Safety in the RMG industry in Bangladesh

Report of a fact-finding mission on Structural, Electrical and Fire Safety in the Ready Made Garment industry in Bangladesh

November-December 2013

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1. PREAMBLE

In the past years, the Ready Made Garment (RMG) industry in Bangladesh has suffered from a number of major accidents in RMG factories. On November 24, 2012, a fire broke out in the Tazreen Fashion factory in Dhaka, presumably caused by an electrical short circuit. At least 117 people were killed in the fire, the largest number of casualties ever in Bangladesh. Then on April 24, 2013, the collapse of another building, housing RMG factories, the Rana Plaza commercial building in the greater Dhaka area, caused a death toll of 1,129.

As an immediate result of these disasters, the Bangladesh RMG industry and government, aided by international support - and pressure -, increased their efforts to improve the standard of safety in this industry.

Fair Wear Foundation has 14 brands that together source from approximately 300 production facilities in Bangladesh. An action plan was therefore set up to evaluate the structural, electrical and fire safety in these factories. A methodology for a quick scan was developed, and candidates for auditing teams were invited to send in their résumés.

In The Netherlands, several experts in the field of safety were asked to support FWF. Three experts were selected , representing a diverse range of expertise. Together they covered the areas of building regulation, building inspection, and safety management. Since none of these experts had experience in either the RMG industry, or in the country of Bangladesh, they were sent to Dhaka on a fact-finding mission in November and December 2013, as part of their preparation process.

2. OBJECTIVES

The objectives of the fact-finding mission consisted of four parts:

1. Familiarise with the situation in Bangladesh
   (Visit 5-8 factories, meet with all relevant stakeholders)
2. Form a group of experts on the Bangladesh side to review the quick scans and come up with remediation plans (Include local knowledge in the auditing process, training, and follow-up procedure)
3. Select auditors and trainees to carry out the safety quick scans
   (Evaluate level of expertise in local organization and trainees)
4. Evaluate the Bangladesh infrastructure for following up the quick scans
   (It is crucial for the success of the project that the quick scans are followed up by a competent authority that can take necessary actions)

3. PROGRAM

The two week visit was conducted in November and December 2013. The program was fixed on a day-to-day basis, depending on the priorities resulting from previous meetings and the availability of contacted persons. Due to political unrest at the time of the visit, some visits to factories in the outer regions of Dhaka had to be cancelled or postponed. The factories, people and organisations visited are listed in Annex 1.

4. MAIN FINDINGS

4.1. Government involvement, regulation and inspections

In our visit we saw that, with regard to safety in Bangladesh, the regulations with regard to building safety are underdeveloped and that the infrastructure for inspections and the enforcement of regulations is weak. Furthermore, the building regulations that have been developed in the past twenty years have not been implemented adequately.

Recent accidents at Tazreen and Rana Plaza have made the Bangladesh society fully aware of the current state of the industry in this respect and there is now the momentum to make fundamental changes.

In the past, inspections have been largely left to the industry itself. They also have been largely unaware of the importance of safety issues but are now in a fast 'catch-up' process. In the beginning of 2013, the National Tripartite Plan of Action on Fire Safety was agreed upon, following the fire in Tazreen Fashions (November, 2012).

4.2. NTC Standards on Structural Integrity and Electrical and Fire Safety

In the week prior to our arrival in Dhaka, an important agreement was made in the National Tripartite Committee, chaired by the ILO (see Figure 1). In this agreement, two standard Guidelines were established, one for assessing Structural Integrity (A), and one for assessing Fire and Electrical Safety (B), each with an accompanying checklist for the inspection. The guidelines are based upon the National Bangladesh Building Code[1] (BNBC 2006), and other regulations.

[1] http://buildingcode.gov.bd

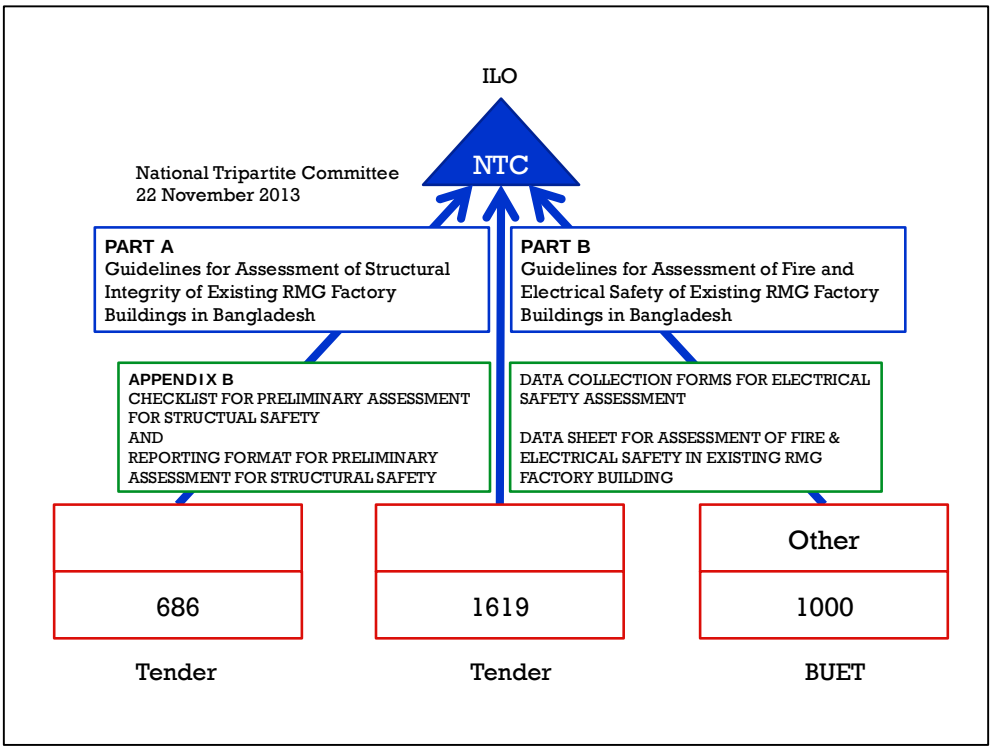

Figure 1 NTC Agreement November 2013

Together, these Guidelines and inspection checklists are used to assess the safety issues in the RMG factory buildings. Bangladesh University of Engineering and Technology (BUET[2]) was assigned to assess the approximately 1,000 factory buildings that were neither covered by the Accord[3] (Agreement between apparel corporations and trade unions, covering 1,619 factories), nor by the Alliance[4] (Alliance of mainly North American apparel companies, retailers and brands, covering 686 factories), using these Guidelines and inspection checklists. For the assessment of the factories that fall under either the Alliance or the Accord, a tender procedure was set up.

Conclusion

The agreement is a big step towards an approach that is supported by all stakeholders. The agreement creates a level playing field for all producers in Bangladesh. Even if the guidelines and inspection checklists are not perfect, it is still considered worthwhile to join in the efforts to get all stakeholders 'on the same page'.

The procedure does have a number of shortcomings, both in the Guidelines and in the inspection checklists. Very close monitoring by experts is therefore required. Furthermore, it is advised to start procedures to remediate the obvious shortcomings in the Guidelines and inspection checklists.

[2] http://www.buet.ac.bd
[3] List of factories for Accord: http://www.bangladeshaccord.org/factories
[4] List of factories for Alliance: http://www.bangladeshworkersafety.org/factory-lookup

4.3. BUET Assessment procedure

The two-step procedure for the assessment of the factories was discussed with Prof. Dr. M.A. Ansary, Chair of the BUET assessment teams. According to Prof. Ansary, the assessment of Structural Integrity and the assessment of Fire and Electrical Safety are carried out independently.

Fifteen teams have been set up to assess the structural integrity of these specific RMG factory buildings according to the Guidelines for assessing Structural Integrity. Teams will be comprised of either two structural engineers, or one structural engineer and one geotechnical engineer, both with a minimum combined experience of at least twenty years. These (preliminary) inspections will take place in the period from November 2013 to August 2014.

The teams will carry out an inspection according to the Checklist in the Guidelines (Appendix B). If the inspection reveals structural issues that need immediate action, a process is set into action to remediate the situation. According to Prof. Ansary, in several cases such action has taken place already.

The approach for assessing Fire and Electrical Safety was discussed with Prof. Dr. M.M. Helali, from the Department of Mechanical Engineering. According to Prof. Helali, another fifteen teams have been set up to assess the Electrical and Fire Safety. These teams consist of five experienced members (each with at least five years' experience) and with different engineering backgrounds (Electrical Engineer, Architect, Civil engineer, Mechanical engineer, Process design engineer). It was hard to find enough engineers with more than five years' experience for all positions, but all team members are at least graduate engineers. It should be noted that no fire safety engineer is a part of any team.

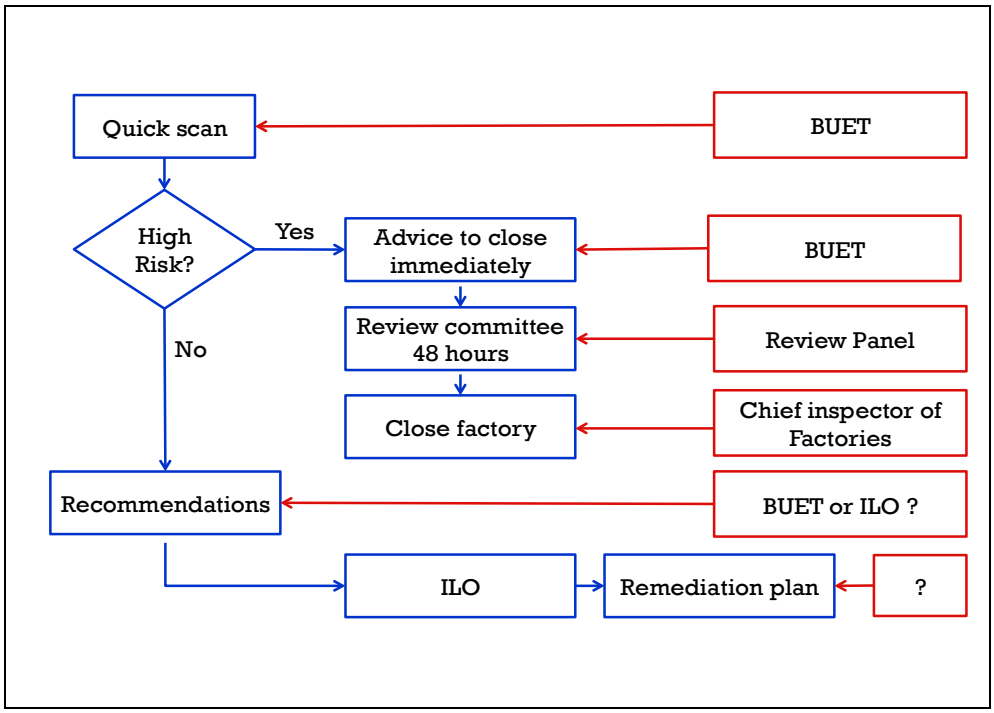

Figure 2 BUET Assessment Procedures

The teams carry out the preliminary assessments according to the Guidelines for assessing Fire and Electrical Safety. The inspections will be carried out in the period between November 2013 and August 2014. The assessment procedure is presented in Figure 2.

The assessment procedures, as they have been described in the Guidelines for structural safety, provide a mechanism to deal with factories with an immediate danger. If an inspection team finds a high-risk situation, they can advise the factory owner to close immediately. A review committee then decides, within 48 hours, about the necessity to close. The closure of the factory has to be ordered by the Chief Inspector of Factories (Ministry of Labour), who will act upon the recommendations of the review committee.

The assessment reports will be presented to the ILO, acting as Chair of the NTC. There is confusion about whether the reports will contain recommendations. According to Prof. Helali, they will not, but according to Mr. S.B. Reddy of the ILO, recommendations will be a part of the reports which are supported by information from the ILO. A first set of reports will be ready in January 2014. The ILO will then process them before they are made public.

The reports will form the basis of a process of setting up remediation plans. This process is currently still under construction. The first set of reports, available in January 2014, will provide important input to this process and for further discussion.

There is no comparable description for the closure of a factory in the guidelines for Electrical and Fire safety.

Conclusion

It is good that assessments have started. However, we do have concerns about several aspects of the inspections, and especially about the follow up.

A very strong point in the approach is that the procedure has a legal basis for immediate action. The assessment for structural safety and electrical and fire safety are carried out separately, which increases the versatility and will help speed up the process.

Weak points in the procedure are that:

- None of the members of the teams is a fire safety expert from the Fire Service and Civil Defence (FSCD), or elsewhere;
- The 'BUET'- teams do not make recommendations according to BUET. According to ILO they do;
- The approach is fragmented, instead of integrated. This will lead to problems when the recommendations are discussed. There does not seem to be a proper procedure for this part of the process.

4.4. Observed safety in RMG factories

During our stay, we visited fourteen different factories in different parts of the Dhaka region. Some of the locations were about to be abandoned by the factories that were producing there. Other sites were still under construction, as future factory locations. There was also a wide variety in the sizes of the locations, production processes, and in the levels of safety that we encountered. Factories were informed beforehand that our visit was not an official audit.

The overall conclusion is that, in general, the level of safety in most RMG factories is low. There is a growing awareness of safety, but there is also still a clear lack of safety knowledge in many factories. Earlier

observations made by many others about the inadequacy of electrical installations, fire preventive measures, factory lay-out etcetera were largely confirmed in our visits.

The main conclusion from the visits is that NONE of the buildings that were visited, old or new, fully complies with the current regulations, such as the BNBC (2006), or with the recently accepted guidelines.

In our opinion, several of the buildings that we visited need to be closed immediately due to risks that cannot be easily remediated. In some cases, we have seen that the factory owners had already been given notice that they needed to close the factory and they were in the process of building a new factory (that also did not fully comply with the regulations). However, it was often not clear what would happen to a building once the factory had moved out and it was suggested that new tenants might move into the building. If these were subcontractors that do not export abroad, it may be possible that they would not fall under the inspection regime and that would be a serious problem.

Another problem that we observed is that, in many cases, the factory owners are not the owners of the building. Many issues of safety, ranging from the electrical installation to the fire escape routes, fire and smoke compartments, smoke doors and many others, are not the responsibility of the factory owner, but of the building owner. Figure 3 FWF span of control' shows the resulting dilemma.

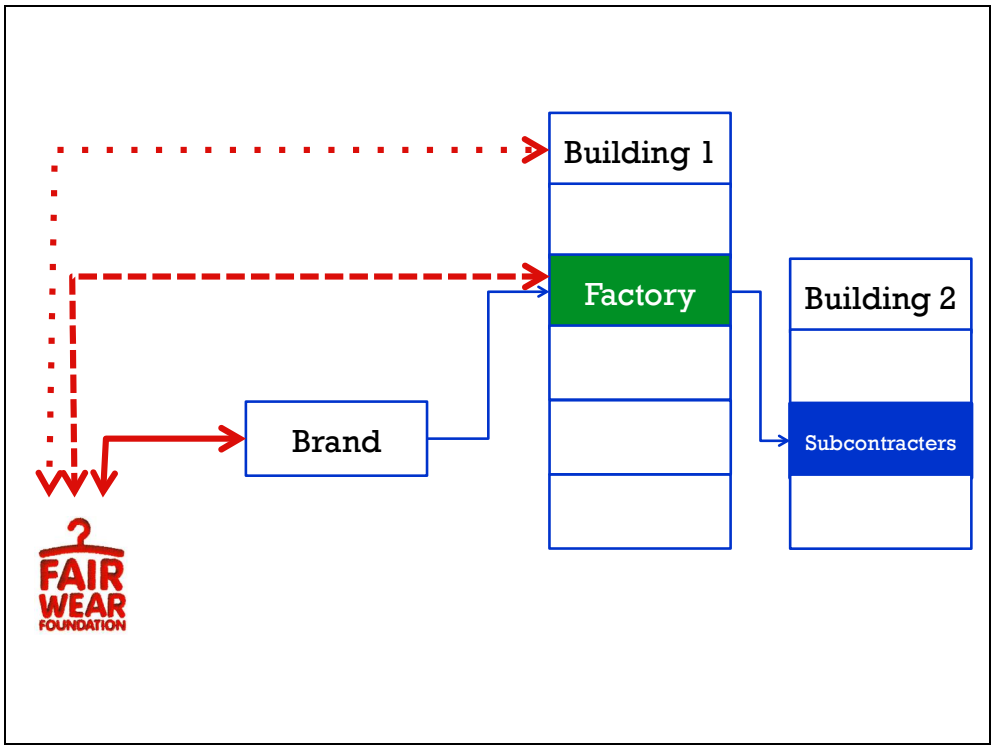

Figure 3 FWF span of control

FWF and the FWF brands have a relationship with the factory, but not with the building owner. It is therefore very difficult for FWF to improve aspects of safety that are connected to the building itself. Often the factory owner does not have enough leverage to make the owner improve the building. The solution for factory owners is to move to a new location as in this way it is easier for them to be compliant. It is then quite likely that the buildings that have been left will be occupied again. As a result, the overall safety standards/levels of the RMG do not improve.

Conclusion

At the moment, the focus of the programs is on the existing RMG factories. But new factories, and factories under construction, have many of the same inherent safety defects as existing factories. Therefore they should also be included in the inspection program, since they will determine the safety of the RMG in the next twenty years.

The increased inspections seem to be leading to a shift from factories to new buildings. It should therefore be closely monitored that the buildings that are left behind are not rented out again, for instance to subcontractors. This might move the safety problems away from the international scrutiny, but not really solve the problems.

It seems that the focus of the improvement programs in the RMG have focussed on the factory owners, while in practice they are often just tenants in the buildings. For many aspects relating to structural, electrical and fire safety, the focus should be on the building owner.

4.5. Compliance

In all factories that we visited, compliance with health and safety standards is an important issue. Most international brands attach great importance to compliance and therefore compliance determines whether an RMG factory is acceptable as a business partner. Different brands have different requirements, and since most factories supply to multiple brands, many factories that work in the export industry are audited and inspected on a regular basis. Many factories have special compliance officers.

However, many inspections do not always lead to an acceptable level of safety. Considering the low levels of safety that we have observed in many factories, we have to conclude that building safety is not adequately included in social audits.

The focus on compliance leads to a culture where it is important to show that equipment, for instance fire extinguishers, is present. It is often clear from visual inspection of this equipment that maintenance falls short. But even when shortcomings are addressed in audits, it seems that the follow-up is inadequate.

There is also is a market for factories that are non-compliant. They seem to work mostly as subcontractors. In these non-compliant factories, safety clearly suffers as a result. Factory lay-out, emergency exits, electrical installations, an emergency water supply etcetera; all are below standards. However, it seems that the problems are not limited to this. As well as very bad occupational safety conditions, child labour can be observed in such places.

Conclusion

The strong focus on social compliance in the RMG offers an opportunity for the improvement of safety. Safety can be incorporated in the many inspections that factories already undergo. This does require that it is taken much more seriously than at present.

At the moment it is accepted that RMG factories are non-compliant. This non-compliance stretches out over many domains, social and safety-related. These factories often produce for the local market. In practice, they often function as subcontractors and thus are still part of the total (international) manufacturing chain. Acceptance that some RMG factories are non-compliant poses a threat. These factories will be the weakest performers on all issues, and with the most vulnerable working staff. These factories will have to become part of the inspection schemes as well.

4.6. Fire Services and Civil Defence

During our visit we also discussed the role of the Fire Service and Civil Defence[5] (FSCD) on various occasions. As far as we understand from the current licensing system for new factory buildings in Bangladesh, a license from the FSCD is only required for buildings of 23 meters and higher (six storeys). Below this height, it is only the Capital Development Authority of Bangladesh[6] RAJUK that is involved in the inspection and licensing of buildings.

This distinction between higher and lower buildings sometimes leads to strange and very hazardous situations. In the BNBC 2006, and subsequently in the Guidelines for Fire and Electrical Safety, the provision of a smoke-proof enclosure to protect exit stairways is only required from 23 meters upwards[7].

Following these regulations, buildings up to six storeys high do not require a smoke-free staircase. In the event of a fire in such buildings, the risk of death is unacceptably high. All staircases must be enclosed and smoke-proof in case of a fire. Under normal conditions, doors may be open, but when a fire alarm is set off, the doors need to close. Technical solutions are available to ensure this happens.

The organisation of the FSCD is in accordance with this limited role: there are only 50 fire inspectors working in the whole of Bangladesh, 15 in Dhaka, and 5 more in Chittagong. Under the new policies, 260 fire inspectors will be trained, although we have not discussed in detail which party will train these inspectors and how they will be trained.

As a result of this, the FSCD has a strong focus on repression, not on prevention. The number of fire engineers in the FSCD is very limited at the moment. We have identified only one person with an engineering degree in fire safety. This person was recently trained in Tokyo. The FSCD also has very limited capacity to provide fire safety training to factory staff or owners.

Inspectors of the FSCD are currently inspecting factories, but are not involved in the inspections of BUET.

Conclusion

We think that it is very important to involve the FSCD, and improve its capacity in fire prevention. This is important for the current process, and even more so for the future of the RMG industry.

The role and capacity of the FSCD should be strengthened in both inspections and in licensing.

[5] http://www.fireservice.gov.bd
[6] http://www.rajukdhaka.gov.bd/rajuk/webHome
[7] Guidelines PART ï B, clause 2.9.11 part B

5. RETHINKING FWF INVOLVEMENT IN INSPECTIONS

When we went out on our mission, the idea was that FWF would set up their own inspection teams to conduct inspections. Since then, the Guidelines and inspection methods have been agreed upon in the NTC. This therefore demands a reconsideration of that previous plan. In light of these developments, it may be better for FWF brands to join international efforts and let inspections take place under their supervision. The role of FWF in the inspection process will be restricted to monitoring the activities of the Accord. The FWF focus will be on strengthening the capacity at the factory level to guide RMG companies in Bangladesh in establishing an enhanced monitoring and remediation system for Fire and Building Safety. FWF may also contribute to a more general understanding of safety for local organisations and people. This means we would need to provide extra training to local staff/ service providers.

If the coordinated actions of the Accord do not go according to plan, the setting up of FWF inspection teams may be reconsidered. We already have a plan ready for how that can be done, combining inspections with improving local capacity in inspections, by involving the FSCD in the inspections. This plan has been added to this report as Annex 2.

6. PROPOSED SOLUTION

Considering all that we have seen during our visit, and all the discussions we have had with the many stakeholders, we conclude that it would be best for FWF to join the international efforts for a combined approach guided by the NTC.

The greatest advantage of joining the Accord is, that it creates a level playing field to which all brands are committed. The costs of inspections are shared over all parties within the Accord, something which may lead to a lower cost per factory. While performing FWF inspections immediately may be faster than waiting for Accord inspections, we do think that the overall gain in the total RMG industry outweighs these delays.

The integrated approach of the NTC is the overarching initiative to improve safety in the Bangladesh RMG at large. It brings together all relevant stakeholders in one approach and the resulting Guidelines and Assessment procedure provide a level playing field for all the RMG industry and all international brands. If we maintain a close dialogue with the NTC, it will strengthen the position of FWF.

When executed properly and promptly, it will lead to a considerable increase in the safety of the RMG industry. Although we have seen promising progress, we think that some readjustments in the process are still needed, and strong involvement from FWF would be advisable:

1. Some serious shortcomings have been identified in the Guidelines of the NTC which could lead to high-risk situations being accepted. These issues concern both omissions in the regulations and the fragmentation resulting from the current approach. Immediate action needs to be taken to adjust the regulations. A letter that addresses some of these issues and provides some recommendations is being sent to the Dutch Embassy in Dhaka. Follow-up is needed.
2. The current auditing process is limited to existing RMG buildings only. New buildings, and buildings that are under construction, are excluded from the assessments. Inspection of these buildings and remediation of significant design flaws resulting from improper regulation and inspection may prevent the same problems that currently exist from dragging on for the next twenty years or so. Solving the problems now is much cheaper than retrofitting the buildings at a later stage.

3. The process of setting up remediation plans has not been formalised. There are still several big issues to be resolved for this process.
4. The current auditing process is fragmented. An integrated approach is needed in prioritising remediation plans. Moreover, solutions in one domain may cause problems in another. As an example, we see ventilation systems that make use of the staircases.
5. Often factory owners are not building owners. Factory owners rent (part of) the building. Often buildings house multiple factories. In particular, smaller factories, which work as subcontractors, do not own a separate building. This split leads to a division in responsibilities between the owner of the building and the owner of the factory. It seems to us that, until now, the focus has been very much on the factory owner, and not so much on the building owner.
6. The new regulations for existing RMG buildings show a clear lack of knowledge in the field of fire engineering.
7. The Fire Service and Civil Defence (FSCD) in Bangladesh are involved in the process, but seem to have a limited role. The focus of the FSCD is on suppression, not on prevention.
8. The role of the FSCD in the licensing of buildings is limited to buildings higher than 23 meters (six storeys). Most RMG buildings that we have visited have permits up to no more than six storeys and fall under the responsibility of RAJUK, responsible for licencing (see page 10)

References

1. National Tripartite Plan of Action on Fire Safety and Structural Integrity, **PART – A, Guidelines for Assessment of Structural Integrity of Existing RMG Factory Buildings in Bangladesh**, Version 01G-201, 24 November, 2013.
2. National Tripartite Plan of Action on Fire Safety and Structural Integrity**, PART – B, Guidelines for Assessment of Fire and Electrical Safety of Existing RMG Factory Buildings in Bangladesh,** Version 01F-2013, 11 November, 2013

Annex 1 Factories, people and organisations visited

Factories (names have been deleted for privacy reasons)

1. Dar Us Salam, Mirpur- 1, Dhaka
2. Mirpur- 13, Dhaka
3. Mirpur- 2, Dhaka
4. Mirpur- 10, Dhaka
5. (old & new): BSCIC Industrial Area, Narayanganj
6. Jatrabari, Dhaka
7. Mirpur- 1, Dhaka (in same 15 storeys building)
8. Mirpur- 1, Dhaka
9. Khilkhet, Dhaka
10. Konabari, Gazipur
11. Konabari- Gazipur (old)
12. Kodda- Gazipur (New)

Organizations and people visited

1. A R Chowdhury Repon, Executive Director, OSHE: Panthopoth, Dhaka
2. Srinivas B Reddy, Country Director, ILO: Banani, Dhaka in UNDP office
3. Prof. Dr Mehedi Ahmed Ansary and Dr. MD. Maksud Helali, BUET: Shahbag, Dhaka
4. Selim Reza Hasan (Country Manager) and Muzadded Abdul Haye (Sr. Program officer),
5. Solidaridad: Dhanmondi, Dhaka
6. Ibadad Van Rijckevorsel, Managing Director, MACE Bangladesh (local agent for FWF brand Schijvens)
7. Md Badiuzzaman, Principal, Fire Service & Civil defence training centre- Mirpur-10, Dhaka
8. Brigadier General Ali Ahmed Khan, Director General of Bangladesh Fire Service & Civil defence
9. Major Mohammad Mahboob, Director operation & maintenance of Bangladesh Fire Service & Civil defence.
10. Muhammad Mamun, Inspector, of Bangladesh Fire Service & Civil defence.
11. Mr Reaz, AMRF, Shamoli, Dhaka
12. MD Mahfuzur Rahman Bhuiyan, Inspector (engineering) Department of inspection for factories & establishment, ministry of labour & employment.
13. Stephan Wilkes, General Manager, Takko Fashion GmbH
14. Mr Faisal (manager) and Mr Quasem (compliance manager), Takko Dhaka office
15. Mrs Jos Huber, First Secretary CSR Garment Sector, Embassy of the Kingdom of the Netherlands, Gulshan-2

16. FWF Bangladesh audit team members: Wahed, Arafat, Omor, Lima, Monjury, Mahbub, Bablu
17. Seminar arranged by BVQI Bangladesh in Hotel Pan Pacific Shonargaon.
18. Philip Jacques, Head of Cooperation, EU delegation to Bangladesh
19. Gina Lee, Director, CSR, Asia, ALDI Services Asia Limited
20. Anke Ehlers, Manager, CSR, Asia ALDI Services Asia Limited
21. S.M Nurul Azam, Country Manager, ELEVATE

Annex 2 Revised plan for FWF audit teams

At present there is a large shortage of qualified inspectors for fire safety in Bangladesh. To fulfil the need for reaching the required capacity level of preventive fire safety inspectors, we propose to set up an inspection system for the factories of FWF suppliers as follows.

We propose to set up the first inspection team which will consist of:

- 2 fire safety experts from NL
- 2 fire safety trainees from BLD
- 1 electrical engineer from BLD

Two fire safety experts are needed in order to discuss any issues found during the inspections and to teach the trainees on the job.

Document preparation can be done from the local FWF office and consists of the collection of all available drawings, installation plans, licenses etc. The inspection can then be performed in one day (half day inspection, half day reporting). Completed inspection reports fall under the NTC review procedure.

The complete process should be supervised by a coordinator in or from the FSCD, preferably someone with a fire engineering degree and a good command of the English language.

The inspections function as on the job training for the fire safety trainees. We expect that the trainees will be able to perform inspections on their own after twenty days of taking part in inspections. The team can then be split into two teams, each consisting of:

- 1 fire safety expert from NL
- 1 recently trained fire safety expert from BLD
- 2 fire safety trainees from BLD
- 1 electrical engineer from BLD

The inspection and on the job procedure is then repeated for another twenty days to train the next group of inspectors. The process is then repeated until there are four teams of FWF inspectors without NL experts. An NL expert will be available in the background. These teams can carry out the inspections needed for FWF in about four months. The model can be expanded for other organisations. The most important aspect of the approach is the ón the jobôtraining.