



The time is ripe: The heat is on

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FOLLOWING the fire at BSEC Bhaban 26 February, there has been an increase in awareness regarding fire, its dangers and its hand in death. This wakefulness, limited as it may be, is more prominent among people working in large multi-storied office buildings. People using other fire hazardous buildings, such as shopping centres, cinema halls, marriage halls and even a completely grilled-in home, are still in the delirious state of 'it won't be me'.

In our page today we have included a brief history of fire in the west as a means to emphasis the longevity of this danger. Fire is now one of the most important fundamentals of building design in countries with advanced economics.

We also highlight four office buildings in Dhaka as case studies, and they do not seem to be in good health with regard to preparedness against a possible fire. The postgraduate students conducting the survey and we are of the agreement that this is the general condition existing all across the board right across the country. We have only been fortunate this far from being able to avert any major disaster, although 48 deaths from the Narsinghdi fire a few years back should have been an eye-opener.

The depth of the awareness, fear and proactive vigilance regarding fire in the west is highlighted by the

checklist of fire safety at home that we publish today. Owners and users of each building entity (apartment, hospital, shop, school, university, office, etc.) in Bangladesh should go through the checklist, especially if they are multi-storied and air-conditioned, as many issues are common in all buildings. This may be the starting point of our war against death or injury or loss of property from fire accidents.

Accidents are always unplanned, but given the fact that we choose to remain ignorant and unwilling to take any passive and practical measures against fire from starting and developing into a disaster, and about taking precautions and adopting control methods to fight it, it would appear that we are deliberately pushing some of us, who knows who, into a peril that we could have avoided. We still can. The time is ripe. The heat is on.

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BUET



T.K. Bhaban



Sena Kalyan Bhaban

Post-BSEC fire case studies: March 2007

Krishi Bhaban, HQ of Bangladesh Agricultural Corporation, Dilkusha c/a, Dhaka

This is an 11-storied office building with single basement.

Entrance

There are two main entries, one old and one new.

But mainly one entry is used for the whole building. And this is the old entry. But the new entry which is big and has enough preparation and lobby space is always closed.

There is a separate entry for the basement at one side of the buildings. This is the only entrance to the basement. No connection with the basement is maintained from inside of the building.

Stair And lift

There are 3 staircases and six lifts. Every staircase is locked at the basement.

Two staircases are open from top to bottom. The main staircase is not opened at every floor. It is closed at 4th floor from the lobby by a wall.

The two staircases have no lighting, no ventilation. Only the new

staircase has lighting, and ventilation.

Every stair lobby has a collapsible gate at each end.

A lift lobby is not connected to every office. Some times one or two lobbies are blocked by wall or furniture, making only one lobby functional.

Fire prevention

There is no water reserved for fire fighting. The existing water reservoir's capacity is 25000 gallon, which is only for domestic use. There are no smoke alarms or sprinkler system in the building.

The total occupants of this building are 2000 at peak hour. They have no designed means of escape from fire.

There are a few very old extinguishers visible.

No drill is held in the building.

There is no awareness about fire. But after the BSEC fire they are thinking about fire protection. Now they want to make some changes, take some protection and preventive measures against fire.

[Survey conducted by Latifa

Sultana, M.Arch student, BUET]

Titas Gas Bhaban, located at Karwan Bazaar, Dhaka. This is a 10-storied building. Area per floor: 1200sqft. The number of occupants including visitors at peak time is approximately 1200.

Staircases

There is one main staircase and another designated as fire exit, separated by a bank of lifts. The main staircase runs from basement to top floor. The one designated as fire exit runs from Ground Floor to top. Five lifts travel from basement to the top floor.

Both the staircases are open. They do not have exclusive landing, rather they encroach into the lobby space. There is no separate staircase from ground floor to the basement.

Means of escape

There is a fire exit door at the ground floor to escape. The gate of the fire exit at ground floor is not locked. The lobby is filled with rubbish, furniture.

Fire control

There is a reservoir in the basement which contains water for fire fighting. There are some fire water buckets, hose reel, extinguishers, etc at a Fire Point but there is no written direction to use them, a violation of the law. There is no marshal to take charge in case of a fire. Auto sprinkler are installed on a few floors. Fire alarm and smoke alarm exists. Maintenance of these equipments is poor. Fire drill is held twice a year. The fire exit is not lit well and is dark.

[Survey conducted by Tania Hossain and Bipasha Bhuiyan, M.Arch students, BUET]

T.K.Bhaban is located on the VIP road at Karwan Bazaar commercial area, Dhaka. Number of stories: 18. Area of floor: 10030sqft (approximately). The main entry of the building is eight feet above of the plaza. Number of occupants including visitors at peak time: about 1000.

Awareness of the users has increased since the BSEC fire.

Staircases

There is one main staircase and another so-called fire exit. There is no separate staircase from basement to ground floor. The main staircase runs from the basement to the top floor. Both staircases are open. The main staircase does not have an exclusive landing, but encroaches severely into the lobby. The lift core and both the staircases are accessible from every office.

Means of escape

The gate of the fire exit at ground level remains locked. The door of the fire escape can be opened only from the inside, which is a positive aspect. The corridor is occupied by rubbish but is not closed by any collapsible gate. When the researcher asked for the key, the man took some time to find it. This will be very costly in the event of a real fire.

Fire control

Water reservoir for fire fighting is below the basement. Auto sprinklers are in place. There is one fire extinguisher, hose reel and CO2 gas cylinder on each floor. Fire alarm and smoke detector are installed. They claim that fire drill is undertaken twice a year, but there is no fire marshal. The lift lobby and fire exit are well lit. There is however no signage or symbols for fire escape. The gap with the adjacent building is so narrow that it is impossible for fire brigade to enter that area.

[Survey conducted by Fahmida Hossain Mimi, M.Arch student, BUET]

Sena Kalyan Bhaban is a 21-storied building and is located near the Bangladesh Bank at Motijheel c/a, Dhaka. There are about eight thousand occupants including visitors from 10am to 5pm.

Staircases

There are three staircases and a fire exit: Spiral stairs (from ground floor to 1st floor), dog-legged main staircase (from 1st floor to the 21st floor) and a fire exit (from 1st floor to the 21st floor). Unfortunately for fire, all the staircases are open.

All have exclusive landing, and do not share with lobby. No separate staircase from ground floor to the basement. Fire exit goes to the

basement, where the door is closed.

A lot of machineries are kept at the basement. The fire exit is not well lit. It is almost dark. Lift core and staircases are accessible from every office room by a lobby. There are three accesses to the fire exit: one from a lobby, one (would you believe?) through the male toilet and another from a corridor. But the corridor is blocked by furniture and rubbish.

Means of escape

The spiral staircase open at ground floor.

Main staircase open at first floor. A fire exit door is found at the ground floor to escape.

But the gate at the basement is locked.

Fire control

No fire fighting water reservoir was found.

Bucket, hose reel, CO2 gas cylinder, extinguishers, etc. are in place for fire fighting, but there is no direction for their use. There is no sprinkler. There are three fire extinguishers at every floor except the ground floor. There is no fire

materials that could catch fire?

3.Are pot handles turned towards the back of the stove?

4.Is there a "kid-free" zone of three feet (one metre) around the stove when grown-ups are cooking?

5.Are portable space heaters always turned off and when grown-ups leave the room or go to sleep? (Applicable in cold climate)

6.Has your family's heating equipment - chimneys, fireplaces, woodstoves, or furnaces been inspected by a professional this year? (Applicable in cold climate)

7.Are candles always blown out when grown-ups leave the room or go to bed?

8.Are candles in candleholders that can't tip over easily and are big enough to catch dripping wax safely?

9.Are matches and lighters kept in a locked cabinet, out of children's sight and reach?

10.Are electrical cords in good condition, without cracks or frayed areas?

11.Are flammable liquids like gasoline, kerosene, or propane

4.Does your family practice the escape plan twice a year? (Why not practice it tonight!)

5.Has your family picked a safe place to meet outside after you exit the home?

6.Does everyone in your family know the fire department's emergency number to call once you're safely outside?

7.Is your home's street number clearly visible from the street?

8.Is your home team fire-safe?

If you answered 'yes' to all of the checklist questions above, congratulations! You and your family are doing a great job of teaming up for fire safety.

If you answered 'yes' to 20 or more questions, you're on your way. Make sure to correct any problems, and you'll be 'home safe' before you know it.

If you answered 'yes' to 15 or more questions, you've got some work to do! Work together to correct the problems and then take the test again.

If you answered 'yes' to fewer than 15 questions, it's definitely time to make

In 1648, Governor Peter Stuyvesant of New Amsterdam (New York City) was the first in the New World to appoint fire inspectors with the authority to impose fines for fire code violations. Boston imported (1679) the first fire engine to reach America. For a long time the ten-person pump devised by the English inventor Richard Newsham in 1725 was the most widely used. The inventor Thomas Lote of New York built (1743) the first fire engine made in America. About 1672 leather hose and couplings for joining lengths together were produced; though leather hose had to be sewn like a fine boot, fabric and rubber-treated hose did not come into general use until 1870. A steam fire engine was built in London in 1829, but the volunteer fire companies of the day were very slow to accept it. When a group of insurance companies in New York had a self-propelled engine built in 1841, the firefighters so hindered its use that the insurance companies gave up the project. Finally, in Cincinnati, Ohio, the public forced a steam engine on the firefighters. The aerial



Krishi Bhaban



Titas Gas Bhaban fire control

alarm or smoke alarm, but the officer interviewed claimed that fire drill is undertaken twice a year. Maintenance is satisfactory. No person was found as floor marshal for taking charge in case of fire. This is an award-winning building but the design for safety is not satisfactory.

[Survey conducted by Khandaker Tanjila Faiz, M.Arch student, BUET]

Fire Safety Checklist: ARE YOU SAFE AT HOME?

24 questions that could save your life

By taking the time to do a fire safety inspection, and correcting any problems you discover, you'll reduce your family's risk of being harmed in a home fire. Take about 20 minutes to inspect your home. As you go from room to room, check off answers to the questions listed below. Give yourself a point for each question that receives a 'yes' answer. When you're done, add up the points to find out your score. Then, take steps today to improve those areas that need it. Kids: ask a grown-up to help!

A. Hunting for Home Hazards

1.Does a grown-up always stay in the kitchen when food is cooking on the stove?

2.Are cooking areas free of

stored in safe containers, out side the home in a properly ventilated shed or garage?

12.If there are smokers in your home, do they douse all butts and ashes with water before throwing them away?

B. Sound the Alarm: Installing and Testing Smoke Alarms

1.Does your home have a working smoke alarm on every floor, and inside or near every sleeping area?

2.Are the batteries working in every smoke alarm? (Have a grown-up press the 'test' button to find out.)

3.Do you have any smoke alarms that are more than 10 years old? If so, or if you can't remember, have a grown-up replace them.

4.Does everyone in your home know the sound of the smoke alarm and know exactly what to do if it goes off?

C. Do the Drill: Practicing Home Fire Escape Plans

1.Does your family have a home fire escape plan that includes two exits (usually a door and a window) out of each room?

2.Are exits in your home kept free of toys, furniture, and clutter?

3.If there are infants or other family members with limited mobility, has someone been assigned to assist them in the event of a fire?



Sena Kalyan Bhaban ground floor fire exist door

some changes. Make sure your family takes the steps needed to turn every 'no' into a 'yes.' Remember: passing this test could save your life in the event of a home fire.

History of Fire Fighting in the West

Ancient Rome is known to have had a fire department consisting by the 1st cent. of approximately 7,000 paid firefighters. These fire brigades not only responded to and fought fires, but also patrolled the streets with the authority to impose corporal punishment upon those who violated fire-prevention codes. The inventor Ctesibius of Alexandria devised the first known fire pump c.200 B.C. but the idea was lost until the fire pump was reinvented about A.D. 1500. The only equipment available to fight the London fire in 1666 were two-quart hand syringes and a similar, slightly larger syringe; it burned for four days. Elsewhere in Europe and in the American colonies fire fighting equipment was equally rudimentary. The London fire stimulated the development of a two-person operated piston pump on wheels.

ladder wagon appeared in 1870; the hose elevator, about 1871. Gasoline engines were at first used either as pumping engines or as tractors to pull apparatus. In 1910 the two functions were combined, one engine both propelling the truck and driving the pump. Modern equipment is usually diesel powered, and multiple variations of the basic fire engine enable firefighters to respond to many types of emergency situations.

[Source: P. R. Lyons, Fire in America (1976); C. V. Walsh and L. Marks, Firefighting Strategy and Leadership (2d ed. 1976); J. Robertson, Introduction to Fire Prevention (1989)]