PART 1: OVERVIEW OF OCCUPATIONAL SAFETY, HEALTH & ENVIRONMENT.

1.1 Historical Perspective
Learning Objectives

- To describe the historical development of OSH management over the centuries.

- To explain the development of OSH Management System
Early Recognition Of Occupational Diseases

- Security-related laws and industry have existed since the reign of Hammurabi, around 2000 B.C.

- In 1473 a German physician, Ulrich Ellenborg, published the first known pamphlets on occupational disease from gold miners.

- In 1556 the German scholar, Agricola, described the diseases of miners. He noted the need to provide ventilation for miners and describe “asthma” among workers.
In 1713 Bernardino Ramazzini, who is regarded as the father of occupational medicine, suggested that in diagnosis doctors should ask patients about their occupations.

- Publish book “The disease of Workmen”
- Advice physician to learn about occupational disease.
During middle ages, death due to disease is much higher than industrial accidents as most people work on farms.

Industrial accidents arose out of the Factory System during the Industrial Revolution in Britain in 18th Century (1700s).

Women and children worked as heavy labourers under unsafe and unhealthy workplaces.
Emergency Of Industrial Safety Legislation

- In 1833 **English Factory Act** was the **first effective industrial safety law**. – (restricted child labour)

- It tends to provide **compensation** for accidents from controlling the source.
Emergency Of Industrial Safety Legislation

- Insurance company inspect the workplace and suggest preventive measures.

- Problem: **Safety became injury and insurance oriented**
Emergency Of Safety Management

- Role of Herbert W. Heinrich (1930’s),
  - Developed **Domino Theory** and **promoted control of workers behaviour**.

- **Problem**:
  - **Focused on worker behaviour and not management**
  - **Caused people to think that safety is about policing worker**
Frank Bird (1970) developed Loss Control Theory. Suggested that underlying cause of accidents are lack of management controls and poor management decisions.

Problem:

Not so popular: blames management (responsibility and control).
Emergency Of Safety Management

- In 1980’s, **Behavioural Based Safety** (BBS) was introduced;
- Based on Heinrich’s findings.
- Work by recognizing safe work habits and offering rewards and punishment.

**Problem:**
- Focuses on **workers** and not on hazard or management
- **Reward and punishment system have flaws**
Current development of Occupational Safety And Health management system was driven by two parallel forces:

A. **Self-regulatory legislation** in the United Kingdom (1974),

B. **Quality management movement**
A Self-Regulation Legislation

- **Lord Robens**, Chairman of a Royal Safety Commission Report that:
  - there was too many OSH legislation,
  - was fragmented,
  - limited in coverage (specific hazards & workplace),
  - out of date and difficult to update,
  - inflexible,
  - people thought that safety was what government inspectors enforced.
A Self-Regulation Legislation

- Lord Robens recommended
  - **Self regulation**

- Report resulted in the **Health and Safety of Workers At Work Act** in the UK in 1974 – This law is ahead of his time (Eg. USA at that time still using “command & control” concepts.)
A Self-Regulation Legislation

- Similar legislation was enacted in Australia in 1984

- Enacted in Malaysia in 1994 after the 1992 Bright Sparkler accident in Sungai Buloh
A Self-Regulation Legislation

- Features of “Robens style” legislation:
  - General **duties of care** by:
    - Employer, employee, manufacturer, designer, supplier
    - Duty of employer to make the workplace safe
  - **Consultation** with employees through **Safety and Health Committees**
  - **Safety and Health Officer** as advisor and coordinator
  - **Improvement and prohibition notices**
### A Self-Regulation Legislation

Legislation follow major accidents and reinforce need for management system

<table>
<thead>
<tr>
<th>ACCIDENT</th>
<th>REGULATION/PROGRAMME</th>
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<tbody>
<tr>
<td>Flixborough (1974)</td>
<td>CIMAH regulations 1996</td>
</tr>
<tr>
<td>Bhopal (1984)</td>
<td>“Responsible Care” / Process safety</td>
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<tr>
<td>Piper Alpha (1988)</td>
<td>Risk Assessment / Management system</td>
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Quality Management Approach to Occupational Safety & Health Management

There are similar issues in safety management as in quality management.

Example:

- Productivity
- Worker involvement
- Proactive approach
- Customer and human rights
Quality Management Approach to Occupational Safety & Health Management

- Management system standards:
  - ISO 9000 QMS was proven successful and ISO 14000 EMS was introduced in 1996
Quality Management Approach to Occupational Safety & Health Management

- International and auditable OHSAS 18001 OSH Management System published in 1999

- ILO approved an OSH management system for governments to adopt during 2000