

From Risks To Vision Zero



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Addressing a fire safety culture in the garment industry in South Asia: A collaborative approach

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Background

Historically, workplace fires have been a significant cause of death, injury, disability and severe economic losses.

The Triangle Shirtwaist Factory fire



Figure 1: Triangle Shirtwaist Fire (March 2011)

One of the most significant workplace fires that had a dramatic influence on legislation was the Triangle Shirtwaist Factory Fire in New York City on 25 March 1911. There were 146 deaths (123 women and 23 men) and 71 individuals injured. It was estimated that there were over 1,650 workers (mostly women) in the factory at the time of the fire. There was no audible alarm. Locked and obstructed exits attributed to many of the deaths and injuries. A number of workers, unable to use the stairs, ended up jumping to their death.

The Kader Factory fire

More recently, on 10 May 1993, a major fire occurred in Thailand at the Kader Factory, which produced dolls and stuffed toys. This fire resulted in 188 deaths and 469 individuals injured.



Figure 2: The Kadar Factory Fire (May 1993)

According to reports by the International Labour Organization (ILO) and the National Fire Protection Association (NFPA), the Kader Factory complex had inadequate fixed fire protection systems, poor arrangements of fire exits and a lack of fire safety training.

When the fire occurred on the first floor, smoke rose to upper floors. Workers, not hearing an alarm but concerned about smoke, started to evacuate from the upper floors using the emergency stairway. Members of the security staff, thinking the fire was small, sent evacuating workers back up the evacuation stairway. The confluence of the descending evacuating workers and the workers forced to return to the upper floors caused a number of deaths.

Recent Workplace Fires in Asia

Table 1: Recent fatal fires in Asia

Date	Location	Deaths
25 February 2010	Gazipur, Bangladesh	21
24 December 2010	Dhaka, Bangladesh	26
11 September 2012	Karachi, Pakistan	289
24 November 2012	Dhaka, Bangladesh	112
26 January 2013	Dhaka, Bangladesh	7
27 February 2013	Kolkata, India	19
8 May 2013	Dhaka, Bangladesh	7
3 June 2013	Mishazi, China	119

In the last few years, a number of fires with significant fatalities have occurred in Asia. Table 1 shows some of the more disastrous recent fires.

Although not a fire, another noteworthy accident is the factory collapse in Dhaka, Bangladesh on 24 April 2013, which caused 1,126 deaths.

The impact of many of these accidents could have been minimised had there been a promotion of prevention and safety culture. Unfortunately, many resources are still going towards inspection and enforcement and few towards prevention. In South Asia today, one of two scenarios are frequently seen.

Scenario 1: Culture of compliance

A culture of compliance is where workers and management are following the rules—not because they want to or in the interest of protecting others—but because they are rules. This can manifest itself in scenarios such as the following:

An inspector or an auditor arrives at the factory gate. The security guard politely asks them to wait. During the wait a signal is given in the building to quickly clear and unlock exits, clear passageways, remove excess waste and sources of ignition. After 15 minutes the inspector is summoned.

Scenario 2: Culture of prevention

Ongoing training has raised the awareness of workers, managers and staff regarding the need for a fire safety programme. People are aware and frequently discuss fire safety. Information is generated and workers are encouraged to bring the message home to their families. Everyone strives to reduce the fire load and control possible sources of ignition. They consciously keep primary and secondary exits clear of obstruction. They expect that the alarm system and fire protection systems function. There are evacuation wardens, fire drills and emergency assembly points. When the systems do not function, there are urgent and frank discussions with management.

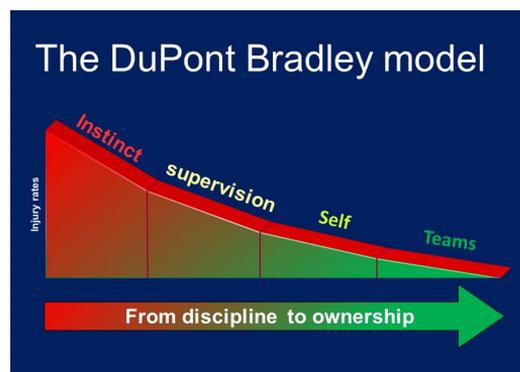


Figure 3 *The DuPont Bradley model depicting the move from compliance to culture*

The DuPont Bradley model graphically demonstrates the impact on injury rates when a company moves from instinct (when workers engage in safety and health issues from instinct because it's the law and they are

told) to a safety culture where teams of workers share common safety and health values, therefore the movement towards a culture of prevention. The model can also be applied to moving from complying with fire safety regulations to building and sustaining a fire safety culture.

Aim

The aim of the ongoing project by the Fair Labor Association (FLA) is to develop and implement a collaborative approach between management and workers through a fire safety initiative to address basic fire safety. The ultimate goal of the project is for factories to have a workplace fire safety culture in place where all workers share a common set of knowledge, attitudes, perceptions and beliefs about workplace fire safety.

Definitions

Fire safety is defined in the project as both fire protection and fire prevention.

Fire prevention is ensuring that the elements that are required for combustion—heat, fuel and oxygen—do not come together. This is done by eliminating one or more of the elements. For example, measures such as restricting open flames, prohibiting smoking in the workplace, or ensuring appropriate storage of flammable materials.

Fire protection translates into material, equipment, resources and procedures to evacuate personnel and extinguish or mitigate the effects of the fire. For example, every workplace should have:

- A fully operational evacuation alarm that everyone can see and hear (taking into consideration ambient noise levels), which is regularly inspected, tested and maintained, including a backup system should the alarm system fail
- Emergency evacuation routes that are clearly marked, continually unobstructed, well lit (equipped with emergency lighting that will continue to function in the event of a power failure), designed and arranged so as not to pass through or near any hazardous area, provided with doors that are equipped with panic hardware and are not locked
- One or more marked external assembly points in an area of safety away from where fire-ground operations might occur
- A group of fire evacuation wardens—in each area and on each working shift—should be selected, trained and regularly drilled in guiding employees from their workstations to the external assembly point, ensuring that everyone has evacuated the work area
- Adequate fire protection equipment, including automated systems and fire extinguishers and hoses, where appropriate

Fire protection also provides a means for dealing with emergencies including:

- Emergency evacuation (life safety)
- Emergency action planning
- Emergency operations: emergency operations centre
- Emergency operations: workplace fire response team

Methods

The FLA designed and is implementing a project that:

- Developed, validated and shared 39 Fire Safety Competencies²
Developed, validated and shared a self-assessment checklist for employers and factory owners, based on the above-mentioned competencies³
- Developed, validated and accredited with the Institution of Occupational Safety and Health (IOSH) a robust training course with a view to train individuals as change agents, in factories, known as Workplace Fire Safety Facilitators⁴
- Developed, validated and accredited with IOSH a robust training programme to train both master trainers and local trainers to deliver the Workplace Fire Safety Facilitator course⁵
- Built collaboration with the National Fire Protection Association (US) for technically reviewing the accuracy of contents
- Received a Development Grant from IOSH (UK) for building the infrastructure to support the rollout of the initial educational activities

In this programme, guidelines, lesson plans and materials are standardised. There are robust training infrastructures and fixed evaluation mechanisms which included pre-tests, post-tests, and assessments of presentations and reports.

Results

The Workplace Fire Safety Facilitator Course

The five-day Workplace Fire Safety Facilitator course was finalized, accredited and implemented for the first time in November 2013 in Sri Lanka for 17 participants representing four countries and four major garment brands. The course consisted of an initial 3 days during which the participants actively addressed:

- The basis of fire safety
- Changing behaviour through information exchange
- Basic presentation skills and discussion techniques
- Fire hazard assessment techniques

2 [<http://www.fairlabor.org/sites/default/files/foundationalcompetencies.pdf>]

3 [http://www.fairlabor.org/sites/default/files/fla_fire_safety_self-assessment_may_2013.pdf]

4 [http://www.fairlabor.org/sites/default/files/workplace_fire_safety_facilitator_training_syllabus.pdf]

5 [http://www.fairlabor.org/sites/default/files/workplace_fire_safety_facilitator_train-the-trainer_syllabus.pdf]



Figure 4: Exercise on External Assembly Points during the Workplace Fire Safety Facilitator Course in Sri Lanka

During a one-month gap, the participants were asked to conduct a hazard assessment at their workplace and carry out a presentation and discussion in their workplace on a fire safety issue. In the final two days of the course, the participants reported on the gap exercise and developed means of action to promote fire safety.

The mean score of the pre-test of the Workplace Fire Safety Facilitator course was 55%, which rose to a post-test score of 77%.

The Train-the-Trainer Course

Beginning on the day before and the day after the two segments of the Workplace Fire Safety Facilitator course, candidate master trainers representing four countries (national master trainers) and four brands (corporate master trainers) were trained.

Eleven trainers completed the course (the Workplace Fire Safety Facilitator course was embedded in the Train-the-Trainer course therefore affording the opportunity to the trainers to complete both courses).

The interactive Train-the-Trainer course addressed topics such as:

- How adults learn
- The structured lesson plan and learning objectives
- Instructional methods
- Teaching and learning resources
- Micro-teaching assignments
- Participant assessment
- Administrative and reporting requirements and evaluation

The candidate trainers were required to complete the same gap assignment as the Workplace Fire Safety Facilitators as well as to prepare to present a course module during the sessions after the gap.

The mean score of the pre-test of the Train-the-Trainer course was 59%, which rose to a post-test mean score of 90%.

Upon completion of the Train-the-Trainer course, the trainers are required to complete the (UK) National Examination Board for Occupational Safety and Health International Fire Safety and Risk Management Course as well as successfully instruct the Workplace Fire Safety Facilitator course under the observation and evaluation of a master trainer.

National master trainers have been trained in three countries, Bangladesh, India, and Sri Lanka. Four widely-known international garment brands have trained two master trainers each. The cascading effect has started regionally and will quickly reach factories and workplace in the targeted countries and brands.

Evidence of the cascading effect is apparent. The first national course where two candidate national master trainers are being evaluated and additional brand trainers are being trained was held in Bangladesh in February and March 2014.

Conclusion

The programme is building capacity and prompting prevention based on identified competencies. The gap exercise of the Workplace Fire Safety Facilitator course in Sri Lanka on its own promoted fire safety messages in 17 different enterprises, located in six countries, delivered in seven different languages, impacting over 200 workers.

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