CHAPTER 5

RESEARCH ORGANIZATION AND ACADEMIC INSTITUTES FOR TRAINING IN OCCUPATIONAL SAFETY OF WORKERS IN INDUSTRIES IN GUJARAT
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Research organization and academic institutes for training in occupational safety of workers in industries in Gujarat

5.0 Research Organization and Institutes for training on occupational health and safety in Gujarat

The premier institute namely National Institute of Occupational health is located in Ahmedabad and there are few Government recognized institutes and private institutes for training on occupational health and safety are located in different part of the Gujarat. Some institutes also offer Post Graduate Diploma degrees in the area of Industrial safety and health in Gujarat.

5.1 National Institute of Occupational Health- Research Organization for study on Occupational Diseases in Gujarat

This Institute started as “Occupational Health Research Institute” (OHRI) in the year 1966 and was re-christened as “National Institute of Occupational Health” (NIOH) in 1970 presently located in the Eastern part of Ahmedabad. Two Regional Occupational Health Centers (ROHCs) were started at Bangalore in 1977 and at Calcutta in 1980.

The major objectives of the Institute and its centers are to identify and mitigate the occupational and environmental health problems in the country. The tools used for this purpose are research, education and information dissemination. Epidemiological studies are used as the gold standard in occupational and environmental health and experimental studies are done as and when necessary. Most of the epidemiological studies need a multi disciplinary approach for which infrastructure facilities and trained manpower have been developed at the Institute. Besides clinical work, environmental monitoring for toxic agents in the working and community environment form an integral component of various studies. At present, the Institute
has the state-of-art analytical facilities for metals, pesticides, persistent toxic substances and other chemicals. Molecular biology facilities and other laboratories are also being upgraded.

NIOH has carried out pioneering research work in many occupational diseases and has also developed preventive intervention and control measures, which are economical and locally available. Some of the examples are control of silicosis in unorganized sectors like Agate, Quartz Crushing, Stone quarry etc. and green tobacco sickness in tobacco harvesters. These control measures have been widely popular and accepted by the workers as well as the owners.

The Institute functions as a WHO Collaborative and Reference Centre for Occupational Health. The Institute has represented in many important functions of the Government of India, including the Ministry of Health and Family Welfare, Ministry of Labour, Ministry of Environment and Forests, Ministry of Agriculture, etc., to generate data and provide guidance and recommendations on issues related to occupational and environmental health. The Ministry of Health and Family Welfare has identified Occupational Health as one of the national priority areas in the 9th five year plan and the NIOH has been identified as the Nodal Agency for nine projects.

### 5.1.1 Departments of National Institute of Occupational Health

The NIOH is carrying research in the area of Air pollution, Occupational psychology, Occupational Hygiene etc. Following departments are functional under the ambit of National Institute of Occupational Health

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<tr>
<th>Department</th>
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<tr>
<td>Air Pollution Unit</td>
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<tr>
<td>Bio-statistics</td>
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<tr>
<td>Occupational Psychology</td>
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<tr>
<td>Biochemistry</td>
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<td>Environmental Carcinogen unit</td>
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5.1.2 Research Projects undertaken by NIOH

At present National Institute of Occupational Health has undertaken following research projects\(^\text{29}\) and generation of data base related to the same.

**Generation of database on occupational diseases**

- Silicosis
- Asbestosis
- Byssinosis
- Pneumoconiosis and other Respiratory Morbidities among Coal Miners in India

\(^{29}\) Details of research projects undertaken by NIOH-Source-www.nioh.org
Noise Pollution and Health Effects
Occupational Exposure to Heavy Metals
Occupational Exposure to Organochlorine Pesticides
Agricultural Ergonomics
Women in Industry: Health and Safety

**Generation of database on environmental health problems**

- Pesticides Residue in General Population
- Heavy Metals Exposure
- Longitudinal Study on Air Quality Monitoring over Vadodara Urban Development Authority (VUDA) Area

**Detection of links between occupational environmental exposures and health effects**

- Detection of Toxic Metals in Silver Foundries
- Cardiac toxicity of Methomyl in Spray Operators
- Cardiac Toxicity in Pesticide Formulators exposed to Organo-phosphate Insecticides
- Non-occupational Pneumoconiosis in high altitude villages of Ladakh
- Byssinosis in Jute Mill Workers
- Resolving Fluorosis Controversy in the neighbourhood of an Aluminium Smelter
- Identification of Carcinogen-DNA Adducts in Benzidine Exposed Workers
- A New Multi-Method Ergonomics Review Technique (MMRT) for Work Analysis in Industry
- Determination of Heat Transfer Coefficients for Application of Human Heat Stress Assessment

**Experimental studies**

- Carcinogenicity Studies
- Inhalation Toxicity Studies on Methyl Isocyanate
- Reproductive Toxicity Studies in experimental animals
Prevention and control of occupational diseases

- Dust Control Techniques for Prevention of Pneumoconiosis
- Prevention of Green Tobacco Sickness among Tobacco Harvesters
- Testing of Hearing Protection Devices
- Compensation of Occupational Diseases

5.1.3 Future plans and programmes of NIOH

During the last three decades, the Institute has been engaged in a variety of occupational health and safety research projects and achieved some degree of maturity and understanding in generation of database, research methodology, etc.

In the process of consolidating the existing functions of the Institute, the NIOH forges new initiatives on the following aspects.

- Emphasis on the Bioinformatics
- Organization of Occupational and Environmental Health Bureau (OEHB)
- Control Technology Centre
- Reference Centre
- Ergonomics Division
- Molecular Biology Division
- Neurobehavioral Testing and Facility
- Modernization of the Existing Facilities
- Development of Regional Centers

Source: www.nioh.org

5.4 Academic institutes for training in occupational safety of workers in Gujarat

(i) Gujarat Safety Council

Gujarat Safety Council is in the service of industries since more than quarter century and conducts a wide range of activities in the field of safety including training Programs on various aspects of industrial, road and home safety.
The Council, a tripartite body consisting of representatives from Government, Employers and Employees and registered under Trust Act, bearing No. Vadodara / F/182 dated 05-02-77, is the only organization in the state of Gujarat striving for the noble cause of safety.

The Executive Committee of the Council consists of 28 members headed by a Chairman. The office bearers comprising of Chairman, three Vice Chairmen ( One representing Employees Association, one Employers Association and as Ex-Officio Chief Inspector of Factories, Gujarat State), Hon.Gen. Secretary and Hon. Joint Secretary cum Treasurer are elected by the Executive Committee members. The Council has also four Regional Conveners at Ahmedabad, Saurashtra / Kutch, Surat Vadodara. It has over 600 members all over the state comprising industrial organizations, trade unions, professionals etc.

**Objectives of the council**

- To devise effective methods of safety protection and propagate them amongst employers, workers and public at large, in Factories, on Roads, at Homes and on Farms.
- To organize Programs, Lectures, Conferences and other activities on Safety.
- To conduct safety educational campaigns, to arouse public opinion and interest of employers and employees in safety.
- To enlist the cooperation of public and private organizations interested in promotion of safety consciousness.
- To suggest improvements in the Central and State laws to prevent accidents.
- To organize local Safety Centers in the State of Gujarat and to provide them with organizational help and materials to promote safety. It publishes quarterly Journal known as **SURAXA** on safety and related issues.
In house training programs

The council conducts various types of training programs as its core activity to update knowledge and skill of workforce. It conducts Programs at individual industrial locations tailored to suit their requirements for different level varying for the period of two to three days. Some of the regular in house programs conducted are:

- Accident Prevention Techniques
- Organizing & Motivating for Safety
- Safety in Chemical Industry
- Safety in Engineering Industry
- Safety in Material Handling
- Electrical Safety
- Fire Prevention & Protection
- First Aid
- Defensive Driving
- Safe Transportation of Hazardous Goods by Road
- Home Safety

Source: www.gscgujarat.com / www.ncoh.in

(ii) Safety Courses in Gujarat

Master of Industrial Hygiene & Safety

The college offer number of courses, one of the course is Master of Industrial Hygiene-/Safety. Housed in Sardar Patel Centre for Science & Technology, ISTAR is a centre of quality education offering exclusively post-graduation in science and technology. It works in close collaboration with Sophisticated Instrumentation Centre for Applied Research & Testing (SICART) and colleges of Science, Engineering and Pharmacy.

Govt. of Gujarat has notified in Gujarat Factory Rules that the students who possess Degree in 'Master of Industrial Hygiene and Safety" could be employed as Safety Officers.
The institution has signed MoU with USA’s University of Cincinnati for exchange of faculty for MIHS programme and also with Eastern Michigan University, USA, for Paints & Varnishes Programme. It is noteworthy that ISTAR is the only institution in the entire country offering Master's Degree in Valuation (Real Estate) and that for Master of Valuation (Plant & Machinery) it is the first post-graduate programme in the world.

(iii) Swami Vivekananda School of Industrial Safety, Ahmedabad

- Sanctioned vide GR dated 3rd October 2012.
- The school will provide education, training, consultancy and research in safety, health and environment related subjects. The school will work under the direct supervision and control of Director General Mahatma Gandhi Labour Institute, Ahmedabad.
- An application for allotment of land for the institute is pending with Revenue Department.
- Dr. M. Rajaram, Former Director General, DGFASLI, Mumbai has kindly consented to work as Advisor for the Institute.
- Provision of Rs. 70.00 crores as section-1 new item is proposed for financial year 2013-14 for land and building construction.

(iv) P.G. Diploma in Industrial Safety, Mahatma Gandhi Labour Institute, Ahmedabad

The objective of the programme is to enable a person to acquire the knowledge, skills, and perspective necessary to contribute effectively to the safety function in a large/medium-scale industrial establishment.
The Similar Courses are also undertaken at Surat, Vapi and Ankleshwar. These courses are recognized by State Board of Technical Education (TEB), Gujarat.

Following subjects are covered in the said Course.

- Safety engineering
- Safety engineering (II).
- Safety engineering (III).
- Appraisal, analysis, inspection, and control procedures.
- Safety and the law.
- Industrial hygiene and occupational health. Safety Management

*Source:* [http://www.mg liahd.org](http://www.mgliahd.org)

(v) Certificate in Industrial Safety Management by Gujarat Knowledge Society

Following subjects are covered under the said Course.

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<tr>
<th>Course Content</th>
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<tbody>
<tr>
<td>Understanding engineering control and its applications</td>
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<tr>
<td>Emergency respond in sensitive places such as petroleum industry, nuclear power plant</td>
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<tr>
<td>Monitoring the operation system</td>
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<tr>
<td>Medical care</td>
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<tr>
<td>Certification of the protection equipments</td>
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<tr>
<td>Prevention of injuries and hazardous situations</td>
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<tr>
<td>Reduction in loss inducing situations via proper analysis of safety necessity of the industry</td>
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<tr>
<td>Knowledge of personal protective equipment</td>
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<tr>
<td>Understanding risk management techniques</td>
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<tr>
<td>Safety precautions</td>
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<tr>
<td>Emergency communication</td>
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<tr>
<td>Communication with hospitals, fire brigade etc</td>
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<tr>
<td>Understanding occupation and health</td>
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<tr>
<td>Work hazard analysis</td>
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(vi) All India Institute of Local Self Government, Ahmedabad

Following Courses related to health is taught at All India Institute of Local Self Government, Ahmedabad

➢ Sanitary inspectors’ diploma course (Para medical)
➢ Post Graduate diploma in Hospital and Health Care Management(PGDHHM)
➢ Local Self-Government Diploma (LSGD)

Source: http://www.aiilsg.org

Source: http://www.gksgujarat.org