

**A Study of Occupational Health
and Safety Practices and its
Health Impacts on Workers, in
Some Leather Industries of
Sialkot, Pakistan.**

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OBJECTIVES

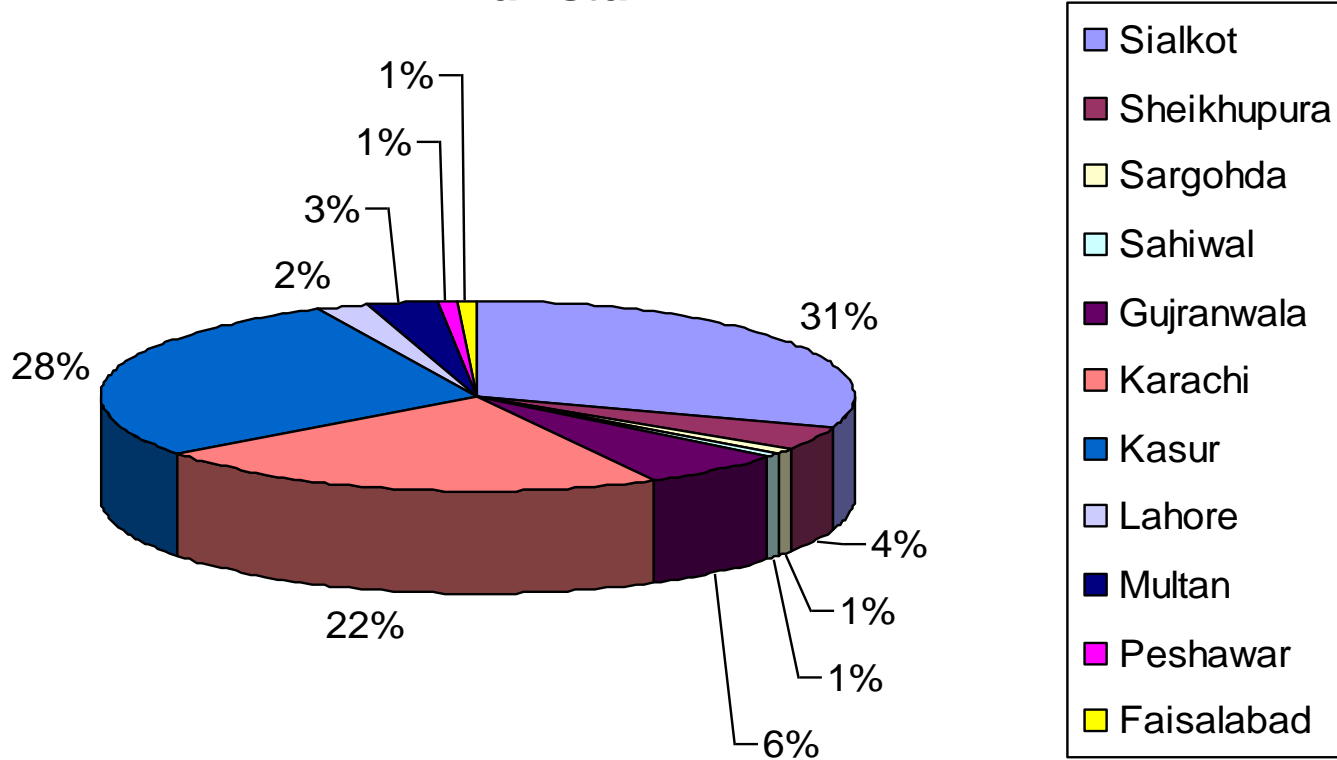
- **To observe and study the existing safety arrangements in the leather industry of Sialkot.**
- **To identify the safety and health risks in the existing circumstances of the Sialkot leather industries.**
- **To investigate the health condition of the workers in the leather tanneries of Sialkot.**
- **To give in recommendations to improve the occupational health and safety.**

BACKGROUND

- **Occupational Health and Safety .**
- **Need for Safety and Health Arrangements.**
- **History of Leather Industry.**
- **Leather Production in Pakistan.**
- **Leather Industry of Sialkot**

DISTRIBUTION OF LEATHER INDUSTRIES ACROSS PAKISTAN

Distribution of Leather Tanneries Accross Pakistan



PROCESS OF LEATHER MAKING

1.Raw Material Storage and Handling

- **Curing**
- **Desalting of raw material**

2.Beam House Operations

- **Soaking**
- **Liming and unhairing**
- **Fleshing**
- **Lime splitting and deliming**

PROCESS OF LEATHER MAKING

3.Tan yard Operations

- **Pickling**
- **Degreasing**
- **Tanning**

4.Post Tanning/Wet Finishing

- **Sammying and splitting**
- **Shaving**
- **Rechroming/retanning**
- **Neutralization**
- **Dyeing**
- **Fatliquoring**
- **Setting**
- **Drying**

PROCESS OF LEATHER MAKING

5. Finishing

- **Staking**
- **Buffing**
- **Spraying**
- **Embossing**

IMPACTS ON HUMAN HEALTH

- **Skin Irritants- alkalies, acids and bleaching agents.**
- **Inhalation of Irritant Dust- hairing, fleshing.**
- **Injurious Vapors- degreasing solvents and fumigating chemicals.**

HEALTH AND SAFETY ISSUES

1. Safety Risks

- Machines and equipment**
- Chemicals**
- Working environment and conditions**
- People**

HEALTH AND SAFETY ISSUES

2.Common Health Hazards

- Skin allergies, breathing problems, burns and gas poisoning**
- Injuries by malfunctioning and carelessness of operators**
- Electric shocks due to poor electrical installations**
- Fire hazards**

INTERNATIONAL STANDARDS

- **ISO 14000**
- **SA 8000**
- **OHSAS 18001:1999**

NATIONAL STANDARDS

- **The Factories Act 1934**
- **Mines Act 1923**

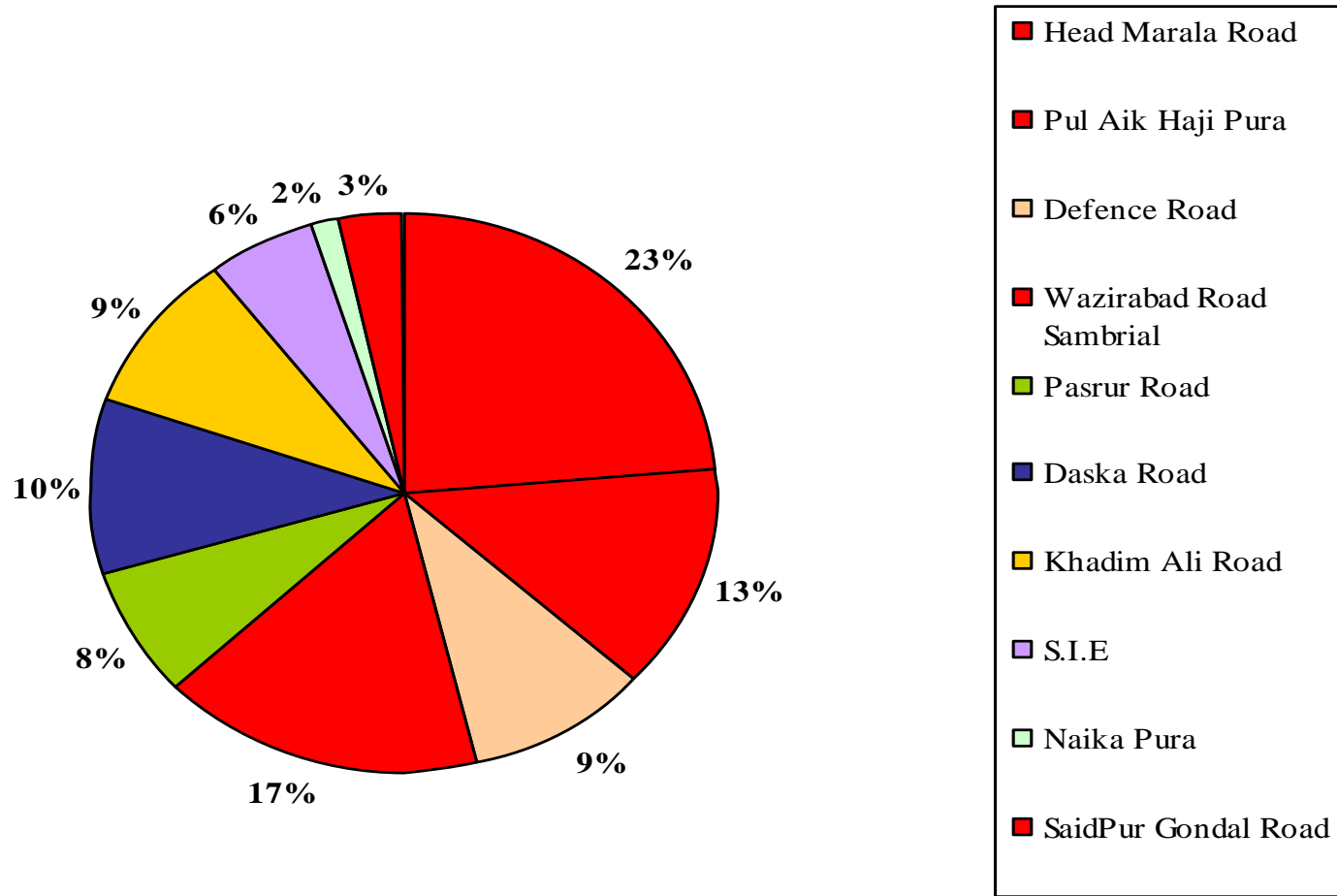
MATERIALS AND METHODS

Visit to the Leather Industries of Sialkot

- **Total Tanneries in Sialkot-250**
- **Ten Clusters**
- **Four Clusters visted**
 1. **Head Marala Road**
 2. **Pul Aik Haji Pura**
 3. **Wazirabad Road Sambrial**
 4. **Said Pur Gondal Road**

DIVISION OF TANNERIES IN SIALKOT

Division Of Tanneries In Sialkot



QUESTIONNAIRE

a. General work conditions

- **No uncovered and unguarded openings...**
- **Stairs are non-slippery and railings are in place...**
- **All the electrical wires are insulated...**
- **There are internal audits and monitoring...**

QUESTIONNAIRE

b. Chemical safety

- **All the chemicals are labeled and marked...**
- **All the chemical containers are covered...**
- **Flammable/combustible material is kept away from the ignition sources...**
- **The work floor supervisors and workers know the basic contents of the material stored in the containers...**

QUESTIONNAIRE

c. Machine safety

- All the machines are having proper maintenance...
- There are proper rails or guards on the machines...

QUESTIONNAIRE

d. Housekeeping

- All the solid waste is removed from the working area...

QUESTIONNAIRE

e. Work area Environment

- **There is proper ventilation as per activity...**
- **The quality of light is adequate...**
- **The toilets are clean...**
- **Clean potable water is readily available...**

QUESTIONNAIRE

f. Emergency preparedness

- Emergency instructions are displayed...
- At least there are two emergency exits...
- Fire fighting equipment installed and working...
- First aid medical kits are readily available...
- Emergency equipment readily available and its location marked...

QUESTIONNAIRE

g. Personal protection equipment

- Hearing protection is provided and used...**
- Safety goggles are used...**
- Safety gloves are given and used...**
- Safety boots/shoes are provided and used...**
- Apron is provided and used...**
- Respirator/masks are provided and used...**

ACCIDENT INVESTIGATION REPORT

- Name of person affected.....
- Address.....

1. DETAILS

- Date of accident...time...

2. TYPE OF ACCIDENT/SERIOUS HARM

- Fall, trip, slip
- Caught in moving part
- Hit by object with part of the body
- Sound
- Pressure
- Temperature (heat /cold)
- Electricity
- Inhalation of chemicals or other substances
- Ingestion of chemicals or other substances
- Body stressing (manual handling weight)
- Mental stress

ACCIDENT INVESTIGATION REPORT

3. INJURY/SERIOUS HARM CAUSED BY

- Machine or machine part (describe)
- Powered equipment/tool/appliance
- Non-powered equipment/tool/appliance
- Chemical or chemical product (give name)
- Material/substance other than chemical
- Bacteria or virus

4. BODY PART

- Head
- Neck
- Nose
- Arm
- Hand
- Finger
- Leg
- Foot
- Toe
- Eyes
- Ears
- Internal organs

ACCIDENT INVESTIGATION REPORT

5. NATURE AND EXTENT OF INJURY

- Fracture
- Dislocation
- Sprain or strain
- Open wound (cut)
- Puncture wound
- Superficial (scratch)
- Bruising or crushing
- Burns
- Internal injury
- Nerves or spinal cord
- Poisoning of toxic effect
- Disease of nervous system
- Disease muskulo-skeletal system
- Disease skin
- Disease, digestive system
- Disease, infectious or parasitic
- Disease, respiratory system
- Disease, circulatory system
- Tumor
- Mental disorder

ACCIDENT INVESTIGATION REPORT

6. WHERE AND HOW DID THE ACCIDENT HAPPEN?

7. WHICH CIRCUMSTANCES HAVE CAUSED THE ACCIDENT/HARM?

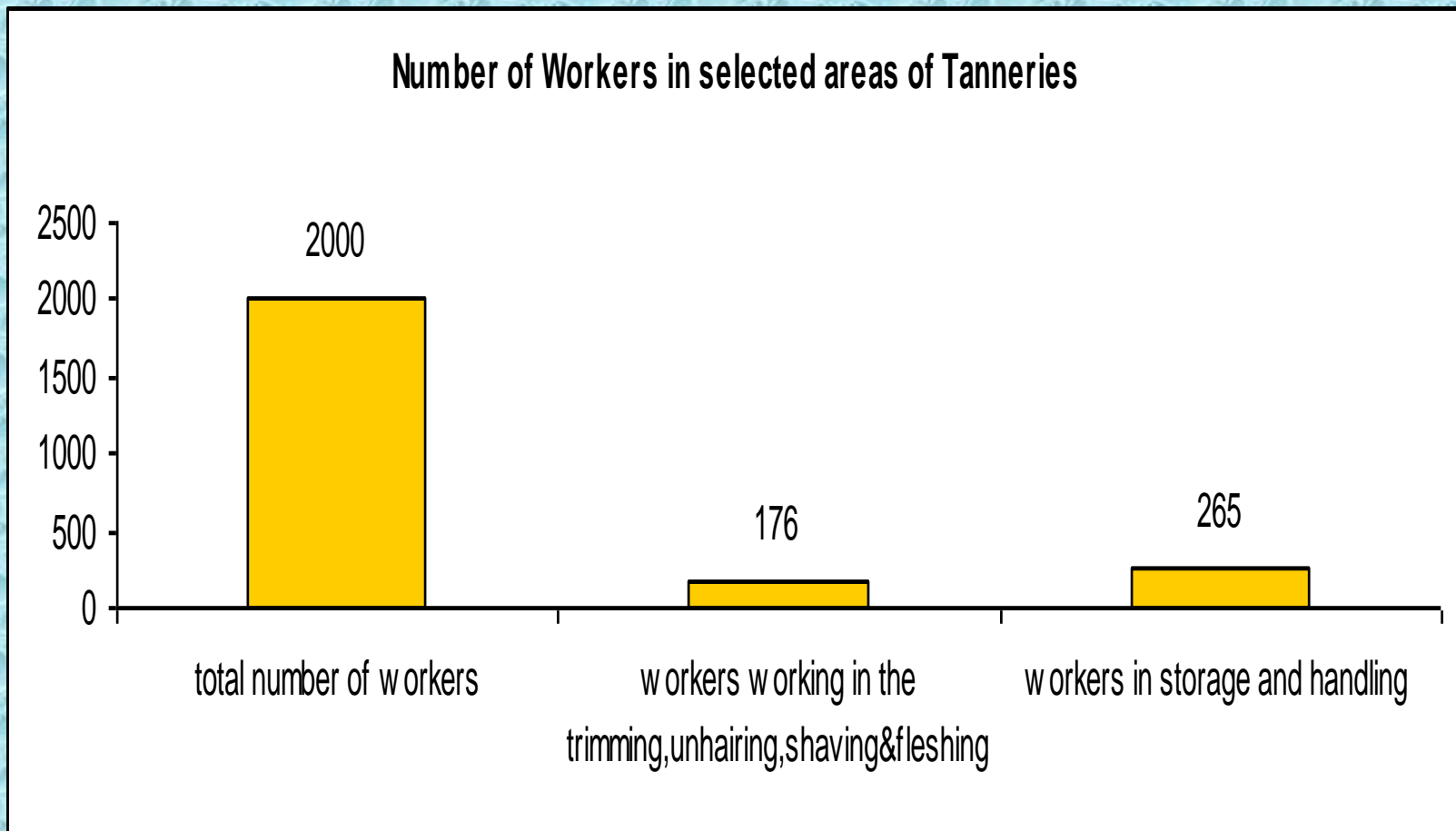
- **Lack of training**
- **Inexperience**
- **Misconduct**
- **Safety rules not enforced**
- **Unsafe work practice**
- **Communication difficulties (language, noise)**
- **Ineffective preventive measures**
- **Lack of protective equipment**

HAZARD ASSESSMENT TABLE

- **Investigation of the degree of risks, each type of hazard was taken into account.**
- **Probability of risk X Severity of the risk = Degree of Risk**
- **Where probability is taken as 5 and severity is taken as 4.**

MEDICAL PROBLEMS OF THE WORKERS

- Total number of workers: 2000



MEDICAL PROBLEMS OF THE WORKERS

The workers were asked about the following diseases .

Any Skin irritation

Eczema

Eye infections

Common flu

Chest congestion

Throat infections

Asthma

Tuberculosis

Continuous headache

Pains in the lumber

Muscular pains

Skin burns

Stomach disorders

Chest X-Rays and X-Rays for Lumber Back

- **Total Tannery workers: 2000**
- **For the chest X-Rays 50 workers were taken from Workers in the trimming, unhairing, fleshing and shaving departments(176)**
- **For the X-Rays of the Lumber Back 50 workers were to be taken Workers in the storage and handling departments(265)**

RESULTS

LIST OF INDUSTRIES VISITED

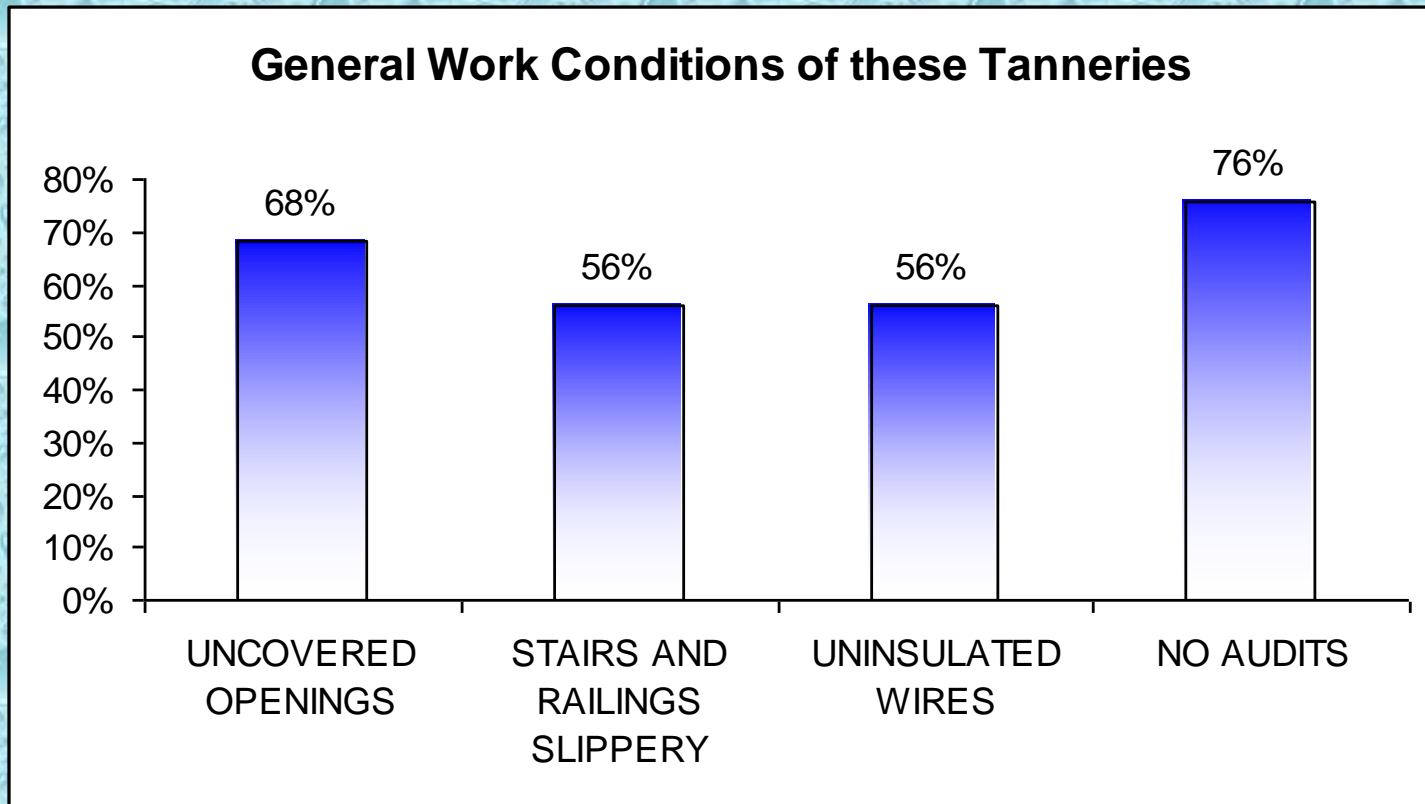
Name of Industry	Address	Contacts
Shaikhan Corp	10 km Wazirabad road	Mr.Zarar, 510249
Leather Field Pvt Ltd	12 km Wazirabad road	Mr.Cheema,510550,511323
Khas Traders	Defence road	Mr.Saleem Ashraf, 563183
Daiko Enterprises	14 km Wazirabad road	1.Sh.Javed Iqbal, 520730
Butt Tannery	14 km Wazirabad road	Mr.Iftikhar Butt, 520715
Aisha Enterprises	14 km Wazirabad road	Mr.Aman Ullah, 522231/521231
Padana Gloves	Defence road near Pul Aik	Mr.Haji Bashir, 561460
F.S.Candino	Defence road Pul Aik	Mr.Baiz Ullah
Sheikh Leather Industry	Pul Aik Haji Pura	Sh.Abdul Raheem, 50123
Haji Ghulam Qadir Tannery	Pul Aik Haji Pura	Mr.Ghulam Qadir, 557136
Hansa Enterprises	Said Pur Gondal Road	Mr.Hanif Khan, 266775
Pak Benelux Traders	Said Pur Gondal Road	1.Mr.Aleem Tahir, 263863

LIST OF INDUSTRIES VISITED

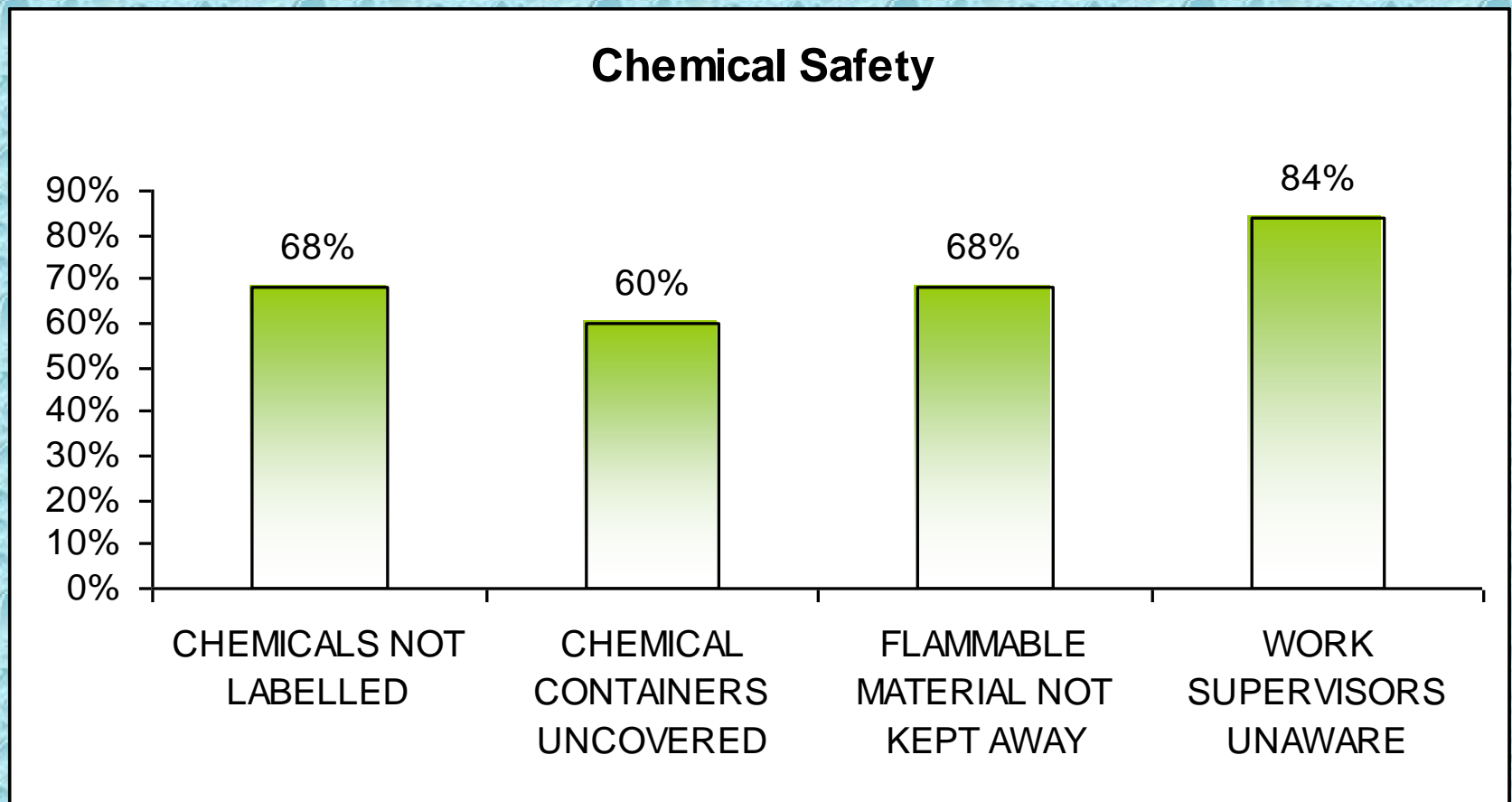
Name of Industry	Address	Contacts
Kampala Industries	Said Pur Gondal Road	Mr.Asif, 266406
Mecca Tannery	Head Marala Road	Mr. Abdul Raheem, 561827
Leather Village	Head Marala Road	Mr.Baber Gill, 559588
Ittehad Impex	15km Sambrial Road	Mr.Zia, 520725
Mustafa tannery	15km Sambrial Road	Mr.Ghulam Mustafa
Billoo Trading Corp	Said Pur Road Khichian	Mr.Iftikhar 267115
Grace Trader	Do Burji Mallian,Pul Aik	Mr.Iftikhar 560576
Rafeeq Bhutta Tannery	Wahid Road Malkey Kalan	Mr.Rafeeq 560417
Younas Butt Tannery	Pul Aik Haji Pura	Mr.Younas Butt, 552291
Malik Leather Industry	Pul Aik Haji Pura Road	Mr.Malik Jahangir, 563312
Zain Industries	China Chowk Wazirabad Road	Mr.Masood, 555404
Glance Leather Industry	Fateh Garh Road	Fateh Garh Road
Glaring Industry	14 km Wazirabad Road	Mr Jawed Akhter,520723

DETAILED RESULT OF THE QUESTIONNAIRE

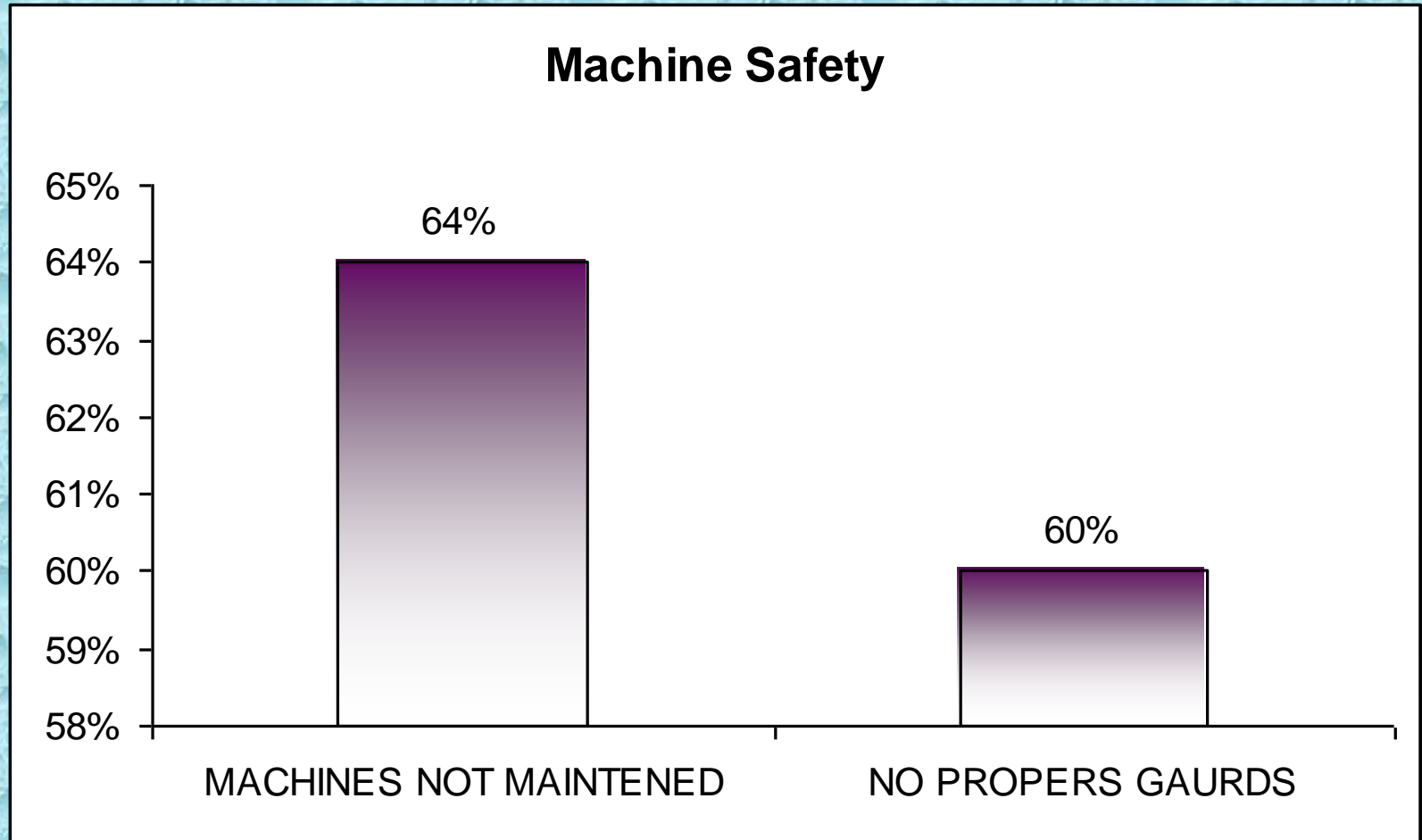
■ GENERAL WORK CONDITIONS:



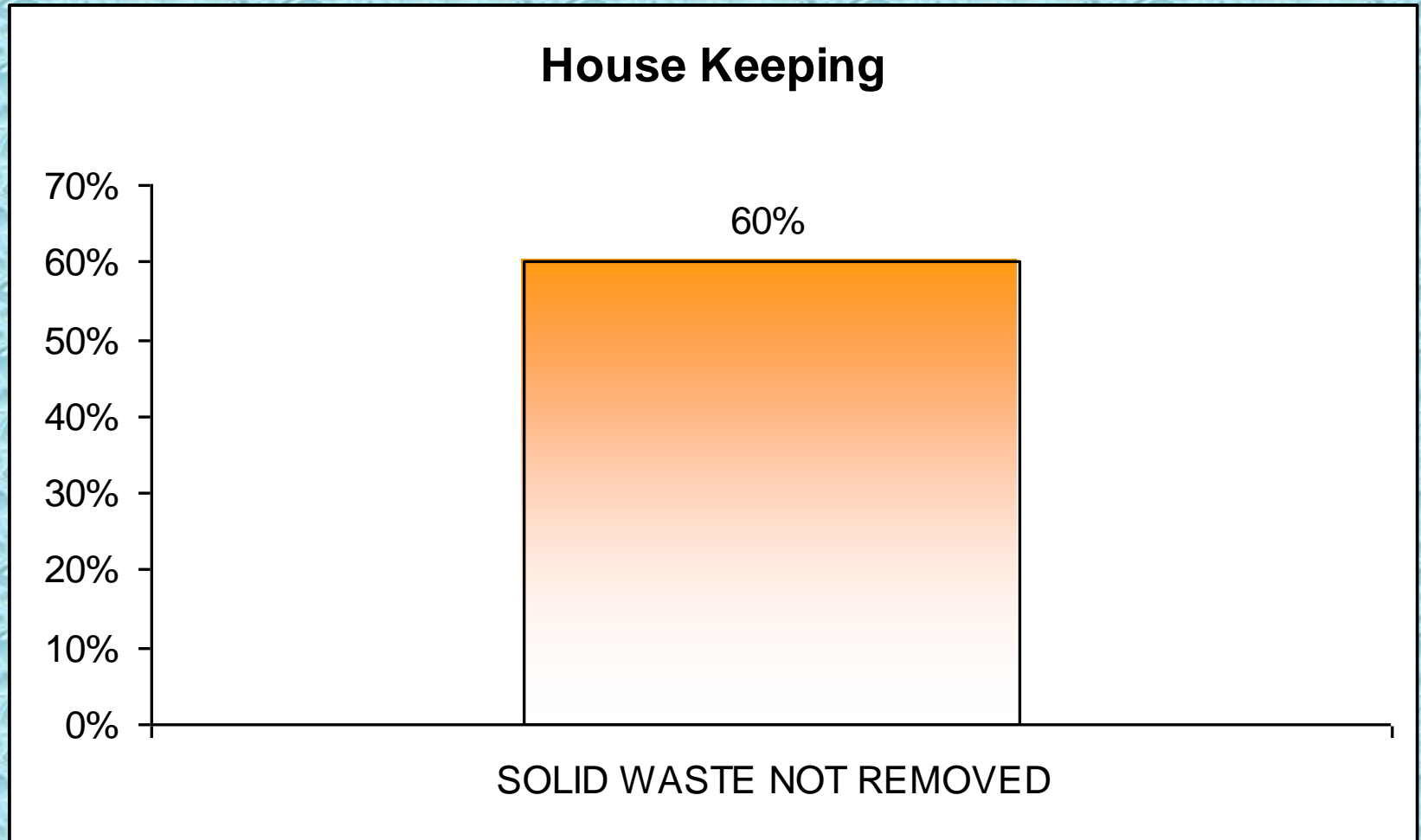
■ CHEMICAL SAFETY



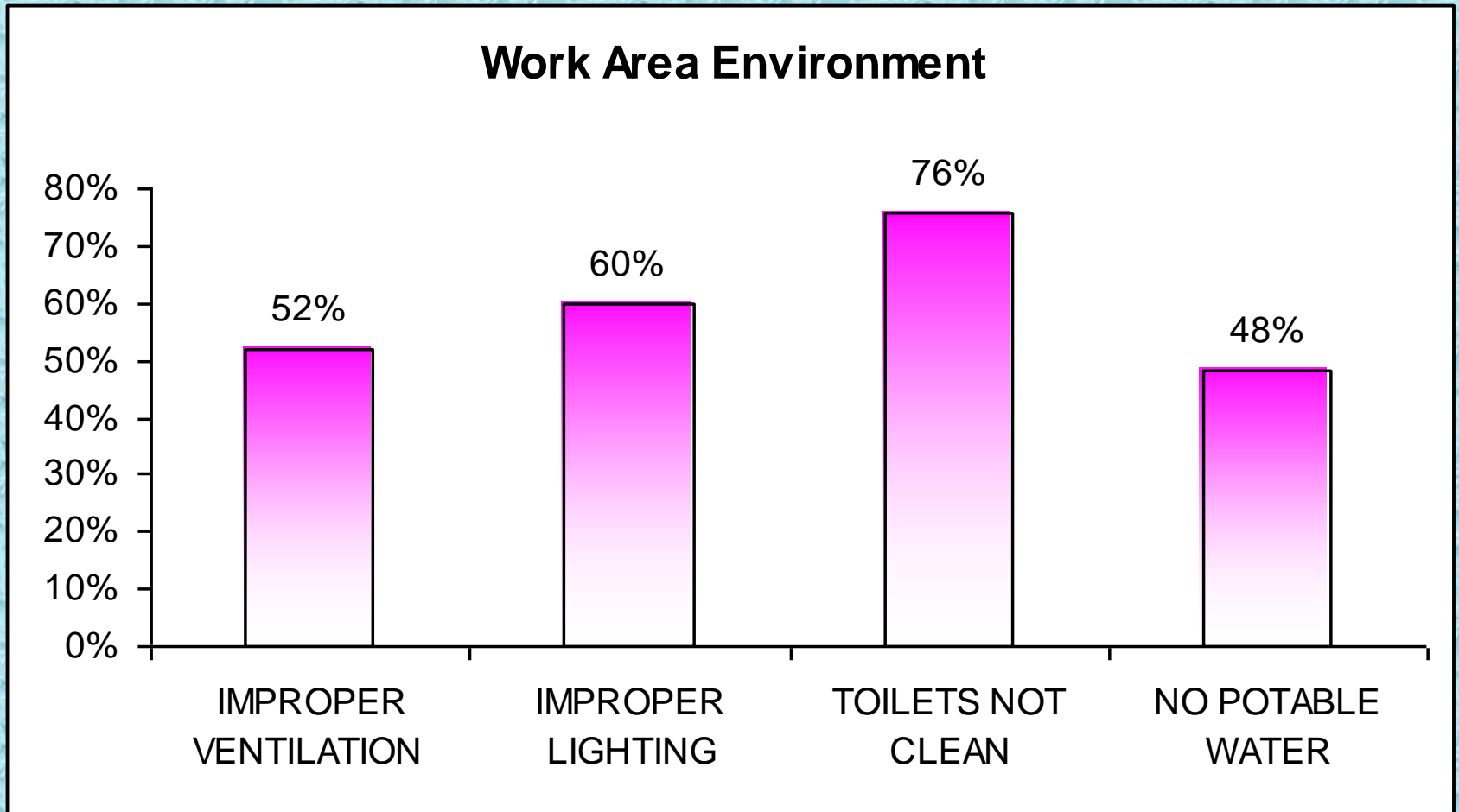
■ MACHINE SAFETY



■ HOUSE KEEPING

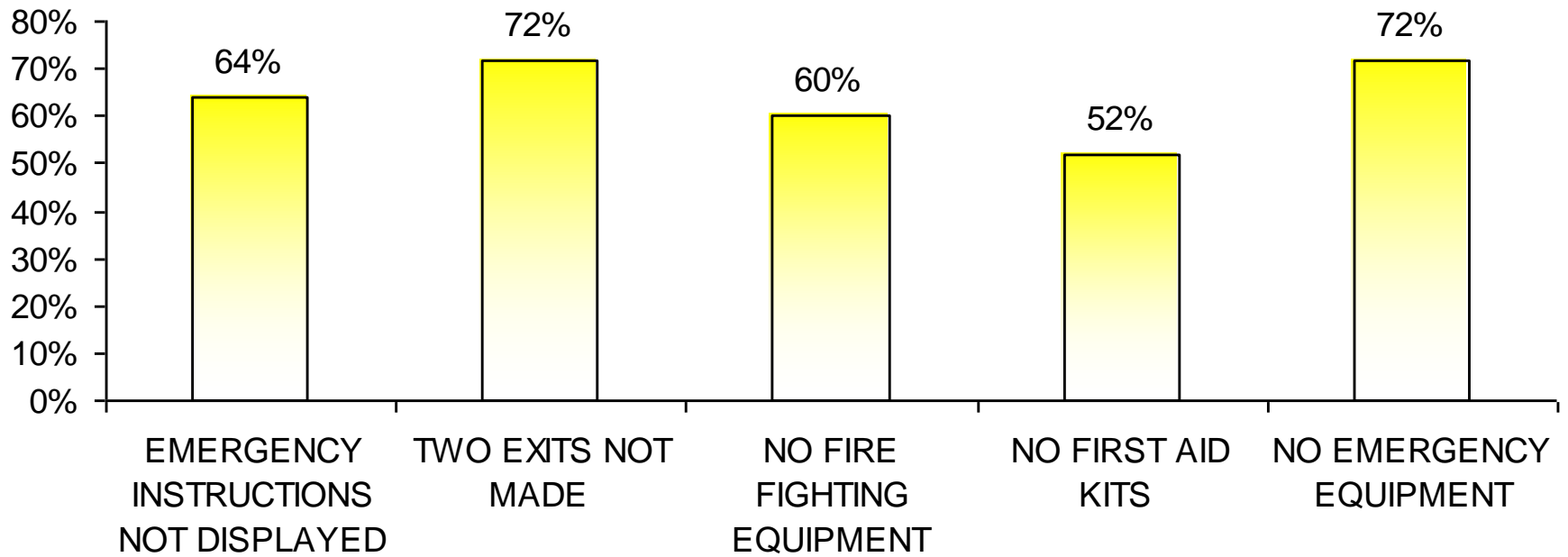


■ WORK AREA ENVIRONMENT

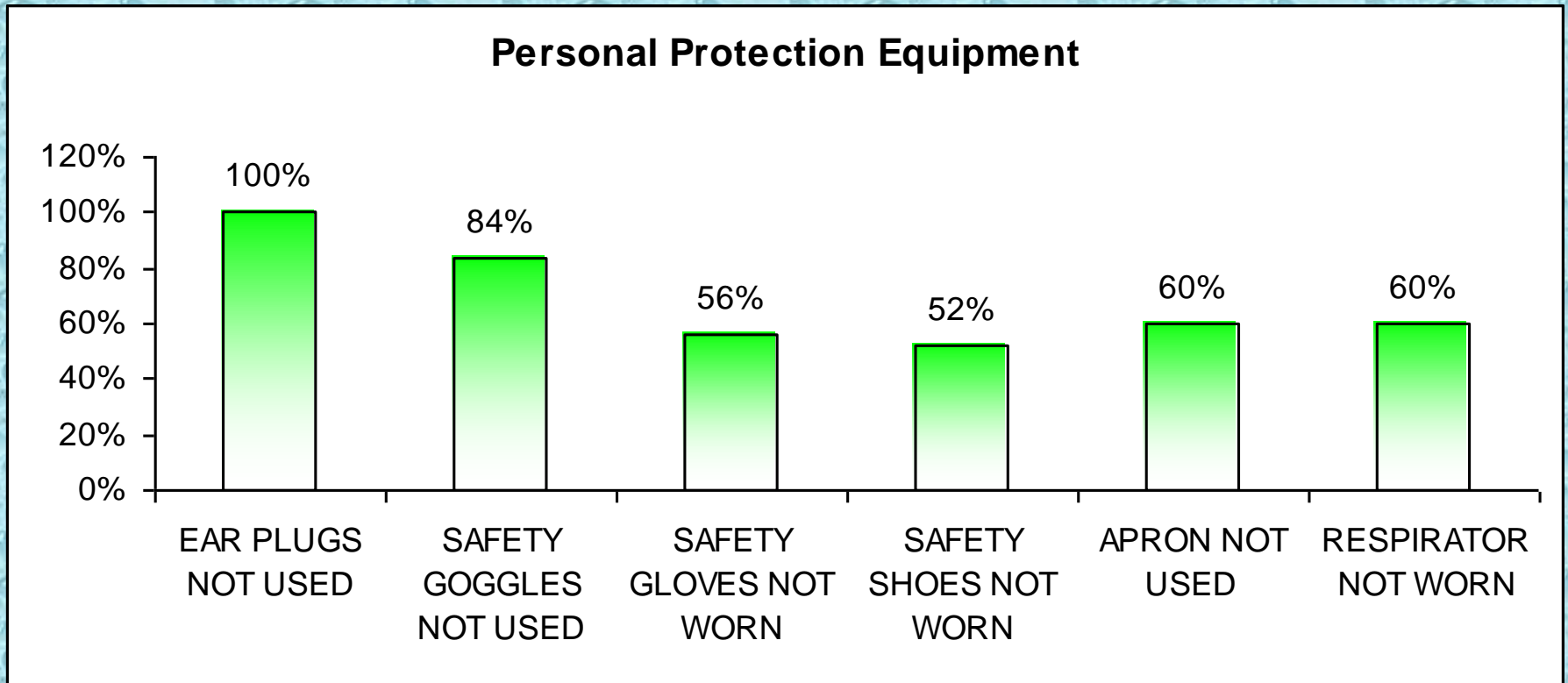


■ EMERGENCY PREPAREDNESS

Emergency Preparedness



■ PERSONAL PROTECTIVE EQUIPMENT



ACCIDENT INVESTIGATION REPORTS

- **There was three accidents.**
- **1. Leather Village**
- **2. FS Candino**
- **3. Campala Industries**

ACCIDENT REPORT 1

- Name of person affected Faiz Haq
- Address Leather Village Head Marala Road
- 1. DETAILS
- Date of accident 24th February 2000 time:1100hrs
- The risk degree that Faiz Haq suffered was 16 which is very high.
- 2. TYPE OF ACCIDENT/SERIOUS HARM
- Caught in moving part
- Electricity
- 3. INJURY/SERIOUS HARM CAUSED BY
- Machine or machine part (describe): Cylinder shaving machine
- 4. BODY PART
- Hand
- Finger

ACCIDENT REPORT 1

■ 5. NATURE AND EXTENT OF INJURY

- Fracture
- Open wound (cut)

■ 6. WHERE AND HOW DID THE ACCIDENT HAPPEN?

- Faiz Haq was working on the shaving machine. He is a very old worker of ours very well experienced. While shaving the hides his two fingers were caught in the shaving machine and we were knew the accident when he started to scream. His fingers were fractured and were taken to the hospital for the medical aid.

■ 7. WHICH CIRCUMSTANCES HAVE CAUSED THEACCIDENT/HARM?

- Unsafe work practice
- Ineffective preventive measures
- Lack of protective equipment
- Lack of maintenance
- Work place design (equipment sitting, lighting, ventilation)

ACCIDENT REPORT 2

- Name of person affected Baid Ullah
- Address F.S.Candino industries Pul Aik
- 1. DETAILS
- Date of accident 18th September 2004 time: 1500hrs
- The risk degree that Baid Ullah suffered was 8 which was also very dangerous.
- 2. TYPE OF ACCIDENT/SERIOUS HARM
- Temperature (heat /cold)
- Electricity
- 3. INJURY/SERIOUS HARM CAUSED BY
- Powered equipment/tool/appliance
- 4. BODY PART
- Hand
- Finger
- Leg
- Foot
- 5. NATURE AND EXTENT OF INJURY
- Burns

ACCIDENT REPORT 2

- **6. WHERE AND HOW DID THE ACCIDENT HAPPEN?**
- **The worker Baid Ullah was working in the spraying department. There were solvent vapours in that area in high concentrations and also the temperature there had increased to such an extent that it caught fire. As there were a lot of spilled unknown chemicals, no proper ventilation and the fire fighting equipment for the flammable solvents (Class B Fire) was not available. Baid Ullah was badly burnt and suffered 8 degree burns.**
- **7. WHICH CIRCUMSTANCES HAVE CAUSED THE ACCIDENT/HARM?**
- **Lack of training**
- **Unsafe work practice**
- **Ineffective preventive measures**
- **Lack of protective equipment**
- **Poorhouse keeping**
- **Work place design (equipment sitting, lighting, ventilation)**
- **Another accident investigation report that was made is as follows;**

ACCIDENT REPORT 3

- Name of person affected Sajjad
- Address Kampala industries Said Pul Gondal Road
- 1. DETAILS
- Date of accident 10th June 1999 time: 1000hrs
- The risk degree that Sajjad suffered was 15 which is also very high.
- 2. TYPE OF ACCIDENT/SERIOUS HARM
- Fall, trip, slip
- 3. INJURY/SERIOUS HARM CAUSED BY
- Non-powered equipment/tool/appliance
- 4. BODY PART
- Head
- Neck
- Nose
- Leg
- Foot
- 5. NATURE AND EXTENT OF INJURY
- Fracture
- Disease musculoskeletal system

ACCIDENT REPORT 3

■ 6. WHERE AND HOW DID THE ACCIDENT HAPPEN?

- The boy named Sajjad was using a hand cart and taking the hides for fleshing on the second floor. Unfortunately there were no railings then as the path toward the upper stories was quite wide. That day, perhaps the path was not even clear. There were some chemicals spilled as well as some solid waste scattered. Due to those circumstances Sajjad's foot slipped while pushing the cart upwards and he along with the cart and the hides came rolling towards the ground. It was indeed very sad for us he was immediately taken to the hospital for medical aid. His left leg was fractured and severe muscular and joint aches resulted.

■ 7. WHICH CIRCUMSTANCES HAVE CAUSED THE ACCIDENT/HARM?

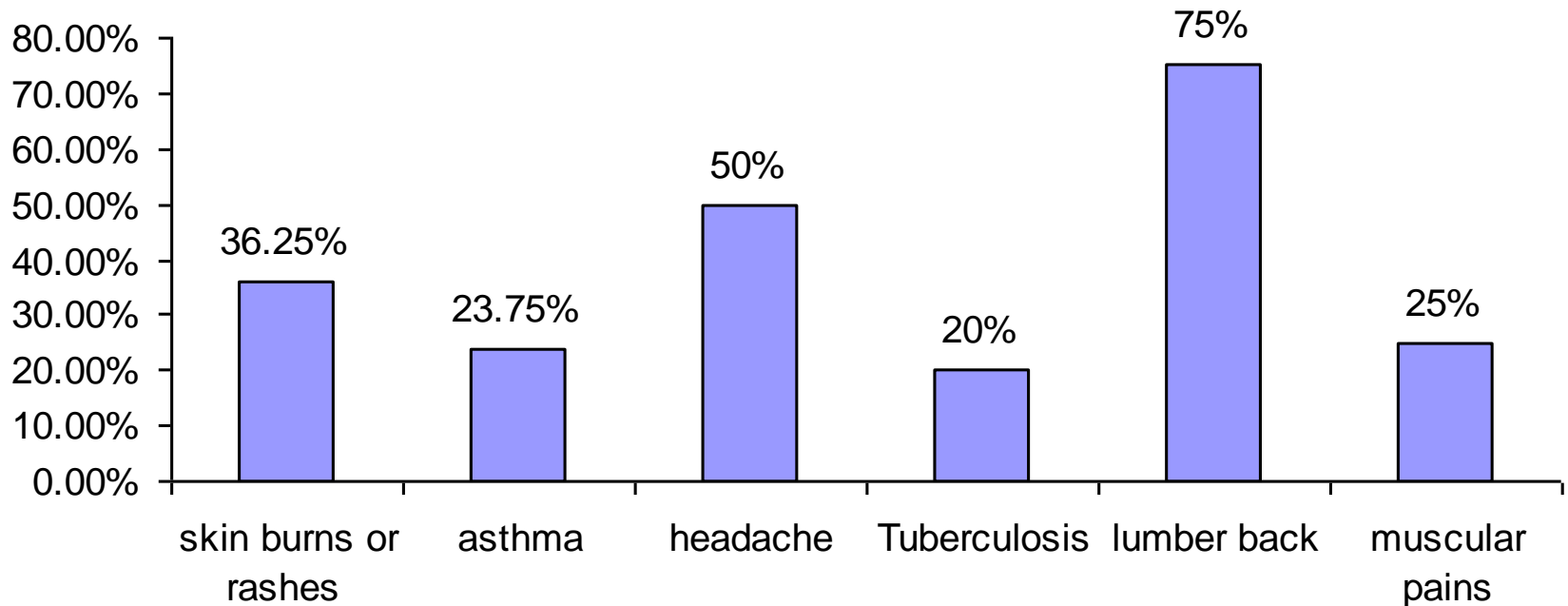
- Lack of training
- Safety rules not enforced
- Unsafe work practice
- Lack of protective equipment
- Poorhouse keeping
- Lack of maintenance

HAZARD ASSESSMENT TABLE

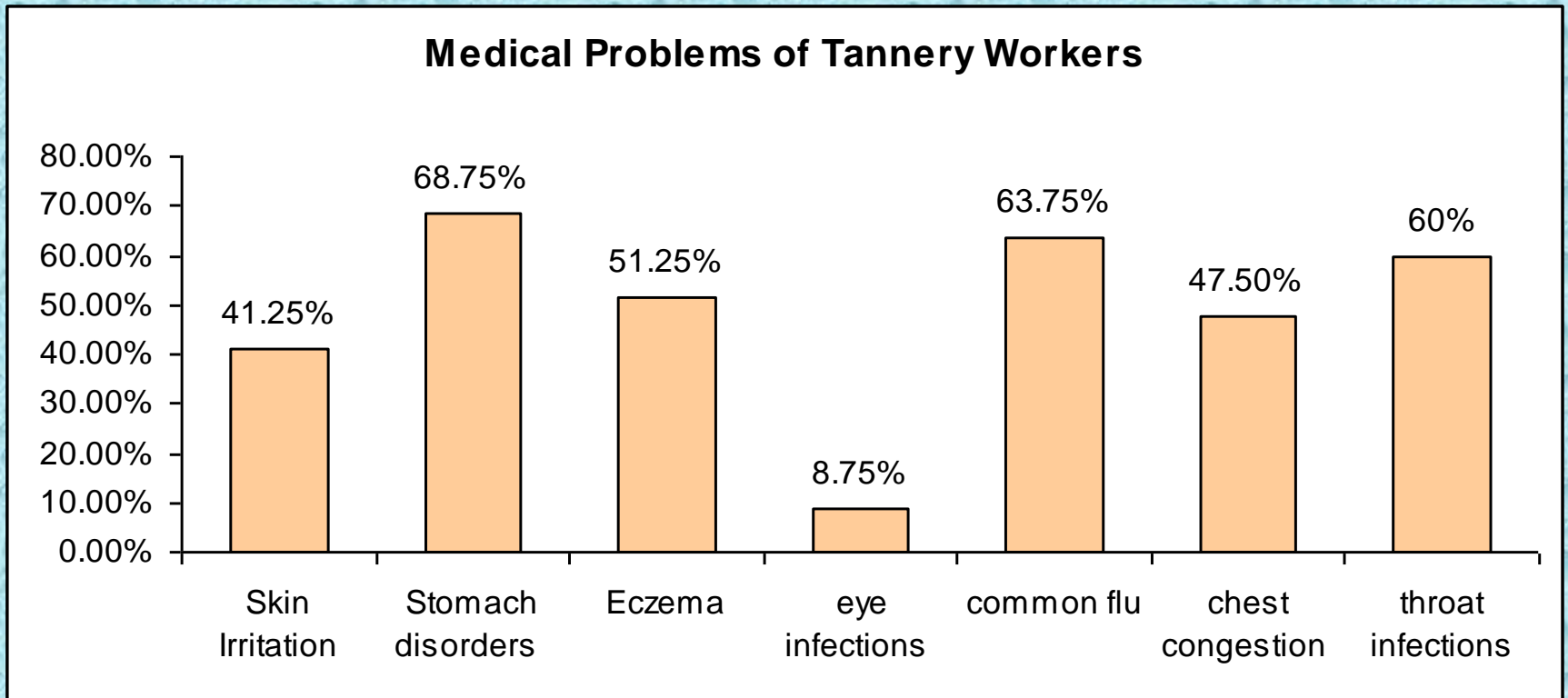
Type of Hazard	Possible Cause Identified	RISK DEGREE	
Fall, trip, slip	Chemicals spillage, aisles and passageways with obstruction	15	Sajjad suffered a leg fracture and severe muscular joint aches when his foot slipped while taking the hides on a cart.
Caught In moving part	Absence of safety guards and rails, non use of PPE	16	Faiz Haq, fractured two of his fingers while working on the shaving machine.
Hit by (moving) part or object	Inexperience,lack of proper training	12	
Pressure	Lack of proper ventilation	3	
Temperature (heat/cold)	Lack of training and PPE, improper ventilation	8	Baid Ullah got his arm, hand leg and foot burnt in the spraying department where there was improper ventilation.
Electricity	Uninsulated wires, no danger signs	6	
Inhalation of chemicals or other substances	Improper storage and handling of chemicals. lack of PPE	4	
Ingestion of chemicals or other substances	Non labeling of chemicals and lack of education	2	
Body stressing (manual handling, weight)	Loading and unloading of hides and chemical containers	10	
Mental stress	Lack of rest and healthy diet	3	

MEDICAL PROBLEMS OF WORKERS

Medical Problems of Tannery Workers



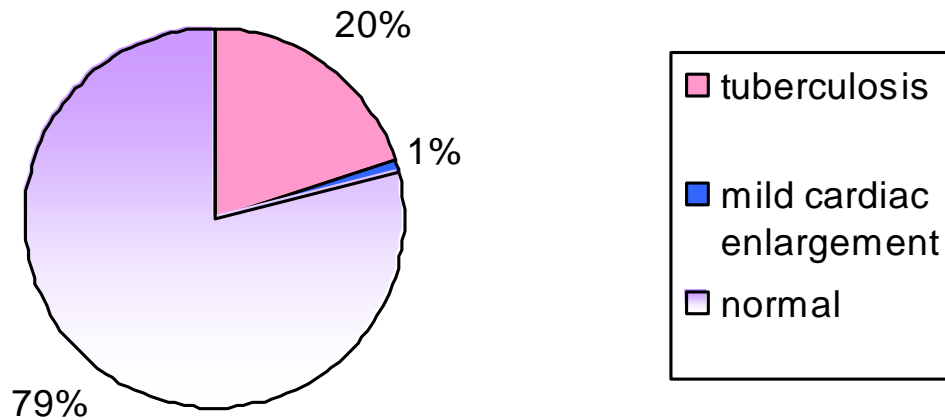
MEDICAL PROBLEMS OF WORKERS



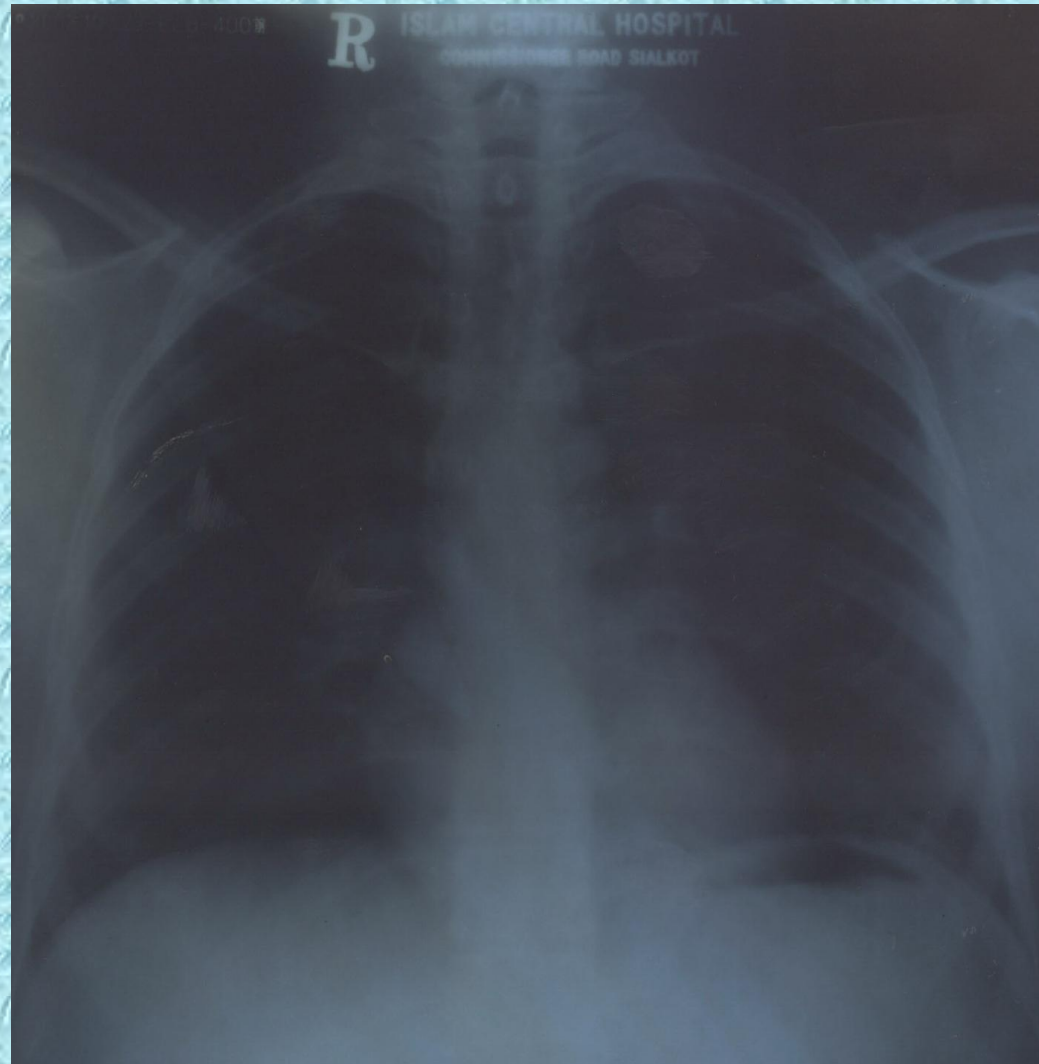
CHEST X-RAYS

Chest x-rays results	
no of workers examined	50
tuberculosis	20%
mild cardiac enlargement	1%
normal	79%

Results for Chest X-Rays



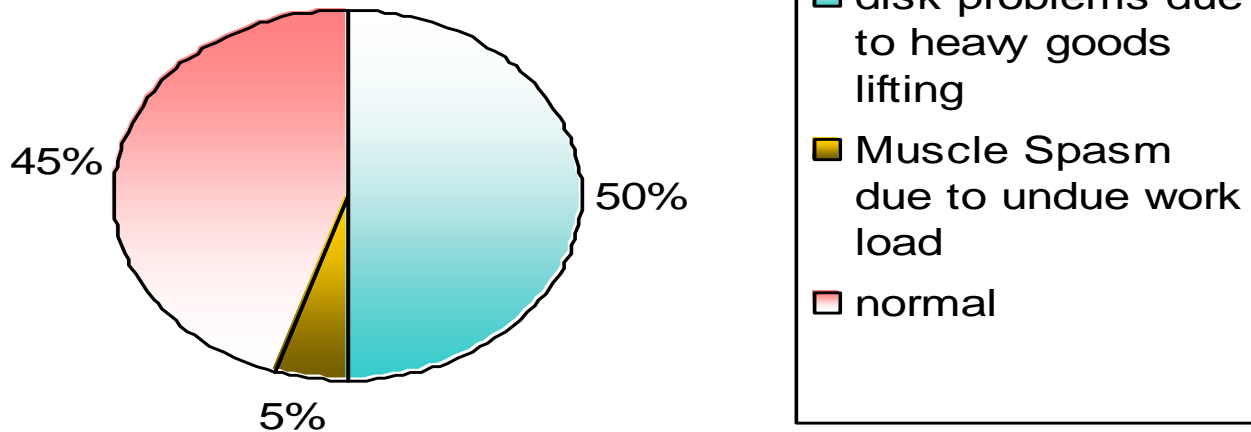
CHEST X-RAY



LUMBER X-RAY

Lumber back X-rays result	
no of workers examined	50
disk problems due to heavy goods lifting	50%
Muscle Spasm due to undue work load	5%
normal	45%

Results for Lumber Back X-rays



X-RAY FOR THE LUMBER



CONCLUSION

- **Poor safety arrangements existing in the Leather Industry of Sialkot.**
- **Poor work environment**
- **Non conducive conditions for work**
- **Neglected workers health**
- **Poor Health Conditions of Workers**

DISCUSSIONS

1. **Safety in use of chemicals.**
2. **Safety in machines.**
3. **General work conditions.**
4. **Audits.**
5. **Work area environments.**
6. **Dealing with emergencies.**