operating costs, productivity of the employee will be excellent, it will help to reduce switching tendency of the employee, and the organization will get quality full outcomes from employees. NESL always tries to motivate employees by satisfying their requirements, such as good salary, enough leave, emergency leave, flexible work environment, leave encashment, increment yearly, festival bonus, medical insurance, subsidiary provident fund, mobile allowance, home/car loan facility, and so on.

Also encourage employees by giving awards for good performance, like employee of the month, Best department of the year, and so on.

### **Accounts**

In order to push the organization to achieve maximum results, the finance department makes a significant contribution to the creation and implementation of its strategic planning. It is also in charge of monitoring performance as it compares to the budget and ensuring that all business operations adhere to the NESL financial policies.

### **Sales and Marketing**

NESL's sales team and marketing team works together to achieve their targets. Marketing teams do marketing through emails, phone calls, social media, also physical and try to collect respected persons' contact information . After that they share information with the sales team. Sales team makes a proposal and sends the work proposal to the respected persons.

## **Engineering**

After getting work orders, the engineering team starts their work, do site visits, and based on NFPA, BNBC code and civil drawing make a fire fighting system solution drawing. And hand over the drawing to the supply chain team

## **Supply Chain**

In NESL engineering and supply chain is a combined team. After completing the fire fighting system solution drawing, the supply chain team submitted the drawing to the organization for their approval and after getting approval from the organization, the supply chain team submitted the drawing to fire civil defense for approval.

### **2.6 After Sales Service of Nirvana Engineering Solution Limited**

NESL also provides after sales service. When an organization starts to install a fire safety system solution NELS' engineering team visits the site timely and guides the installer organization so that they can complete their work as per schedule. After completing installation, NESL arranges the date of Fire Civil Defence inspection of the site and after inspection NESL collects certificates from fire civil defense and handover the certificate to the management of the organization.



# **Chapter 3**

## **Literature Review**

### **3.1 An Overview of Fire Safety and Solution Industry in Bangladesh**

In the past six years, there have been 1,17,060 documented fires nationwide, of which 6,081 occurred in industry, according to the fire department. Indirect fire protection systems like fire extinguisher, detectors, hose pipes, etc. are installed in maximum commercial and industrial buildings across the nation. To manually put out a fire with a fire cylinder and hose, however, qualified workers are required. If the fire becomes fatal, it also endangers the lives of these people. Indirect fire extinguishing systems are also subject to noncompliance and poor management. Floor space or per capita capacity are not taken into consideration, despite the fact that public fire extinguishers are installed on every floor of business and residential structures. Expiring fire extinguishers are a common problem. Some multi-story structures have hospice pipes on display, although they are only ornamental.

According to BUET studies, electrical short circuits are at blame for at least 70% of fires nationwide. For firefighting purposes, water hydrants must be situated to a specific range (let's say 400 meters), although this is not the case. To maintain a reservoir is an alternative. A structure shouldn't be allowed to be constructed if there is no nearby water source. But multi-story structures are necessary in a densely populated metropolis like Dhaka. It is essential to think about how to technically provide access to such buildings for the fire service.

In large or medium commercial and industrial establishments, quickest and instinctive fire fighting systems that automatically detect fire and extinguish fires are required. As they explode in a fire and put it out, fire balls are becoming more and more common these days. In Bangladesh's low-cost industrial production paradigm, where labor-intensive workplaces are the norm, these safe technological solutions are not taken into account because their implementation is relatively expensive (Hasan, 2022).

There are more than 50 organizations supplying fire safety equipment in Bangladesh and among them some companies provide fire safety system solutions (consultancy, design and drawing). Still this industry has a lack of skilled and experienced people.

## **3.2 Definition**

### **Civil Drawing**

A technical drawing called a civil drawing displays details on the grading, landscaping, or other aspects of the site. An engineer working on a construction site should be able to clearly understand everything from these drawings (Civil drawing 2023).

### **Fire Fighting System Drawing**

Fire fighting drawing is a layout which indicates the position of fire equipment and also types of fire equipment like smoke detector, fire alarm, fire hydrant, fire door, etc.

### **Clients**

An organization or individual persons who take professional advice or service from a professional person or a service provider organization.

### **Bangladesh Fire Service and Civil Defence**

Bangladesh fire service and civil defense is an emergency service provider organization, working under the security services division of the ministry of home affairs.

## **Site Inspection**

Monitoring of site's work to see the actual work of construction to compare with plan and clients' requirements.

## **Project Schedule**

Project schedule is a time schedule of tasks completion, guideline of tasks sequence, required resources, and so on.

## **NFPA**

An international nonprofit group with a U.S. base called the National Fire Protection Association works to end economic, physical, and other losses brought on by electrical, fire, and related risks (About NFPA).

## **BNBC**

The full form of BNBC is Bangladesh National Building Code. This is the guideline of minimum standards of building construction and these minimum standards must be followed by the civil engineers.

# **Chapter 4**

## **Report Part**

## **4.1 Job Responsibility**

I am working as a senior executive at the business development department of NESL. Working environment is very good, flexible as well as supportive. As I deal with clients directly as well as indirectly so I have to maintain continuous communication with other departments also. So that I can respond to clients as fast as possible. I also manage the e-commerce segment, maintain and keep records of project updates.

## **4.2 Learning**

NESL always gives on the job training to maximum employees of the organization. Only engineers get both on the job as well as on the job training. I have been learning new things everyday. I have learned e-commerce, e-advertising, and how to maintain long term relationships with clients, importance of reference from fire civil defense, organization culture, client management, data management, process of site inspection, and so on.

## **4.3 Problem Statement**

Obstacles of Fire Safety Projects Installation.

## **4.4 Background of the Problem**

Every year Bangladesh faces lots of fire incidents. Because of government rules and regulations and foreign clients requirements, lots of organizations are bound to install fire fighting systems in their organization, to reduce the risk of fire incidents. But maximum organization takes a long time to install fire fighting system solutions. Sometimes, management of some organizations also show that a fire fighting system is not necessary. They become bound to install this because of government rules, regulations and foreign clients requirements (Mahmud-ul-islam, 2013). There

are some reasons why management of the different organizations feels less interest to install a fire fighting system in the organization.

## **4.5 Findings**

Obstacles of fire safety projects installation in Bangladesh are discuss in details below:

### **Limited Education and Training**

Bangladesh is a well populated country. Almost 1,141 people live per square kilometer (Bangladesh population (live)), and Bangladesh's literacy rate is 74.91% in 2020, up 0.22% from 2019 (Bangladesh literacy rate 1981-2023). But there are no separate educational tools available which can make general students aware of the importance of the fire fighting system. In fact there are very few training institutes run by Bangladesh Fire Civil defense to provide very basic training to general people, like extinguishing a gas cylinder fire in a house. This type of training should get each and every person including those who live in slum areas. Unfortunately very few, like 2000-5000 people got this type of training.

Another scenario is more terrible. Top management of different big companies, production houses, power plants, etc show less willingness to install fire fighting systems in their organization. Because they are not aware about the destruction that could be created because of fire incidents. Example could be the massive fire incidents in Bangabazar, 2023. Though Bangladesh Fire Civil Defence declared that the area is a danger zone in 2019. But the authorities did not take any kind of action because of lack of awareness, and the result we saw in 2023.

## **Lack of Skilled People and Resources**

In Bangladesh, there are a total of 494 fire stations and in the last five years the total number of fire incidents is 1,10,492. Now the question is, is the total number of fire stations enough for Bangladesh? Answer we might get from another article which was published on 20 of February, 2023 in an online journal and the title of the article is "Despite being two of the major hubs of the capital, Gulshan and Banani do not have any fire stations" (Hossain, 2023). From here we become able to know that our resources are not enough as per actual requirements.

As I discussed in a previous point, there are no educational tools like books, practical in educational institutions so we are facing a shortage of skilled / expertise personnel in this segment.

## **Additional Cost for Training**

Indirect fire protection systems like fire extinguisher, detectors, and hose pipes are installed in almost all commercial and industrial buildings across the nation. Because of BNBC code they were bound to install that. To manually put out a fire with a fire cylinder and hose, however, qualified workers are required. Unfortunately, organizations face problems in training their personnel. Additional costs come here to train people (Hasan, 2022).

## **Imported Equipment**

Bangladesh relies heavily on imported fire safety equipment. The fire extinguisher is among the most fundamental pieces of equipment for fire safety. This is crucial in all sizes and types of installations. It is difficult to import these fire extinguishers though. The Explosives Department, along with the Bangladesh Navy, must give their preliminary and final approvals for each import



of fire extinguishers. Taking approvals are extremely time-consuming and require at least 20–22 days. It's difficult to import other fire safety supplies either. A fire fighting system is an entire system made up of several tools and apparatus. For instance, the government has designated a single HS code (84 24 2030) for fire detection systems to make importation easier, however each product or piece of equipment is assessed and charged separately at customs. Unexpectedly, the cost of imports rises (Rashid, 2023).

### **Cost for Vat, Tax and Customs Duty**

It's challenging to import fire safety supplies. An entire system made up of numerous tools and apparatuses makes up a fire extinguishing system. To make importing fire sprinkler systems easier, the government has established a single HS code (84 24 2030), although each product or piece of equipment is still subject to a separate assessment and duty charge at customs. Unexpectedly, it drives up import prices. The pipe is a crucial component of the fire fighting system. Around sixty percent of spending goes on pipes. Even though Bangladesh has pipe manufacturing, this specific pipe must be imported (Rashid, 2023).

### **Time Required for Approval of Different Departments**

There are four individual parties that are related to each other. Those parties are:

- Organization's owner
- Fire fighting system solution providers
- Bangladesh Fire Civil Defence
- Fire fighting systems installers

In some cases fire fighting system solution providers and systems installers are the same organization.

As different parties are involved, so each and every task accomplished time increases and simultaneously the cost of the project also increases. Example - NESL got a solution proposal from xxx company. Then NESL will ask their buildings' civil engineering drawing, here their top management's approval is required which is time consuming.

After getting drawings NESL will work on it and will submit the fire fighting solution drawings to the organization for approval. Here time is required as NESL have to educate top management of the organization about total solution, cost in details.

After getting approval from the organization the NESL will submit the drawing to Bangladesh fire civil defense for their approval. At least 20-25 days are required for their approval. If any changes are required it could take more than one month.

Then budget fixing, tender published, selecting installers, product sourcing, purchasing, shipment, customs and many other activities make the project duration longer.

## **Hidden Cost**

We all know that more time a project requires, more hidden costs including the total costs. Like more labor costs, product damage costs, commission and incentives to different parties, logistic costs, deviation of exchange rates, storage costs, inflation, ect. increase the total project costs a lot.

Due to this reason top management feel less interest to install a fire fighting system in their organization.

### **Lack of Commitment**

Some installers are not experts and make mistakes which may damage products or organization's property. And installers refuse to take responsibility for this. Some purchasers also break their commitment and provide low quality products.

### **Poor Infrastructure**

A structure should not be allowed to be constructed if there is no nearby water source. But multi-story structures are necessary in a densely populated metropolis like Dhaka. In the maximum case we can see that rules and regulations are not followed by the respective authorities. As a result hidden costs like commission and incentives come here to recover previous mistakes.

## **4.6 Recommendations**

1. Awareness and social responsibility can ommit maximum obstacles from this segment. General people have to be aware about the negative impact of fire incidents. Different articles, social media campaigns, academic education, awareness television programs, voluntary participation and certification, etc. programs could help to make the general people.
2. Costs of different parts like hidden costs, import tariff, customs duty, project duration, etc. have to be reduced by using expert and skilled people.
3. Have to reduce maintenance costs by ensuring good quality products.

4. Have to reduce import related costs by producing products in our country. Government as well as private investors should focus on this segment. Again when general people will be aware about the matter simultaneously investors will be interested to invest in this segment.
5. This segment could be another subject in academic institutions. This will help to make skilled people. It will also help to create interest in the general people of the segment as it is a risky task and firefighters have to take life risk.
6. Government regulations and monitoring have to be increased to reduce unethical means like commission and incentives.
7. Documentational hazards have to be reduced to reduce total project time.
8. Inflation also has an impact on total project costs. So, inflation must have to be under control.
9. Automatic fire fighting systems can reduce maintenance costs.

#### **4.7 Conclusion**

An essential component of any building's safety plan should be a fire protection system. Any business, or building, for that matter, must prioritize preventing fire threats. However, because of the losses it may result in, it may be particularly important for workplaces. Fire safety systems are necessary, because it can reduce the amount of damage and loss. The fire alarm system will sound in the event of a fire and stop it before it spreads out of control. A fire protection system might put out the fire from the start and actively assist people in safely evacuating.

## References

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