

EMS REQUIRES: MAINTAINING AND CONTROLLING POLLUTION IN TEXTILE MILLS, BANGLADESH

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Abstract: As a tool for managing the impacts of organizations activities on the environment, EMS (Environmental Management System), now exhaustively incorporated in many textile industries. The focus of this study was to find out how EMS plays a pivotal role eliminating undue pollution where non certified company struggles with heavy pollution. An EMS integrates environmental management into a company's daily operations, long term planning various quality management systems. Our study suggests incorporating EMS ensures less pollution in the environment whereas the opposite scenario prevails among non-EMS certified textile industries.

Keywords: EMS, environment, pollution, textile, impact.

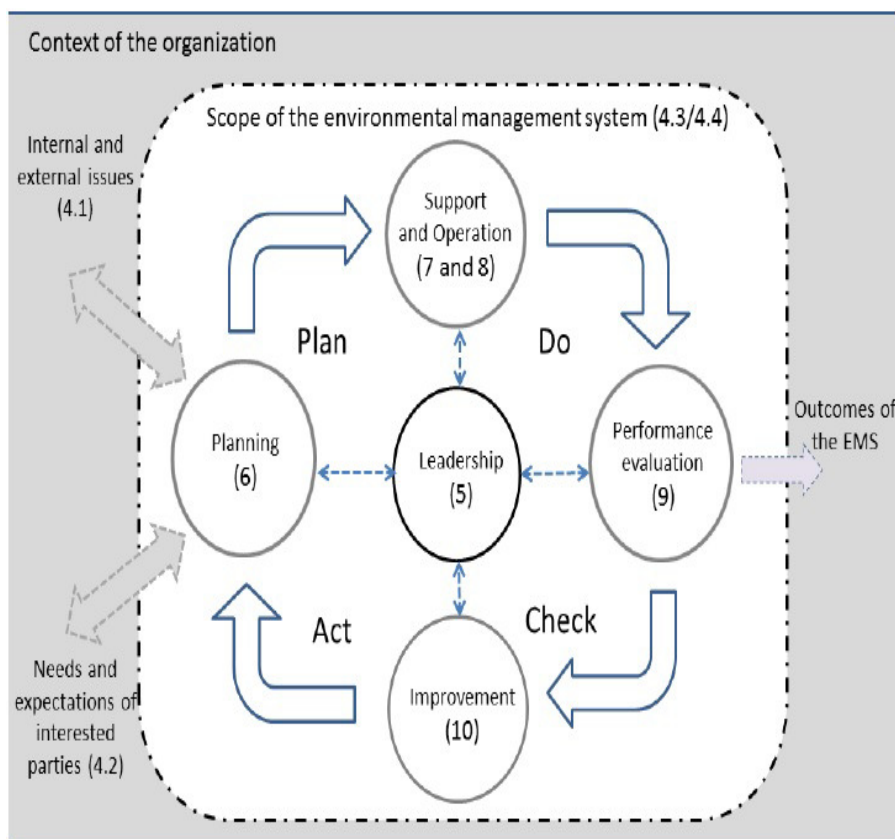
1. Introduction

Over the years, industrial pollution, especially, textile pollution has become a great concern to the world community. The severity of pollution visibly prevalent in Bangladesh and that has been stalking since the industrial revolution torched in our sub-continent. As per research and investigation it is empirically proved that there is no useful measure has been taken care of to get rid of this situation yet by the owners or by the government. In consequence, the adverse effects are predominant across the country. Besides, environmental accident such as Bhopal, Valdez and Chernobyl and increasing concern over issues such as ozone depletion, global warming, resource exploitation and waste management have brought a significant change throughout the industrial world to precisely demonstrate the environmental responsibility. Worldwide concern for the environment has been gaining much attention. (Indian journal, fiber& textile)

Admittedly, industry like textile or dyeing factory is the prime source of high resource consumption profile in terms of water, chemical and energy release of highly contaminated effluents at the end of wet processing, leading to intense water pollution apart from causing concern for air and noise pollution from other stages of textile pollution. However, it has

been realized by countries world-wide that Environment Management System (EMS) is a cost effective for companies to manage their environmental responsibilities. ISO 14000 series of standards provides model for organizations to control their immediate and long term environmental impacts. This has already taken place to a large extent in most developed nations. Newly industrialized countries are showing signs of jumping on the bandwagon by increasingly incorporating environmental safeguards into economic activities. The wide acceptance of ISO 14000 brought fidelity to the customer, boosted up workers performance, reduced government intervention upon the factory, and minimized undue cost for the industries. Moreover, the international level has also raised considerable alarm for developing countries as many international buyers of textile products have now included environmental components in the code of conduct to make their suppliers more accountable for an environmental perspective. In reverse, struggling and suffering are mostly seen among those industries where management does not adopt world-wide appreciated standard ISO 14000. (Journal of sustainable development, Malaysia)

Considering all factors factories produce very common pollution like water, air, soil, noise etc. Among them water and air pollution are more vulnerable due to different interrelated agents. In other word they directly harm eco-system in which human being gets affected drastically. Therefore it is imperative to find out those areas where pollution might be involved directly or indirectly. Likewise, dying factory is the most prior source of water pollution where spinning mill produce significant air pollution. To mitigate all sorts of pollution it needs controlling by which pollution can be restrained as well as system can be developed. In order to resolve such issues, in recent years, scientists and experts have introduced few international standards. And EMS is one of them that works through P-D-C-A model.



There are clauses starts from **Clause 4.1 to 4.6** in ISO 14001:2004 standard which usher how to establish the process properly and precisely. Every clause is vital here to create pollution free environment. Howbeit, the heart or the clause can be considered as **clause 4.3.1**. It is inevitable to chalk out the 'Aspects'. Aspects are defined as how an organization's activities products and/or services interact with the environments that we can identify the probable origin of pollution. An impact is how an aspect changes the environment. The intent of this element is to help the organization identify how it affects the environment.

On the other hand, generating documental procedure is other indispensable tools in EMS by which organization could control its documents and records. Likewise other ISO standards, ISO 14001:2004 requires relevant documents and records in each and every phase according to the clause.

Establishing EMS in the factory is not an easy job in the first place. Lot of primary work needs to be done as there are number of workers involved, and in many cases they are not much literate, consequently, they need proper nursing to cope them up with the demand of EMS. Besides, ideal factory or mill seeks balanced infrastructure and proper allocation of machines and tools as well as routine based monitoring that can help us to follow any

standard guideline. Following points are prerequisite for establishing EMS in any textile mill or any other factory.

- Creation of awareness upon ISO 14001:2004
- Training needs analysis, training evaluation, preservation of training records
- To adhere with the 'Environmental Policy'
- To establish proper documentation procedure
- To seek help from legal personnel who can educate other inside organization about local and international law relating environmental pollution.
- To hire trained internal auditor who can successfully perform internal audit inside the factory or mill in regular interval as per ISO guideline.
- To prepare emergency preparedness plan beforehand so that it can be improved in course of time.
- Routine based 'Fire Drill' is mandatory.
- 'Evacuation Diagram' is MUST if one would like to follow this standard
- Identifying Non-Conformity and taking appropriate measure is inescapable factor in this standard.
- Worthwhile management decision is desirable through factor based analyze in the management review meeting, hence, necessary proactive action is required without any prejudice.[EMS standard]

2 Scope of the Study

This study has focused upon the various environmental pollutions incorporated with textile industries in Bangladesh and their controlling management by implementing EMS, an international standard, in our textile industries. We have taken 23 textile mills to gather data on the present situation of the industries as well as problem regarding and the future of the industries. [6]

3. METHODOLOGY

The research methodology we prepared here is very simple and it is mostly a questionnaire consisting number of questions on different vital factors that affects pollution free and safety environment. As our study is based on primary data, we have used printed questionnaire, pen, pencil and recorder to collect pertinent information. However, we have accumulated our information through verbal approach, and in doing so, we asked questions to the responsible mid-level staff of the textile mill [6].

Most importantly, as holistic survey, we have depicted our diagram or graph based on collected information that is earned by primary questionnaire. And statistical figure is built on average value of the gross number.

Our methodology is consisted on two phases:

3.1 Data Collection: For the assessment, both primary and secondary data was collected. For this we interviewed 23 Textile mills through using a structured questionnaire. Personal interview technique was applied while fill up the questionnaire on respondents. The sample textile mills who are interviewed are given:

Name of the textile mills:

Regent Textile Mills	Padma textile limited	Knit zone Mode Ltd
Tallu Spinning Mills	Epyllion textile limited	One composite limited
Kashem Textile Mills	Shanta Textile	Saiham Textile
Immaculate textile composite	Oeko Tex ltd	Partex Textile limited
Livas textile limited	Fakir textile ltd	Horizon Textile ltd
Phoenix Apparel Ltd	Knit zone Fashion	Metro Knitting & Dyeing Mills Ltd
Faria Fashion Ltd	Ha-Meem Denim Ltd	Nassa Textile Ltd
Green Gland Garments	Fakir Garments Ltd	

3.2 Sampling plan

Textile mills of Dhaka are constitutes as the study area, because of convenience of the field work and easy communication. For the crisis condition of Bangladesh it was difficult for us to collect data form more samples. Above it, we go for different textile industries who intended to talk with us is taken as a sample. We tried to get rid of any kind of personal brassiness and taking true information.

5. Data Analysis:

The number of textile industries we have surveyed at random basis:

TABLE 1: NO. OF TEXTILES

EMS	Non-EMS
40	260

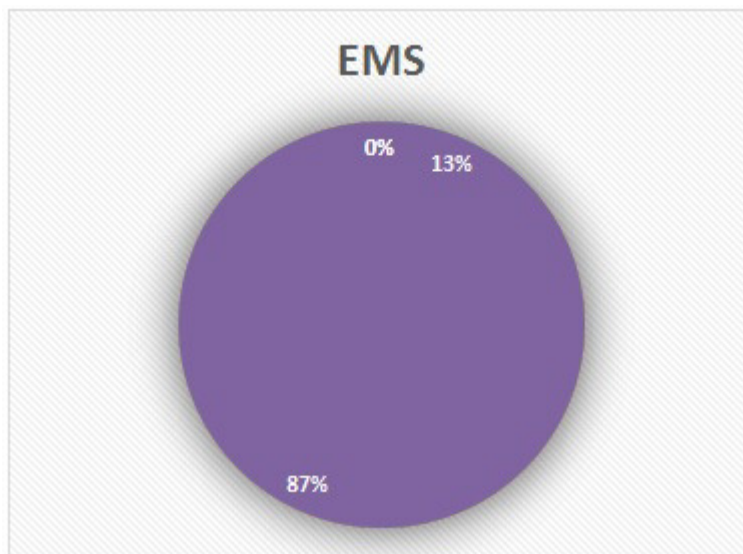


Fig 1: Pie chart showing EMS (blue) and Non-EMS (red) certified industries.

Factors affecting pollutions free and safety environment of EMS and Non-EMS certified textile mills:

TABLE 02: FACTORS IMPACT UPON EMS CERTIFIED TEXTILE MILLS

EMS certified textile mills	Environmental Aspect	Environmental Policy	Competence, Training & Awareness	Documentation:	Operational Control	Complaint	Non conformity, Corrective & preventive action
Faria Fashion Ltd	√√√	√√√	√√√	√√√	√√√	√√	√√√
Ha-Meem Denim Ltd	√√√	√√	√√√	√√√	√√√	√√√	√√√
Metro Knitting & Dyeing Mills Ltd	√√√	√√√	√√√	√√	√√√	√√√	√√
Green Gland Garments	√√	√√√	√√	√√√	√√	√√√	√√√
Epyllion textile limited	√√√	√√√	√√√	√√	√√√	√√√	√√

Note: Excellent= √√√, Good=√√, Poor=√

TABLE 03: FACTORS IMPACT UPON NON- EMS CERTIFIED TEXTILE MILLS

Note: Excellent= √√√, Good=√√, Poor=√

Non-EMS certified textile mills	Environmental Aspect	Environmental Policy	Competence, Training & Awareness	Documentation	Operational Control	Complaint	Non conformity, Corrective & preventive action
Partex Textile limited	√	√	√√	√	√	√√	√√
Fakir Textile Ltd	√√	√√	√√	√	√√	√√	√
One composite limited	√√√		√√	√	√√	√√	√√
Saiham Textile	√√	√	√√	√√	√√	√√	√
Regent Textile Mills	√√	√	√√	√√	√√	√	√√
Horizon Textile ltd	√√	√√	√	√√	√√	√√	√
Padma textile limited	√	√√	√√	√√	√√	√√	√√
Shikder Sizing mills	√√	√√	√√	√√√	√√	√√	√√
Tallu Spinning Mills	√√	√√	√√	√√	√√	√√	√√
Immaculate textile composite	√√	√√	√√	√√	√√	√√	√√
Livas textile limited	√	√√	√√	√√	√	√√	√√

Note: Excellent= √√√, Good=√√, Poor=√

The above tables represent the comparison of environmental aspect, Environmental Policy, Competence, Training & Awareness, Documentation, Operational Control, Complaint and Non conformity, Corrective & preventive action between EMS and Non-EMS certified textile mills in Bangladesh. The data of the table has been collected from the primary sources.

Factors affecting EMS and Non-EMS textile mills:

5.1 Environmental Aspects:

EMS (%)	Non-EMS (%)
90	35

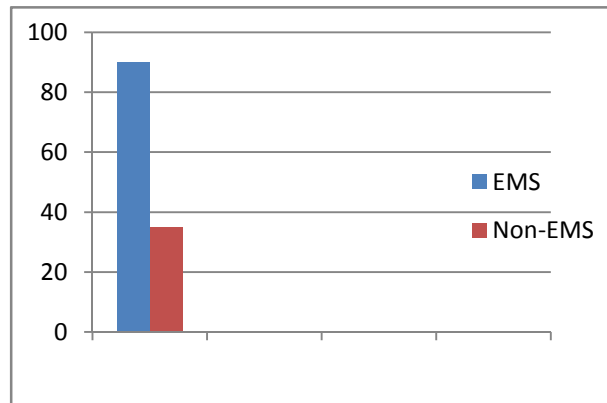


Fig 2: The graph infers how environmental aspects are significantly defined in EMS certified and Non-EMS certified textile mills. Conspicuously EMS certified textile mills possess 90% whereas non certified company holds 35%.

5.2 Environmental Policy:

EMS (%)	Non-EMS (%)
100	15

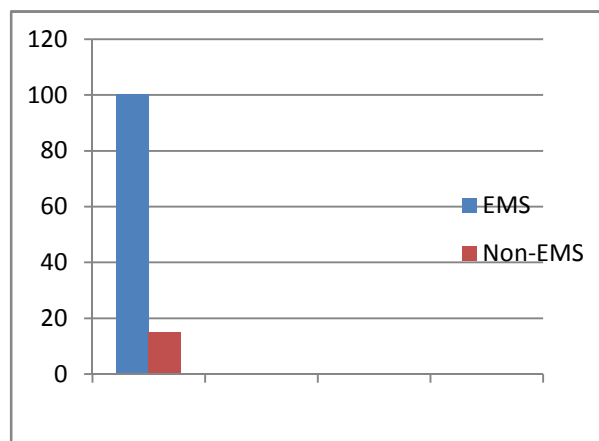


Fig 3: This diagram depicts the maintenance on Environmental policy of EMS certified textile mills surpass 100% where non certified company shows 15%.

5.3 Competence, Training & Awareness:

EMS (%)	Non-EMS (%)
95	30

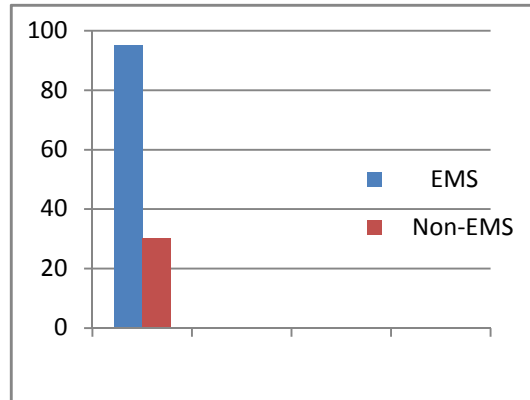


Fig 4: The static illustrates that the ratio and frequency of practice of Competence, Training and awareness is profoundly (95%) predominant among the EMS certified textile mills. On the other hand, the frequency is observed marginally (30%) existed among non certified textile mills.

5.4 Documentation:

EMS (%)	Non-EMS (%)
98	55

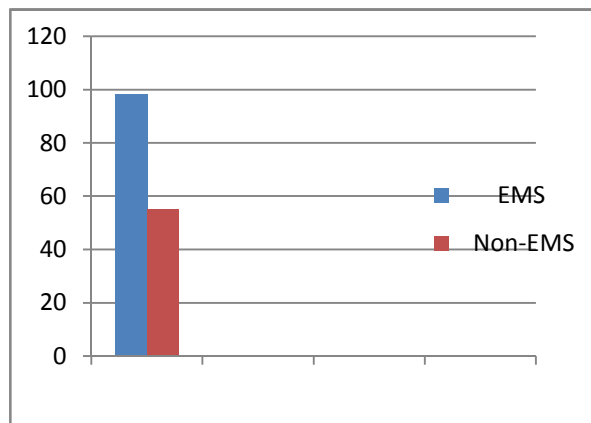


Fig 5: The graphical blue bar portrays that the keeping records and document is 98% for EMS certified textile mills while 55% are for non certified textile mills.

5.5 Operational Control:

EMS (%)	Non-EMS (%)
80	50

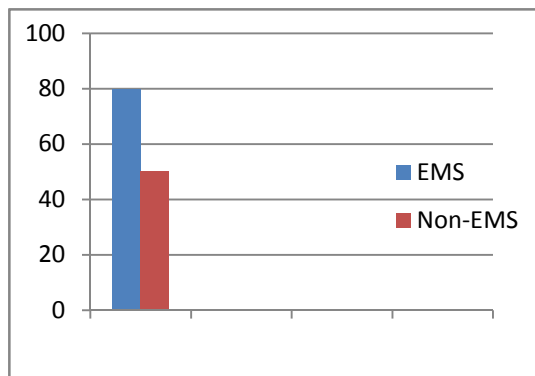


Fig 6: The chart draws a significant rate (80%) of operational control t in case of non EMS certified textile mills where as a very nominal (50%) occurrence is observed in EMS certified textile mills.

5.6 Complaint:

EMS (%)	Non-EMS (%)
7	80

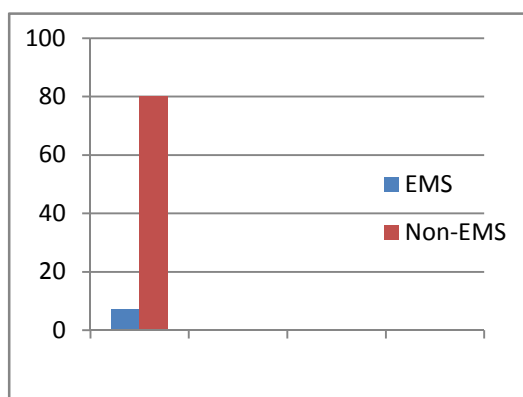


Fig 7: These columns represent the frequency of receiving complaints between EMS certified mills vs. Non-certified mills. Interestingly EMS certified mills receive 7% complaints while non certified mills swallow 80% complaints.

5.7 Non conformity, Corrective & preventive action:

EMS (%)	Non-EMS (%)
90	25

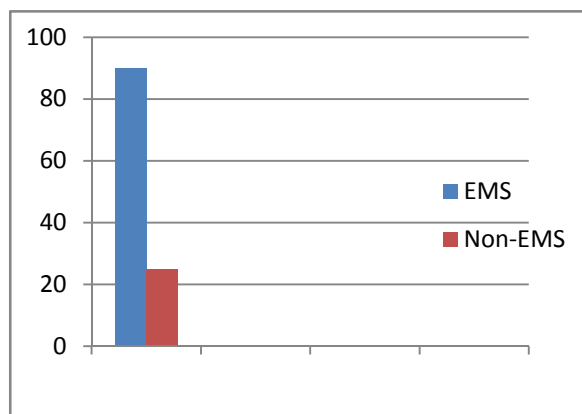


Fig 8: The static illustrates that the ratio and frequency of practice Non conformity, Corrective & preventive action is profoundly (90%) predominant among the EMS certified textile mills. On the other hand, the frequency is observed marginally (25%) existed among non-certified textile mills.

Result and Discussion

After having analyzed eight core factors, it can be assumed that EMS certified textile mills bring less polluted environment inside as well as outside the factory. At the same time, it is seen widely that EMS assures risk free working ambiance that attracts workers into the bargain. In contrast, non-certified textile mills are failed to establish risk free and less polluted environment.

Conclusion

Implementation of ISO 14001:2004 at textile industries has been a successful story. That is why environmentalists consider it as cynosure way to protect undue environmental pollution. It is anticipated that more and more textile units in the organized sector in Bangladesh would opt for ISO 14001 certification in the near future times of ever-growing environmental consciousness.

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