

**Role of Industrial Security in Protecting Establishments &
Individuals
within Industrial Establishments**

Analytical Study

by

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The term “industrial security” might insinuate that hazards are only found in industry. However, there are hazards in any type of work. Because industrial hazards are greater than any, the term “industrial security” extends to cover agricultural, commercial and other activities.

Evidently, after the great industrial revolution at the end of the 19th Century, development in the realm of industry has become a target for all modern societies.

Such a target cannot be founded on solid basis, except if the necessary industrial protection is provided, as well as protection of the industrial society. Otherwise, this industry could be detrimental to the society.

In a quick glance on work injuries, we can attribute them to:

lack of attention – non abidance by written instructions – lack of means of protection – use of inadequate equipment – lack of training or shortage of topics – working beyond scopes of competence – working without notifying others – working in improper ways.

As for technical reasons, i.e. unsafe working conditions, these could be summarized in the following:

1. Bad planning and organization of working sites
2. Bad planning of work performance
3. Unsafe machinery and equipment
4. Lack of means of protection

Difficulty in applying principles and systems of industrial security within industrial establishments could be summarized in the following:

- a) Material, physical or mechanical group
- b) Human group

- The first group is formed of problems related to factory sites, edifices, maintenance problems, power sources, etc. These problems are attributed to the fact that many of our factories have grown at unexpected rates, giving rise to planning problems, where certain sections might be fully automated, while others are still manual. Such discrepancy poses a burden on those responsible for industrial security, as they find themselves unable to take decisions in the middle of all this.
- This problem leads to another, namely lack of accuracy in selecting the factory site. These small factories or units started in the city, in the middle of residential areas, such as Shubra al-Khaima and Helwan. As for Alexandria, we find districts like Kabbari and Karmouz, which stand as examples of a bad choice of site. What concerns us is the impact of

such choices on industrial security. Attempts to control a fire or reduce the level of noise or decrease pollution, is practically nil, given how close these factories are to housing units.

- On the other hand, there emerges the problem of lack of means of protection. The general principle upon which the philosophy of integrity within factories is based is the protection of the operations themselves. If this is impossible, we resort to protecting workers, i.e. equipping them with appropriate clothes and kits. During the 40's and 50's, all that owners of factories did was to provide meals for their workers. Today, most factories have started importing or providing means of protection. However, lack of standard specifications leads to providing inappropriate types. Thus, we suffer a grave deficiency in means of protection, such as respiratory kits or gloves that are resistant to high voltage, although these could be manufactured locally.
- Furthermore, industrial security suffers from multiple supervisory agencies that control such operations, like the Customs Authority, municipalities, Ministry of Industry, Ministry of Health, Ministry of Labour & Public Works, etc. This diversification leads to ambiguity within factories, as it hinders proper planning for an industrial and economic progress within our society and deprives us of the fruits of expertise and developments pertaining to industrial security, which we fail to exploit to a maximum degree.
- As for human problems related to industrial security, although they are ramified, yet still they could be divided into administrative and organizational problems, on one hand, and problems related to training, expertise and performance of workers, on the other. What renders these problems more difficult is the fact that we cannot reach final laws or

decisions that would solve these problems categorically, given the changing nature of problems, according to changing circumstances, individuals and operations.

Administrative problems are attributed to diverse sources of industrial security officers, where some are superintendents or graduates of industrial schools, while others are doctors or engineers in charge of industrial security. It is not a matter of academic degree.

It is a matter of training. Here, we encounter a problem, as there are no specialized institutes that are capable of qualifying supervisors of industrial security in all or some aspects, such as fire-extinguishing.

Also, interference of responsibilities between industrial security officers and other agencies within the administration may end up in struggles over scopes of competence, instead of cooperation between all sections and industrial security agencies for the safety of workers and for better productivity within the factory.

There is also the difference among factories and institutions in the mode of registering and analyzing accidents. This gives rise to the problem of listing and classifying the various problems that face industry, in order to set down solutions and steps for remedy.

These are some of the organizational and administrative features encumbering the aspired leap towards attaining advanced industrial security

levels within factories. It deems necessary, in this concern, to establish an association at the national level for industrial security officers, in order to provide them with the necessary technical information and high-level vocational training.

- Relation between industrial security and production:

In order to raise production it is necessary to optimize benefit from all the basic production elements (manpower – machinery – raw materials). This can only be achieved through the application of sound industrial security measures. Industrial security is an important means of raising production, without wasting or damaging the basic components of production through work accidents. Industrial security is represented by the pyramid of (manpower – machinery – raw materials).

If one of these is damaged, production would cease. Hence, the relation between industrial security and production is intricate and calls for an optimum benefit of the basic production elements by not losing or damaging them in accidents and work injuries, which sometimes result in the rupture of production.

In such cases, production bears direct costs, such as treatment and indemnities, as well as indirect costs, such as money spent on repairs, as well as the time lost.

- **Some hazards within the industrial field**

a) Explosion hazards:

Vapours of some substances react with the atmosphere, resulting in explosions.

There are two values in measuring the extent of explosion of substances:

- minimum level of explosion
- maximum level of explosion

If the concentration of these vapours increases up to the extent of exploding under specific temperatures, an explosion takes place, where its strength depends on the quantity of the substance, speed of reaction and amount of energy released. In some cases, the whole establishment could blow up. Also, an explosion could occur due to heating of overloaded electric lines.

b) Pollution hazards:

Substances used in industry pollute the atmosphere, whether by particles, vapours, gases or radio-active substances. This has its impact on the health of workers.

A simple precaution is proper ventilation. Another basic rule is to prevent direct contact of workers with industrial substances. Also, preventing the escape of hazardous emissions into the air can be a substitute for a ventilation system.

There are two basic types of ventilation:

- Local ventilation by removing pollutants from the surrounding air by a channel close to the source;
- Natural ventilation by causing a mechanical difference in the air pressure between two points, which creates a current.

c) Fire:

Industrial establishments contain inflammable substances and machines run by electricity or fuel.

All this is a good environment for fires. Following are some causes of fire:

- 1- Lack of experience in proper repair and maintenance of machines;
- 2- Nature of raw materials, intermediary materials and final products, concerning their natural and chemical characteristics, as well as means of their transportation, storage and handling and how far are they inflammable;
- 3- Lack of training on how to confront fires by using the right type of fire extinguishers for different fires;
- 4- Bad electric connections that do not comply to specifications, and presence of naked wires on the walls of wards, where workers are;
- 5- Accumulation of waste materials, especially those that are highly inflammable;

6- Bad storage, where inflammable substances are stacked close to sources of heat;

7- Bad ventilation within warehouses, leading to auto-inflammation;

8- Contamination of floors with inflammable oils. Wooden floors could become saturated with oils after a while, which renders them easily inflammable.

- **Role of training in combating losses and accidents of industrial establishments:**

The worker is the master of his machine. He is also a partner with the management, in bearing the responsibility of efficiently handling and operating production tools.

He should protect his machines and carry constant maintenance to guarantee higher production rates. Among factors that help mastering a machine is training to handle it correctly, while avoiding industrial hazards that lead to loss of time and labour.

Part of the training is to raise awareness on sources of industrial hazards and how to avoid arising damages or eliminate sources of hazards.

Components of a successful training:

- Training curricula should serve the objective of avoiding fires;
- Training curricula should be up to the responsibility assumed by trainees
- Training curricula should be up to the cultural standard of trainees
- Proper theoretical and practical training methods should be selected.

In general, providing safe working conditions and training on means of avoiding hazards is always better than using signboards to draw attentions. It is important to convince all workers that accidents are not inevitable, but are due to causes that could be avoided.

While protection against accidents is essentially a humanitarian duty, yet efforts exerted to reduce the number of industrial accidents and alleviate their consequences could also help in protecting workers and avoiding loss of time and materials.

Finally, recommendations for raising the level of professional integrity and industrial security, in general:

- 1- Allocating a special budget for raising awareness on industrial security among workers, under the supervision of an industrial security committee;
- 2- Creating secure working conditions, free of hazards and unexpected accidents, in order to protect the health and integrity of workers, as well as their fitness for work;
- 3- Applying the most appropriate and efficient technical means of protection against accidents.