

# **Occupational Health and Safety Management in Kenya**

**LESSONS FROM THE JAPANESE  
EXPERIENCE WITH OHSAS  
18001/18002**

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# Abstract

- Prevention of Industrial Accidents, Reduction in Workplace exposure to Toxic Chemicals and the Protection of Human Health and the Environment has increased dramatically in importance during the past decades. Industrialists in the Developed world have responded to this shift in Emphasis.

# Abstract

- They are now insisting that their employed Engineering and Science graduates should have professional skills in Safety, Health and Environmental Protection.
- Their counterparts in the Developing World have taken this Paradigm Shift Very lightly, a development that has resulted in increased industrial accidents with many being fatal.

# Introduction

- It is in view of this Devastating trend that I enrolled for the IUPAC/UNIDO/UNESCO Health and Safety Training Program in Japan.
- This Training Program was based on the requirements of OHSAS 18001/18002.

# Where was the Practical Training Undertaken?

Sankyo Company Limited (Host Company)

- Sankyo Tanash Plant (Bakers Yeast)
- Sankyo Research Laboratories (12)
- Sankyo Odawara Plant (Antibiotics Plant)
- Sankyo Hiratsuka Plant (Tablet Packaging)
- Sankyo Onahama Plant (Pravastatin Sodium)

# Continuation

- Shimizu Corporation (Construction)
- Tokyo Eco and the Hitachi Group
- The Central Breakwater Landfill Site
- The Fuji Film Corporation
- Tokyo Metropolitan Government
- National Institute of Industrial Safety
- The Chemical Society of Japan.

# What does the Japanese 5S Philosophy mean?

- Is the basis for enhanced Occupational Health and Safety in Japan. The 5S mean *seiri* (organization), *seiton* (neatness), *seiso* (cleaning), *seiketsu* (standardization), and *shitsuke* (discipline). The 5S translates into 5K in the local Kenyan language with the same meaning (Kuchagua, Kupanga, Kusafisha, Kudumisha, Kufundisha).

# What does the 5S Philosophy Achieve?

- The campaign is dedicated to organizing the work place, keeping it neat and clean, and maintaining the standardized conditions and discipline needed to do a good job.
- Adoption of 5S yields tremendous results such as preventing accidents, reducing down-time, enhancing process control, and creating a healthier Corporate Climate.



# WHY OH&S SYSTEM

- To enable Organizations to eliminate, minimize and control their OH&S risks and Improve on their Performances.
- OHSAS is applicable to organizations that wish to eliminate or minimize employee risks, implement and maintain OH&S management systems, assure conformance to OH&S policy and seek certification.

# How Many Standards are there?

- OHSAS 18001 – Standard Specifications
- OHSAS 18002 – Implementation Guidelines.
- OHSAS is Compatible with ISO 9001 Quality Standard and ISO 14000 Series of Environmental Management Systems (EMS)

# Elements of OH&S Man System

- OH&S Policy
- Planning
- Implementation and Operation
- Checking and taking Corrective Action
- Management Review
- Continual Improvement

# An OH&S Policy Should

- Be appropriate to organization's risks
- Include commitment to continual Improv
- Comply with OH&S Legislation
- Documented, Implemented and Maintained
- Communicated to all employees-obligations
- Available to all interested parties
- Periodic review, relevance/appropriateness

# Planning hazard identification, risk assessment and risk control

- Methodology for hazard identification and risk assessment should be Proactive, provide for risk classification, consistent with capabilities of risk control, highlight training needs and monitoring of required actions.

# NOTE

- Organization should establish and maintain documented OH&S objectives, at each relevant function and level within the Org.
- The Org should establish and maintain an OH&S Management Program that needs constant review at regular and planned intervals.

# Implementation and Operation

- Roles, Responsibilities and Authorities of personnel to manage, perform and verify OH&S activities needs to be defined, documented and communicated.
- Responsibility for OH&S rests with Top Management (resource allocation).
- Training to raise awareness of OH&S management system requirements.

# Emergency Preparedness and Response

Identify Potential for, Responses to incidents and Emergency situations, for preventing and mitigating the likely associated illness/injuries

Emergencies are associated with hazardous materials, fire hazards, electrical hazards, operating process hazards, machinery hazards, noise hazards, illumination hazards, ergonomic hazards, solid waste, air emission and wastewater, and hazardous wastes.

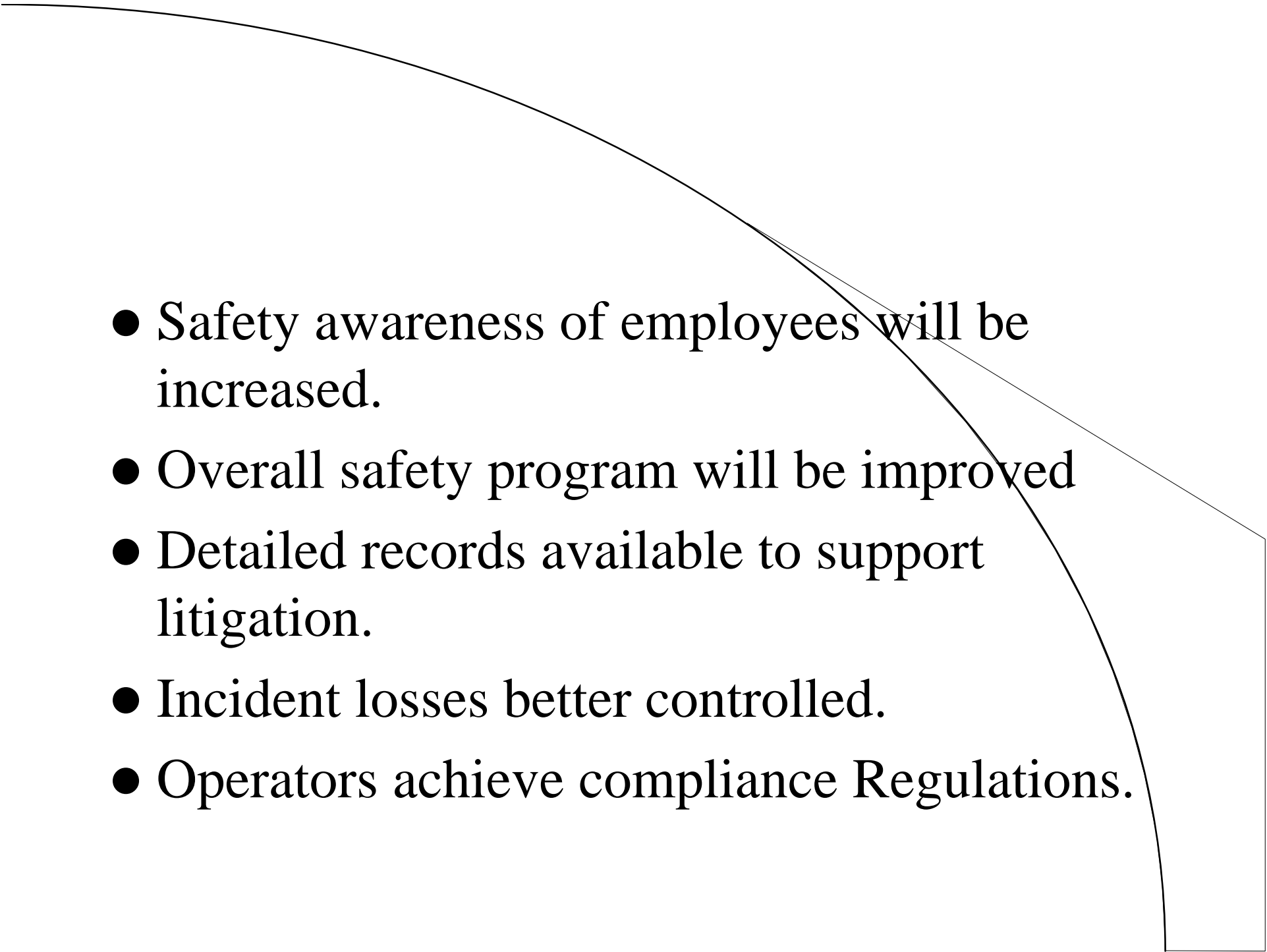


# Checking and Corrective Action

- Performance measurement and monitoring
- Accidents, incidents, non-conformances
- Records and Record Management
- OH&S Audits
- Management Review (Suitability, Adequacy and Effectiveness).

# Benefits of incident investigations

- All incidents be reported & investigated
- Root causes of incidents be determined
- Appropriate preventive measures and corrective action will be identified.
- Operations knowledge, techniques, and facilities will be improved.
- Process and equipment safety will be enhanced.

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- Safety awareness of employees will be increased.
  - Overall safety program will be improved
  - Detailed records available to support litigation.
  - Incident losses better controlled.
  - Operators achieve compliance Regulations.

# Occupational Health and Safety (OH&S) Auditing

- Procedure for a periodic, systematic, documented, and objective evaluation of operations and practices in meeting safety, health, and environmental requirements.
- Audits lead to recognition of existing workplace conditions, better regulatory compliance, correction of identified hazards, reduction risks/liabilities etc.

# OHSAS 18002

- Hierarchy of Risk Management
- Start with Hazard Elimination
- Risk Reduction (likelihood/severity)
- Last Resort (Personal Protective Equipment).
- Some risks and proposed control measures are stated below. Needs constant review.

# Purchase/Transfer of Goods

- Approval for transfer of hazardous chemicals and materials.
- Documentation for safe handling of machinery, equipment, materials, chemicals (MSDS).
- Approval for OH&S designs for new plants or equipment.

# Hazardous Tasks

- Their identification
- Pre-determination and approval of working methods
- Pre-qualification of personnel for hazardous tasks
- Permit-to-work systems, entry/exit controls to hazardous sites.

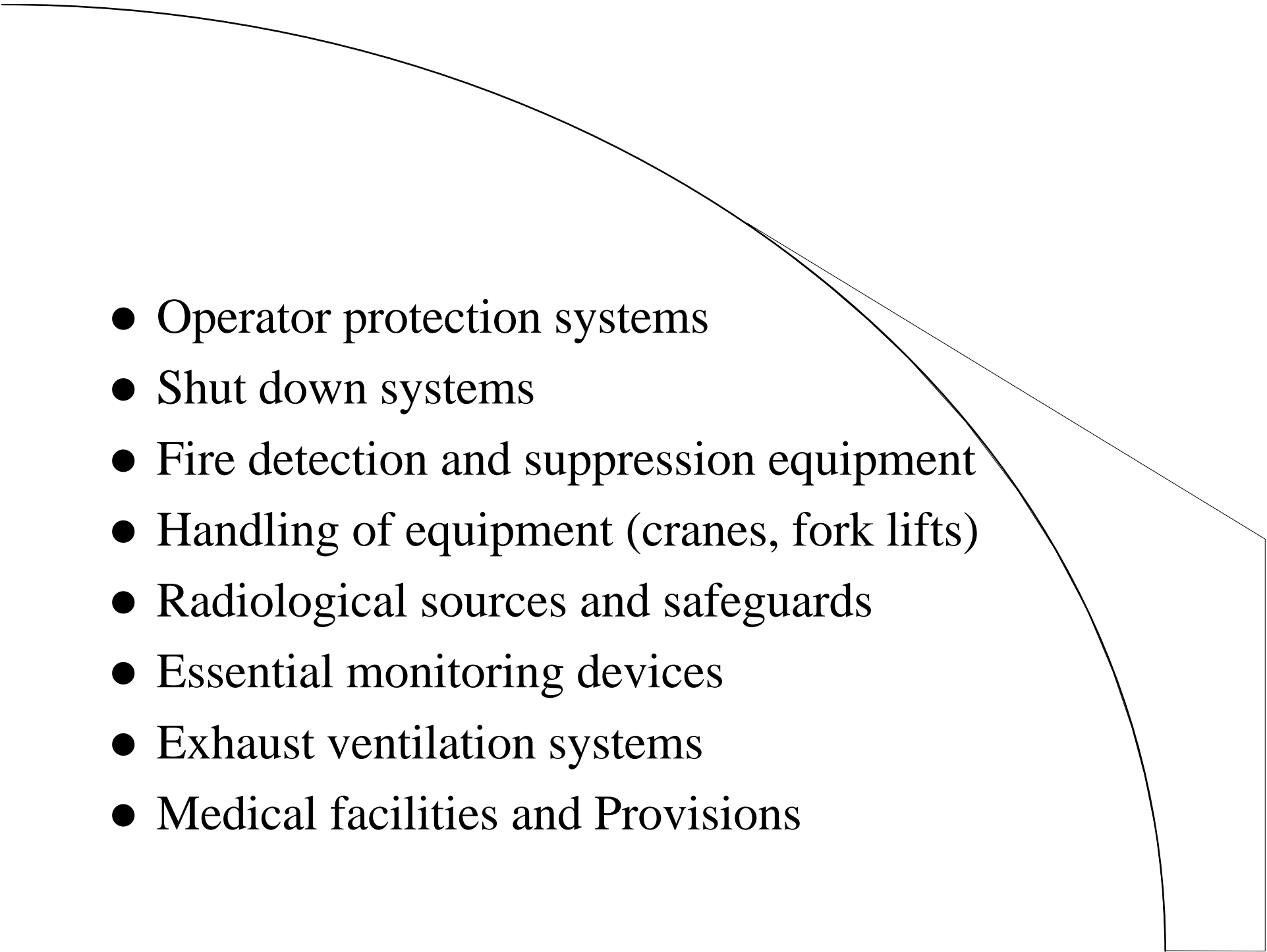
# Hazardous Materials

- Identification of inventories and Storage Locations.
- Safe storage procedures and controlled access
- Easy access to Material Safety Data Sheets (MSDS) and other relevant information.



# Plant Equipment Maintenance

- Control and maintenance of the Organization's plant and equipment
- Provision, control and maintenance of PPE.
- Segregation and control of access
- Inspection and testing of OH&S related equipment and high integrity systems.

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- Operator protection systems
  - Shut down systems
  - Fire detection and suppression equipment
  - Handling of equipment (cranes, fork lifts)
  - Radiological sources and safeguards
  - Essential monitoring devices
  - Exhaust ventilation systems
  - Medical facilities and Provisions

# Emergency Preparedness and Response

- Develop Emergency Plans EPs
- Identify and provide Emergency Equipment
- Test Response Capability Through Practice Drills PDs (Fire Drills)
- PDs tests critical parts of EPs and completeness of emergency planning process
- Realistic as possible to be effective
- Incident simulations required

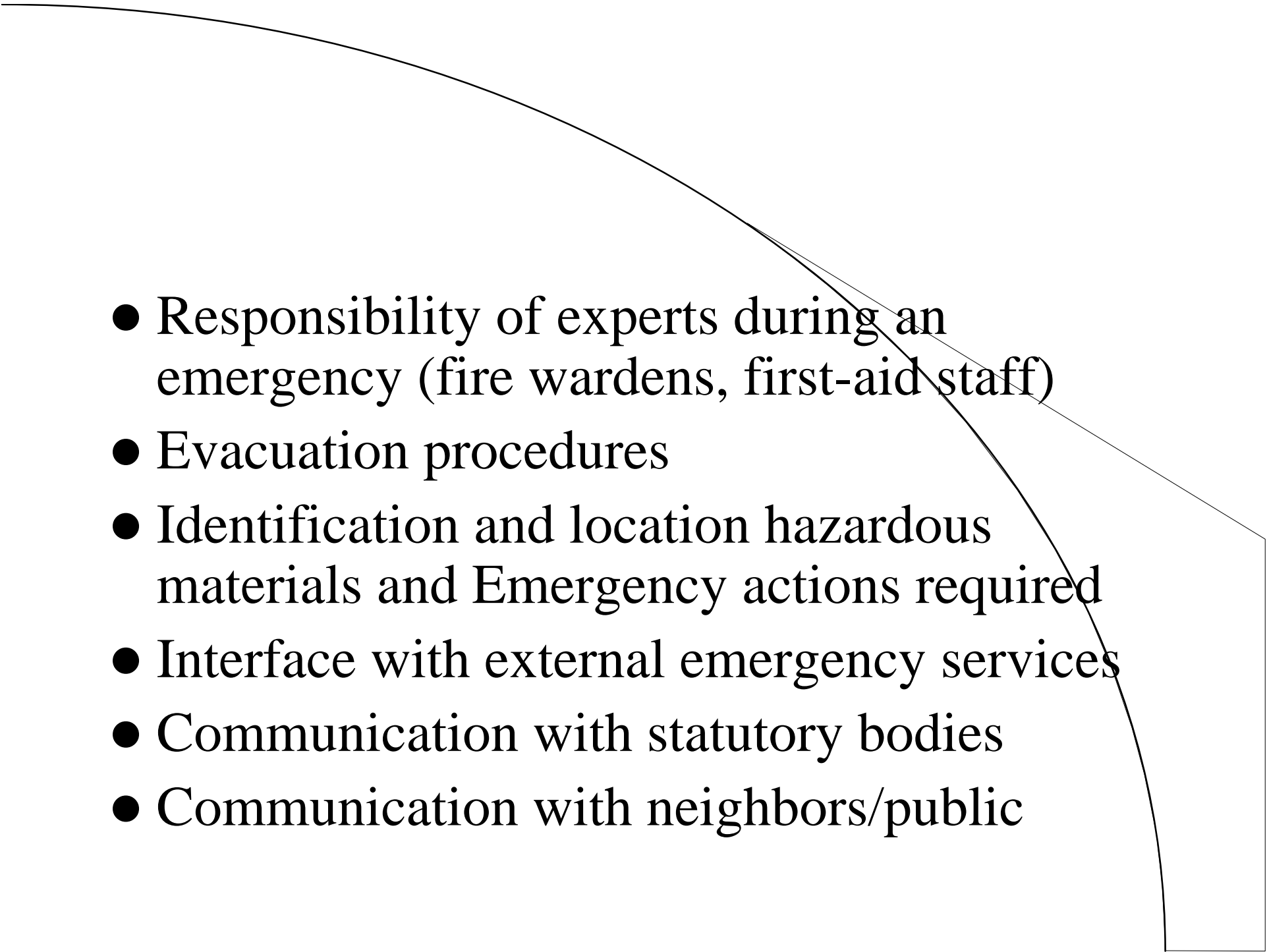
# Emergency Plan

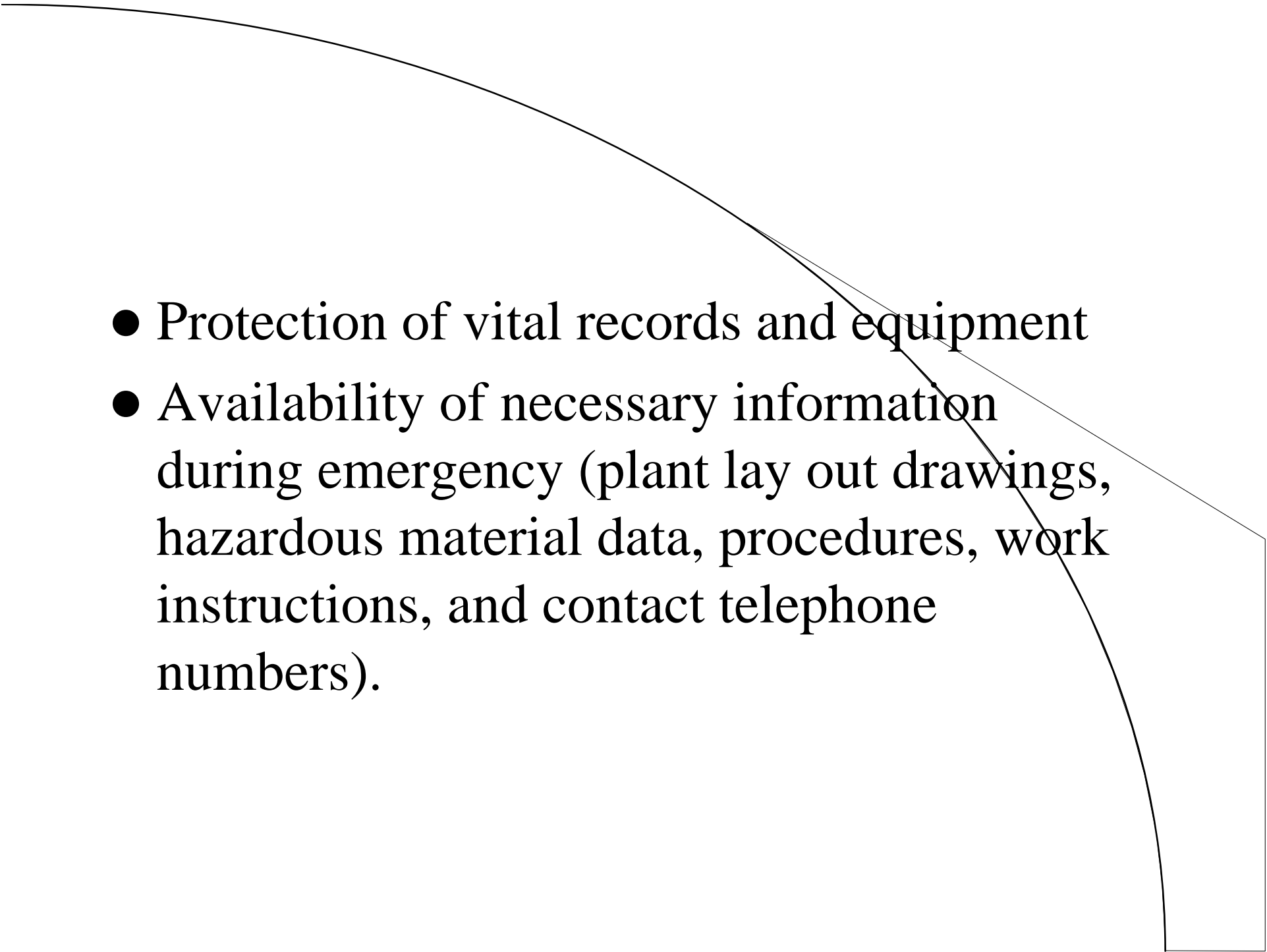
- Establishment of Evacuation Plans with safety procedures (wind direction).
  - Head count plan for each work unit – gathering points with quick and accurate modes of communication.
- designated assembly point for each employee
- alternate assembly point should the primary location be inaccessible.

# Continuation

a procedure for counting at each assembly point.

- designated head count coordinator
- functional and primary phone numbers
- guidelines for for accounting for visitors to the facility

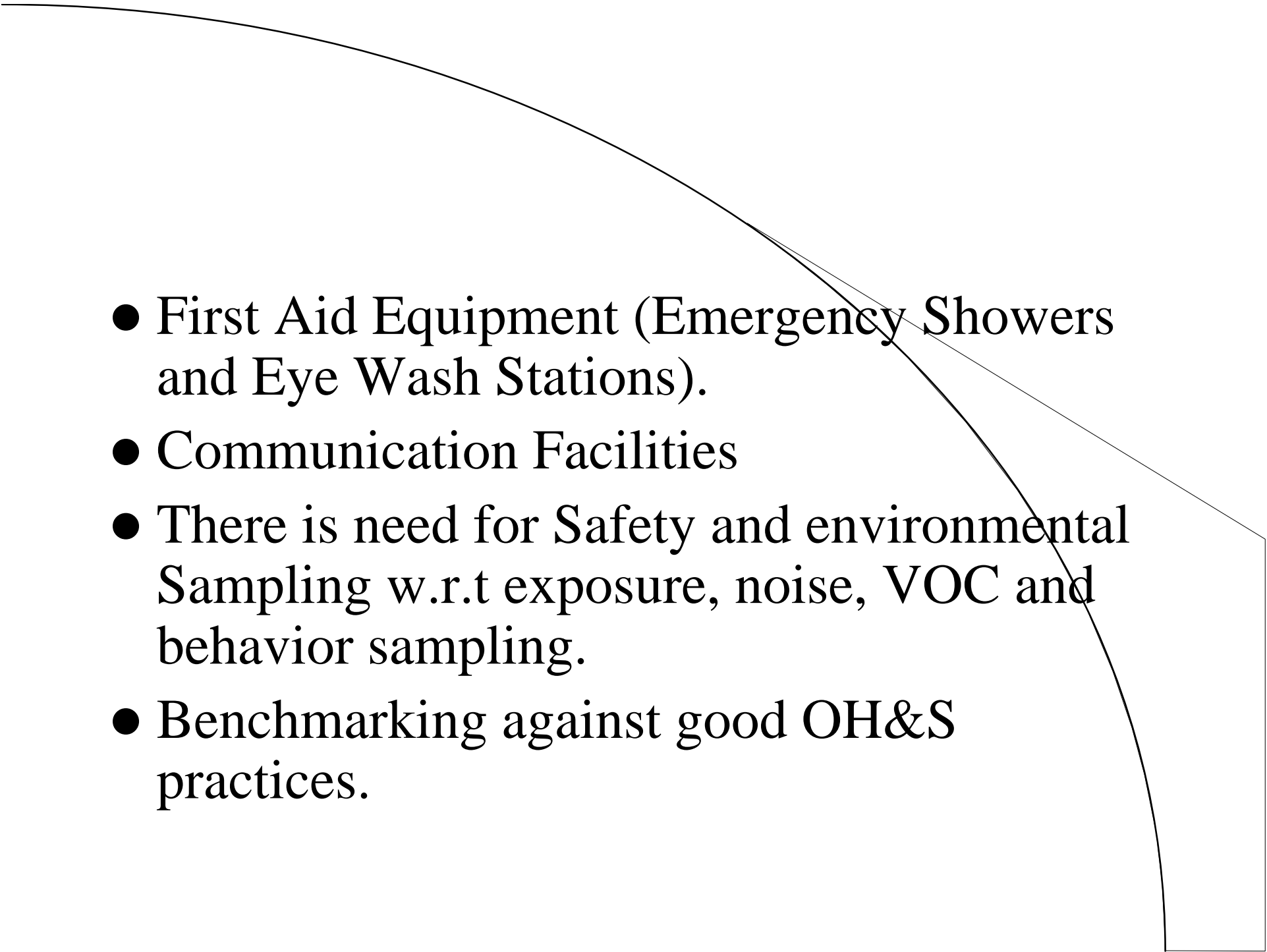
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- Responsibility of experts during an emergency (fire wardens, first-aid staff)
  - Evacuation procedures
  - Identification and location hazardous materials and Emergency actions required
  - Interface with external emergency services
  - Communication with statutory bodies
  - Communication with neighbors/public

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- Protection of vital records and equipment
  - Availability of necessary information during emergency (plant lay out drawings, hazardous material data, procedures, work instructions, and contact telephone numbers).

# Emergency Equipment

- Tested at intervals for operability
- Alarm Systems
- Emergency lighting and power
- Means of escape
- Safe refuges or fire assembly points
- Critical isolation valves, switches, cut-outs
- Fire fighting equipment



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- First Aid Equipment (Emergency Showers and Eye Wash Stations).
  - Communication Facilities
  - There is need for Safety and environmental Sampling w.r.t exposure, noise, VOC and behavior sampling.
  - Benchmarking against good OH&S practices.

# Objectives of the OH&S Management Program

- OH&S Awareness Raising Workshops
- OH&S Capacity Building
- OH&S Demonstration Projects
- OH&S Information Dissemination
- OH&S Curriculum Development
- OH&S Policy Formulation.

Implementation Strategy Linked to CP

# Achievements Realized After Training

- 6 Safety Awareness Raising Workshops held
- 20 Consultants trained in OHSAS 18001/18002
- OHSAS 18001/18002 Information Disseminated to 50 Industrial Establishments
- An OH&S Policy Brief Published

# General Results

- Root Causes of Safety Accidents in Kenya are:
  - Safety policy not defined and Communicated
  - Responsibility, Authority, and Accountability not assigned
  - Emphasis on Production rather than Safety
  - Lack of direct communication with management

# Root Causes of Accidents

- Inadequate safety inspection procedures
- Insufficient safety training for normal and emergency situations
- Inadequate employee selection, supervision and rewards

**FIRE WAS IDENTIFIED AS THE  
GREATEST CHALLENGE TO THE  
SAFETY OF INDUSTRIAL PLANTS**

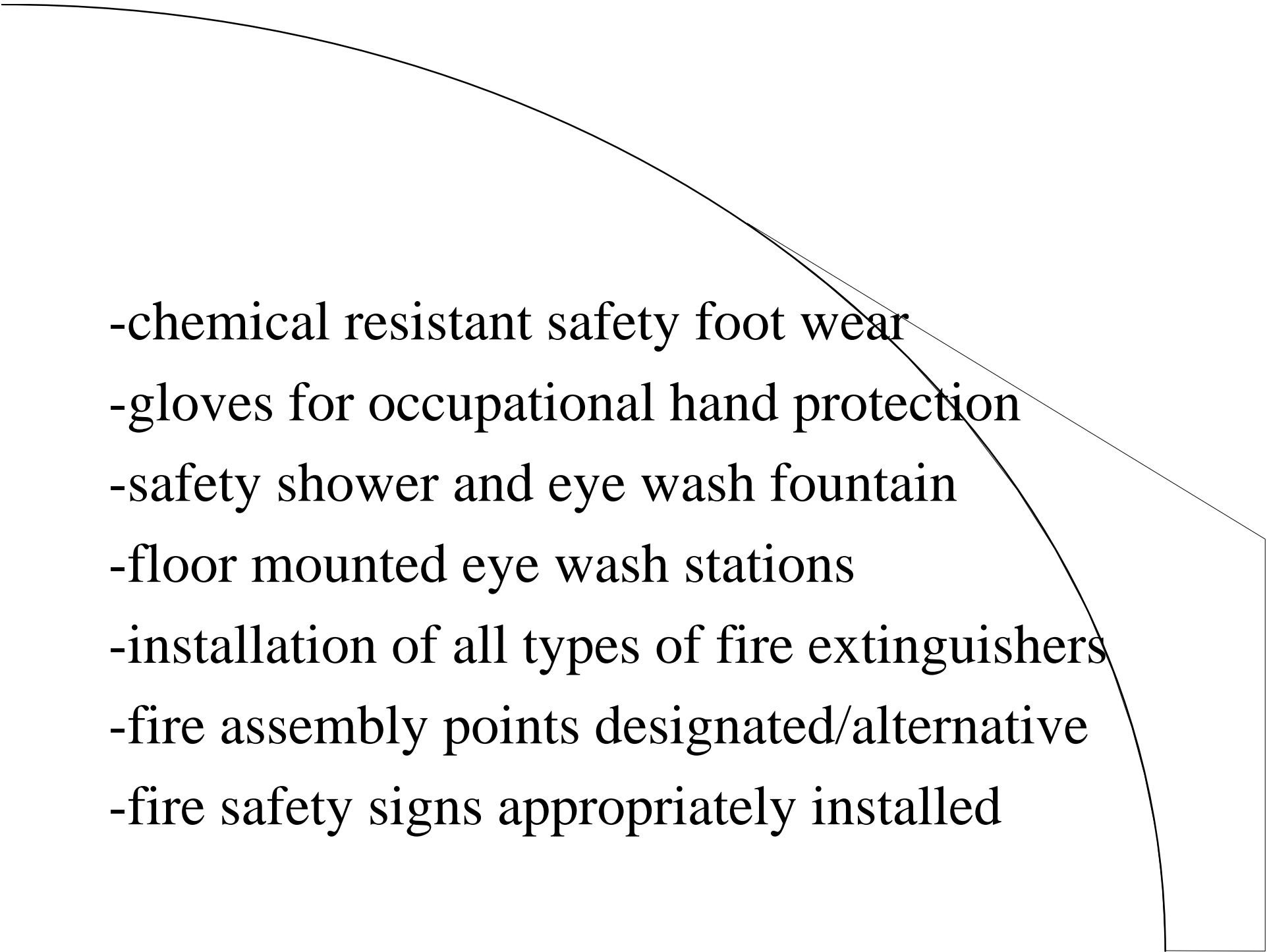
# Achievements at Plant Level

- Sectors (Textile, Nut Processing, Petroleum Refining, Pyrethrin Extraction, Sugar Refining, edible oil processing, soap making, Edible oil processing, Pulp and Paper).
- Installation of water and sand buckets
- Installation of hydrants at 2 Companies
- Fire Drills adopted on a monthly basis at 3 Industrial Plants

# Continuation

## Adoption of PPE

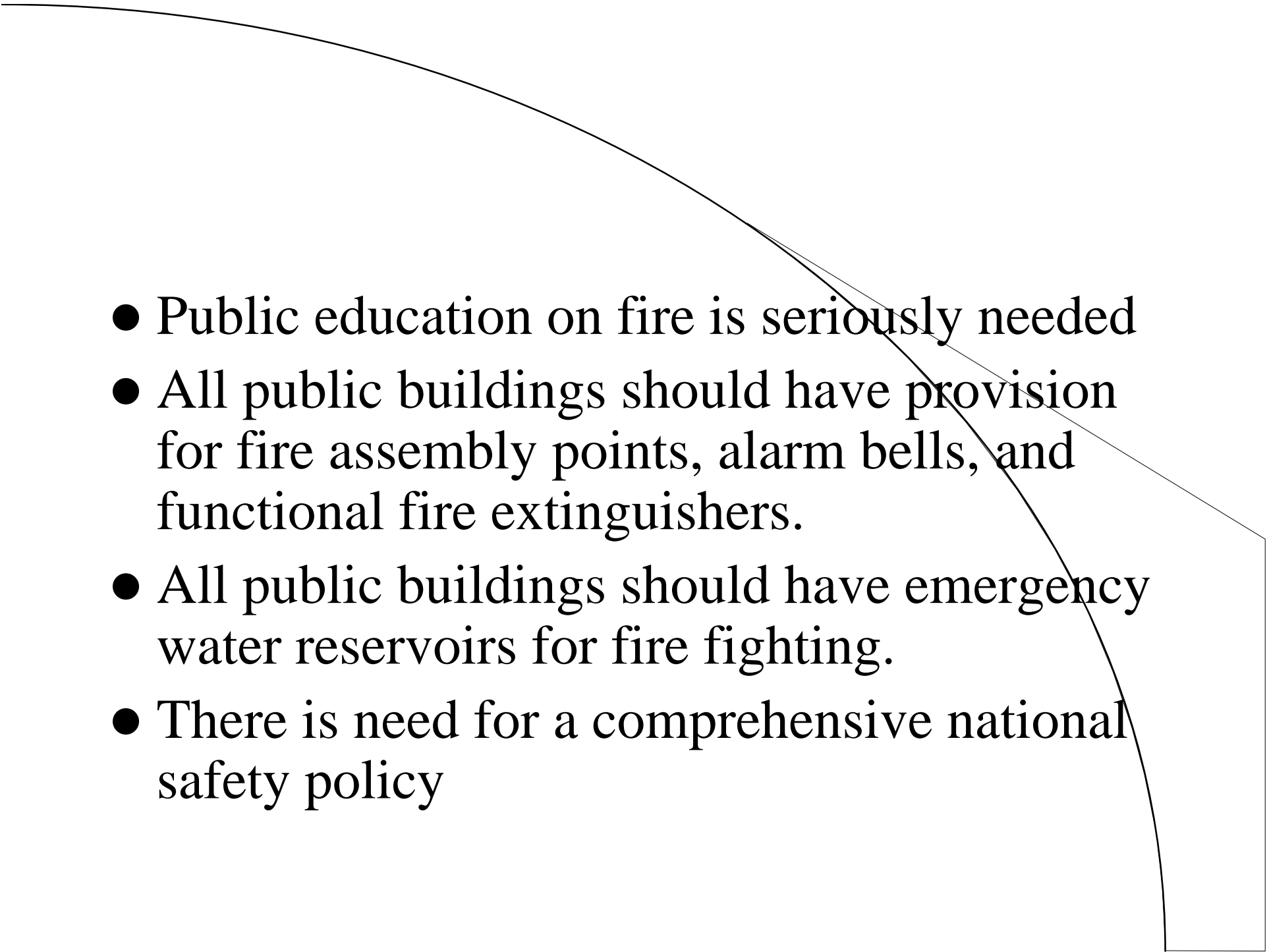
- plastic helmets for occupational head protection
- ear muffs/ear plugs for hearing protection
- chemical cartridge respirators for respiratory protection
- disposable dust and mist respirator

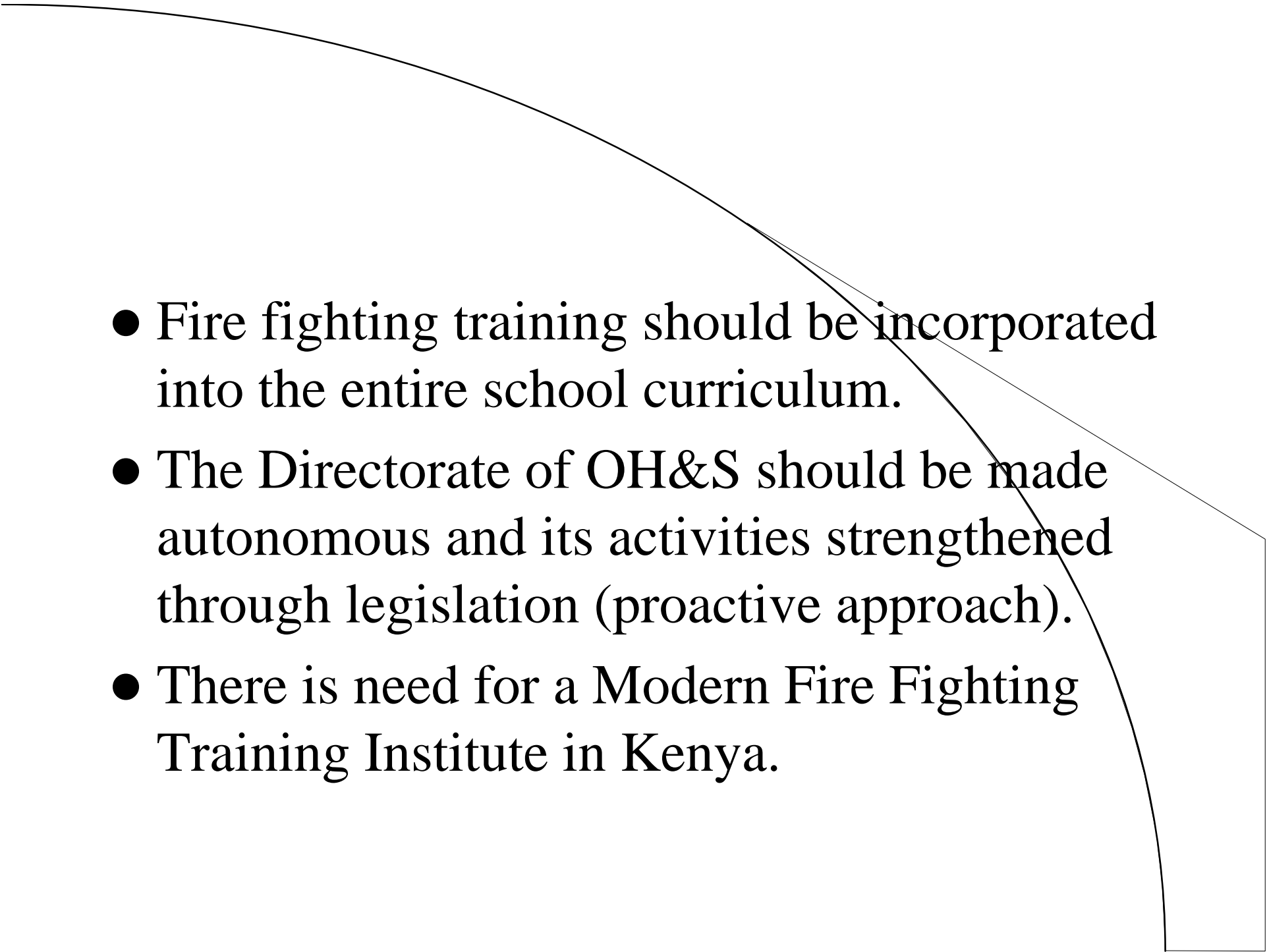
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- chemical resistant safety foot wear
  - gloves for occupational hand protection
  - safety shower and eye wash fountain
  - floor mounted eye wash stations
  - installation of all types of fire extinguishers
  - fire assembly points designated/alternative
  - fire safety signs appropriately installed



# Recommendations

- There is need for more awareness raising workshops, capacity building at plant and consultancy level, setting up of OH&S demonstration sites, developing appropriate curricular at tertiary institutions and revising policies to ensure the safety of both property and employees.

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- Public education on fire is seriously needed
  - All public buildings should have provision for fire assembly points, alarm bells, and functional fire extinguishers.
  - All public buildings should have emergency water reservoirs for fire fighting.
  - There is need for a comprehensive national safety policy

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- Fire fighting training should be incorporated into the entire school curriculum.
  - The Directorate of OH&S should be made autonomous and its activities strengthened through legislation (proactive approach).
  - There is need for a Modern Fire Fighting Training Institute in Kenya.

# LASTLY

I am grateful to the Following Dedicated Professionals for their support and encouragement during my safety training session in Japan

-Dr. Nelson A. Wright

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-Dr. Akira Ishitani

-All those who were involved in preparations

\*\*\*\*\***END**\*\*\*\*\*