मानक सन्दर्भ नोट - 2019
STANDARD REFERENCE NOTE -2019

कारखाना सलाह सेवा और श्रम संस्थान महानिदेशालय
Directorate General Factory Advice Service & Labour Institutes

श्रम एवं रोज़गार मंत्रालय, भारत सरकार
Ministry of Labour & Employment, Government of India

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PREFACE

The Directorate General, Factory Advice and Labour Institutes (DGFASLI), the technical arm of the Ministry of Labour and Employment, deals with matters related to Occupational Safety and Health in factories and dock works of major ports. The organisation assists the Central Government in formulating policies in the administration of the Factories Act, 1948, enforcing the Dock Workers (Safety, Health and Welfare) Act, 1986 and liaising with State Governments, Port authorities and Industries for effective implementation of these statutes.

The 'Standard Reference Note 2019' provides comprehensive information on the objectives, functions, important activities, organisation structure, human resource and budget of the organisation. It contains details of studies/surveys, audits, support services, training programmes, promotional and other activities carried out by DGFASLI, which are aimed at preventing accidents and occupational diseases in factories and dock works of major ports.

To fulfil the need of qualified Safety professionals in the industry, DGFASLI regularly conducts various training programmes on Occupational Safety and Health which, among others, include One-year Diploma course for Safety Officers and Three-months Associate Fellow of Industrial Health for qualified medical practitioners. DGFASLI also conducts a number of other specialized training programmes and certificate programmes, seminars, workshops, public training programmes, in-plant training programmes, appreciation programmes, talks, etc. of various duration, which are discussed in detail in this Standard Reference Note.

To recognize safety systems and practices followed and implemented in factories and dock works of major ports, DGFASLI on behalf of the Ministry of Labour and Employment, Government of India, organises the Safety Awards presentation function for Vishwakarma Rashtriya Puraskar & National Safety Awards at New Delhi. This 'Standard Reference Note' contains the details of Safety Awards for the performance year 2017.

In addition to presenting the latest information on industrial injuries collected and analysed by Labour Bureau, this 'Standard Reference Note' further contains the state-wise information relating to occupational safety and health in factories based on the information collected by DGFASLI from the Chief Inspectors of Factories/Director of Industrial Safety and Health of States/UTs governments. It also contains information on Safety and Health matters such as industrial injuries, safety inspection, investigation, etc. in respect of major ports. This compilation of data and its analysis reflects the trends, evidences and areas of concern on Occupational Safety and Health, and acts as a reliable tool in devising programmes for preventing accidents and improving working environment in factories and dock works of major ports.

24/12/2020

Mumbai
24th December, 2020

(Dr. R. K. Elangovan)
Director General

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General Information

1.1 DGFASLI- A Brief Introduction

The Directorate General Factory Advice Service & Labour Institutes (DGFASLI), formerly known as the office of Chief Adviser of Factories, was set up in 1945 in Delhi with the objective of advising the Central and State Governments on the administration of the Factories Act, 1948 and liaising with factories inspection services in the States and Union Territories. The office was subsequently shifted to Mumbai in 1966.

DGFASLI achieved significant importance as an attached office of the Ministry of Labour & Employment, Government of India serving as a technical arm to assist the Ministry in the formulation of national policies on Occupational Safety and Health in Factories and Docks.

The Dock Workers (Safety, Health and Welfare) Act, 1986 and the Regulations, 1990 framed thereunder provide for safety, health and welfare of dock workers. These are enforced by DGFASLI through the Inspectorates of Dock Safety set up in all the major ports in India.

1.2 Functions of DGFASLI

- Rendering advice and carrying out support activities for the administration of the Factories Act, 1948.
- Administration of the Dock Workers (Safety, Health & Welfare) Act, 1986 and the Regulations, 1990 framed thereunder and enforcing these in the major ports of the country.
- Providing service to the Central and the State Governments, industries, ports, organisations etc. on matters related to Occupational Safety and Health (OSH).
- Coordinating technical and legal activities to facilitate uniform standards of enforcement of safety and health in manufacturing and port sectors.
- Educating and training employers and employees on matters relating to safety and health.
- Conducting promotional activities by operating schemes for (i) recognition of good suggestions under Vishwakarma Rashtriya Puraskar (ii) safety performance under National Safety Awards; and (iii) workers' outstanding contribution towards their organization, under Prime Minister's Shram Awards.
- Co-operating with International agencies like UN, ILO, WHO, G-20 etc. and advising Central Government with regards to international standards concerning safety and health.
- Building competence of enforcement agencies.
- Encouraging and providing best practices in the field of OSH.
- Collecting and disseminating information and material relating to safety and health

1.3 Organization Structure of DGFASLI

DGFASLI organization comprises of the Headquarters, Central Labour Institute, 4 Regional Labour Institutes and 11 Inspectorates of Dock Safety.

- Headquarters situated in Mumbai
- Central Labour Institute situated in Mumbai
- Regional Labour Institutes at Chennai, Faridabad, Kanpur and Kolkata. A new RLI at Shillong is being set up. A new Regional Labour Institute at Jammu is proposed.
- Inspectorates of Dock Safety at Mumbai, Kolkata, Chennai, Kandla, Mormugao, Tuticorin, New Mangalore, Cochin, Visakhapatnam, Paradip and Jawaharlal Nehru Port. The Inspectorate of Dock Safety at Ennore is being setup.

In 1959, the Central Labour Institute, Mumbai was established under UNDP Project as a socio-economic laboratory and as a national institute dealing with the scientific study of human aspects of industrial development. Subsequently, Regional Labour Institutes (RLIs) were established at Kolkata, Kanpur, Chennai and Faridabad to serve as Regional Centers. The detailed organization structure is given in **Appendix I** and the contact addresses of DGFASLI and its subordinate offices are given in **Appendix II.**

The Central Labour Institute and Regional Labour Institutes are fully equipped with necessary laboratory facilities for conducting studies and surveys in the field of safety and health. The Institutes also have conference facilities fully equipped with modern audio-visual aids. Industrial Safety, Health and Welfare Centers are also established at these Labour Institutes.

1.4 Developments and activities – DGFASLI

Review of the National Policy on Safety, Health and Environment at Workplace

Government of India, Ministry of Labour & Employment, had declared the *National Policy on Safety, Health and Environment at Workplace (NPSHEW)* on 20th February, 2009 and its review was due in 2014. The purpose of this National Policy is to establish a preventive safety and health culture in the country through elimination of the incidents of work related injuries, diseases, fatalities, disasters and to enhance the well-being of employees in all the sectors of economic activity in the country.

National Policy and the action programme shall be reviewed at least once in five years or earlier if felt necessary to assess relevance of the national goals and objectives. Subsequent to draft review of the National Policy on Safety, Health and Environment at Workplace by the Task Force and Inter-Ministerial Committee, the strengthening of the proposal of review of the National Policy on Safety, Health and Environment at Workplace in line with the OSH Profile is under progress.

56th Conference of Chief Inspectors of Factories at DGFASLI, Mumbai

The Chief Inspector of Factories (CIF) Conference is an important forum in which matters relating to safety and health of the workers engaged in the manufacturing sector are discussed and deliberated upon by CIFs from the States/UTs, and officials from Central/State Governments and

DGFASLI. This is an essential administrative arrangement with a view to effectively share information on safety and health of persons covered by the Factories Act, 1948 in a manner which would fulfill the intended objectives of the enactment. The Conference provides a useful forum for interaction between the Central and State Governments to share their views so that reasonable amount of norms, parameters and standards may be maintained in the country.

The 56th all India Conference of Chief Inspectors of Factories was held on 19-20 August, 2019 at DGFASLI Mumbai. The Conference was attended by 27 delegates from 22 States/UTs.

The conference deliberated on the following:

1. Discussion on the reports of the Working Group.
2. Discussion on pending agenda points from previous conferences.
3. Discussion on fresh agenda points as received from the CIFs of States/UTs, CLI and RLIs.
4. Presentation on OSH Code 2019 by Dr. R. K. Elangovan, the then Deputy Director General, and present Director General, DGFASLI.
5. Presentation by CIFs on status of administration of the Factories Act, 1948 and respective State Factories Rules.
6. Sharing of best practices at workplace by CIFs.

Dr. R. K. Elangovan, the then Deputy Director General, and present Director General, DGFASLI lighting the inaugural lamp.

Dr. R. K. Elangovan, the then Deputy Director General, and present Director General, DGFASLI with Dr. R. N. Meena, Director (Staff Training & Productivity)

Participants of the Conference with the officers of the DGFASLI

Memorandum of Understanding between DGFASLI and IAOH: Collaboration in informal sectors

DGFASLI and Indian Association of Occupational Health (IAOH) has signed a Memorandum of Understanding (MoU) with an aim of improving the standards of Safety & Health of workers as well as the working conditions by the means of cooperation in the field of Occupational Health and prevention of injuries & diseases especially in informal sector. Through this Memorandum of Understanding, DGFASLI has extended its technical support and expertise for safety and health of the workers working in informal sector.

Occupation Safety and Health (OSH) Legislation

The Factories Act, 1948

- Model Rules pertaining to Sanitary Napkin: After approval from Ministry, Model Rules pertaining to Sanitary Napkins for the women workers at workplace under the provision of the Factories Act, 1948 has been forwarded to all CIFs/DISH for necessary incorporation in State Factories Rules.

- Model Rules pertaining to Textile Personal Protective Equipment (PPE): After approval from Ministry, Model Rules 80 pertaining to textile PPEs under the provision of the Factories Act, 1948 has been forwarded to all CIFs/DISH for necessary incorporation in State Factories Rules.

The Dock Workers (Safety, Health and Welfare) Regulation, 1990

- The amendment in Regulation no. 73 of the Dock Workers (Safety, Health and Welfare) Regulation, 1990 regarding protective equipment was proposed and the same has been approved by Ministry.

National Occupational Safety and Health (OSH) Profile

The National Occupational Safety and Health Profile is a document which summarizes the existing OSH situation of a country and is used as diagnostic document to assess gaps in the national OSH system and identify priority areas for national action in OSH. The National OSH Profile is a valuable source of information for policy makers, government officials, workers, employers and OSH practitioners to follow and monitor OSH developments, and is used as a basis for formulating the National OSH Programme. The procedures and requirements to develop National OSH Profile and Programme are described under ILO Promotional Framework for OSH Convention (No. 187, 2006) and its recommendation (No. 197, 2006). Development and application of national OSH Profile and Programme will facilitate the process of understanding the present situation, identify gaps in OSH management system, ways to measure progress and effectively implement its national OSH system by further planning to ensure safety and health for all workers. Objectives of the national OSH Profile in building the promotional frame work for OSH:

- Provide policy-makers, government officials, workers, employers, OSH practitioners and the public with the up-to-date and reliable information on OSH development in India;
- Identify gaps in OSH practices and recommend possible national action plan to strengthen national OSH systems. The recommendations will form the basis to develop national strategic action plan in OSH (National OSH Programme);

- Help to prepare for the ratification of ILO Promotional Framework for OSH Convention (No. 187, 2006) and Safety & Health Convention (No.155, 1981).

Workshop on National Occupational Safety & Health Profile

A two-days workshop on "National Occupational Safety & Health Profile" was organised by Directorate General Factory Advice Service & Labour Institutes under Ministry of Labour and Employment in collaboration with ILO on 23-24 December, 2019 at Hyderabad. The workshop was attended by central and states government officials and stakeholders dealing with OSH issues. The workshop deliberated and came out with valuable inputs on gaps in the OSH system and proposed OSH programme.

Safety and Health Exhibition Centre on Asbestos and Silica at RLI, Faridabad

Asbestosis and Silicosis are occupational diseases which are prevalent in different industries handling asbestos and free silica respectively. The Regional Labour Institute, Faridabad has developed a permanent "Safety and Health Exhibition Centre on Asbestos and Silica". This exhibition centre is first of its kind in India to generate awareness amongst the stakeholders of silica and asbestos handling units on different aspects of health and safety.

Establishment of Regional Labour Institute at Shillong for the North-East region

A Plan Scheme "Establishment of Regional Labour Institute at Shillong for the North-East region" with the objective to cater to the needs of the North-Eastern Region in the areas of Occupational, Safety & Health was initiated in the year 2014 for addressing the safety and health issues in the factories of the North-Eastern part of the country as a part of the initiative of the Government of India of bringing this region into the mainstream of the country. The construction of Regional Labour Institute at Shillong is in progress. After completion, needs of the North-Eastern Region in the areas of Occupational, Safety & Health will be addressed to a large extent.

Other Major Activities

- Building Construction of RLI Shillong is under progress.
- A new RLI is being proposed in Jammu & it is under consideration of Ministry.
- Construction of Integrated Knowledge Centre at CLI, Mumbai: CPWD is in the process of getting approvals from the local authorities for construction.

Human Resource

The human-resource in the organization comprises of Engineers, Medical Doctors, Industrial Hygienists, Statisticians, etc. The manpower strength of the organization is as given in Table 1.1 & 1.2.

Table 1.1- Manpower strength of DGFASLI organization as on 31.12.2019

Units	Technical		Administrative		Total	
	Sanctioned	In Position	Sanctioned	In Position	Sanctioned	In Position
Headquarters	12	8	49	29	61	37
CLI, Mumbai	41	34	69	43	110	77
4 RLIs	61	39	80	30	141	69
11 IDSs	28	21	28	10	56	31
Total	**142**	**103**	**226**	**113**	**368**	**214**

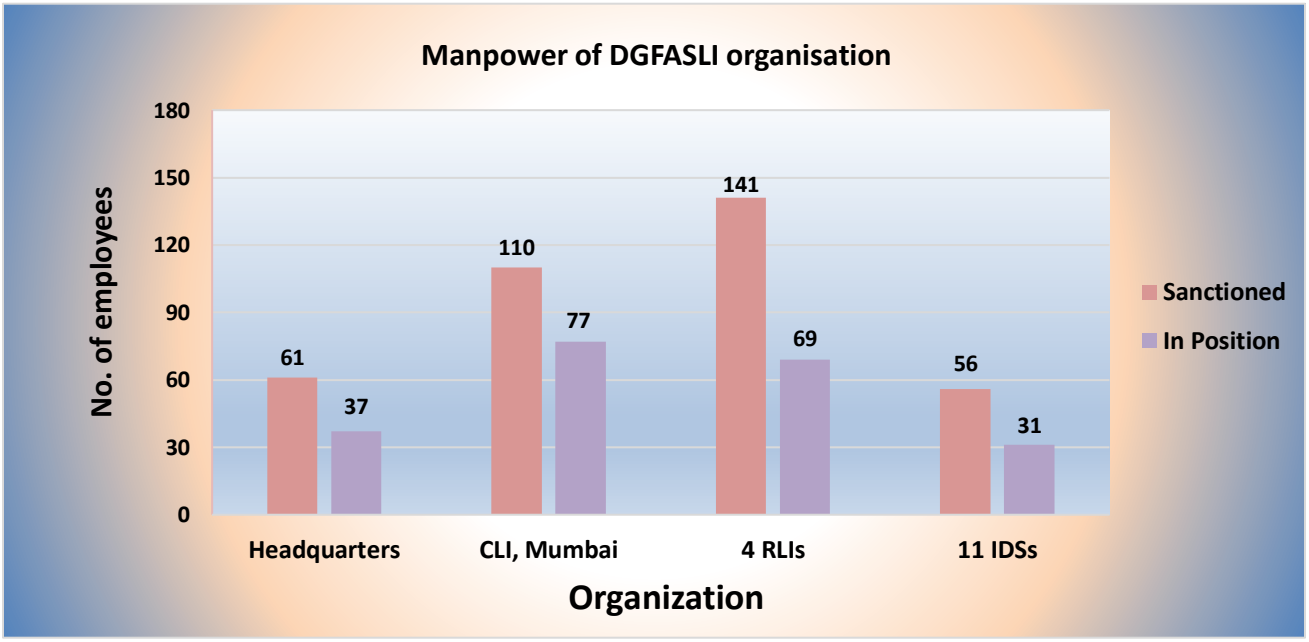

Chart 1: Manpower strength of DGFASLI

Table 1.2: Group wise Manpower strength of DGFASLI organization as on 31.12.2019

Group	Sanctioned	In Position
Group 'A'	86	53
Group 'B'	49	34
Group 'C' + MTS	233	127
Total	**368**	**214**

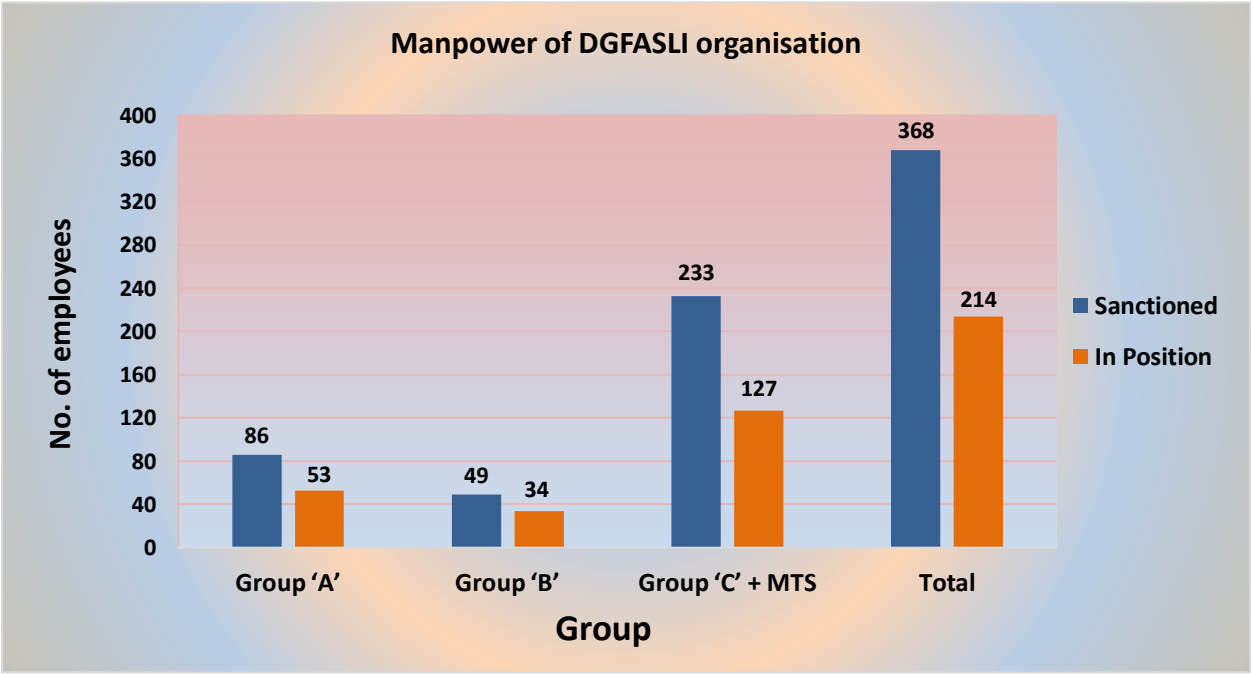

Chart 2: Group wise Manpower strength of DGFASLI

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About DGFASLI

The DGFASLI organization comprises of the Headquarters, Central Labour Institute (CLI), Regional Labour Institutes (RLI) and Inspectorates of Dock Safety (IDS).

- Headquarters situated in Mumbai
- Central Labour Institute situated in Mumbai
- Regional Labour Institutes at Chennai, Faridabad, Kanpur and Kolkata. A new Regional Labour Institute at Shillong is being set up. A new Regional Labour Institute at Jammu is proposed.
- Inspectorates of Dock Safety at Mumbai, Kolkata, Chennai, Kandla, Mormugao, Tuticorin, New Mangalore, Cochin, Visakhapatnam, Paradip and Jawaharlal Nehru Port. The Inspectorate of Dock Safety at Ennore is being setup.

The Headquarters

The Directorate General Factory Advice Service & Labour Institutes (DGFASLI) headquarters assists the Ministry of Labour & Employment, Government of India, in framing of policies and planning of programmes pertaining to Occupational Safety and Health (OSH) and implements them through its Labour Institutes and Dock Safety Inspectorates. It also implements technical projects and liaises with national and international organisations working in the area of Occupational Safety and Health.

In addition to the overall administrative control of the entire Directorate consisting of its subordinate offices viz. CLI, RLIs and IDSs, the Headquarters carries out its technical activities through the following divisions:

1. Factory Advice Service Division
2. Dock Safety Division
3. Awards Division

1. Factory Advice Service Division

The Factory Advice Service (FAS) division coordinates the administration of the Factories Act, 1948 in the States and advises the Central and State Governments on related matters including interpretation, formulating and recommending amendments of the provisions of the Factories Act, 1948 and framing of Model Rules.

A conference of the Chief Inspectors of Factories of the States is convened annually for the purpose of obtaining their views and suggestions regarding the changes that need to be made in the Act and Rules to meet the challenges brought about by new technology and changing socio-economic scenario.

The Division also organizes training for Inspector of Factories, advises on policy documents on safety and health from the International Labour Organisation and other international agencies.

The **Statistical Cell**, under the FAS division, collects and compiles Occupational Safety and Health(OSH) statistics and other information, from Chief Inspector of Factories and Director of Industrial Safety and Health of State/UT governments, related to the administration of the Factories Act, 1948 and rules framed thereunder. This information base/database is used in planning and implementation of national policies concerning OSH as well as preparing replies to the various parliament questions and queries related to RTI. Apart from this, the Statistical Cell publishes and provides materials for various publications pertaining to the Occupational Safety and Health.

2. Dock Safety Division

The DGFASLI through the Inspectorates of Dock Safety set up in all the major ports in India enforces the Dock Workers (Safety, Health and Welfare) Act, 1986 and the Regulations, 1990 and strives to ensure Safety, Health and Welfare of dock workers. The Division also enforces the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 framed under the Environment (Protection) Act, 1986.

The Division is responsible for carrying out the following activities:

- Providing Advisory services to the Port Authorities, Dock Labour Boards, Stevedores and other employers of dock workers and Port users.
- Publication of Annual Reports on the administration of the Dock Workers (Safety, Health and Welfare) Act and the Regulations framed thereunder.
- Carrying out Inspection of ships, docks, loose gear, lifting appliances, transport equipment etc., investigation of accidents and initiation of prosecutions.
- Carrying out safety studies and surveys through a multi-disciplinary approach and organizing and conducting training courses on occupational safety and health for the Dock workers.

3. Awards Division

The Awards Division located at Regional Labour Institute Campus Faridabad, operates two national level award schemes namely National Safety Awards (NSA) & Vishwakarma Rashtriya Puraskar (VRP). Government of India, Ministry of Labour & Employment, instituted these two schemes in the year 1965.

The '**National Safety Awards**' scheme is instituted to give recognition to outstanding performance on the part of industrial establishments and ports to stimulate and maintain the interest of both the management and the workers in accident prevention and safety promotion.

The '**Vishwakarma Rashtriya Puraskar**' scheme is instituted to recognize workers employed in factories, docks and construction sites at the national level for their outstanding suggestions that result in increased efficiency, productivity, quality, safety and working conditions including import substitution at the plant level.

The Awards Division provides technical and scientific support in scrutinizing applications for '**Prime Minister's Shram Awards**' being operated by the Ministry of Labour & Employment. The objective of the Prime Minister's Shram Awards Scheme is to recognize the workmen both from public and private sector organizations at the national level for their outstanding contributions, distinguished record of performance and devotion to duty of a high order.

The Central Labour Institute (CLI), Mumbai

The Central Labour Institute (CLI), Mumbai was conceived by the Government of India during the first five-year plan as a centre for research, training and consultancy on the various aspects of industrial work related to the human factor.

The institute commenced its activities in a rented building in 1961. On the 7th October, 1954 the foundation stone of the CLI building was laid by the first Prime Minister of India, Late Pandit Jawaharlal Nehru. It was shifted to its present premises in 1966 when the building was inaugurated on the 9th February, 1966 by Late Dr. Sarvapalli Radhakrishnan, the then President of India.

The CLI aims to improve work methods and working conditions so as to enhance the safety, health, working environment and productivity of the industrial workers leading to improved quality of work life. In this endeavour, CLI interacts with the state factories Inspectorates, employers' associations, trade unions and professional bodies and organizations and institutes concerned with OSH at work place.

The divisions of the CLI are:

1. Industrial Safety Division
2. Industrial Hygiene Division
3. Industrial Medicine Division
4. Staff Training and Productivity Division
5. Major Accident Hazards Control Division
6. Work Environment Engineering Division

1. Industrial Safety Division

The Industrial Safety division aims at achieving improvement in working conditions and safety standards of factories and docks through training, consultancy, field studies, surveys and other promotional activities. It has contributed to the following achievements:

- Evolution of a safety movement in the country
- Creation of national awareness on safety
- Development of infra-structure on safety at national level through competence building
- Better administration of the Factories Act through training of Inspectors of Factories and technical support.

National studies and surveys are conducted for ascertaining the status of working conditions and standards of safety in particular industries and operations.

Unit level studies are carried out with the objective of assessing the safety related problems and formulating recommendations for improvements. These studies also help the management to take necessary measures towards setting up safety systems, instituting safety programmes and achieving the goal of better safety in their organisations.

Consultancy studies are undertaken at the request of the management or government agencies like the Factory Inspectorates for studying specific problems and rendering advice for corrective measures.

The findings of national surveys and unit level consultancy studies become the source of technical inputs while drafting Rules & Regulations and designing various occupational safety and health intervention modules for target groups. Safety audits are conducted on request from Factories and Ports.

In keeping with its pioneering role in the field of industrial safety, the division has been conducting training for the benefit of industries, Factory Inspectors, Labour Administrators and Trade Unions. In view of the need of inspection of specific industries and major hazards control, specialized courses are also conducted to impart necessary technical knowledge and skill to the Inspectors appointed under the provisions of the Factories Act, 1948. In order to provide industries and docks sector with qualified safety officers, the division conducts one-year Advanced Diploma in Industrial Safety (ADIS) affiliated to Maharashtra State Board of Technical Examination. Specialized training courses are conducted for identified target groups such as Senior managers, Safety officers, Supervisors, Trade Union officials, and Safety Committee members from the industry. Some of these courses are:

- Testing and examination of lifting machinery, lifting tackles and pressure vessels
- Safety audit
- Safety in chemical industry
- Safety management techniques
- Accident Prevention

2. Industrial Hygiene Division

The Industrial Hygiene division is concerned with the improvement of industrial work environment and comprises Industrial Hygiene Laboratory, Respiratory Equipment Testing Laboratory and Non-Respiratory Equipment Testing Laboratory.

The division undertakes various studies/surveys, national projects and training courses to protect the health of industrial workers through identification, evaluation and control of occupational health hazards and advises the management on ways to meet the requirements prescribed in the Second Schedule (under Section 41F) of the Factories Act, 1948.

The Respiratory Equipment Testing Laboratory tests the performance and efficiency of indigenous respiratory personal protective equipment such as dust respirators and canisters/cartridge gas respirators etc. and advises manufacturers on improvements required to meet prescribed standards.

The Non-Respiratory Equipment Testing Laboratory carries out the testing of indigenous non-respiratory personal protective equipment such as safety shoes, safety helmets, safety goggles, eye protectors, etc. This personal protective equipment is tested as per the specifications set by the Bureau of Indian Standards (BIS). Based on the test reports, technical advice and guidance on quality improvement are suggested to the entrepreneurs and manufacturers. User industries are also advised on proper selection, use, care and maintenance of various personal protective equipment.

The division also organizes training courses in the areas of industrial hygiene for the specific group of industries given in the First Schedule, Section 2(cb) of the Factories Act, 1948. These training courses are meant to help safety officers, chemists, supervisors and middle level managers in the identification, assessment and control of occupational hazards in their factories.

3. Industrial Medicine Division

The Industrial Medicine division aims to prevent and contain health hazards at the workplace brought in by industrialization. The hazards may arise from chemicals or from physical factors such as noise, heat, dust, vibration and radiation.

Occupational Health studies and surveys on industries manufacturing asbestos products, dyestuff, cement, chemical, engineering and ports handling such products are carried out to assess the incidence of occupational diseases by the division. Suitable recommendations such as medical surveillance, use of personal protective equipment, facilities for personal hygiene and first-aid are made to prevent and control health hazards.

The division also carries out training programmes for factory medical officers and workers on occupational health hazards and first-aid. The division conducts a three-month certificate course "Associate Fellow of Industrial Health (AFIH)" for factory medical officers every year since 1993 as per statutory requirement of Factories Act, 1948. The laboratory attached to the division has facilities for medical investigation, including ILO radiography, visual acuity tests, Audiometric evaluation, and Pulmonary Function Tests

Environmental physiology - It helps to identify and assess the impact of factors like heat, humidity, thermal radiation and movement of air in the working environment so that limits of heat stress for day-to-day industrial work can be stipulated and suitable remedial measures prescribed.

Respiratory physiology - It determines the effects of dust, fumes, toxic gases, etc. on the pulmonary functions and work capacity of the exposed individuals and suggest remedial measures.

In the area of ergonomics, the emphasis has been laid on the collection of anthropometric data from different regions of the country, which can be used in the design of work station, machinery, equipment, tools, etc. The division conducts specialized training courses such as industrial ergonomics, occupational stress and industrial heat, etc.

4. Staff training and Productivity Division

A pilot project on supervisory training was organized in India by the International Labour Organisation in 1952. Encouraged by the results of the pilot project and realizing that such training is an essential requirement for the successful implementation of the plans for the industrialization of the country the Ministry of Labour, Government of India set up the Training Within Industry (TWI) Centre in Mumbai in 1955 with the assistance of the ILO. In keeping with the changing trend of manpower training and development activities, the centre was later renamed as the Staff Training Division.

The division conducts the following activities:

- conducts comprehensive supervisory trainer development projects
- helps industry to setup training and development cells with persons trained by the division
- assists industry in institutionalizing their manpower training and development efforts by helping them formulate their training and development plans

Productivity: Over a period of time the activities have expanded to cover the training of management and trade union representatives to help organisation, create a climate conducive for the development

of collaborative leadership and bring about improvement in working conditions and productivity. Towards this end, new courses for managers, supervisors, trade union representatives and bipartite forums covering socio- psychological and team building aspects have been developed and conducted.

The division has embarked upon the training of supervisory trainers in chemical industries and trainers of dock workers to help organisations discharge their training responsibility on safety and health aspects under the amended Factories Act and the Dock Workers (Safety, Health and Welfare) Regulations, respectively. These trainers, in turn, undertake the training of supervisors/workers on safety and health aspects in their organisations.

The productivity division aims at improving productivity vis-a-vis working conditions and promoting co-operation between labour and management in industrial units. The above objectives are sought to be achieved through training courses and consultancy projects. In consultancy projects, a management and labour project team is formed and the experts of the division act as technical consultants and catalyst to the team.

Some of the courses conducted by the division are:

- Productivity techniques for effective employee participation
- Work study and wage incentives
- Wage & Salary Administration
- Office management

Man-power planning, job evaluation, productivity improvement, organisation and methods and wage incentives are some of the consultancy areas.

5. Major Accident Hazards Control Division

Major Accident Hazards Control Division is the outcome of the ILO project "Establishment and Initial Operation of Major Accident Hazards Control System" The project was executed by DGFASLI in collaboration with Factory Inspectorates of the various States and Union Territories. Although the project was completed in December, 1990, divisions continue to provide important services for the control of major accident hazards in the country. The activities of divisions were gradually enlarged to include other aspects of chemical safety.

The important achievements of the division are:

1. Setting up of a 3-tier technical organisation on Major Accident Hazards Control (MAHC) at the national, regional and state levels.
2. Preparation of Model Rules for Control of Industrial Major Accident Hazards.
3. Training of Inspectors of Factories in the inspection of major accident hazards installations.
4. Development and publication of training manuals and checklists.
5. Preparation of guidelines for inspection of chemical plants, on-site emergency plans and safety reports.

Major Accident Hazards Control division offers the following services:

1. Conducting institutional & in-plant training programmes and workshops in specialized areas viz. Major Accident Hazards Control, On-Site Emergency Preparedness, Off-Site Emergency

Preparedness, Hazard & Operability (HAZOP) Study and Management of Hazardous Chemicals for Major Accident Hazards Installations.

2. Conducting studies and surveys on specialized areas of Risk Assessment, HAZOP and Emergency Preparedness in Major Accident Hazards Installations

6. Work Environmental Engineering Division

The Work Environmental Engineering Division (WEED) of Central Labour Institute, Mumbai is a combination of engineering and industrial hygiene branches dealing with identification, assessment and control of physical hazards in industries. Although the emphasis is given on the engineering control of the working environment, it is important not to forget the recognition of potential health hazards done by the industrial hygienist. The WEED identifies the cause and effect relationship of physical hazards to exercise the engineering control to eliminate the work environmental hazards for protecting workers from occupational diseases. The WEED also deals with logical and systematic approach toward recognizing and defining the potential exposures that exist within the occupational work environment which cannot be underestimated. The WEED helps the industries for solving a problem of physical hazards and concludes with adequate data to support that conclusion. The WEED presents an outline of procedural method that can be used to recognize and evaluate physical hazard exposures that may be present within the work environment to provide a logical method of controlling the exposure. The Division is well-equipped with Environmental Engineering Parameters and sophisticated monitoring equipment for industrial research, study and consultancy services including In-plant and In-house training programmes in the following areas:

- Evaluation and control of Industrial Noise
- Evaluation and control of Industrial Vibration
- Evaluation and control of illumination levels in the work places
- Evaluation and control of industrial ventilation system and thermal comfort

Facilities

The Central Labour Institute has models and exhibits regarding safety, health and welfare in the form of properly guarded machines, personal protective equipment, safe methods of material handling, light and colour schemes and other arrangements, for propagating the message of safety and other health of workplaces. This centre is open to organised groups from industry and educational institutions. The Industrial Safety, Health and Welfare Exhibition Centre have exhibits to demonstrate methods, arrangements and appliances for promoting safety and health of workers. CLI has an auditorium with a seating capacity for 300 persons. It has 3 air-conditioned conference rooms, fully equipped with audio visual aids. Two conference rooms have a seating capacity of approximately 30 persons each and one conference room for 15 persons. A fully furnished class room having a capacity of 60 students is also available. The institute also has a well-furnished hostel with facility for catering to both the international and national level participants.

Regional Labour Institutes

- The four Regional Labour Institutes are:
  1. Regional Labour Institute, Chennai
  2. Regional Labour Institute, Faridabad
  3. Regional Labour Institute, Kanpur
  4. Regional Labour Institute, Kolkata
- All Regional Labour Institutes have each of the following divisions:
  1. Industrial Safety Division
  2. Industrial Hygiene Division
  3. Industrial Medicine Division
- A new Regional Labour Institute at Shillong is being set up to cater to the needs of the North-East states.
- A new Regional Labour Institute at Jammu is proposed.

1. Regional Labour Institute, Chennai

The Regional Labour Institute, Chennai was formally inaugurated in the year 1965 by the then Hon'ble Chief Minister of Tamil Nadu Shri M. Bhaktavatsalam in the presence of the then Hon'ble Union Labour Minister Shri D. Sanjivayya. It serves the southern states and union territories of the country namely Tamil Nadu, Karnataka, Andhra Pradesh, Telangana, Kerala, Puducherry, Lakshadweep and Andaman & Nicobar Islands. Regional Labour Institute, Chennai has been declared as a Centre for Excellence in Safety in Construction and Automobile Industries.

2. Regional Labour Institute, Faridabad

The Regional Labour Institute, Faridabad, was inaugurated on 10th February' 2009 by the then Hon'ble Union Minister of State for Labour & Employment (Independent Charge) Shri Oscar Fernandes to serve the northern states and union territories of the country namely Jammu & Kashmir, Ladakh, Haryana, Punjab, Himachal Pradesh, Chandigarh and Delhi. Regional Labour Institute, Faridabad has been declared as a Centre of Excellence in Safety in MSME and Chemical Process Industries.

3. Regional Labour Institute, Kanpur

The Regional Labour Institute, Kanpur was inaugurated on 6th July' 1966 by the then Hon'ble Chief Minister of Uttar Pradesh Shrimati Sucheta Kripalani. The institute serves the northern states of Rajasthan, Uttar Pradesh, Uttarakhand, Madhya Pradesh, and Chhattisgarh. Regional Labour Institute, Kanpur has been declared as a Centre for Excellence in Sugar and Power Generating Industries.

4. Regional Labour Institute, Kolkata

The Regional Labour Institute, Kolkata was inaugurated by the then Hon'ble Union Labour Minister Shri D. Sanjivayya at a function presided over by Shri P.C. Sen, the then Hon'ble Chief Minister of West Bengal. The institute serves the eastern states of the country namely West Bengal, Bihar, Jharkhand, Orissa, Assam, Tripura, Sikkim, Meghalaya, Nagaland, Mizoram, Manipur and Arunachal Pradesh. Regional Labour Institute, Kolkata has been declared as a Centre for Excellence in Safety in Ferrous & Non-Ferrous Metals and Paper Industries.

Inspectorates of Dock Safety

The Dock Workers (Safety, Health and Welfare) Act, 1986 was enacted on 14th April' 1987 and the Dock Workers (Safety, Health and Welfare) Rules, 1989 and Regulations, 1990 were framed under this Act. The Act and Regulations cover the safety, health & welfare aspects of dock worker engaged in loading, unloading & transportation of cargo, including the work incidental to dock work. In addition, the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 framed under the Environment (Protection) Act, 1986 are also enforced by DGFASLI in the major ports of India through the Inspectorates of Dock Safety.

Administration of the Act and the Regulations in major ports is carried out by the Ministry of Labour & Employment, through DGFASLI, Mumbai. The Director General is the Chief Inspector of Dock Safety. The Chief Inspector of Dock Safety is also an authority for enforcement of the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 framed under the Environment (Protection) Act, 1986 in the major ports.

The above statutes are enforced by the Inspectors posted at Inspectorate of Dock Safety at all the major ports:

1. Inspectorates of Dock Safety, Mumbai
2. Inspectorates of Dock Safety, Kolkata
3. Inspectorates of Dock Safety, Chennai
4. Inspectorates of Dock Safety, Kandla
5. Inspectorates of Dock Safety, Jawaharlal Nehru Port
6. Inspectorates of Dock Safety, Mormugao
7. Inspectorates of Dock Safety, Tuticorin
8. Inspectorates of Dock Safety, New Mangalore
9. Inspectorates of Dock Safety, Cochin
10. Inspectorates of Dock Safety, Visakhapatnam
11. Inspectorates of Dock Safety, Paradip

*Inspectorate of Dock Safety at Ennore is being setup.

The main function of the Inspectorates is to ensure the compliance with the provisions under the statutes. The statutory responsibilities of Inspector include inspection of ships, tankers, loose-gears, container-handling equipment, docks, container-yard and terminal, hazardous installations and isolated storages, tanks; carrying out the investigation of accidents (fatal and serious) and dangerous occurrences; prosecution of employers, attending to complaints, providing advisory services and conducting safety promotional activities like training programmes, workshops, celebration of safety week etc. The Inspectorate also prosecutes the agency responsible for violation of any provision of the Act and Regulations framed there under.

3

Budget

The allocation of funds for various constituents of the organization for the years 2019-20 is given below:

Head of account: Revenue 2230-01-102-13-01			
Sl.	**Minor head**	**BE (2019-2020)**	**Total Expenditure**
1	01-Salaries	190200000	188195696
2	02-Wages	2500000	972978
3	03-Overtime allowances	100000	5000
4	06-Medical treatment	3300000	1835451
5	11-Domestic travel expenses	2500000	2345408
6	12-Foreign travel expenses	1500000	0
7	13-Office expenses	18000000	12749477
8	14-Rents, Rates and Taxes	4500000	2586761
9	20-Other administrative expenses	300000	0
10	26-Advertising and publicity	3200000	0
11	27-Minor works	4800000	601000
12	28-Professional services	2000000	895900
13	50- Other charges	2500000	2304000
Total		**235400000**	**212491671**

Head of account: Revenue 2230-01-102-13-03			
Sl.	**Minor head**	**BE (2019-2020)**	**Total Expenditure**
1	01-Salaries	10000000	12027492
2	02-Wages	4000000	2320771
3	06-Medical treatment	100000	3000
4	11-Domestic travel expenses	2000000	1673416
5	12-Foreign travel expenses	1000000	857231
6	13-Office expenses	34000000	27264403
7	20-Other administrative expenses	2500000	0
8	26-Advertising and publicity	100000	0
9	27-Minor works	3900000	0
Total		**57600000**	**44146313**

Head of account: Revenue 2230-01-789-13-02			
Sl.	**Minor head**	**BE (2019-2020)**	**Total Expenditure**
1	13-Office expenses	10000000	2200888
2	27-Minor works	8300000	0
Total		**18300000**	**2200888**

Head of account: Revenue 2230-01-796-13-02			
Sl.	**Minor head**	**BE (2019-2020)**	**Total Expenditure**
1	13-Office expenses	5000000	1211974
2	27-Minor works	4500000	0
Total		**9500000**	**1211974**
Head of account: Revenue 2552-00-493-03-02			
Sl.	**Minor head**	**BE (2019-2020)**	**Total Expenditure**
1	11-Domestic travel expenses	500000	0
2	13-Office expenses	3400000	0
3	27-Minor works	100000	0
Total		**4000000**	**0**
Head of account: Capital 4250-00-201-19-02			
Sl.	**Minor head**	**BE (2019-2020)**	**Total Expenditure**
1	52-Machinery and equipment	600000	11800
2	53-Major works	62000000	0
Total		**62600000**	**11800**

4

Safety & Health Improvement in Factories and Dock Works of Major Ports

4.1 Co-ordination in the Administration of the Factories Act, 1948

The Factories Act, 1948 is the principal and comprehensive legislation of the Parliament, which provides for the requirements concerning safety, health and welfare amenities needed by workers employed in factories. The provisions of the Act are applicable to the factories as defined under Section 2m (i), 2m (ii) or notified under Section 85 of the Act by the State Governments.

The Ministry of Labour & Employment is accountable to the Parliament for proper enforcement of the Act. Uniformity in the application of the provisions of the Act in the State/Union Territories is achieved by circulating the Model Rules prepared by DGFASLI, which are incorporated by states in their State Factories Rules with necessary modifications to suit local needs. In the task of framing of the Model Rules, the DGFASLI, on behalf of the Ministry of Labour & Employment, enlists the cooperation and involvement of the State Governments by convening annually a Conference of Chief Inspectors of Factories. Matters relating to the administration of the Act as well as proposed amendments are discussed in this conference. Besides, this conference also serves as a forum for discussion on the progress made in the application of techniques and methods for prevention of accidents and ill-health in factories.

4.2 During the year 2019, comments/clarifications/replies/materials were prepared on the following matters:

Table 4.1: comments/clarifications/replies/materials prepared

Sl.	Comments/ Clarifications / Replies/ Materials	Nos.
1.	Matters regarding the Factories Act, 1948	4
2.	Matters regarding ILO Conventions/ILO meetings	2
3.	Matters relating to Parliament Questions and Parliamentary Standing Committee on Labour Meetings	26
4.	Matters regarding Court Cases	11
5.	Other Important Matters	55

4.3 Implementation of the Right to Information Act, 2005

- The enactment of Right to Information Act, 2005, is a gateway for the citizens to seek information under the control of Public Authority and promote transparency and accountability.

- DGFASLI being one of the Public Authorities, the Central Public Information Officer (CPIO) of the organization received a total no. of 213 applications during the period January to December, 2019. Of these 213 applications, 165 applications were received as transferred under Section 6(3) of the RTI Act and 48 applications were received directly. Besides, 26 applications were brought forward from the year 2018.

- A total of 239 applications were considered during the year. Information was provided within the stipulated time frame to 207 applications and 1 application was transferred to other public authorities under section 6(3) of the RTI Act. Among the total applications received, 6 applications were carried forward to next year and 25 applications were rejected.

- An amount of ₹ 190/- was received during the period as application fees and cost of providing information in material form.

- The Appellate Authority of DGFASLI received a total number of 14 appeals during the period and no appeals were carried forward from the year 2018. A total of 14 appeals were considered during the period and 13 were disposed off within stipulated time frame and 1 was carried forward to next year.

4.4 Administration of the Dock Workers (Safety, Health and Welfare) Act, 1986 and Regulations, 1990 framed thereunder and enforcing the MSIHC Rules, 1989 framed under the Environment (Protection) Act, 1986

The Dock Workers (Safety, Health and Welfare) Act, 1986 and the Regulations 1990 framed there under cover safety, health and welfare aspects of all the workers engaged in dock work, whether in loading or unloading of cargo on board the ship, alongside it or in transit sheds, warehouses or yard etc., within the port premises including those engaged in chipping and painting of ships. These statutes are in line with the ILO Convention No. 152 on Occupational Safety and Health (Dock Work).

Administration of the Act and the Regulations in major ports is carried out by the Ministry of Labour & Employment, through DGFASLI, Mumbai. The Director General is the Chief Inspector of Dock Safety appointed under the Act. The Chief Inspector of Dock Safety is also an authority for enforcement of the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 framed under the Environment (Protection) Act, 1986 in the major ports.

The above statutes are enforced by the Inspectors posted at Inspectorate of Dock Safety at all the major ports viz. Mumbai, Kolkata, Chennai, Kandla, Mormugao, New Mangalore, Cochin,

Tuticorin, Visakhapatnam, Paradip and Jawaharlal Nehru Port except Ennore where the Inspectorate is being set up. Presently, the enforcement in this Port is carried out by the Inspectors posted in the Inspectorate Dock Safety, Chennai.

The main function of the Inspectorates is to ensure the compliance with the provisions under the statutes. The statutory responsibilities of Inspector include inspection of ships, tankers, loose-gears, container-handling equipment, docks, container-yard and terminal, hazardous installations and isolated storages, tanks; carrying out the investigation of accidents (fatal and serious) and dangerous occurrences; prosecution of employers, attending to complaints, providing advisory services and conducting safety promotional activities like training programmes, workshops, celebration of safety week etc. The Inspectorate also prosecutes the agency responsible for violation of any provision of the Act and Regulations framed there under.

4.5 Safety Week Celebrations and Dock Safety Committee Meetings

During the year 2019, Safety Week Celebrations were held at the Ports of Mumbai, Kolkata, Paradip, Visakhapatnam, Kochi, New Mangalore, J. N. Port, and Tuticorin. Total 12 Safety Weeks Celebrations were held during the period. Various safety promotional activities like safety poster competitions, safety quiz contest, first-aid and firefighting demonstrations and appreciation programmes were organized during the occasions for the benefit of dock workers and their families

During the year 2019, a total of 42 Dock Safety Committee Meetings were held at all the 11 major Ports - Mumbai, Kolkata, Chennai, Kandla, Mormugao, Tuticorin, New Mangalore, Cochin, Visakhapatnam, Paradip and Jawaharlal Nehru Port. Port-wise details of Safety Week Celebrations and Dock Safety Committee Meetings are given in Table. 9.8.

4.6 Safety and Health in Construction Sector (The BOCW Act, 1996)

The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act was enacted in 1996. The Central Government is the appropriate authority for notifying the rules and regulations under the Act as well as the enforcement of the provisions under the said Rules, in respect of establishments in relation to which Central Government is the appropriate authority under the Industrial Disputes Act, 1947. In respect of other establishments, the State Government is the appropriate authority for notifying the Rules and enforcing the provisions. In respect of other establishments, the State Government is the appropriate authority for notifying the Rules and enforcing the provisions. DGFASLI at the behest of the Ministry of Labour & Employment had done the entire work of drafting the BOCW Act 1996 as well as framing of the Central Rules of 1998 made there under. The Director General, DGFASLI is a member on the Central Advisory Committee constituted under Rule 10 of the Central Rules of 1998. DGFASLI was entrusted with the task of processing applications in respect of approval of Competent Persons under Rule 2(j) of the Central Rules, 1998.

4.7 Studies and Surveys

National and state level Studies and Surveys are conducted by DGFASLI in its efforts towards helping the Government to ascertain the status of working conditions, safety and health in factories and docks, and to formulate the appropriate standards for inclusion in statutes.

Unit Level Consultancy Studies are undertaken at the request of the management and reports are submitted for implementation of the recommendations for further improvement in factories concerned. The details of Unit level consultancy studies and audits undertaken during the year 2019 are given in Table 4.2.

Table 4.2-Unit-level Consultancy Studies and Audits undertaken during 2019

Sl.	Title	Started in 2019	Completed in 2019
1.	Assessment of Airborne contaminants	2	1
2.	Assessment of Dust Concentration level	-	1
3.	Assessment of Heat Stress and Ventilation Study	-	1
4.	Assessment of Physical Hazards Noise & Illumination levels	-	1
5.	Hazop Study	1	-
6.	Industrial Hygiene Study	-	2
7.	Industrial Hygiene Survey	4	2
8.	Noise study	1	-
9.	Occupational Safety and Health Audit	3	5
10.	Risk Assessment Study	-	1
11.	Safety Audit	9	5
12.	Study on Evaluation of Asbestos fibre levels	1	-
13.	Testing of Breathing Air Compressor	2	2
14.	Work Place Environment Monitoring Study	4	5
Total		**27**	**26**

Details of some of the Studies, Surveys and Audits conducted during the year 2019 are given below:

OSH Survey in Silicosis prone industry

As per the order of the Hon'ble Supreme Court, DGFASLI has taken up a national level survey of the silica prone industry in India to identify the cases of silicosis, treatment of the workers suffering from the disease, hygienic condition of the industry and safety measures to be adopted for prevention of

the occupational disease. Based on the findings of the survey, the following general recommendations were given to prevent the cases of silicosis in the industry:

- No employee is exposed to an airborne concentration of respirable crystalline silica in excess of prescribed permissible limit of exposure for 8-hour by using appropriate engineering method and good work practices in the industry.
- Suitable dust respirator for respiratory protection along with other personal protective equipment should be provided to the workers and it may be ensured that workers wear them at the time of work. They should also be trained about the use, care and maintenance of equipment.
- The workers should be medically examined at periodic interval by Occupational Health Physician and the employer should make and maintain an accurate record for each employee periodic examinations as per the prescribed proforma.
- The employer should make and maintain an accurate record of all exposure measurements taken to assess employee exposure to respirable crystalline silica.
- The waste siliceous material is a hazardous waste and should be collected properly from the units and should be suitably disposed off away from the units on the safe location. The casual disposal can raise ambient concentration of dust in air and can adversely affect the health of the community.
- The employer should ensure that each worker is aware about health effects, engineering controls and work practices that reduce dust, the importance of maintenance and good housekeeping, as well as on the proper type and fitting of respirators.
- Specialized training programmes may be organized and conducted from time to time to educate and make the workers aware.

National Study on Occupational Safety, Health and Working Environment in Asbestos-Cement Product Industries

DGFASLI carried out a "National Study on Occupational Safety, Health and Working Environment in Asbestos Cement Product Industries" to assess the status of safety, health and hygiene and detect the cases of asbestosis and asbestos related disorder. The study was conducted covering 50 functional asbestos cement product industries in the States of Haryana, Uttar Pradesh, Uttarakhand, Madhya Pradesh, Chhattisgarh & UT of Chandigarh. This was subsequently followed up by an interventional study to further investigate the suspected cases of asbestos related disorders. Outcome of the study report with recommendations have been forwarded to concerned states for necessary action and compliance for the benefit of the workers.

Safety Audit at Paradip Port Trust

A safety audit was carried out by RLI, Faridabad at M/S Paradip Port Trust, Paradip, Odisha in the month of March, 2019. The main objective of the Audit was to carry out for systematic, critical appraisal of all potential hazards involving port operations & to evaluate Safety & Health system in Docks and to recommend measures wherever required to improve overall safety & health performance of the port.

Safety Audit at a Loco Workshop in Maharashtra

The safety audit was carried out by Central Labour Institute, Mumbai in Diesel Loco Shop, N. G. Loco Shop, Diesel Hydraulic Shop, M L R Shop, Biodiesel Shop, M&P, Wheel Shop, Tool Room, Fabrication Shop, Smithy etc. The organisation has a Safety Policy which has to be reviewed. It was found that the company demonstrates its commitment towards Quality, Environment & Occupational Safety by way of ISO 9001, ISO 14001 & OSHA18001 Certifications. It has been suggested that the safety committee has to have equal number of management representatives and worker representatives. Also, it was suggested to increase the periodicity of imparting job specific training covering with safety and health aspect to be once in a year.

Safety Audit at a Heavy Engineering Company

The safety audit was carried out by Central Labour Institute, Mumbai in a heavy engineering company, engaging in the fabrication of process equipment for the power sector, steel manufacturing plants, railways, oil and gas companies, fertilizer and sugar industries, and atomic energy and space companies, as well as water and sewage treatment plants. The company also engages in the fabrication and galvanizing testing of transmission line towers, etc. The management was advised to keep a close watch over the changing statutes and keep a pace with the amendments. The report covers the detailed methodology, process description, findings and observation of the safety audit and summary of recommendations. Each of the Management and technical elements were audited and accordingly necessary recommendations are given as per the relevant standards pertaining to most of the elements.

Safety Audit at a Textile Industry in Silvassa, Dadra & Nagar Haveli

The safety audit was carried out by Central Labour Institute, Mumbai in a Textile yarn manufacturing unit. The company specializes in Dope Dyed Yarns, which are latest generation coloured yarns and are fast replacing the traditional conventional package dyed yarns. It was suggested to conduct Hazard Identification and Risk Assessment (HIRA) technique as per IS15656:2006 in each critical process. It is recommended that the ventilation system in the work area should be improved through the circulation of cool/fresh air. It was also suggested to introduce a system to monitor the efficacy of the mock drill as per the different scenarios mentioned in on-site emergency plan. It was suggested to increase the employee participation level. For each and every element the requisite recommendations are given by the Audit team.

Survey and Intensive Training Workshop on Working Conditions in Small Scale / Medium Scale units / Enterprises (SME) in Maharashtra

The survey was carried out by CLI, Mumbai. The objective of the survey was to highlight the areas which required low cost small improvements working conditions thereby remarkably enhancing productivity. The survey was carried out in association with the office of Joint Director, DISH, Govt. of Maharashtra and local industrial associations (MARG). Observations as well as recommendations have been given to the management for the benefit of employees and industries.

Assessment of Workplace Air borne contaminant at Asbestos product manufacturing unit, in Andhra Pradesh

The assessment was carried out by CLI, Mumbai in an Asbestos-Cement product manufacturing unit. The unit uses asbestos, fibres, cement, cotton-pulp etc. in the manufacturing process. At the time of manufacturing process air monitoring samples were collected in workers exposed area, such as Fibre Feeding Area, Pulveriser Area, Reclamation Area and Fibre Dust Collection Area along with Asbestos Sheet Stack Yard. At all the locations airborne asbestos fibres levels were found well within its TLV and Permissible Limit of Exposure. Accordingly, recommendations are given to the management.

Assessment of Workplace Air borne contaminant at an automobile industry in Maharashtra

The assessment was carried out by CLI, Mumbai in an automobile industry manufacturing light vehicles. Airborne samples such as welding fumes, CO, CO_2, Solvent vapour containing Xylene, n-Butanol and Butyl Acetate were collected at the body shop, assembly shop and paint shop area. It was found that all airborne contaminant concentration well within its TLV & PLE. Several recommendations are given to the management.

Assessment of Workplace Air borne contaminant at a thermal power plant in Maharashtra

The assessment was carried out by CLI, Mumbai at a Thermal power plant generating electricity using Coal as raw material. At the time of generating electricity, the Fly ash is generated as by product. This contaminates the air in addition to Coal Dust, Fly ash, Ammonia, Sodium Hydroxide, Hydrochloric Acid, Sulphuric Acid. Total dust samples were collected. The airborne sample were collected at workmen exposure area, such as Wagon tripling area, Coal filter mesh area, M. B. F Area, transfer points of conveyor belts, ESP Area, Silo area, D. M. Lab Area and Chemical House area for measuring the airborne concentration levels. At all the locations, airborne concentration levels of contaminants found were well within TLV & PLE. Several recommendations are given to the management.

Noise, Ventilation and Illumination study in Food works industry in Maharashtra

Study on physical health hazards (Noise, Ventilation and Illumination) was conducted by a team of Work Environmental Engineering Division of CLI, Mumbai. Several observations were made by the team and collected the data for the natural and artificial ventilation systems available at different locations of the plant and other areas which are covered under air-conditioning system. The team made the observation that the Dry Warehouse area has natural ventilation system but the observed air velocity was zero. The study team found that the workers are feeling uncomfortable at the Dry Warehouse, Dough-3 and Bun Production areas due to poor illumination levels. Several recommendations are given to the management.

Noise study at a Pharmaceutical Industry in Maharashtra

The noise study was carried out at a Pharmaceutical Industry in Maharashtra by CLI, Mumbai. A total of twenty-nine samples for Sound Pressure Levels were collected from different noise sources in nine different process units to access the noise at source. The data on noise exposure with respect to dose of eight workers are collected with the help of noise dosimeter. All the relevant sound pressure levels with respect to octave band analyzer were scrutinized to prepare the final report. The recommendations are given to the management.

Safety Audit at an Automobile Industry in Maharashtra

The safety audit was conducted by CLI, Mumbai with a view to verify the existence and implementation of elements of occupational safety and health system and for verifying the system's ability to achieve defined safety objectives. The safety audit was conducted as per BIS 14489:1998. The major findings of the Audit include suggestions for reviewing the effectiveness of training, display of signage throughout the factory premises, First Aid box contents as per Maharashtra Factories Rules, 1963 to be maintained, isolating of Black epoxy spray in the axle shop, supply and use of PPEs in Supply Chain management stores, ergonomic study at tyre assembly area.

Safety Audit at a Chemical Industry in Silvassa

The safety audit was conducted by CLI, Mumbai with a view to verify the existence and implementation of elements of occupational safety and health system and for verifying the system's ability to achieve defined safety objectives. The audit was conducted as per BIS 14489:1998. The major findings of the Audit include suggestions for displaying of Emergency Phone numbers inside the areas like EC room, warehouse area, etc. and removal of temporary wooden roofs at storage tank areas with other non-flammable material, First Aid box contents as per Factories Rules as applicable to be maintained.

Assessment of workplace Environment in an Ordnance factory

The Assessment of Work Environment airborne chemical contaminants were carried out by CLI, Mumbai at Shell Forge shop, shell machine shop, EDS Shop, Aluminum foundry, bridge shop, Rocket Section, etc., to assess the level of iron dust, aluminum dust, welding fumes, sulphuric acid, phosphoric acid, sodium hydroxide, chromic Acid, carbon black, carbon monoxide, carbon dioxide etc., in the work environment. After the assessment, it was suggested that fresh air supply system and efficient exhaust system should be provided at workplace environment. Regular industrial hygiene monitoring of airborne contaminant in the plant should be continued in order to assess the efficiency and efficacy of control measures. Training for the employees for awareness of occupational safety, health and hazards of chemicals and all employees should use appropriate personal protective equipment (PPE).

Industrial Hygiene survey at a gas plant in Uttar Pradesh

The Industrial Hygiene Survey was carried out by RLI, Kanpur. The objective of the survey was to find out the concentration of airborne contaminant level of benzene and toluene vapour & suggest recommendations to improve the work environment. Several recommendations, precautionary and control measures were suggested to bring down workplace contaminant levels in the plant.

Industrial Hygiene survey at a paper mill in Madhya Pradesh

The Industrial Hygiene Survey was carried out by RLI, Kanpur. The objective of the survey was to find out the concentration of airborne contaminant level of cotton dust, inadequate illumination and noise levels & suggest recommendations to improve the work environment. Several recommendations, precautionary and control measures have been suggested to bring down workplace contaminant levels in the plant.

Safety audit at a heavy electrical engineering manufacturing plant in Uttarakhand

The industrial hygiene survey was carried out by RLI, Kanpur. The objective of the safety audit was to find out the statutory compliance related to Safety, Health and Environment. The findings included improving the safety management system. The dust in sand preparation, mould making, core making and dust and noise level in knock out, fettling and shot blasting areas was found high. Several recommendations are given to improve the overall condition of the plant.

Safety audit at a Press in Madhya Pradesh

The objective of the safety audit, carried out by RLI, Kanpur, was to find out the statutory compliance related to Safety, Health and Environment. The findings included improving the safety management system. The dust in printing area need to be separated, ventilation was an inadequate and relative humidity parameters were checked and noise was found to be more than PLEs in printing areas. Several recommendations are given to improve the overall condition of the plant.

Safety audit conducted at an LPG plant in Madhya Pradesh

The objective of the safety audit, carried out by RLI, Kanpur, was to find out the statutory compliance related to Safety, Health and Environment. The findings were the safety management system needs to be improved. The findings of the audit were that the noise level was more than PLEs in some areas of the depot such as fire water pump area and hand operated siren area, illumination level was inadequate in some areas in the hazardous waste area, near tank no. 20 and near entry gate of licensed area. Several recommendations are given to improve the existing conditions such as SOPs, PPEs, Work environment monitoring etc.

Industrial Hygiene survey at a thermal power plant in West Bengal

The Industrial Hygiene survey was conducted by RLI, Kolkata at the thermal power stations plant at Santhaldihi in West Bengal for identifying chemical hazards and physical hazards in the work environment. The physical hazards evaluated were heat stress, illumination and noise. The chemical hazards evaluated were dust, coal dust, ammonia, carbon monoxide, chlorine and fly ash. The areas covered were turbine, boiler, compressor, fly ash silo and loading bulker, coal loading, coal crushing area, wagon Tripler and coalbunkers. The finding of the study indicates in certain area noise levels were above TLV, the Fly Ash levels were high in the places like fly ash loading in bulker area and in ESP area. Heat stress level in boiler area was found little above the TLV. Several recommendations are given to management to improve working conditions of the plant.

Industrial Hygiene survey at a thermal power plant in West Bengal

The Industrial Hygiene survey was conducted by RLI, Kolkata at the thermal power stations plant at Bakreswar in West Bengal for identifying chemical hazards and physical hazards in the work environment. The physical hazards evaluated were heat stress, illumination and noise. The chemical hazards evaluated were dust, coal dust, ammonia, carbon monoxide, chlorine and fly ash. The areas covered were turbine, boiler, compressor, fly ash silo and loading bulker, coal loading, coal crushing area, wagon Tripler and coalbunkers. The finding of the study indicates in compressor, turbine area noise levels were above TLV, the Fly Ash levels were high in the places like fly ash loading in bulker area and in ESP area. The coal dust was found above TLV in the crusher area and Bunker. Several recommendations are given to management to improve working conditions of the plant.

Safety Audit at a paper Mill in Odisha

The safety audit was conducted by RLI, Kolkata with a view to identify the hazards. The factory is being a pioneer paper manufacturing industry with a capacity of 3,00,000 TPA and a paper coating machine of 50 TPA capacity. The major findings of the audit pertain to process safety management requirements for inherent safety and health policy, accident prevention, plant safety inspection, safety training, first aid, machine guarding, SOPs & SMPs work permit system, on-site & off-site emergency plan and effective implementation of the safety management system. Several recommendations are given to improve the OSH status at work place.

Safety audit at a Thermal Power plant in Odisha

The safety audit was conducted by RLI, Kolkata for identifying the areas for improvement and to meet the regulatory and non-regulatory requirement broadly in line with Occupational Safety & Health as per BIS 14489:1998. The important recommendations of the safety audit were review of existing policies like safety policy, on-site emergency plan, accident report analysis & effective use of accident statistics, occupational health centre, importance of comprehensive training policies, follow up action on periodical health examination of the workers, machine and general area, guarding, work permit system, emergency preparedness and planning, boilers & turbines, maintenance of statutory records etc. Several recommendations are given to improve the safety and health at workplace.

Industrial hygiene survey at a manufacturing unit in West Bengal

An Industrial Hygiene survey conducted by RLI, Kolkata at Chemical plant at Insulator Manufacturing Unit, Rishra, West Bengal for identifying chemical hazards and physical hazards in the work environment. The physical hazards evaluated were heat stress, illumination and noise. The chemical hazards evaluated were dust, Quartz dust, Respirable Dust and Total dust containing Silica. The finding of the study indicates in loading area the levels of total dust, respirable dust and Dust contains Silica were above TLVs. In certain area like High Voltage Testing Outside area, Cement Assemble, Vibration table No C_1, C_2, and Filter process area-7, the level of Noise was above TLV, of Noise. The suggestion of wearing an air plug in boiler area was made with effective supervision. The suggestion was offered to Display of High Noise area warning board in the High noisy area. Regular training to the workers regarding effective use of PPE was suggested. In Loading area and related dusty area Proper Mechanical ventilation was suggested. The supervision and maintenance of existing ventilation were suggested. Training to the workers for Health hazards and housekeeping were suggested. In the dust prone area suggestion was given to use respiratory PPE. Reallocation or Isolation of Hazardous dust handling area was suggested.

Work Environment Monitoring Study in a foundry in Tamil Nadu

The Work environment monitoring (WEM) study was conducted by RLI, Chennai with the objective to assess the airborne concentrations of certain contaminants like Metallic dust, Graphite dust, Iron fumes, Copper fumes, Manganese fumes and Carbon monoxide gas in the foundry which manufactures cast wheels for locomotives, wagons, and passenger coaches. The majority of the unit operations such as Scrap melting in Electric Arc Furnace (EAF), wheel casting and processing, gas cutting and welding, etc. are carried out at high temperature, hence emissions of airborne chemical contaminants like Dust, Metallic fumes, welding fumes, welding gases in the work areas of the factory are common. After the meticulous walk-through survey, work locations more prone to contaminate

the work area were selected and sampling for the certain airborne contaminants was performed. The results reveal that the studied contaminants are below the limits as per the limits prescribed in the schedule-II of the Factories Act, 1948. To improve health and safety practices in the work area, recommendations with regard to assessment of existing engineering controls, use of proper floor cleaning methods, provision of proper PPEs and its effective use, water sprinkler while waste disposal methods and handling of hazardous waste etc., has been suggested.

Work Environment Monitoring (WEM) Study in a manufacturing unit

The work environment monitoring (WEM) study was conducted by RLI, Chennai with the objective to assess the airborne concentrations of certain airborne contaminants like Chromic acid & chromates (as Cr) (Water soluble) and welding fumes was performed in the chrome electroplating section and the welding shop of the industry manufactures heavy vehicle and the spars. Contaminants and sampling locations were identified and samplings were performed. Results reveal that the studied contaminants comply with the regulatory limits prescribed in the schedule-II of the Factories Act, 1948. To improve health and safety practices in the work area, general recommendations with regard to assessment of existing engineering controls like fume trap device at electroplating, use of proper floor cleaning methods, provision of proper PPEs and its effective use, proper waste disposal methods and handling of hazardous waste, the provision of local exhaust ventilations as well as a partial enclosure for the welding operations in welding shop has been suggested.

Safety Audit at a Thermal Power Station in Telangana

Safety audit was conducted by RLI, Chennai with a view to identify the hazards so that the management can devise and implement suitable programmes for enhancing safety in the industry. The safety audit was conducted as per BIS IS 14489:1998. The major recommendation of the audit includes safety organization, accident reporting, investigation and analysis, safety inspection, safety education and training, hazard identification and control, pressure vessels safety, static electricity protection, on-site and off-site emergency planning, work monitoring system, communication, system, effective implementation of the safety management system.

4.8 Education and Training

DGFASLI organizes workshops, seminars, training programmes etc. for the benefit of industries, ports, enforcement officials, etc.

4.8.1 Seminars & Workshops

Seminars & Workshops are organized on the basis of findings and recommendations of various national studies; unit level studies and surveys; and issues and priorities of national concern. They are organized to enhance the skills of the participants in dealing with matters connected to safety, health, productivity and environment etc. These seminars & workshops provide platform for discussing various issues related to safety and health; and recommend National level/ State level/Unit level action plan in respective area of concern. The details of Seminars & Workshops conducted during the year 2019 are given in Table 4.3.

Table 4.3- Seminars & Workshops conducted during 2019

Sl.	Title	Coordinating body	No. of Partic-ipants	No. of Organiz-ations
1.	Hazard and Operability (HAZOPS) Study in industry	RLI, Kolkata	27	12
2.	Hazard Identification & Risk Assessment	CLI, Mumbai	22	19
3.	Higher Productivity and Better Place to Work	CLI, Mumbai	52	28
4.	Higher productivity and better workplace for Small and medium scale Enterprises	RLI, Kolkata	18	14
5.	ILO National Tripartite Workshop on Improving OSH-Towards a Safe and Sustainable Ship Recycling Industries in India	CLI, Mumbai	34	11
6.	ILO Radiograph & Occupational Lung Diseases for Doctors	CLI, Mumbai	17	12
7.	Incident/Accident Reporting, Investigation and Analysis	CLI, Mumbai	15	9
8.	Internal Safety Audit for Safety Professionals	CLI, Mumbai	10	1
9.	Occupational Safety and Health in Automobile Industry	RLI, Chennai	200	109
10.	Practices of Industrial Hygiene for the Control of Hazards at workplace	CLI, Mumbai	4	2
11.	Process Safety Management	CLI, Mumbai	24	15
12.	Recognition & Evaluation of Chemical hazards at work place	CLI, Mumbai	4	3
13.	Safe Working Methodology and Work Environmental Hazards	CLI, Mumbai	19	8
14.	Safe Working Methodology and Work Environmental Hazards in Industries	CLI, Mumbai	4	3
15.	Safety and Health for Safety Committee Members	RLI, Faridabad	27	12
16.	Safety Audit	RLI, Faridabad	15	10
17.	Statutory provisions for Occupational Health & Health Audit System	CLI, Mumbai	26	1
Total			**518**	**269**

Details of some of the seminars and workshops conducted during the year 2019 are given below:

Workshop on National Occupational Safety & Health Profile on 23-24 Dec, 2019 at Hyderabad

Two-days workshop on "National Occupational Safety & Health Profile" was organised by Directorate General Factory Advice Service & Labour Institute under Ministry of Labour and Employment in collaboration with ILO on 23-24 December, 2019 at Hyderabad. The workshop started with lighting of the lamp by dignitaries, followed by the welcome speech delivered by Shri Devender Singh, the Economic Advisor, Ministry of Labour & Employment. Shri Satoshi

Sasaki, Deputy Director, ILO, also addressed the workshop and emphasized the significance of employment with decent work and advocated for Safety and Health through Conventions C-155, P-155 and C-187.

The workshop was inaugurated by Shri Heeralal Samariya, Secretary, Ministry of Labour and Employment, Govt. of India. During his inaugural speech, the Secretary (Labour & Employment) expressed that the occupational safety and health aspects occupy a very significant position while working at workplaces. Further, the Secretary (Labour & Employment) apprised about the recommendation of Second Labour Commission and the introduction of the Occupational Safety, Health and Working Conditions Code (OSH&WC) in Lok Sabha.

The inaugural session ended with the vote of thanks by Dr. R. K. Elangovan, the then Deputy Director General, and present Director General, Ministry of Labour & Employment, Govt. of India. He thanked all the dignitaries on the dais and off the dais for their participation in the workshop. He thanked specially to the Chief Guest, Shri Heeralal Samariya, Secretary, Ministry of Labour and Employment, Govt. of India, for his valuable time and efforts made towards finalizing the two-days workshop on National Occupational Safety and Health (OSH) Profile.

Further, Dr. R. K. Elangovan, the then Deputy Director General, and present Director General, DGFASLI made an elaborate and interactive presentation on National OSH Profile, its salient features and objectives. The Secretary (L&E) suggested and asked Dr. R. K. Elangovan, the then Deputy Director General, and present Director General, DGFASLI to dwell and deliberate on each Chapter under the Profile and encouraged the delegates for keen interaction during the presentation. Delegates raised numbers of questions and the same were suitably answered and clarified. The suggestions made by Smt. B. Udaylaxmi, Principal Secretary, Labour & Employment, Andhra Pradesh were noted down for suitable incorporation in the OSH Profile. During the presentation, the 16 gaps as identified in the National OSH Profile were deliberated by involving all the participants.

The workshop was attended by central and states government officials and stakeholders dealing with OSH issues. The workshop deliberated and come out with valuable inputs on gaps in the OSH system and proposed OSH programme. Objectives of the Workshop were:

- To discuss on various aspects of Occupational Safety and Health under the National OSH Profile.
- To deliberate on the gaps identified in the National OSH Profile.
- To recommend possible national action plan for each identified gaps in National OSH Profile and to strengthen national OSH systems.

The recommendations will form the basis to develop national strategic action plan in OSH (National OSH Programme).

On the dias (L to R): Shri Satoshi Sasaki, Deputy Director, ILO, Shri Heeralal Samariya, Secretary, Ministry of Labour and Employment, Shri Devender Singh, Economic Adviser, Ministry of Labour and Employment and Dr. R. K. Elangovan, the then Deputy Director General, and present Director General, DGFASLI

Senior officials of the central and state governments, guests and participants

Outcome of the workshop

- National OSH Profile, being a dynamic document requires periodical updation by incorporating and updating data collected from DGMS, ESIC and CIF/DISH of the State Governments/UTs.
- Need for regular and regional training for factory Inspectorate through CLI and RLIs under DGFASLI. The Train the Trainer (TOT) modules will be prepared by DGFASLI.
- To include OSH in curriculum in the academic and professional courses, DGFASLI will design specific modules in this regard and then the matter will be taken up with Secretaries (Education) of States for necessary incorporation of OSH curriculum in the syllabus.
- We recognize that the concerns regarding OSH of MSME workers needs to be addressed adequately in a more elaborate manner.
- Training on OSH for workers, supervisors and regulatory authorities need to be strengthened by designing and adopting appropriate training modules in this regard.

In line with the provisions for Safety Officers (SO) and Medical Officers (MO) under the Factories Act, 1948, Certificate course for Industrial Hygiene will be started by DGFASLI and the requirement of an Industrial Hygienist and measures for providing the same under the Factories Rules will be taken up in CIF/DISH annual conference.

ILO National tripartite workshop on improving Occupational Safety & Health - towards a Safe and Sustainable Ship Recycling Industries in India

ILO National tripartite workshop on improving Occupational Safety & Health - towards a Safe and Sustainable Ship Recycling Industries in India held in Mumbai from 26-27 September, 2019 and was attended by 34 participants from 11 organizations.

The "National Tripartite Workshop on Improving Occupational Safety and Health towards a Safe and Sustainable Ship Recycling Industry in India" was held from 26-27 September, 2019 in Mumbai.

The objectives of the National Tripartite Workshop were to:

a) Arrive at a common understanding of the challenges and opportunities for decent work in the Indian ship recycling industry, focusing on the improvement of occupational safety and health, but also on the potential for making the industry more productive and sustainable.
b) Define policies and actions that will improve occupational safety and health in the sector and help bring about a safe and sustainable recycling industry in India.
c) Agree measures and actions required by the governments of the central and state, employers and their associations, workers and their organizations, and the ILO.

Ms. Dagmar Walter, Director, ILO delivering special address in the inaugural function

Participants of the workshop with officials of ILO and DGFASLI

In the workshop, Dr. R. K. Elangovan, the then Deputy Director General, and present Director General, DGFASLI briefed the delegates about the National Legislative framework and standards available for ensuring Occupational Safety & Health in the Ship Recycling Industry. He highlighted the important steps taken by DGFASLI for the ship recycling industry. Dr. Avneesh Singh, the then Director General, DGFASLI, in his inaugural address appreciated the role of ILO for improving OSH standard in the ship recycling industry. Mr. Edmund Casper, Senior Specialist from ILO, Geneva

praised the work done by DGFASLI especially in the ship recycling industry. Ms. Dagmar Walter, Director, ILO, Area Office, New Delhi briefed about the activities of ILO and its endeavor for decent work at all work places.

The workshop was attended by thirty-two delegates including representatives from Ministry of Shipping, officers from DGFASLI, officers from State Governments, specialist from ILO Geneva and India and representatives from National Trade Unions.

Workshop on Vision Zero – Trainers of Training

A "Workshop on Vision Zero – Trainers of Training" was organised by DGFASLI in technical collaboration with DGUV, Germany on 2-3 August, 2019 at CLI, Mumbai. The officers of DGFASLI and Middle level officers from Factory Inspectorates of States/UTs participated in the workshop.

National Seminar on "Occupational Safety and Health in Automobile Industry"

The National Seminar on "Occupational Safety and Health in Automobile Industry" was held at RLI, Chennai on 28th February, 2019. Dr. R. K. Elangovan, the then Deputy Director General, and present Director General, DGFASLI as a Chief Guest, inaugurated and delivered the inaugural address and highlighted the importance of automobile industries. Further, he added that the implementation of provisions under the Factories Act, 1948 has to be carried out in an effective manner. He insisted that automobile safety shall encompass chemical safety, electrical safety, safety with LPG, material handling, robotic safety, machine guarding, safety training and education. He emphasized that the RLI being the Centre of Excellence for safety in automobile industry, a number of programs need to be organized and desired that the CIFs of Southern Region also should take initiatives for development of Occupational Safety and Health in Automobile Industries.

Shri C. Gnanasekara Babu Rao, Director (Retd.), Directorate of Industrial Safety and Health, Government of Tamil Nadu delivered a Special Address. Shri P. Kanniappan, Managing Director, WABCO India Ltd., Chennai delivered a key note address and informed that the Automotive Industry in India is one of the largest in the world. He highlighted the need for focusing on minimizing the chances of risks, accidents/injury, monitoring the health status of the employee, operating systems, avoiding fire and explosion hazards due to inflammable substances associated in Automobile Industries. He also highlighted robotic safety with case studies.

Shri G.P. Nijalingappa, Director In-Charge of the Regional Labour Institute, Chennai delivered the welcome address and vote of thanks. The seminar was attended by around 200 delegates comprising of senior executives and OSH Professionals from various automobile industries, central and state government officials, Safety consultants, competent persons, safety experts, legally appointed safety officers and research fellows in true letter and spirit.

Dr. R.K. Elangovan, the then Deputy Director General, and present Director General, DGFASLI addressing the audience

On the dias (Left to right): Shri C. Gnanasekara Babu Rao, Director (Retd.) DISH, Tamil Nadu, Shri P. Kanniappan, Managing Director, M/s. WABCO India Limited, Chennai, Dr. R.K. Elangovan, the then Deputy Director General, and present Director General, DGFASLI and Shri G.P. Nijalingappa, Director In-Charge, Regional Labour Institute, Chennai

4.8.2 Long Duration Training Programmes

Long Duration Training programmes include Professional Programmes and Specialized Training programmes. The details of Long Duration Training Programmes conducted during the year 2019 are given in table 4.4

a) Professional Programmes: To fulfill the need of qualified Safety Officers, and Factory Medical Officers in the industry, DGFASLI organization conducts one year "Advanced Diploma in Industrial Safety" (ADIS) Course and three months "Associate Fellow of Industrial Health" (AFIH) Certificate Course. During the year 2019, a total of 5 Diploma Programmes, 4 Fellow Programmes, 2 Five-weeks Certificate course, a Three-weeks Basic course for the Inspectors of Factories and a Two-weeks Refresher course for Senior Inspector of factories were conducted by DGFASLI.

b) Specialized Training Programmes are conducted for identified target groups such as Inspectors of Factories, Senior Managers, Safety Officers, Factory Medical Officers, Supervisors, Trade Union Officials and Safety Committee members from Industry. Basic course for newly recruited inspectors of factories is conducted to impart technical knowledge and skills in the field of safety and health. In view of the need for inspection of specific industries and Major Accident Hazards units, specialized courses are also conducted for senior inspectors. Some of the programmes are exclusively conducted for the union-leaders where joint participation of management personnel and union representatives from industries are the special features of some programmes.

Table 4.4: Long Duration Training Programmes conducted during 2019

Programme/ Area	No. of Participants	No. of Organizations
A) Professional Programmes		
a) Advanced Diploma in Industrial Safety (ADIS) (5 programmes)	231	199
b) Associate Fellow of Industrial Health (AFIH) (4 programmes)	105	103
c) 5-weeks Certificate Course in Safety & Health for Supervisory Personnel Engaged in Hazardous Process Industries (2 programmes)	24	16
d) 3-weeks Basic course for the Inspectors of Factories	19	8
e) 2-weeks Refresher course for Senior Inspector of Factories	8	5
Total (a) to f)**)**	**387**	**331**
B) Specialized Training Programmes [Total: (I to XI)]		
I. Programme for Management Personnel		
a) Asbestos and Silica Work Environment Monitoring Program	17	9
b) Industrial Hygiene & Work Environment monitoring on industry	26	13
c) Occupational Health, Basic First Aid and Safety for Non-medical Executives	13	5

II.	**Programme for Factory Supervisors**		
a)	Occupational Safety Health & Hygiene in MSME	12	7
b)	Prevention and control of fire in industries	23	11
c)	Refresher Course on Safety and Health for Safety Officers	16	6
d)	Safety Management	6	4
III.	**Programme for Trade Union Leaders**		
a)	Occupational Safety and Health in Industries for Union leaders	25	11
IV.	**Programme for Medical Doctors**		
a)	Advance training programme On Occupational Health for Factory Medical Officers	11	10
b)	ILO Radiograph and Occupational Health for Medical Executive	13	11
c)	Occupational Health, Hygiene and Safety for Industrial Medical Officers	11	4
d)	Refresher Training Programme on Occupational Health For Medical Officers	10	10
V.	**Programme for Para-Medical Personnel**		
a)	Occupational Health Practice for Nurses, Health/Medical Assistant Safety Health and Hygiene in Hazardous process Industries for Inspector of factories	24	24
VI.	**Programme for Factory Inspectors**		
a)	Safety Health and Hygiene in Hazardous process Industries for Inspector of factories	7	2
VII.	**Programme for Management Personnel/Executive/Supervisors**		
a)	"Industrial Safety" in collaboration with National Safety Council, Maharashtra Chapter (6 programmes)	132	63
b)	Effective Participative Skills to Improve Safety, Health & Environment in Industries to manage teamwork for trainers (2 programmes)	53	3
c)	Electrical Safety in Industries	22	8
d)	Evaluation of Physical and Chemical Hazards in Industries, Factories and Ports (2 programmes)	32	7
e)	Identification, Evaluation and control of hazards in Industries	19	21
f)	Management Development Program on Safety, Health and Environment in Factories, ports and Construction Industries	18	8
g)	Occupational Safety and Health in industries for Safety Committee members	21	8
h)	Safety & Health Awareness programme for Members of Safety Committee (2 Programmes)	64	19
i)	Safety and Fire Fighting Management in Industries (2 Programmes)	36	9
j)	Safety Audit in Factories, Ports and Construction Industries	8	8
k)	Safety Health and Environment in Work Place	17	12
l)	Safety in Storage, Handling and Management of Hazardous Chemicals	7	6

m) Training programme on Major Accident Hazards Control (2 Programmes)	38	28
VIII. Programme for Management Personnel/Executive and Medical Doctors		
a) Occupational Health for Medical Officers and Management Executives	6	6
IX. Programme for Management Personnel, Supervisors, Inspectors of Factories		
a) Safety Audit, Accident Investigation and Reporting	19	16
X. Programme for Supervisors and Trade Union Leaders		
a) Productivity & Quality Improvement through Effective Employee Participation in Managing Safety, Health & Environment Industries (2 programmes)	45	4
b) Team building to enhance Productivity, Safety, Health and Environment at Workplace	19	2
XI. Programme for Medical and Para-Medical Personnel		
a) Occupational Health for Occupational Health Centre Staff	23	16
Total (I to XI)	793	371
GRAND TOTAL (A + B)	**1180**	**702**

4.8.3 Need Based In-Plant Training Programmes

On the request of management, DGFASLI, CLI and RLIs conduct in-plant need based training programmes for the benefit of cross-section of personnel from respective units. These programmes are designed after proper identification of needs of the defined target groups through preliminary discussions with the management. The details of need based in- plant Training Programmes conducted during the year 2019 are given Table 4.5.

Table 4.5: Need based in- plant Training Programmes conducted during 2019

Programme/ Area	No. of participants	No. of organizations
a) One day In-Plant training for personnel of M/s. Mumbai International Airport Ltd (3 programmes)	120	3
b) One day In-plant training programme on Industrial Hygiene at Tata Motors, Lucknow	20	1
c) "Accident Philosophy and Accident Prevention" for Dock workers	15	1
d) "Occupational Safety and Health Management" for Krishnapatnam Port workers	26	1
e) "Occupational Health Management System" for the officials of the Chennai port	25	1
f) "Occupational Safety and First Aid" for Dock workers	35	1
Total	**241**	**8**

4.8.4 Short Duration Training Programmes

DGFASLI organizes short duration training programmes of 1 or 2 days duration for the benefit of supervisors, workers, and workers' representatives from factories. Such programmes are organized in the field of Safety, Health, Hygiene, Psychology, etc. The details of short duration training programmes conducted during the year 2019 are given in Table 4.6.

Table 4.6: Short Duration Training Programmes conducted during 2019

Programme/ Area	No. of participants	No. of organizations
I. Programme for Management Personnel		
a) First Aid and Safety Practices for Non-Medical Personnel	5	5
b) Work Environment Hazards & their management in industry	32	14
c) One day Training programme on "Safety Awareness" for M/s. Godrej & Boyce Ltd., Mumbai	10	1
II. Programme for Supervisors		
a) Occupational Safety and Health for Safety Committee Members of M/s Honda Motorcycle & Scooter India Pvt. Ltd., Tapukara, Rajasthan	23	1
III. Programme for Management Personnel and Factory Supervisors		
a) Accident Prevention in Engineering Industry	20	13
b) Occupational Safety and Health Management System in Industries/Port Sector	14	7
c) Refreshers Training Programme on Safety, Health and Workplace Environment for Safety Officers (2 programmes)	38	29
d) Management of Workplace Contaminants in Industry	21	14
e) Occupational Safety and Health for Safety Committee Members of Factories and Major Ports (2 programmes)	60	18
f) Work Environment Monitoring in Industries	10	4
g) Awareness Programme on "Safety, Health and Environment in Industries (3 programmes)	67	3
IV. Programme for Management Personnel, Factory Supervisors and Inspectors		
a) Safe Use of Lifting Equipment in Engineering and Construction Industries	31	17
b) Safe Workplace Monitoring – Illumination, Noise, Ventilation, Vibration and Heat Stress	17	10
c) Safety in Handling of Lifting Appliances and Loose Gears in Engineering & Construction Industries	13	5
d) Management of Workplace Contaminants in Industry	30	12
V. Programme for Educational Institutes		
a) Training Programme on "Industrial Safety"	28	1
b) Safety, Health & Environment Awareness in Industries (2 programmes)	62	2
Total	**479**	**155**

4.8.5 Appreciation and Promotional Programmes

Each of the Labour Institutes at Mumbai, Chennai, Faridabad, Kanpur and Kolkata has an Industrial Safety Health and Welfare Centre, where half-day appreciation programmes are conducted. Appreciation Programmes are also conducted at various laboratories and divisions of the organization. The details of appreciation and promotional programmes conducted during the year 2019 are given in Table 4.7.

Table 4.7: Appreciation and Promotional Programmes conducted during 2019

Sl.	Description	No. of Programmes	No. of Participants	No. of Organizations
1.	Appreciation Programme	103	2233	145
2.	Demonstration of activities of the Environment Engineering Division	17	405	17
3.	ILO Radiograph and Occupational Health for Medical Executive	1	13	11
4.	Safety and Fire Fighting Management in Industries	1	25	6
5.	Awareness Programme on Safety, Health & Environment in Industries	1	19	1
6.	Awareness Programme on Occupational Safety & Health in Industries	1	23	1
7.	Explaining the role of the Environment Engineering Division in Occupational Safety & Health	15	313	15
8.	Industrial Safety Visit of the students from IP University, Delhi	1	17	1
9.	Visit to the Industrial Hygiene Laboratory	4	55	23
10.	Visit to the Industrial Medicine Laboratory	3	31	13
11.	Visit to the Industrial Safety, Health and Welfare Centre	1	45	1
12.	Visit to the Occupational Safety and Health Exhibition Centre	230	2633	193
13.	Visit to the Safety Center cum Museum	9	196	57
TOTAL		**387**	**6008**	**484**

4.9 Technical Advice

Technical advice and guidance are provided to industries and port users on various aspects relating to control of hazards, prevention of accidents and occupational diseases, work environment, productivity etc.

4.10 Testing of Personal Protective Equipment

The respiratory and non-respiratory Personal Protective Equipment testing laboratories at the Central Labour Institute, Mumbai undertake performance tests of canisters, masks, helmets, safety shoes, safety goggles, safety belts, welding glasses etc. The details of Personal Protective Equipment tested during the year 2019 are given in Table 4.8

Table 4.8: Personnel Protective Equipment tested in 2019

Sl.	Type of Equipment	No. of Equipment tested
1.	Safety Shoes	98
2.	Safety Helmet	26
3.	Safety Belts	12
4.	Gloves	9
5.	Eye protection equipment	40
6.	Dust mask	81
7.	Clothing	1
8.	BA Cylinder	74

4.11 Talks

The officers of the organization deliver talks on special topics in programmes organized by external organisations to disseminate latest technical information with specific reference to national studies, unit level studies, surveys conducted, etc. Institute-wise details of talks delivered during the year 2019 are given in Table 4.9

Table 4.9: Institute–wise Talks delivered during 2019

Sl.	Institute	No. of Talks	Participants	Organizations
1.	DGFASLI (HQ)*	26	509	73
2.	Central Labour Institute, Mumbai	3	105	8
3.	Regional Labour Institute, Faridabad	3	70	66
4.	Regional Labour Institute, Kanpur	3	62	12
5.	Regional Labour Institute, Kolkata	9	351	65
6.	Regional Labour Institute, Shillong	1	25	11
Total		**45**	**1122**	**235**

* Comprising of Factory Advice Service & Dock Safety Divisions.

4.12 DGFASLI website

The DGFASLI website **www.dgfasli.gov.in** is a source of information on various safety and health related matters. The website contains database on abstract of OSH studies, reports, information on advisory services rendered by DGFASLI in the area of testing of respiratory and non-

respiratory personal protective equipment etc. The training programme calendar for all the Labour Institutes, announcement on National Safety Awards & Vishwakarma Rashtriya Puraskar awards, AFIH course, Diploma Course in Industrial Safety along with the application forms are available on the website. The website enables users to access other useful websites related to safety and health and get the national directory of organization and profile of agencies engaged in the field of safety and health. The website also contains the text of the Factories Act, 1948 and the Model Rules framed there under and also the Dock Workers (Safety, Health and Welfare) Act, 1986 and Regulations, 1990 etc. Statistics of Factories, Docks, list of Chief Inspectors of Factories and list of Dock Safety Inspectorates are also available on the portal.

The digitization of clearances issued by various Ministry/Department, as a part of Digital India Program, DGFASLI has digitization of clearances in the following areas:

i. Approval of site notification of Major Accident Hazard (MAH) installations in the port premises under Rule 7 of MSIHC Rules, 1989 under the Environment (Protection) Act, 1986

ii. Issue of competency certificate under Rule 2(d) of the Dock Workers (Safety, Health & Welfare) Regulation 1990.

5

Safety Awards

To appreciate the contribution made by the factories and docks towards producing quality goods and providing efficient services in safe and healthy conditions, the following awards are being given.

5.1 Prime Minister's Shram Awards (PMSA)

The Prime Minister's Shram Awards (PMSA) were instituted in 1985, for the workers (as defined in Industrial Disputes Act, 1947) in recognition of their outstanding contributions in organizations both in public and private sector and who have distinguished record of performance, devotion to duty of a high order, specific contribution in the field of productivity, proven innovative abilities, presence of mind and exceptional courage and also to the workmen who have made supreme sacrifice of laying down their lives in the conscientious discharge of their duties.

It has been decided from the year 2004 onwards that the private sectors shall also be included within the ambit of Prime Minister's Shram Awards and the workers in the private sector units employing 500 or more workers and engaged in manufacturing and productive processes will be eligible to apply for these awards. The number of awards has been increased from 17 to 33. The awards, in order of sequence are Shram Ratna, Shram Bhushan, Shram Vir/Veerangana and Shram Shri/Devi. The recognition consists of a Sanad and cash award of Rs. Two lakh (1 award), Rs. One lakh (4 awards), Rs. 60,000 (12 awards) and Rs. 40,000 (16 awards) respectively.

Achievements in 2019

During the year 2019, 210 applications were received from Public Sector Undertakings and 94 applications were received from Private Sector; and a total of 40 workers have been selected for the Prime Minister's Shram Awards for the performance year 2017. The award is conferred on 40 workers employed in the Departmental Undertakings & Public Sector Undertakings of the Central and State Governments and Private Sector Units employing 500 or more workers in recognition of their distinguished performances, innovative abilities, outstanding contribution in the field of productivity and exhibition of exceptional courage and presence of mind.

For the performance year 2017, no nomination was found suitable for the prestigious Shram Ratna Award. Three nominations for the Shram Bhushan Award, twelve nominations for Shram Vir/Shram Veerangana and sixteen nominations for Shram Shree/Shram Devi Awards have been selected. As some of the Awards have been shared by workers and/or teams of workers consisting of more than one worker, 31 Awards have been conferred on 40 individuals (including 3 women). These include 23 workers from the public sector and 17 workers from the private sector.

5.2 Vishwakarma Rashtriya Puraskar & National Safety Awards

The DGFASLI on behalf of the Ministry of Labour & Employment has been implementing the Vishwakarma Rashtriya Puraskar (VRP) (earlier known as Shram Vir National Awards) and the National Safety Awards scheme since 1965. These schemes were modified in 1971, 1978 and again in 2007. The schemes presently in operation are as follows:

- **Vishwakarma Rashtriya Puraskar (VRP):** VRP is awarded in recognition of outstanding suggestions given by a worker or group of workers and implemented by the management during the previous calendar ear resulting improvement in quality, productivity and working conditions such as safety, health and environmental conservation in the industrial undertakings where "Suggestion Schemes" are in operation.

  It is designed to give recognition at the national level to outstanding suggestions resulting in

  (I) Higher Productivity
  (II) Improvement in safety and working conditions
  (III) Savings in foreign exchange (import substitution as well as quality and safety of products)
  (IV) Improvement in overall efficiency of the establishments.

  The prizes are grouped in three classes:

  (a) Applications ranked 1 to 5 (5 Awards) - Class "A" Awards Rs.75, 000/- each
  (b) Applications ranked 6 to 13 (8 Awards) - Class "B" Awards Rs.50, 000/- each
  (c) Applications ranked 14 to 28 (15 Awards) - Class "C" Awards RS.25, 000/- each

  These awards are applicable to the workers of Industrial establishments covered under the Factories Act, 1948, the employees covered under the Dock Workers (Safety, Health and Welfare) Act 1986, the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 and Installations under Atomic Energy Regulatory Board (AERB).

- **National Safety Awards:** National Safety Awards are given in recognition of outstanding safety performance on the part of the industrial establishments covered under the Factories Act, 1948, the employers covered under the Dock Workers (Safety, Health and Welfare) Act 1986, the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 and Installations under Atomic Energy Regulatory Board (AERB).

  Shields and Citation Certificates are awarded to Winners and Runners Up.

  Schemes I to X are meant for factories, construction sites and nuclear Installations and Schemes XI and XII are for Ports.

Achievement in 2019

The award presentation function for Vishwakarma Rashtriya Puraskar (VRP) & National Safety Awards (NSA) for the performance year 2017 was held at Vigyan Bhawan, New Delhi on 17th September 2019. The awards were presented by the Hon'ble Minister of State for Labour & Employment (Independent Charge), Shri Santosh Kumar Gangwar.

For the Performance Year 2017, under Vishwakarma Rashtriya Puraskar (VRP), a total of 197 applications were received from different industries out of which 28 awards have been conferred. These 28 awards are being shared by 131 individuals.

For National Safety Awards (NSA), 288 applications were received under various schemes and 89 applications were recommended for awards. The total number of NSA Award Winners and Runners-up in all the twelve schemes adds up to 130 (81 winners & 49 runners-up)

The awards function was attended by more than 1000 delegates, safety professionals and government officials. The event got wide publicity in media and leading newspapers.

Hon'ble Minister of State (IC), Shri Santosh Kumar Gangwar lighting the inaugural lamp

Hon'ble Minister of State (IC), Shri Santosh Kumar Gangwar addressing the audience

Hon'ble Minister of State (IC), Shri Santosh Kumar Gangwar conferring the awards

Hon'ble Minister of State (IC), Shri Santosh Kumar Gangwar conferring the awards

Table 5.1- Applications received for Vishwakarma Rashtriya Puraskar and the number of awards given

Performance Year	Applications Received	Awards given
2012	142	28
2013	193	28
2014	199	28
2015	212	28
2016	175	28
2017	197	28

Table 5.2- Estimated annual savings resulting from the suggestions

Performance Year	Savings in Indian Currency		Savings in Foreign Exchange	
	Recurring	Non-Recurring	Recurring	Non-Recurring
2012	8,37,70,16,690	5,61,15,000	2,22,69,000	-
2013	6,43,77,70,600	35,48,73,900	68,80,96,665	2,66,01,55,248
2014	57,71,27,000	2,29,14,000	2,27,85,894	2,92,00,830
2015	7,32,29,75,801	8,19,27,26,452	3,03,90,34,983	2,94,12,883
2016	66,97,43,925	1,03,33,184	79,21,842	2,72,22,720
2017	32,84,30,074	74,91,39,521	54,21,772	13,90,496

Table 5.3- National Safety Awards under different schemes

Performance Year	National Safety Awards	SCHEMES											
		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
2012	Applications	30	31	10	12	9	12	8	9	2	2	-	-
	Awards	20	19	10	10	5	7	6	8	2	2	-	-
2013	Applications	48	39	12	19	18	21	13	13	8	8	-	-
	Awards	23	20	10	12	6	6	8	9	2	2	-	-
2014	Applications	42	34	18	20	14	17	9	14	1	1	-	-
	Awards	27	17	13	13	8	6	8	9	1	1	-	-
2015	Applications	68	54	32	37	38	42	38	38	3	3	1	1
	Awards	28	24	11	13	10	10	12	12	2	2	1	1
2016	Applications	54	44	31	35	18	22	17	16	7	7	2	2
	Awards	25	24	11	14	10	12	10	11	3	4	2	2
2017	Applications	72	60	32	34	15	19	14	15	5	6	2	1
	Awards	24	25	15	15	9	10	9	10	5	5	2	1

6

Human Resource Development

The officers of the Organization are deputed to the programmes organized by various agencies within the country and abroad, for their exposure to the latest technical developments that are taking place in the field of Industrial Safety and Health.

International Conference on Vision Zero

As part of MoU between the Directorate General Factory Advice and Labour Institutes, Ministry of Labour and Employment, Govt. of India and DGUV, Germany, the second International Conference on Vision Zero. The Secretary, Ministry of Labour and Employment inaugurated the three days Conference on Vision Zero and its relevance to Occupational Safety and Health held from 18-20 February, 2019 at Indian Institute of Technology, Bombay in Mumbai

The DGFASLI organized this conference in technical collaboration with:

i) **DGUV**: The German Social Accident Insurance, a dedicated part of the statutory German social insurance system. In accordance with the German Social Code the statutory accident insurance system provides prevention against occupational accidents, commuting accidents and occupational diseases as well as rehabilitation and compensation services out of one hand. The German Social Accident Insurance covers around 79 million people and over 4 million companies and institutions are members of the individual German Social Accident Insurance Institutions.

ii) **ISSA**: The International Social Security Association is the principal international institution bringing together social security agencies and organizations. The ISSA provides access to information, expert advice, business standards, practical guidelines and platforms for members to build and promote dynamic social security systems worldwide.

iii) **IIT Bombay**: Indian Institute of Technology, Bombay, established in 1958, is recognised worldwide as a leader in the field of engineering education and research. IIT Bombay is reputed for the outstanding calibre of students graduating from its undergraduate and postgraduate programmes, and doctoral programmes. It has made concerted efforts to align its R&D focus with the national goal of achieving technological self-reliance.

Vision Zero- The Concept:

Considering health as being the highest good of man, the primary focus should be on maintaining human health by all possible means. A reliable method for maintaining human health is to invest in the prevention of health hazards. At the same time investing in prevention helps to avoid much higher costs caused by occupational accidents, occupational diseases, and lost working time, and can also be regarded as a key competitive factor. Thus, prevention contributes to sustainable economic success of the companies as well as the preservation of employability of people. To achieve this, the International Social Security Association (ISSA) sets Seven Golden Rules and describes a measure

which forms the basis for achieving the Vision Zero. The concept is based on four fundamental principles, viz., life is non-negotiable, humans are fallible, tolerable limits are defined by human physical resistance, and, people are entitled to safe transport and safe workplaces.

For implementing Vision Zero, there are Seven Golden Rules:

1. Take leadership commitment by setting safety always as the number one priority on every agenda, by serving as a model for OSH matters, by reacting instantly to unsafe conditions and behavior.
2. Identify hazards and risks by a systematic risk assessment, including maintenance and repairs, evaluating work accidents, diseases and near misses.
3. Set targets for safety by defining your own OSH targets, evaluating progress and adapt them if necessary, designing prevention campaigns.
4. Ensure a safe system by increasing the responsibility of all managers, implementing a safety management system.
5. Use safe & healthy technology by taking account of OSH when ordering new machinery or plant, using all machines in a safe way and checking safety installations regularly, providing safe access and egress.
6. Improve qualification by defining the required qualification for each workplace, and by setting up a plan for training and instruction.
7. Invest in people by involving your employees, using your employee's ideas about how to safety, acknowledging good safety performance, developing confidence and a culture of prevention.

The concept of 'Vision Zero' is fast gaining international acceptance and is expected to leverage the efforts of the Government of India to raise the occupational safety and health standards in the country so as to improve the occupational safety and health situation.


INDIA 2019
VISION ZERO
Safety.Health.Wellbeing
INTERNATIONAL VISION ZERO CONFERENCE ON OSH
from Problems to Solutions
18-20 February, 2019, Mumbai (India)
Organised by
IIT Bombay
DGFASLI
with the
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Participation

The conference provided a common platform for the participants attending the conference from various sectors across a wide variety of industries through sharing of best practices both nationally and internationally. It provided an opportunity for the international community to get an appraisal of the occupational safety and health status in India thereby exhibiting the Indian industrial occupational safety and health scenario to the international community.

The conference provided a forum for promoting safety and health at work by exchanging knowledge, practices and experience. Experts in the field of Occupational Safety and Health reinforce and built networks and alliances while laying the groundwork for cooperation and strengthening relationships. Both national and international delegates comprising of occupational safety and health professionals from the manufacturing, mining and construction sectors had participated in the conference. The speakers segment comprised of both international speakers from Germany, France, Chile and other European countries. The speakers from India comprised of top OSH executives, professionals, government officials and expert in the field of OSH.

The conference witnessed the participation of:

- Chief Executive Officers (CEOs), Senior Managers, and Trade Union Leaders
- High-level Government Officials and Decision Makers from Public and Private Sector
- Occupational Safety and Health Inspection Officials
- Occupational Safety and Health (OSH) professionals such as Safety Officers, Safety Engineers
- Occupational Hygienists, Occupational Physicians and others dealing with Occupational Medicine, OSH Scientists & Researchers
- Instructors, trainers and teachers in the field of OSH education
- Employers and their organisations, including human resource (HR) managers
- International and National OSH organisations and institutions
- Manufacturers and Traders of Safety Materials and Safety Equipment

Keeping in tune with the changing industrial scenario, the recommendations of the conference was very vital in achieving sustainable economic progress, in consonance with the changing requirements of safety, health and environment aspects in the country.

An exhibition 'INOS+H EXPO 2019' showcasing personal protective equipment (PPEs) which are manufactured in India under "Make in India" programme, Occupational Health, High Risk Prevention, Work Environmental Protection etc., has also been organised on the sidelines of the conference by Safety Appliances Manufacture Association (SAMA), all under one roof. The exhibition will provide the most efficient platform to support technological communication and business trade. About 100 leading manufacturers /suppliers from India have participated in the Exhibition.

Celebration of Yoga Day

On the occasion of International Yoga Day on 21st June, 2019, a programme was organized to observe this day and it was attended by the officers, staff and students of this institute.

Celebration of Hindi Pakhwara

"Hindi Pakhwara" was celebrated in this Directorate General and across RLIs and CLI in the month of September, 2019. During this period various competition like Nibandh Lekhan, Bhasan, Anuvaad, Nara Lekhan were organized all through the pakhwara.

7
Statistics on Occupational Safety and Health in Factories

The statistics of factories are collected and compiled by the Labour Bureau on the basis of the Annual Returns/Reports in respect of the Factories Act, 1948, furnished by various States and Union Territories. Under the Factories Act, 1948, injuries resulting from industrial accidents, by reasons of which the person injured is prevented from attending to work for a period of 48 hours or more immediately following the accident, are recorded. The important indices on injuries are Frequency Rate (FR) and Incidence Rate (IR). The Frequency Rate is defined as number of total injuries per 1,00,000 man-days worked. The Incidence Rate is the number of injuries per 1,000 workers employed in the factories.

The latest information relating to occupational injuries in factories are given in this chapter in tables 7.1 to 7.7, which are based on the statistics provided by Labour Bureau up to the year 2016.

Table: 7.1-Statistics of Employment, Industrial Injuries, etc. in Factories for the Year 2010-2016

Year	No. of Working Factories	Estimated Average daily Employment (in thousands)	Industrial Injuries		Frequency Rate of injuries per lakh man-days worked		Incidence Rate of injuries per thousand Workers Employed in Factories Submitting Return	
			Fatal	Total	Fatal	Total	Fatal	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2010	228259	10855	1064	11175	0.06	0.64	0.10	1.03
2011	240824	11578	1083	10441	0.07	0.72	0.09	0.90
2012	161161	7335	682	5769	0.09	0.75	0.09	0.79
2013	87493	3659	494	1951	0.08	0.37	0.14	0.53
2014	135971	6367	515	3984	0.06	0.49	0.08	0.71
2015	167726	8660	789	5500	0.05	0.33	0.09	0.64
2016	167025	9335	777	3906	0.1	0.51	0.08	0.42

Source: (i) Data received from Labour Bureau through correspondence.
(ii) Data for the year 2017 and beyond is yet to be updated by the Labour Bureau.

Note: Limitations of the data received from Labour Bureau Chandigarh: The Number of injuries has been given on the basis of notices of accidents whereas the rates have been worked out on the basis of Annual Return.

Table 7.2- State-Wise Total Number of Industrial Injuries in Factories

Sl.	State / UT	2012	2013	2014	2015	2016
1.	Andaman & Nicobar	40(-)	NA	55(-)	40(-)	58(-)
2.	Andhra Pradesh	1336 (153)	714 (152)	321(78)	207(72)	220(77)
3.	Arunachal Pradesh	NA	NA	NA	NA	NA
4.	Assam	78 (8)	105 (4)	71(13)	48(8)	53(12)
5.	Bihar	135 (9)	160 (4)	9(2)	210(10)	198(11)
6.	Chandigarh	3 (1)	2(-)	-	-	1(1)
7.	Chhattisgarh	158 (106)	156 (97)	188(113)	124(74)	120(67)
8.	Daman & Diu and DNH	44 (13)	NA	56(20)	70(12)	54(15)
9.	Delhi	NA	NA	NA	NA	NA
10.	Goa	103 (7)	55 (10)	87(5)	80(9)	58(3)
11.	Gujarat	NA	NA	NA	1722(206)	1412(243)
12.	Haryana	43 (15)	78 (41)	78(41)	90(42)	132(62)
13.	Himachal Pradesh	NA	NA	136(11)	5(-)	15(2)
14.	Jammu & Kashmir	NA	NA	NA	NA	NA
15.	Jharkhand	NA	130 (37)	127(31)	144(29)	91(21)
16.	Karnataka	NA	NA	NA	NA	NA
17.	Kerala	NA	NA	NA	NA	NA
18.	Lakshadweep	NA	NA	NA	NA	NA
19.	Madhya Pradesh	NA	NA	NA	NA	422(30)
20.	Maharashtra	2608 (216)	NA	2336 (65)	1660(145)	NA
21.	Manipur	NA	NA	NA	NA	NA
22.	Meghalaya	NA	15 (-)	9(2)	2(1)	2(1)
23.	Mizoram	NA	NA	NA	NA	NA
24.	Nagaland	-	NA	-	-	-
25.	Odisha	NA	NA	NA	239(55)	222(47)
26.	Puducherry	38 (8)	28 (3)	18(6)	21(5)	22(2)
27.	Punjab	NA	NA	NA	NA	NA
28.	Rajasthan	733 (34)	761 (55)	762(55)	604(33)	125(15)
29.	Sikkim	NA	NA	NA	NA	NA
30.	Tamil Nadu	443 (110)	NA	NA	NA	476(104)
31.	Telangana	--	234 (89)	238 (71)	192(63)	164(52)
32.	Tripura	7(2)	7 (2)	8(2)	7(4)	6(2)
33.	Uttar Pradesh	NA	NA	NA	NA	NA
34.	Uttarakhand	NA	NA	NA	43(21)	55(10)
35.	West Bengal	NA	NA	NA	NA	NA
Total		**5769(682)**	**2445(494)**	**4499(515)**	**5500(789)**	**3906(777)**

Note: (i) NA = Not Available (ii) - = Nil
(iii) Figures in brackets pertain to "Fatalities" and are included in the total.
(iv) For limitations of the data please refer note under table 7.1
(v) Data for the year 2017 and beyond is yet to be updated by the Labour Bureau.

Source: Data received from Labour Bureau through correspondence.

Table 7.3- State-wise Frequency Rates of Industrial Injuries in Factories

Sl.	State/ Union Territory	2012	2013	2014	2015	2016
1.	Andaman & Nicobar	2.89 (-)	NA	3.92(-)	3.40(-)	3.75(-)
2.	Andhra Pradesh	0.72 (0.08)	0.76 (0.16)	0.26(0.06)	0.17(0.06)	0.16(0.06)
3.	Arunachal Pradesh	NA	NA	NA	NA	NA
4.	Assam	0.74 (0.08)	0.98 (0.04)	0.55(0.1)	0.38(0.06)	0.4(0.09)
5.	Bihar	4.89 (0.33)	3.39 (0.08)	0.56(0.12)	6.2(0.31)	4.95(0.27)
6.	Chandigarh	0.13 (0.04)	0.09 (-)	-	-	0.07(0.07)
7.	Chhattisgarh	0.5 (0.33)	0.49 (0.31)	0.57(0.35)	0.44(0.26)	0.79(0.44)
8.	Daman & Diu and DNH	898.69(265.52)	NA	0.22(0.08)	0.19(0.03)	0.14(0.04)
9.	Delhi	NA	NA	NA	NA	NA
10.	Goa	0.51 (0.03)	0.27(0.05)	0.44(0.03)	0.38(0.04)	0.25(0.01)
11.	Gujarat	NA	NA	NA	1.1(0.13)	1.01(0.17)
12.	Haryana	0.06 (0.02)	0.02(0.01)	0.14(0.07)	0.02(0.01)	0.18(0.08)
13.	Himachal Pradesh	NA	NA	0.26(0.02)	0.01(-)	0.05(0.01)
14.	Jammu & Kashmir	NA	NA	NA	NA	NA
15.	Jharkhand	NA	1.05(0.3)	0.7(0.17)	0.62(0.13)	0.58(0.13)
16.	Karnataka	NA	NA	NA	NA	NA
17.	Kerala	NA	NA	NA	NA	NA
18.	Lakshadweep	NA	NA	NA	NA	NA
19.	Madhya Pradesh	NA	NA	NA	NA	2.03(0.14)
20.	Maharashtra	0.72 (0.06)	NA	0.55(0.02)	0.37(0.03)	NA
21.	Manipur	NA	NA	NA	NA	NA
22.	Meghalaya	NA	1.68(-)	1.04(0.23)	0.24(0.12)	0.22(0.11)
23.	Mizoram	NA	NA	NA	NA	NA
24.	Nagaland	-	NA	-	-	-
25.	Odisha	NA	NA	NA	0.50(0.11)	0.39(0.08)
26.	Puducherry	0.51 (0.11)	0.34 (0.04)	0.24(0.08)	0.27(0.06)	0.25(0.02)
27.	Punjab	NA	NA	NA	NA	NA
28.	Rajasthan	1.23 (0.06)	1.52 (0.11)	1.47(0.11)	0.84(0.05)	0.27(0.03)
29.	Sikkim	NA	NA	NA	NA	NA
30.	Tamil Nadu	11.61 (2.88)	NA	NA	NA	4.36(0.95)
31.	Telangana	--	0.3(0.12)	0.27(0.08)	0.22(0.07)	0.17(0.05)
32.	Tripura	0.2 (0.06)	0.23 (0.07)	0.35(0.09)	0.07(0.04)	0.22(0.07)
33.	Uttar Pradesh	NA	NA	NA	NA	NA
34.	Uttarakhand	NA	NA	NA	0.15(0.07)	0.19(0.03)
35.	West Bengal	NA	NA	NA	NA	NA
Total		**0.75(0.09)**	**0.37(0.08)**	**0.49(0.06)**	**0.33(0.05)**	**0.51(0.1)**

Note: (i) F.R. = Frequency Rate per lakh man-days worked (ii) NA = Not Available, (iii) (-) = Nil or Negligible
(iv) Figures in bracket pertain to "Fatalities" and are included in the total
(v) For limitations of the data please refer note under table 7.1
(vi) Data for the year 2017 and beyond is yet to be updated by the Labour Bureau.

Source: Data received from Labour Bureau through correspondence.

Table 7.4- State-wise Incidence Rates of Industrial Injuries in Factories

Sl.	State/ Union Territory	2012	2013	2014	2015	2016
1.	Andaman & Nicobar	7.05 (-)	NA	9.37(-)	7.25(-)	10.32(-)
2.	Andhra Pradesh	1.15 (0.13)	1.18(0.25)	0.51(0.12)	0.32(0.11)	0.3(0.1)
3.	Arunachal Pradesh	NA	NA	NA	NA	NA
4.	Assam	0.45 (0.05)	0.53(0.02)	0.34(0.06)	0.22(0.04)	0.22(0.05)
5.	Bihar	0.8 (0.05)	0.85(0.02)	0.04(0.01)	0.95(0.05)	1.11(0.06)
6.	Chandigarh	0.24 (0.08)	0.16(-)	-	-	0.08(0.08)
7.	Chhattisgarh	0.67 (0.45)	0.59(0.37)	0.65(0.39)	0.44(0.26)	0.44(0.24)
8.	Daman & Diu and DNH	0.25 (0.07)	NA	0.28(0.1)	0.38(0.06)	0.28(0.08)
9.	Delhi	NA	NA	NA	NA	NA
10.	Goa	1.46 (0.1)	0.77(0.14)	1.17(0.07)	1(0.11)	0.64(0.03)
11.	Gujarat	NA	NA	NA	1.09(0.13)	0.86(0.15)
12.	Haryana	0.05 (0.02)	0.09(0.05)	0.09(0.05)	0.1(0.05)	0.15(0.07)
13.	Himachal Pradesh	NA	NA	0.43(0.03)	0.02(-)	0.05(0.01)
14.	Jammu & Kashmir	NA	NA	NA	NA	NA
15.	Jharkhand	NA	0.51(0.14)	0.49(0.12)	0.53(0.11)	0.37(0.08)
16.	Karnataka	NA	NA	NA	NA	NA
17.	Kerala	NA	NA	NA	NA	NA
18.	Lakshadweep	NA	NA	NA	NA	NA
19.	Madhya Pradesh	NA	NA	NA	NA	0.68(0.05)
20.	Maharashtra	1.25 (0.1)	NA	1.13(0.03)	0.79(0.07)	NA
21.	Manipur	NA	NA	NA	NA	NA
22.	Meghalaya	NA	1.44(-)	0.82(0.18)	0.18(0.09)	0.21(0.11)
23.	Mizoram	NA	NA	NA	NA	NA
24.	Nagaland	-	NA	-	-	-
25.	Odisha	NA	NA	NA	1.01(0.23)	0.78(0.17)
26.	Puducherry	0.46 (0.1)	0.35(0.04)	0.21(0.07)	0.25(0.06)	0.25(0.02)
27.	Punjab	NA	NA	NA	NA	NA
28.	Rajasthan	1.06 (0.05)	1.53(0.11)	1.52(0.11)	1.3(0.07)	0.23(0.03)
29.	Sikkim	NA	NA	NA	NA	NA
30.	Tamil Nadu	0.28 (0.07)	NA	NA	NA	0.26(0.06)
31.	Telangana	--	0.4(0.15)	0.4(0.12)	0.31(0.1)	0.26(0.08)
32.	Tripura	0.12 (0.03)	0.12(0.04)	0.14(0.03)	0.12(0.07)	0.09(0.03)
33.	Uttar Pradesh	NA	NA	NA	NA	NA
34.	Uttarakhand	NA	NA	NA	0.11(0.05)	0.14(0.03)
35.	West Bengal	-	NA	NA	NA	NA
Total		**0.79(0.09)**	**0.67(0.14)**	**0.71(0.08)**	**0.64(0.09)**	**0.42(0.08)**

Note: (i) I.R. = Incidence Rate per 1000 workers employed. (ii) NA = Not Available, (iii) (-) = Nil
(iv)Figures in bracket pertain to "Fatalities" and are included in the total,
(v)For limitations of the data please refer note under table 7.1
(vi) Data for the year 2017 and beyond is yet to be updated by the Labour Bureau.

Source: Data received from Labour Bureau through correspondence.

Table 7.5- Industrial Injuries and their Incidence Rate (IR) per Thousand Workers Employed by Important Industries

Sl.	Industry	NIC Code 2008	2012		2013		2014		2015		2016	
			Total Injuries	IR	Total Injuries	IR	Total Injuries	IR	Total Injuries	IR	Total Injuries	IR
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1.	All Textiles	13,14	1063 (44)	1.58 (1.52)	521 (66)	1.46 (0.19)	844 (19)	1.24 (0.03)	1235 (85)	1.27 (0.09)	709 (64)	0.56 (0.05)
2.	Manufacture of Paper & paper products & printing, publishing & allied products	17,18	178 (22)	1.17 (0.14)	49 (14)	0.48 (0.14)	79 (18)	0.38 (0.09)	123 (23)	0.43 (0.08)	119 (33)	0.38 (0.11)
3.	Manufacture of Chemicals & Chemical products (Except Petroleum and coal products)	20	562 (94)	1.37 (0.23)	197 (36)	1.37 (0.25)	337 (31)	1.12 (0.1)	710 (102)	1.26 (0.18)	546 (146)	0.81 (0.22)
4.	Manufacture of Non-metallic mineral products	23	154 (39)	0.26 (0.06)	287 (48)	0.57 (0.10)	179 (58)	0.3 (0.1)	294 (47)	0.39 (0.06)	134 (56)	0.16 (0.07)
5.	Basic metal and alloys Industries	24	503 (130)	1 (0.26)	274 (101)	0.62 (0.23)	603 (134)	1.01 (0.22)	506 (154)	0.58 (0.18)	377 (144)	0.45 (0.17)
6.	Manufacture of metal products & Parts (except machinery & transport equipment)	25	300 (52)	0.56 (0.1)	57 (16)	0.25 (0.07)	259 (14)	0.53 (0.03)	417 (35)	0.66 (0.06)	313 (30)	0.53 (0.05)
7.	Manufacture of machinery, machine tools & parts tools (except electrical machinery)	28	293 (8)	0.87 (0.02)	13 (4)	0.08 (0.02)	293 (9)	0.92 (0.03)	199 (19)	0.48 (0.05)	139 (21)	0.35 (0.05)

Contd. ...

Sl.	Industry	NIC Code 2008	2012		2013		2014		2015		2016	
			Total Injuries	IR	Total Injuries	IR	Total Injuries	IR	Total Injuries	IR	Total Injuries	IR
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
8.	Manufacture of transport equipment and parts	30	236 (17)	1.39 (0.1)	84 (4)	1.13 (0.05)	233 (9)	1.71 (0.07)	232 (13)	1.68 (0.09)	134 (5)	0.75 (0.03)
9.	Electricity, Gas and Steam	35	311 (54)	1.88 (0.33)	112 (47)	1.09 (0.46)	131 (40)	0.78 (0.24)	173 (49)	0.81 (0.23)	167 (40)	0.57 (0.14)
Total of (Sl. 1 to 9 Industries)			3600 (460)	1.61 (0.21)	1594 (336)	0.75 (0.16)	2958 (332)	0.85 (0.09)	3889 (527)	0.81 (0.11)	2638 (539)	0.49 (0.1)
***Total of All Industries**			**5769 (682)**	**0.79 (0.09)**	**2445 (494)**	**0.67 (0.14)**	**4499 (515)**	**0.71 (0.08)**	**5500 (789)**	**0.64 (0.09)**	**3906 (777)**	**0.42 (0.08)**

Note: (i) Figures in brackets indicate "Fatalities" and are included in the Total
(ii)* The figures for All Industries include the figures of other industries apart from above Industries shown.
(iii) For limitations of data refer footnote of table 7.1
(iv) Data for the year 2017 and beyond is yet to be updated by the Labour Bureau.

Source: Data received from Labour Bureau through correspondence.

Table 7.6- Frequency Rate of Total Injuries by Important Industries

Sl.	Industry	NIC Code 2008	2012	2013	2014	2015	2016
1.	All Textiles	13,14	1.26	1.13	0.77	0.75	0.65
2.	Manufacture of Paper & paper products & printing, publishing & allied products	17,18	0.74	0.40	0.30	0.32	0.39
3.	Manufacture of Chemicals & Chemical products (Except products of Petroleum and coal)	20	1.25	0.95	0.63	0.76	1.04
4.	Manufacture of Non-metallic mineral products	23	0.34	0.85	0.33	0.46	0.3
5.	Basic metal and alloys Industries	24	0.69	0.53	0.65	0.42	0.49
6.	Manufacture of metal products & Parts(except machinery & transport equipment)	25	0.51	0.26	0.40	0.48	1.06
7.	Manufacture of machinery, machine tools & parts (except electrical machinery)	28	0.59	0.07	0.55	0.32	0.48
8.	Manufacture of transport equipment and parts	30	0.96	0.90	0.90	0.89	0.99
9.	Electricity, Gas and Steam	35	1.45	0.64	0.41	0.41	0.61
Total of (Sl. 1 to 9 Industries)			0.84	0.68	0.58	0.56	0.64
*** Total of All Industries**			**0.75**	**0.37**	**0.49**	**0.33**	**0.51**

Note: (i)* The figures for All Industries include the figures of other industries apart from above industries shown.
(ii) For limitations of data refer footnote of table 7.1
(iii) Data for the year 2017 and beyond is yet to be updated by the Labour Bureau.

Source: Data received from Labour Bureau through correspondence.

Table 7.7- Industrial injuries in Factories by causes

Sl.	Causation	2013		2014		2015		2016	
		Total	Fatal	Total	Fatal	Total	Fatal	Total	Fatal
1.	Prime movers	21	9	36	9	68	19	67	17
2.	Machinery moved by Mechanical Power	456	55	273	66	994	132	583	95
3.	Machinery not moved by Mechanical Power	68	11	87	8	258	28	170	24
4.	Transport whether moved by Power or not	63	22	58	22	46	5	112	29
5.	Electricity	50	30	77	44	87	36	185	91
6.	Explosions	76	64	36	15	200	54	118	44
7.	Fires	76	15	96	11	148	28	179	39
8.	Gassing	19	11	27	21	129	27	68	19
9.	Molten Metals & other Hot or Corrosive Substances	42	9	55	17	177	40	127	37
10.	Hand Tools	90	2	77	8	234	8	131	5
11.	Falling Bodies	140	32	107	17	218	21	229	52
12.	Persons Falling	345	91	264	69	515	114	324	89
13.	Stepping on or Striking against Objects	156	16	101	12	319	17	158	18
14.	Handling Goods or Articles	244	9	260	6	425	28	289	22
15.	Others	506	77	301	40	1353	135	934	115
Total		**2352**	**453**	**1855**	**365**	**5171**	**692**	**3674**	**696**

Note: (i) For limitations of data refer footnote of table 7.1
(ii) The Total in table 7.7 may not tally with the corresponding tables 7.1, 7.2 and 7.4 due to non- availability of cause-wise data of industrial injuries.
(iii) Data for the year 2017 and beyond is yet to be updated by the Labour Bureau.

Source: Data received from Labour Bureau through correspondence.

8

Statistics on Status of compliance with statutory provisions of the Factories Act, 1948

DGFASLI receives information relating to factories covered under the provisions of the Factories Act, 1948 from States and Union Territories from time to time. This information is mainly collected through Factory Advice Service (FAS) Forms as well as through correspondence as and when required from the CIFs of the States/UTs. This information can be used to know the state-wise status of safety and health as well as compliance level with statutory standards in factories. The information can be used for estimation of various trends. It is emphasized here that for ascertaining the correctness or the updated information given in the following pages/tables, the State Governments/Union Territory Administration concerned may be contacted.

Statistics of Factories at a Glance: 2018

No. of registered factories		364268
No. of working factories		312841
Employment	Total	18724733
	Women	2544200
No. of Safety Officers		4601
No. of Welfare Officers		4347
No. of Medical Officers		3539
No. of factories having Safety Policy		28425
No. of factories having Safety Committees		21091
No. of Hazardous Process factories		44207
No. of factories having On-site Emergency Plan		2369
No. of factories having Canteens Facility		10499
No. of factories having Crèche Facility		7927
Total Injuries		5682
Fatal Injuries		1154

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Table 8(a): Fatal Injuries and Non-Fatal Injuries in registered factories (2009-2013)

Sl.	State/UT	2009	2010	2011	2012	2013
		FI/N-FI	FI/N-FI	FI/N-FI	FI/N-FI	FI/N-FI
1	Andaman & Nicobar	#/49	#/#	#/57	#/71	#/46
2	Andhra Pradesh	165/927	188/923	156/1258	106/487	97/472
3	Arunachal Pradesh	*/*	*/*	*/*	*/*	*/*
4	Assam	4/48	6/46	8/69	8/70	8/57
5	Bihar	14/34	1/15	4/91	9/126	4/156
6	Chandigarh	#/8	#/2	8/6	1/1	#/2
7	Chhattisgarh	114/342	84/341	97/222	103/164	97/43
8	DD & DNH	14/13	14/31	17/38	13/31	12/57
9	Delhi	14/26	15/39	29/43	6/18	13/14
10	Goa	10/134	12/97	11/92	7/86	10/44
11	Gujarat	173/2984	221/2430	249/3014	279/2781	250/1611
12	Haryana	51/104	38/51	61/87	37/41	51/46
13	Himachal Pradesh	19/32	5/11	17/25	10/11	11/23
14	Jammu & Kashmir	2/52	#/99	4/4	8/5	#/#
15	Jharkhand	36/180	43/149	19/94	33/149	37/92
16	Karnataka	80/927	92/779	87/1029	59/825	82/588
17	Kerala	41/106	7/79	19/369	14/426	27/386
18	Lakshadweep	*/*	*/*	*/*	*/*	*/*
19	Madhya Pradesh	51/1173	68/848	55/650	45/749	48/465
20	Maharashtra	217/2911	225/2540	183/2266	215/2333	199/2013
21	Manipur	#/#	#/#	#/#	#/#	#/#
22	Meghalaya	0/14	2/12	#/1	1/1	3/3
23	Mizoram	#/#	#/#	#/#	#/#	#/#
24	Nagaland	#/#	#/#	#/#	#/#	#/#
25	Odisha	122/426	103/457	60/487	78/390	58/196
26	Puducherry	8/102	10/46	10/46	8/30	3/25
27	Punjab	35/248	14/212	34/183	46/129	29/103
28	Rajasthan	56/699	65/534	63/683	34/699	55/706
29	Sikkim	*/*	*/*	*/*	*/*	*/*
30	Tamil Nadu	137/826	75/860	117/624	110/314	109/415
31	Telangana	*/*	*/*	*/*	*/*	*/*
32	Tripura	#/4	1/5	#/3	2/5	2/4
33	Uttar Pradesh	61/235	64/152	#/#	#/#	#/#
34	Uttarakhand	20/33	9/24	#/#	23/65	11/35
35	West Bengal	65/18947	97/19264	86/17364	62/18693	96/19250
Total		**1509/31584**	**1459/30046**	**1394/28805**	**1317/28700**	**1312/26852**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) FI – Fatal injuries and N-FI – Non-Fatal Injuries
(ii) *: There are no registered factories in this State/UT.
(iii) #: Data not available/not reported by the CIF/NIL

Table 8(b): Fatal Injuries and Non-Fatal Injuries in registered factories (2014-2018)

Sl.	State/UT	2014	2015	2016	2017	2018
		FI/N-FI	FI/N-FI	FI/N-FI	FI/N-FI	FI/N-FI
1	Andaman & Nicobar	#/48	#/46	#/70	#/69	#/39
2	Andhra Pradesh	82/147	68/78	68/247	68/103	61/182
3	Arunachal Pradesh	*/*	*/*	*/*	*/*	#/#
4	Assam	13/58	8/40	12/41	10/54	12/35
5	Bihar	2/7	10/188	11/184	17/80	21/67
6	Chandigarh	#/#	#/#	1/#	1/4	#/2
7	Chhattisgarh	113/75	74/50	81/56	72/84	91/67
8	DD & DNH	21/47	12/58	15/39	16/30	25/50
9	Delhi	1/9	6/20	10/26	37/37	5/26
10	Goa	5/81	8/71	3/56	5/52	3/36
11	Gujarat	209/1334	206/1516	272/1169	229/1189	263/1036
12	Haryana	35/58	41/39	67/40	49/38	45/27
13	Himachal Pradesh	13/23	4/23	9/31	14/27	9/13
14	Jammu & Kashmir	3/18	#/14	1/2	#/1	#/1
15	Jharkhand	32/96	29/115	21/69	17/59	18/52
16	Karnataka	84/665	72/612	54/464	49/358	85/363
17	Kerala	24/234	20/326	18/158	16/236	22/145
18	Lakshadweep	*/*	*/*	*/*	*/*	*/*
19	Madhya Pradesh	41/383	44/348	30/358	30/268	22/265
20	Maharashtra	187/1687	145/1471	150/1352	137/1167	142/1292
21	Manipur	#/#	#/#	#/#	#/#	#/#
22	Meghalaya	1/1	#/1	2/1	3/3	4/5
23	Mizoram	#/#	#/#	#/#	#/#	#/#
24	Nagaland	#/#	#/#	#/#	#/#	#/#
25	Odisha	46/165	55/167	46/169	52/136	42/46
26	Puducherry	6/12	5/16	2/20	3/35	5/53
27	Punjab	16/98	21/100	23/115	20/117	16/85
28	Rajasthan	39/624	33/571	15/133	31/343	32/259
29	Sikkim	*/*	*/*	*/*	*/*	*/*
30	Tamil Nadu	105/293	87/327	104/344	71/192	84/205
31	Telangana	71/60	57/39	63/56	70/117	43/45
32	Tripura	2/8	4/3	1/3	#/#	2/6
33	Uttar Pradesh	45/47	39/57	46/63	58/52	48/62
34	Uttarakhand	7/42	21/21	10/44	9/15	15/41
35	West Bengal	63/19180	38/13940	54/57	#/#	39/23
Total		**1266/25500**	**1107/20257**	**1189/5367**	**1084/4866**	**1154/4528**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) FI – Fatal injuries and N-FI – Non-Fatal Injuries
(ii) *: There are no registered factories in this State/UT.
(iii) #: Data not available/not reported by the CIF/NIL

Table 8(c): OSH Data of registered factories (2009-2018)

Year	No. of Registered Factories	Total Employment	Dangerous Occurrences	Fatal Injuries	Non-fatal injuries	Total Injuries	Fatal injuries per lakh workers	Non-fatal injuries per lakh workers	Total injuries per lakh workers	Fatal injuries per thousand registered factories	Non-fatal injuries per thousand registered factories	Total injuries per thousand registered factories
2009	324761	13100129	-	1509	31584	33093	11.52	241.10	252.62	4.65	97.25	101.90
2010	337151 (3.82 %)	12719287 (-2.91 %)	-	1459 (-3.31 %)	30046 (-4.87 %)	31505 (-4.8 %)	11.47 (-0.42 %)	236.22 (-2.02 %)	247.69 (-1.95 %)	4.33 (-6.87 %)	89.12 (-8.37 %)	93.44 (-8.3 %)
2011	325209 (-3.54 %)	11634070 (-8.53 %)	649	1394 (-4.46 %)	28805 (-4.13 %)	30199 (-4.15 %)	11.98 (4.46 %)	247.59 (4.81 %)	259.57 (4.8 %)	4.29 (-0.95 %)	88.57 (-0.61 %)	92.86 (-0.63 %)
2012	353684 (8.76 %)	14910645 (28.16 %)	1310 (101.85 %)	1317 (-5.52 %)	28700 (-0.36 %)	30017 (-0.6 %)	8.83 (-26.28 %)	192.48 (-22.26 %)	201.31 (-22.44 %)	3.72 (-13.13 %)	81.15 (-8.39 %)	84.87 (-8.61 %)
2013	340226 (-3.81 %)	14042410 (-5.82 %)	1343 (2.52 %)	1312 (-0.38 %)	26852 (-6.44 %)	28164 (-6.17 %)	9.34 (5.78 %)	191.22 (-0.65 %)	200.56 (-0.37 %)	3.86 (3.56 %)	78.92 (-2.74 %)	82.78 (-2.46 %)
2014	361994 (6.4 %)	20034859 (42.67 %)	1534 (14.22 %)	1266 (-3.51 %)	25500 (-5.04 %)	26766 (-4.96 %)	6.32 (-32.37 %)	127.28 (-33.44 %)	133.60 (-33.39 %)	3.50 (-9.31 %)	70.44 (-10.75 %)	73.94 (-10.68 %)
2015	348429 (-3.75 %)	16374546 (-18.27 %)	1091 (-28.88 %)	1107 (-12.56 %)	20257 (-20.56 %)	21364 (-20.18 %)	6.76 (6.99 %)	123.71 (-2.8 %)	130.47 (-2.34 %)	3.18 (-9.16 %)	58.14 (-17.47 %)	61.32 (-17.07 %)
2016	360949 (3.59 %)	17376854 (6.12 %)	700 (-35.84 %)	1189 (7.41 %)	5367 (-73.51 %)	6556 (-69.31 %)	6.84 (1.21 %)	30.89 (-75.03 %)	37.73 (-71.08 %)	3.29 (3.68 %)	14.87 (-74.42 %)	18.16 (-70.38 %)
2017	339931 (-5.82 %)	16409493 (-5.57 %)	1382 (97.43 %)	1084 (-8.83 %)	4866 (-9.33 %)	5950 (-9.24 %)	6.61 (-3.46 %)	29.65 (-3.99 %)	36.26 (-3.89 %)	3.19 (-3.19 %)	14.31 (-3.73 %)	17.50 (-3.63 %)
2018	364268 (7.16 %)	18724733 (14.11 %)	1124 (-18.67 %)	1154 (6.46 %)	4528 (-6.95 %)	5682 (-4.50 %)	6.16 (-6.81)	24.18 (-9.49)	30.34 (-16.33)	3.17 (-0.63)	12.43 (-13.13)	15.60 (-10.86)

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.
N.B.: Figures in the bracket indicate percentage change as compared to the previous year.

The above table shows Occupational Safety and Health data of last 10 years (2009-2018) of factories registered under Factories Act, 1948.

The following observations can be made from the data:

- The no. of registered factories and total employment in registered factories registered shows an increasing trend in the last ten years. During the years 2009-2018, the no. of registered factories in India increased by 12% from 3,24,761 to 3,64,268 while the total no. of workers employed registered an increase of 43% from 1,31,00,129 to 1,87,24,733.

- It is also seen that both the fatal and non-fatal injuries registered a decline as compared to the base year 2009. The largest annual decline of 12.56% is seen in fatal injuries during the year 2015 while during the year 2016, non-fatal injuries registered the largest ever annual decline of 73.51%.

- There is a consistent decline every year in the no. of total injuries. Each year, the no. of total injuries reported is less than the previous year.

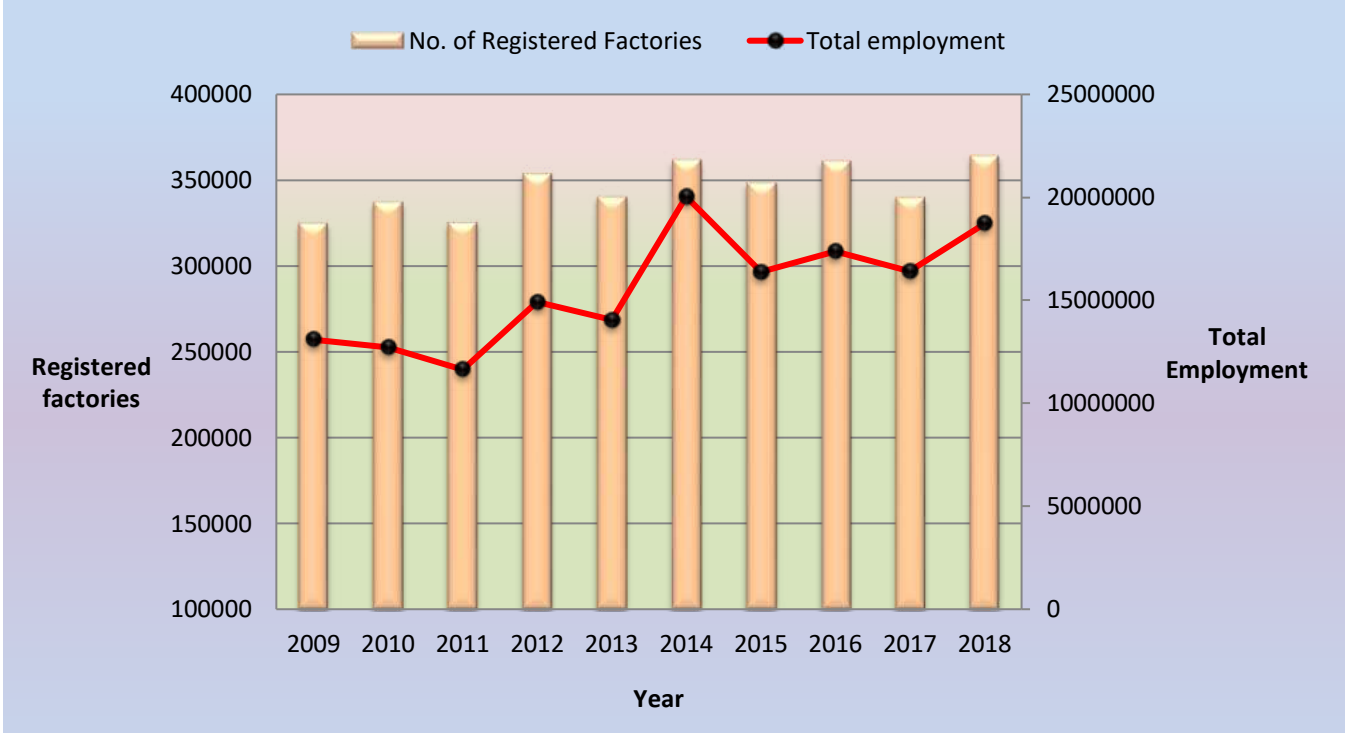
- There is decline of 23.53% in the no. of fatal injuries in the registered factories since 2009 to 2018 i.e. fatal injuries in registered factories decreased from 1509 to 1154. During the corresponding period, the non-fatal injuries in the registered factories decreased by 85.66% from 31,584 to 4,528.

- It can be observed from the table that the decline in the no. of injuries after the year 2015 is steeper vis-à-vis during the years preceding 2015. There is massive decline in the non-fatal injuries and thus, total injuries after the year 2015. After the year 2015, the state of West Bengal has reported a large decrease in the no. of non-fatal injuries during the year 2016 and 2018 as compared to previous years, while it didn't report data in the year 2017. (Refer table 8(a) and 8(b))

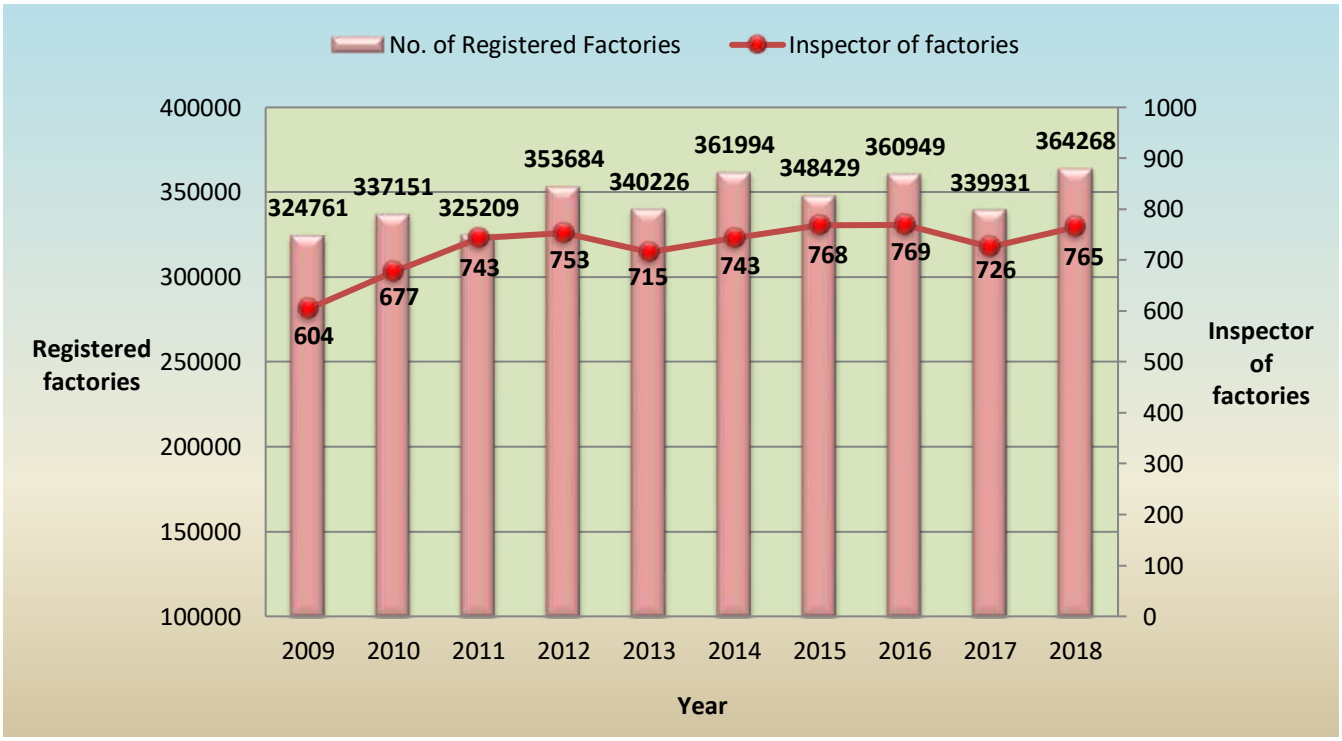
- The no. of fatal injuries and non-fatal injuries per lakh workers in the registered factories has witnessed declining trend since the year 2009. It can be noted that the non-fatal injuries per thousand registered factories and total injuries per thousand registered factories have shown a consistent declining trend since 2009. Each year the frequency rate is lower than the previous year.

- The no. of fatal injuries per lakh workers reduced from 11.52 to 6.16 during the last 10 years; while during the corresponding period, the no. of non-fatal injuries per lakh workers reduced from 241.10 to 24.18. During the same period, total injuries (both fatal and non-fatal) per lakh workers reduced from 252.62 to 30.34.

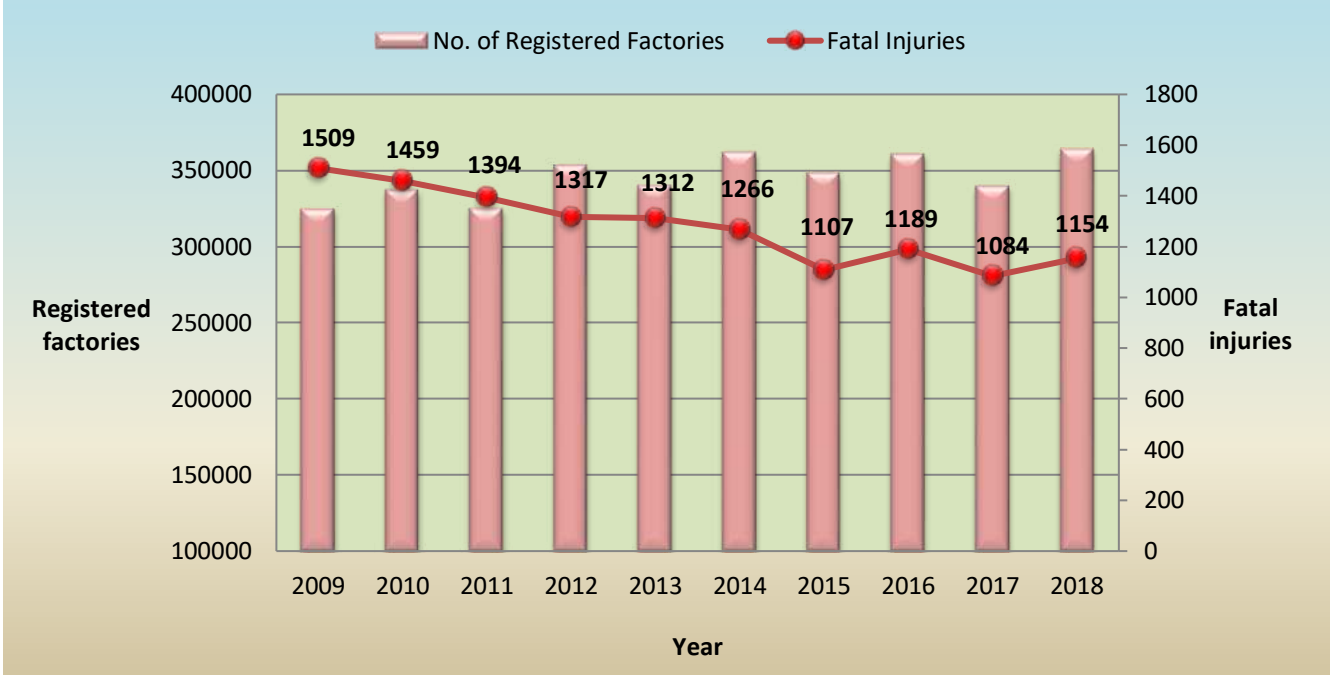
- The no. of fatal, non-fatal and total injuries per thousand registered factories, showing a declining trend during the period 2009-2018, reduced from 4.65 to 3.17, 97.25 to 12.43 and 101.90 to 15.60 respectively.



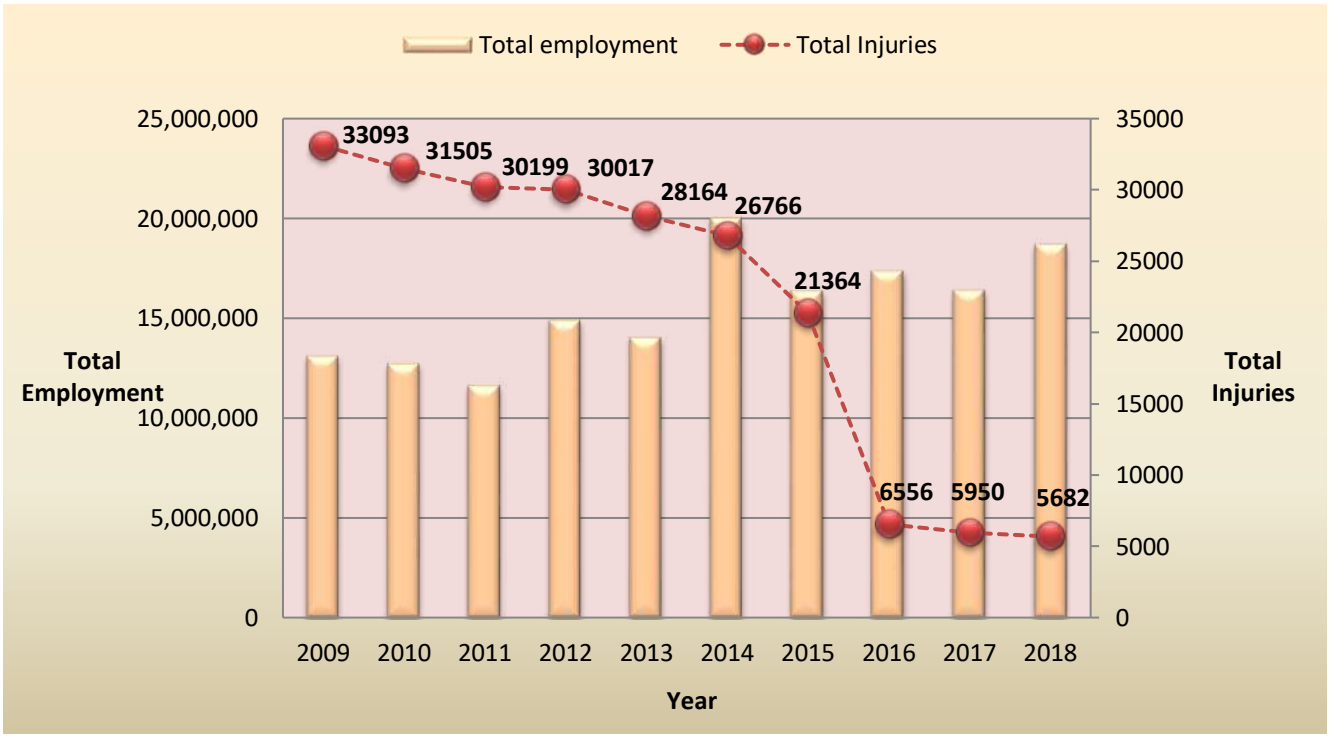
Graph 1: Registered factories and total employment in registered factories (2009-2018)



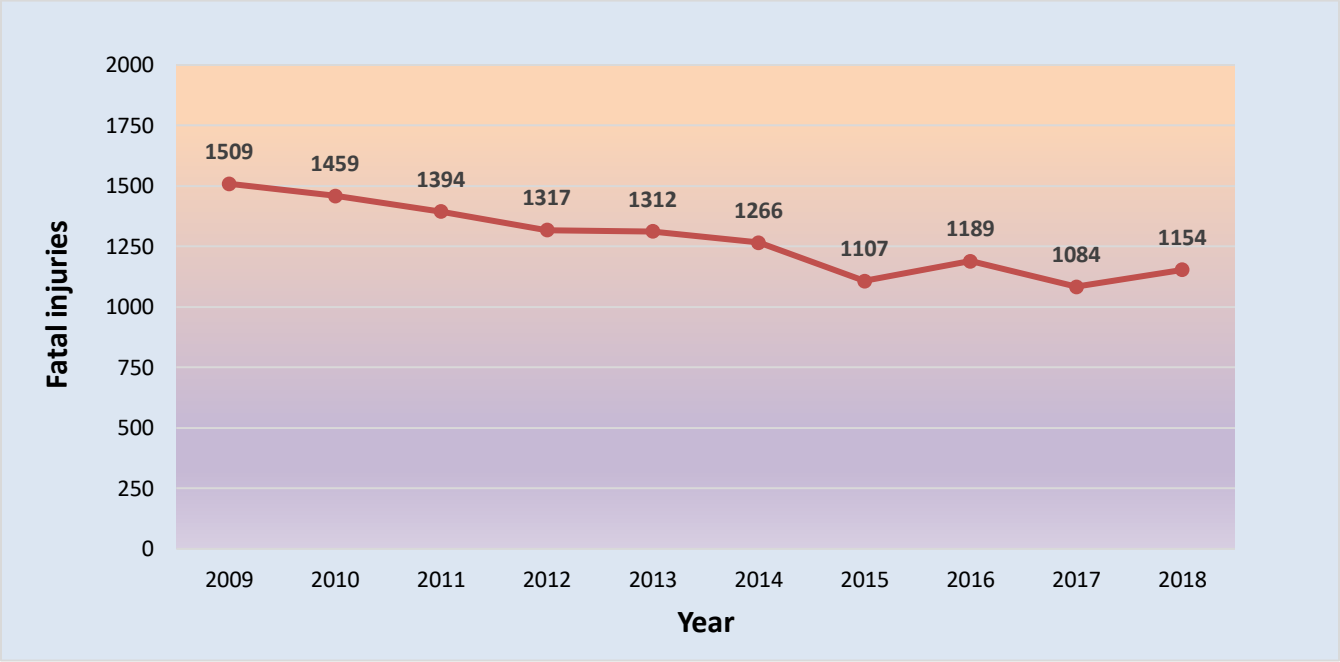
Graph 2: Registered factories and Inspector of factories (2009-2018)



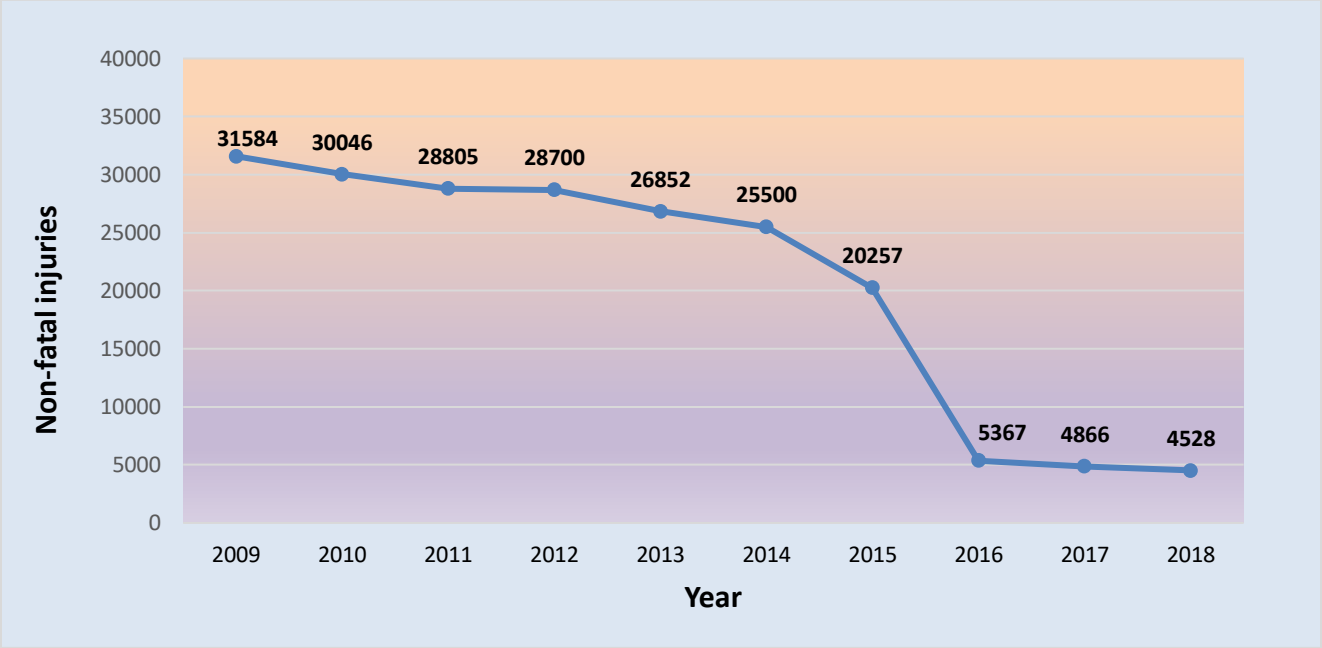
Graph 3: Registered factories and Fatal injuries in registered factories (2009-2018)



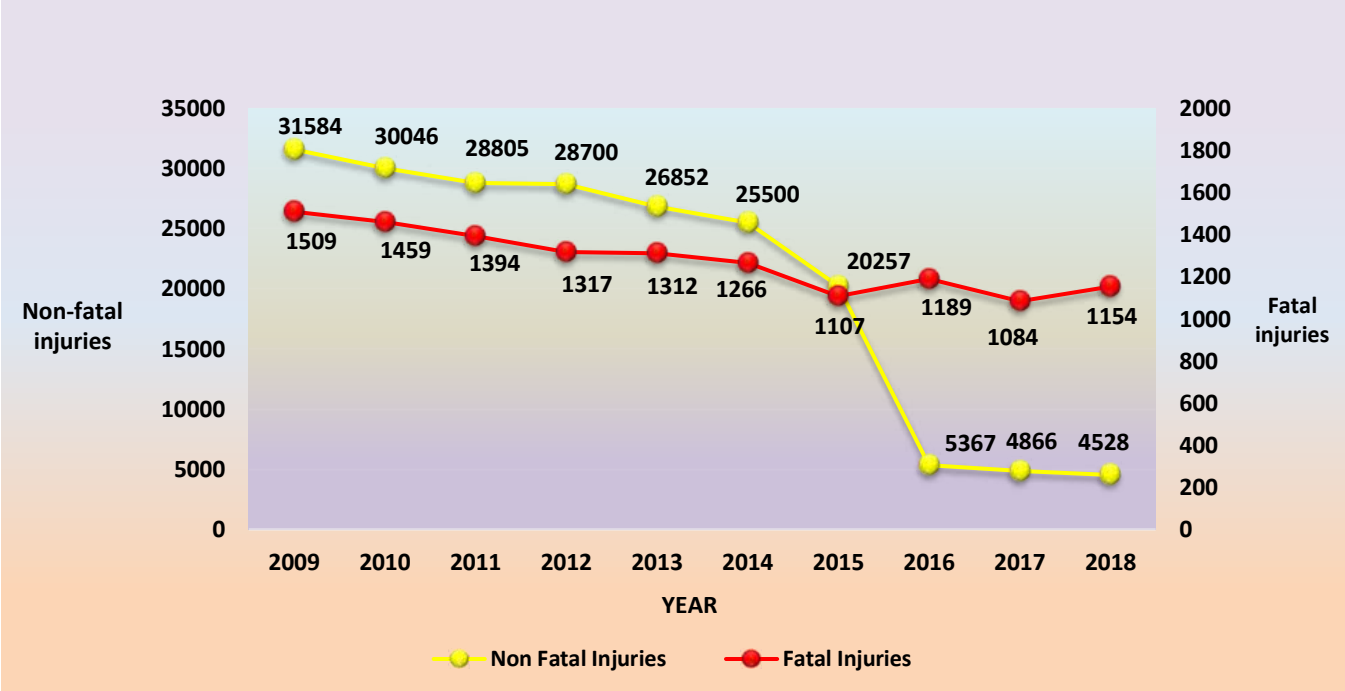
Graph 4: Total employment and Total injuries in registered factories (2009-2018)



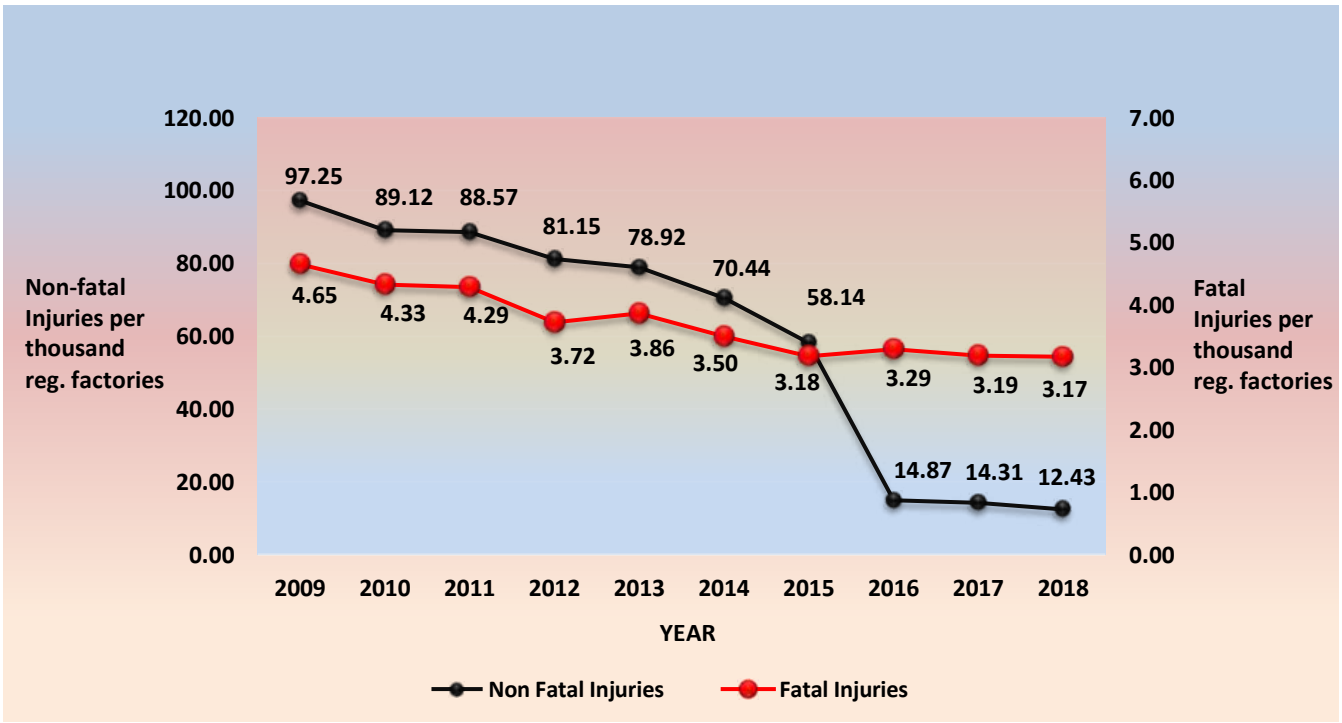
Graph 5: Fatal injuries in registered factories (2009-2018)



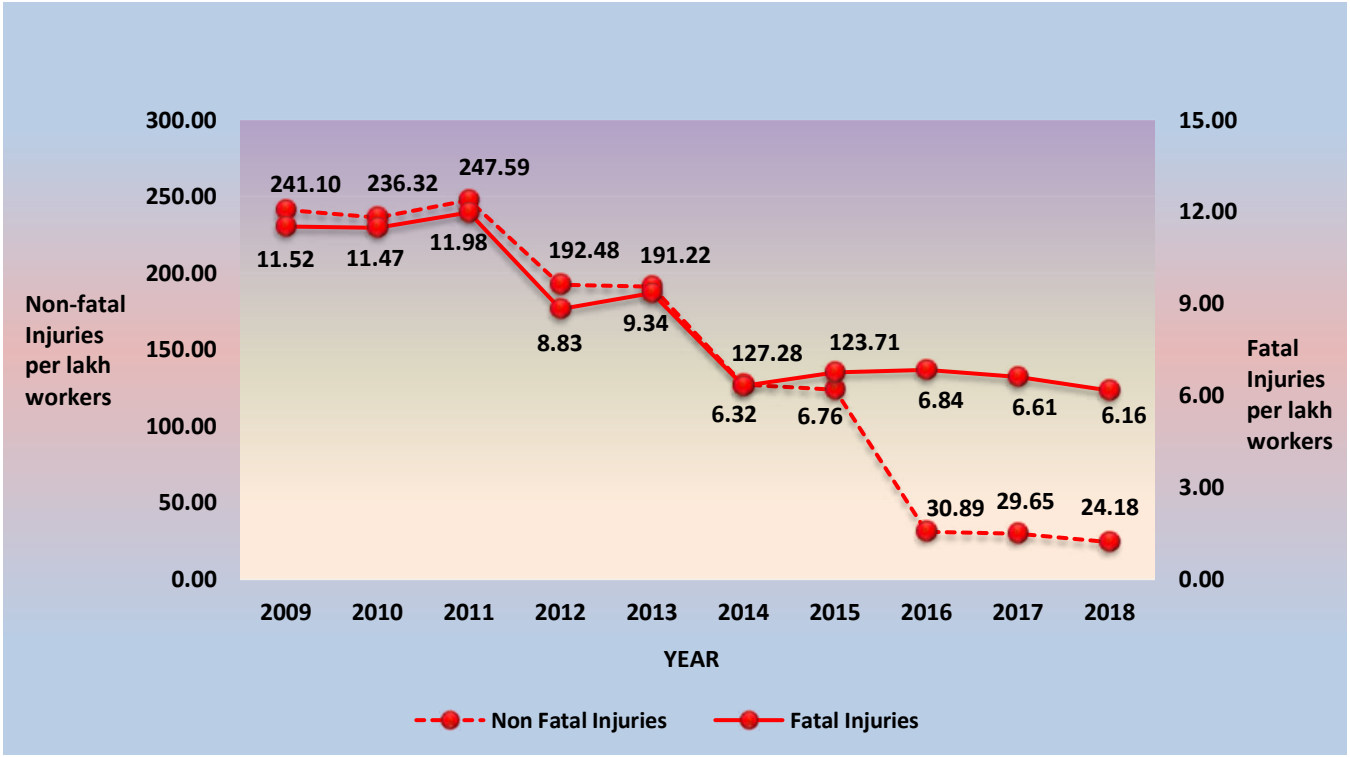
Graph 6: Non-fatal injuries in registered factories (2009-2018)



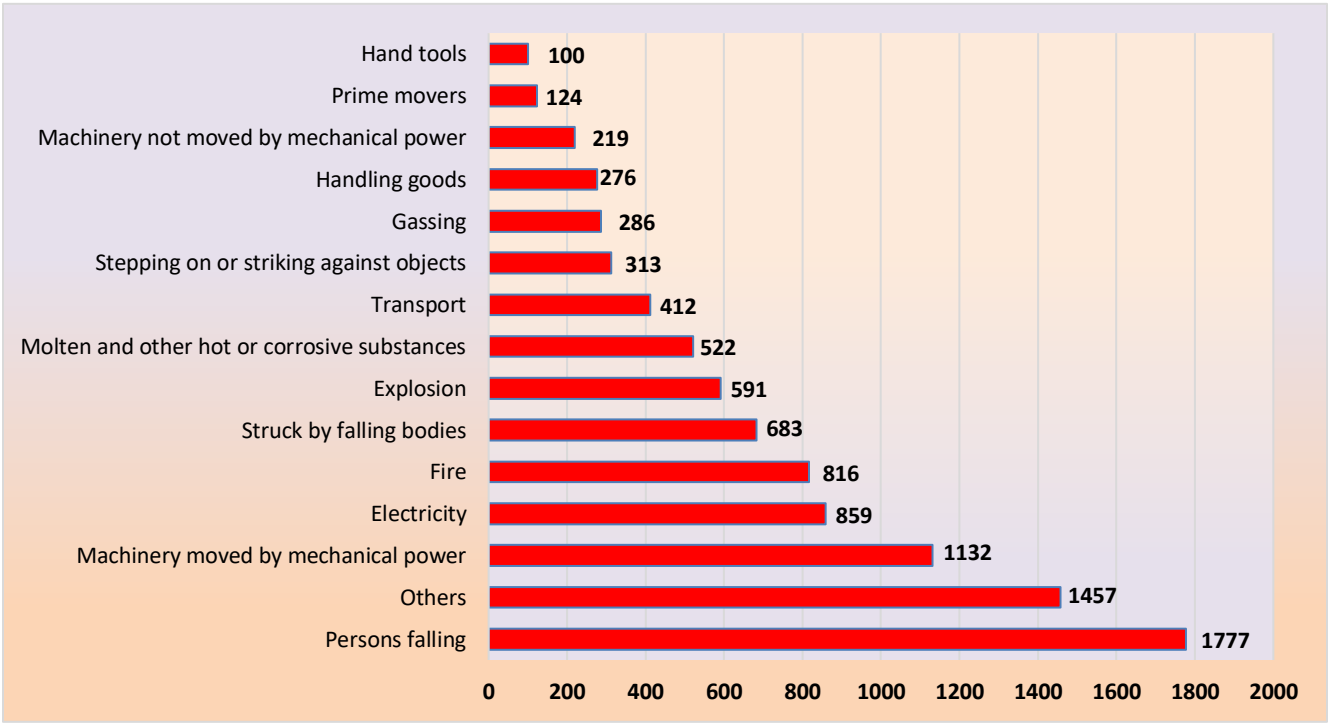
Graph 7: Fatal and Non-fatal injuries in registered factories (2009-2018)



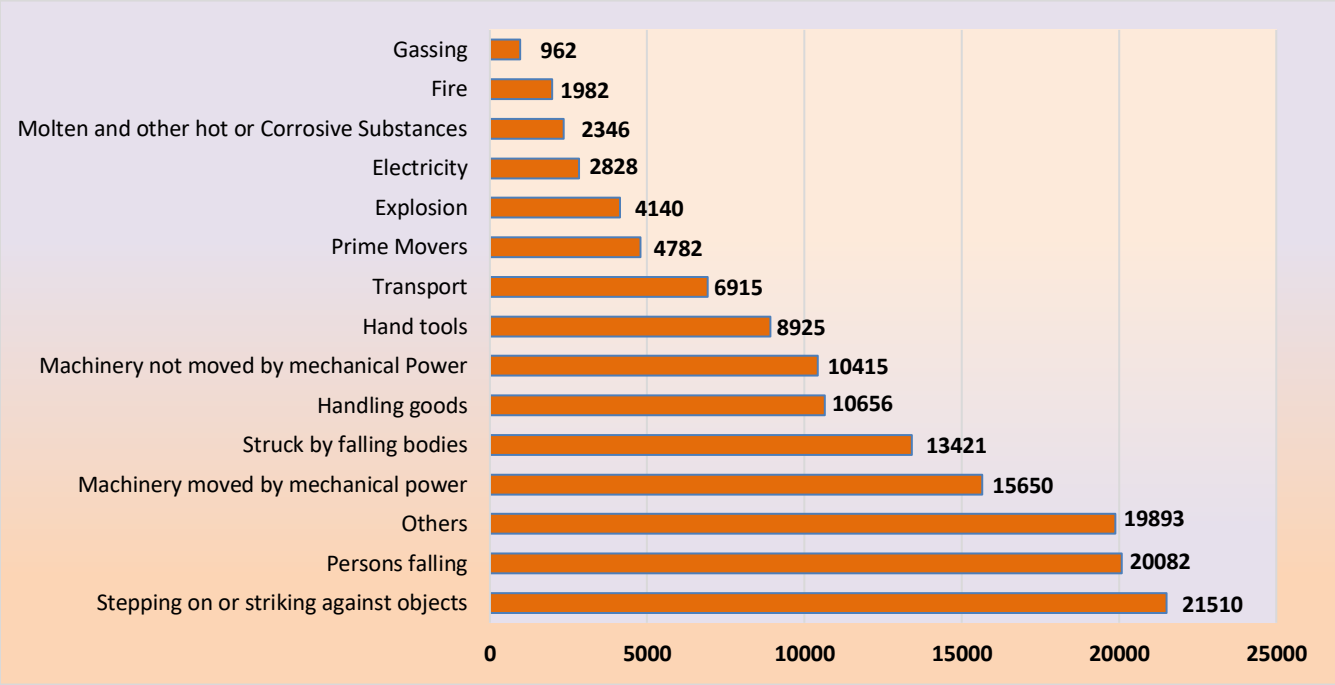
Graph 8: Fatal and Non-fatal injuries per thousand registered factories (2009-2018)



Graph 9: Fatal and Non-fatal injuries per lakh workers in registered factories (2009-2018)



Graph 10: Fatal injuries in registered factories: cause-wise (2009-2018)



Graph 11: Non-fatal injuries in registered factories: cause-wise (2009-2018)

Table 8.1- Inspectors of Factories (2018)

Sl.	State/UT	2018	
		Sanctioned	Working
1	Andaman and Nicobar Islands	2	2
2	Andhra Pradesh	53	43
3	Arunachal Pradesh	1	3
4	Assam	29	26
5	Bihar	21	10
6	Chandigarh	#	6
7	Chhattisgarh	29	25
8	Daman and Diu & Dadra and Nagar Haveli	1	1
9	Delhi	16	9
10	Goa	7	6
11	Gujarat	153	90
12	Haryana	36	32
13	Himachal Pradesh	2	49
14	Jammu and Kashmir	5	5
15	Jharkhand	25	17
16	Karnataka	63	52
17	Kerala	58	57
18	Lakshadweep	*	*
19	Madhya Pradesh	41	17
20	Maharashtra	131	54
21	Manipur	3	2
22	Meghalaya	4	3
23	Mizoram	2	1
24	Nagaland	3	3
25	Odisha	32	28
26	Puducherry	9	3
27	Punjab	29	18
28	Rajasthan	44	19
29	Sikkim	*	*
30	Tamil Nadu	168	94
31	Telangana	30	29
32	Tripura	5	5
33	Uttar Pradesh	47	27
34	Uttarakhand	2	2
35	West Bengal	48	27
Total		**1099**	**765**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.2- Medical Inspectors of Factories (2018)

Sl.	State/UT	2018	
		Sanctioned	Working
1	Andaman and Nicobar Islands	#	#
2	Andhra Pradesh	2	#
3	Arunachal Pradesh	#	#
4	Assam	1	#
5	Bihar	2	#
6	Chandigarh	#	#
7	Chhattisgarh	1	1
8	Daman and Diu & Dadra and Nagar Haveli	#	#
9	Delhi	1	1
10	Goa	1	1
11	Gujarat	5	1
12	Haryana	5	5
13	Himachal Pradesh	#	#
14	Jammu and Kashmir	#	#
15	Jharkhand	#	#
16	Karnataka	1	#
17	Kerala	4	1
18	Lakshadweep	*	*
19	Madhya Pradesh	1	1
20	Maharashtra	2	#
21	Manipur	#	#
22	Meghalaya	#	#
23	Mizoram	#	#
24	Nagaland	#	#
25	Odisha	1	#
26	Puducherry	1	1
27	Punjab	3	2
28	Rajasthan	1	1
29	Sikkim	*	*
30	Tamil Nadu	#	#
31	Telangana	1	#
32	Tripura	#	#
33	Uttar Pradesh	#	#
34	Uttarakhand	#	#
35	West Bengal	6	2
Total		**39**	**17**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.3- Chemical Inspectors of Factories (2018)

Sl.	State/UT	2018	
		Sanctioned	Working
1	Andaman and Nicobar Islands	#	#
2	Andhra Pradesh	1	1
3	Arunachal Pradesh	#	#
4	Assam	#	#
5	Bihar	2	1
6	Chandigarh	#	#
7	Chhattisgarh	#	#
8	Daman and Diu & Dadra and Nagar Haveli	#	#
9	Delhi	1	#
10	Goa	#	#
11	Gujarat	4	1
12	Haryana	5	5
13	Himachal Pradesh	1	#
14	Jammu and Kashmir	#	#
15	Jharkhand	#	#
16	Karnataka	#	#
17	Kerala	7	7
18	Lakshadweep	*	*
19	Madhya Pradesh	#	#
20	Maharashtra	#	#
21	Manipur	#	#
22	Meghalaya	#	#
23	Mizoram	#	#
24	Nagaland	#	#
25	Odisha	#	#
26	Puducherry	1	1
27	Punjab	#	#
28	Rajasthan	1	1
29	Sikkim	*	*
30	Tamil Nadu	#	#
31	Telangana	#	#
32	Tripura	#	#
33	Uttar Pradesh	#	#
34	Uttarakhand	#	#
35	West Bengal	8	6
Total		**31**	**23**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.4- Hygiene Inspectors of Factories (2018)

Sl.	State/UT	2018	
		Sanctioned	Working
1	Andaman and Nicobar Islands	#	#
2	Andhra Pradesh	#	#
3	Arunachal Pradesh	#	#
4	Assam	#	#
5	Bihar	#	#
6	Chandigarh	#	#
7	Chhattisgarh	#	#
8	Daman and Diu & Dadra and Nagar Haveli	#	#
9	Delhi	#	#
10	Goa	#	#
11	Gujarat	4	#
12	Haryana	#	#
13	Himachal Pradesh	#	#
14	Jammu and Kashmir	#	#
15	Jharkhand	#	#
16	Karnataka	#	#
17	Kerala	1	#
18	Lakshadweep	*	*
19	Madhya Pradesh	#	#
20	Maharashtra	#	#
21	Manipur	#	#
22	Meghalaya	#	#
23	Mizoram	#	#
24	Nagaland	#	#
25	Odisha	#	#
26	Puducherry	#	#
27	Punjab	#	#
28	Rajasthan	#	#
29	Sikkim	*	*
30	Tamil Nadu	#	#
31	Telangana	#	#
32	Tripura	#	#
33	Uttar Pradesh	#	#
34	Uttarakhand	#	#
35	West Bengal	#	#
Total		**5**	**0**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.5- Other Inspectors of Factories (2018)

Sl.	State/UT	2018	
		Sanctioned	Working
1	Andaman and Nicobar Islands	#	#
2	Andhra Pradesh	#	#
3	Arunachal Pradesh	#	#
4	Assam	#	#
5	Bihar	#	#
6	Chandigarh	#	#
7	Chhattisgarh	#	#
8	Daman and Diu & Dadra and Nagar Haveli	#	#
9	Delhi	#	#
10	Goa	#	#
11	Gujarat	21	14
12	Haryana	3	2
13	Himachal Pradesh	#	#
14	Jammu and Kashmir	#	#
15	Jharkhand	#	#
16	Karnataka	1	1
17	Kerala	#	#
18	Lakshadweep	*	*
19	Madhya Pradesh	#	#
20	Maharashtra	#	#
21	Manipur	#	#
22	Meghalaya	#	#
23	Mizoram	#	#
24	Nagaland	#	#
25	Odisha	#	#
26	Puducherry	1	1
27	Punjab	#	#
28	Rajasthan	1	1
29	Sikkim	*	*
30	Tamil Nadu	#	#
31	Telangana	#	#
32	Tripura	#	#
33	Uttar Pradesh	#	#
34	Uttarakhand	#	#
35	West Bengal	#	#
Total		**27**	**19**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.6- Certifying Surgeons (employed) in Factories (2018)

Sl.	State/UT	2018	
		Sanctioned	Working
1	Andaman and Nicobar Islands	#	#
2	Andhra Pradesh	#	#
3	Arunachal Pradesh	#	#
4	Assam	3	2
5	Bihar	#	#
6	Chandigarh	#	#
7	Chhattisgarh	#	#
8	Daman and Diu & Dadra and Nagar Haveli	#	#
9	Delhi	1	1
10	Goa	#	#
11	Gujarat	21	8
12	Haryana	#	#
13	Himachal Pradesh	#	#
14	Jammu and Kashmir	#	#
15	Jharkhand	#	#
16	Karnataka	#	#
17	Kerala	#	#
18	Lakshadweep	*	*
19	Madhya Pradesh	#	#
20	Maharashtra	1	1
21	Manipur	#	#
22	Meghalaya	#	#
23	Mizoram	#	#
24	Nagaland	#	#
25	Odisha	#	#
26	Puducherry	1	1
27	Punjab	#	#
28	Rajasthan	#	#
29	Sikkim	*	*
30	Tamil Nadu	9	7
31	Telangana	#	#
32	Tripura	#	#
33	Uttar Pradesh	#	#
34	Uttarakhand	#	#
35	West Bengal	6	2
Total		**42**	**22**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.7- Certifying Surgeons (notified) in Factories (2018)

Sl.	State/UT	2018	
		Sanctioned	Working
1	Andaman and Nicobar Islands	4	4
2	Andhra Pradesh	#	#
3	Arunachal Pradesh	#	#
4	Assam	#	#
5	Bihar	#	#
6	Chandigarh	#	#
7	Chhattisgarh	#	#
8	Daman and Diu & Dadra and Nagar Haveli	#	1
9	Delhi	1	1
10	Goa	1	1
11	Gujarat	#	#
12	Haryana	#	#
13	Himachal Pradesh	#	12
14	Jammu and Kashmir	#	#
15	Jharkhand	#	#
16	Karnataka	#	#
17	Kerala	#	#
18	Lakshadweep	*	*
19	Madhya Pradesh	#	#
20	Maharashtra	#	#
21	Manipur	#	#
22	Meghalaya	#	#
23	Mizoram	#	#
24	Nagaland	#	#
25	Odisha	#	#
26	Puducherry	#	#
27	Punjab	#	#
28	Rajasthan	#	#
29	Sikkim	*	*
30	Tamil Nadu	#	#
31	Telangana	#	#
32	Tripura	20	20
33	Uttar Pradesh	#	#
34	Uttarakhand	#	#
35	West Bengal	#	#
Total		**26**	**39**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.8- State-wise Status of Registered Factories (2018)

Sl.	State/UT	2018
1	Andaman and Nicobar Islands	46
2	Andhra Pradesh	25304
3	Arunachal Pradesh	233
4	Assam	6945
5	Bihar	7970
6	Chandigarh	838
7	Chhattisgarh	4838
8	Daman and Diu & Dadra and Nagar Haveli	6556
9	Delhi	13040
10	Goa	825
11	Gujarat	41412
12	Haryana	14388
13	Himachal Pradesh	5062
14	Jammu and Kashmir	1766
15	Jharkhand	5460
16	Karnataka	16365
17	Kerala	23678
18	Lakshadweep	*
19	Madhya Pradesh	6782
20	Maharashtra	38334
21	Manipur	964
22	Meghalaya	217
23	Mizoram	3
24	Nagaland	896
25	Odisha	4388
26	Puducherry	3021
27	Punjab	19914
28	Rajasthan	11387
29	Sikkim	*
30	Tamil Nadu	43867
31	Telangana	19281
32	Tripura	1901
33	Uttar Pradesh	16513
34	Uttarakhand	3465
35	West Bengal	18609
Total		**364268**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.9-State-wise Status of Working Factories (2018)

Sl.	State/UT	2018
1	Andaman and Nicobar Islands	46
2	Andhra Pradesh	19522
3	Arunachal Pradesh	230
4	Assam	5847
5	Bihar	6016
6	Chandigarh	392
7	Chhattisgarh	4321
8	Daman and Diu & Dadra and Nagar Haveli	4849
9	Delhi	8610
10	Goa	825
11	Gujarat	32192
12	Haryana	13855
13	Himachal Pradesh	5062
14	Jammu and Kashmir	1200
15	Jharkhand	4837
16	Karnataka	15189
17	Kerala	23121
18	Lakshadweep	*
19	Madhya Pradesh	6459
20	Maharashtra	37356
21	Manipur	964
22	Meghalaya	202
23	Mizoram	3
24	Nagaland	896
25	Odisha	2839
26	Puducherry	2055
27	Punjab	19584
28	Rajasthan	11387
29	Sikkim	*
30	Tamil Nadu	29838
31	Telangana	15143
32	Tripura	1667
33	Uttar Pradesh	16400
34	Uttarakhand	3325
35	West Bengal	18609
Total		**312841**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.10- State-wise Status of Employment in Factories (2018)

Sl.	State/UT	2018
1	Andaman and Nicobar Islands	5443
2	Andhra Pradesh	704322
3	Arunachal Pradesh	7517
4	Assam	279246
5	Bihar	195433
6	Chandigarh	3036
7	Chhattisgarh	357898
8	Daman and Diu & Dadra and Nagar Haveli	193960
9	Delhi	415308
10	Goa	97048
11	Gujarat	1725911
12	Haryana	1015697
13	Himachal Pradesh	340032
14	Jammu and Kashmir	70565
15	Jharkhand	308054
16	Karnataka	1504465
17	Kerala	597768
18	Lakshadweep	*
19	Madhya Pradesh	400294
20	Maharashtra	2565717
21	Manipur	13615
22	Meghalaya	10149
23	Mizoram	139
24	Nagaland	12526
25	Odisha	375114
26	Puducherry	86306
27	Punjab	694395
28	Rajasthan	533343
29	Sikkim	*
30	Tamil Nadu	2141922
31	Telangana	768000
32	Tripura	58019
33	Uttar Pradesh	1684701
34	Uttarakhand	355875
35	West Bengal	1202915
Total		**18724733**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.11- State-wise Status of Women Employment in Factories (2018)

Sl.	State/UT	2018
1	Andaman and Nicobar Islands	494
2	Andhra Pradesh	259948
3	Arunachal Pradesh	50
4	Assam	35939
5	Bihar	142
6	Chandigarh	242
7	Chhattisgarh	12432
8	Daman and Diu & Dadra and Nagar Haveli	38800
9	Delhi	29325
10	Goa	10771
11	Gujarat	112038
12	Haryana	122969
13	Himachal Pradesh	16680
14	Jammu and Kashmir	7849
15	Jharkhand	19363
16	Karnataka	480989
17	Kerala	237758
18	Lakshadweep	*
19	Madhya Pradesh	28021
20	Maharashtra	187943
21	Manipur	5997
22	Meghalaya	405
23	Mizoram	6
24	Nagaland	2166
25	Odisha	5968
26	Puducherry	6874
27	Punjab	3640
28	Rajasthan	11305
29	Sikkim	*
30	Tamil Nadu	747286
31	Telangana	26255
32	Tripura	9654
33	Uttar Pradesh	72649
34	Uttarakhand	30560
35	West Bengal	19682
Total		**2544200**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.12- State-wise Hazardous Process Factories under Sec. 2(cb)

Sl.	State/UT	2018
1	Andaman and Nicobar Islands	#
2	Andhra Pradesh	2055
3	Arunachal Pradesh	9
4	Assam	24
5	Bihar	133
6	Chandigarh	#
7	Chhattisgarh	812
8	Daman and Diu & Dadra and Nagar Haveli	25
9	Delhi	414
10	Goa	116
11	Gujarat	10908
12	Haryana	1471
13	Himachal Pradesh	400
14	Jammu and Kashmir	426
15	Jharkhand	694
16	Karnataka	1238
17	Kerala	2158
18	Lakshadweep	*
19	Madhya Pradesh	1356
20	Maharashtra	5600
21	Manipur	7
22	Meghalaya	122
23	Mizoram	#
24	Nagaland	2
25	Odisha	580
26	Puducherry	233
27	Punjab	382
28	Rajasthan	902
29	Sikkim	*
30	Tamil Nadu	1300
31	Telangana	2567
32	Tripura	44
33	Uttar Pradesh	3991
34	Uttarakhand	746
35	West Bengal	5492
Total		**44207**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.13- State-wise Status of Workers in Hazardous Factories (2018)

Sl.	State/UT	2018
1	Andaman and Nicobar Islands	#
2	Andhra Pradesh	112142
3	Arunachal Pradesh	625
4	Assam	15411
5	Bihar	48544
6	Chandigarh	#
7	Chhattisgarh	229917
8	Daman and Diu & Dadra and Nagar Haveli	850
9	Delhi	17448
10	Goa	27234
11	Gujarat	426128
12	Haryana	70813
13	Himachal Pradesh	113189
14	Jammu and Kashmir	16986
15	Jharkhand	109962
16	Karnataka	233498
17	Kerala	32352
18	Lakshadweep	*
19	Madhya Pradesh	98172
20	Maharashtra	673821
21	Manipur	838
22	Meghalaya	6995
23	Mizoram	#
24	Nagaland	73
25	Odisha	192117
26	Puducherry	10141
27	Punjab	27363
28	Rajasthan	111366
29	Sikkim	*
30	Tamil Nadu	148686
31	Telangana	186994
32	Tripura	1690
33	Uttar Pradesh	412970
34	Uttarakhand	165370
35	West Bengal	304808
Total		**3796503**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.14- No. of Factories Inspected (2018)

Sl.	State/UT	All Factories	Hazardous Factories
1	Andaman and Nicobar Islands	12	#
2	Andhra Pradesh	1878	141
3	Arunachal Pradesh	#	#
4	Assam	672	24
5	Bihar	77	40
6	Chandigarh	#	#
7	Chhattisgarh	590	427
8	Daman and Diu & Dadra and Nagar Haveli	180	25
9	Delhi	553	59
10	Goa	63	27
11	Gujarat	8907	2482
12	Haryana	990	244
13	Himachal Pradesh	1373	400
14	Jammu and Kashmir	643	229
15	Jharkhand	1047	216
16	Karnataka	11305	1308
17	Kerala	13213	879
18	Lakshadweep	*	*
19	Madhya Pradesh	713	580
20	Maharashtra	4911	1726
21	Manipur	209	7
22	Meghalaya	64	21
23	Mizoram	1	#
24	Nagaland	84	2
25	Odisha	1138	580
26	Puducherry	1012	172
27	Punjab	2637	285
28	Rajasthan	8794	847
29	Sikkim	*	*
30	Tamil Nadu	10762	1023
31	Telangana	2950	1029
32	Tripura	1206	44
33	Uttar Pradesh	1857	212
34	Uttarakhand	424	18
35	West Bengal	2385	1182
Total		**80650**	**14229**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.15- Prosecution & Conviction under Section 92 & 96A (2018)

Sl.	State/UT	No. of prosecutions			No. of convic-tions	Penalty imposed	
		pending from previous year	launched during the year	decided during the year		Imprison ment	Total fine imposed
1	Andaman and Nicobar Islands	#	#	#	#	#	#
2	Andhra Pradesh	1290	170	226	166	#	3721000
3	Arunachal Pradesh	#	#	#	#	#	#
4	Assam	93	29	#	#	#	#
5	Bihar	169	42	#	#	#	#
6	Chandigarh	#	#	#	#	#	#
7	Chhattisgarh	1827	186	121	31	#	9678000
8	Daman and Diu & Dadra and Nagar Haveli	#	#	#	#	#	#
9	Delhi	250	285	40	40	#	805000
10	Goa	20	5	7	5	#	134000
11	Gujarat	30263	1954	17674	1351	#	11172100
12	Haryana	4049	2543	1216	792	#	3789200
13	Himachal Pradesh	419	95	87	87	#	1684500
14	Jammu and Kashmir	117	#	75	#	#	#
15	Jharkhand	290	24	2	1	#	#
16	Karnataka	683	184	183	84	#	2819200
17	Kerala	154	68	33	37	#	883500
18	Lakshadweep	*	*	*	*	*	*
19	Madhya Pradesh	3480	160	16	#	#	887000
20	Maharashtra	1687	598	268	250	#	5666000
21	Manipur	#	#	#	#	#	#
22	Meghalaya	#	#	#	#	#	#
23	Mizoram	#	#	#	#	#	#
24	Nagaland	#	#	#	#	#	#
25	Odisha	2458	85	1	#	#	10000
26	Puducherry	4	6	5	#	#	194000
27	Punjab	1156	258	288	50	#	1364000
28	Rajasthan	300	35	24	24	#	278000
29	Sikkim	*	*	*	*	*	*
30	Tamil Nadu	11280	1863	1917	1877	#	19085300
31	Telangana	3191	770	90	90	#	396500
32	Tripura	10	13	6	#	#	54000
33	Uttar Pradesh	2134	244	98	98	#	3578000
34	Uttarakhand	126	16	126	#	#	#
35	West Bengal	423	41	17	17	#	1713000
Total		**65873**	**9674**	**22520**	**5000**	**#**	**67912300**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.16- State-wise Status of Safety Officers (SO) (2018)

Sl.	State/UT	2018			
		No. of factories		No. of Safety officers	
		Requiring Safety officers	Having Safety officers	Reqd. in factories	Working in factories
1	Andaman and Nicobar Islands	#	#	#	#
2	Andhra Pradesh	79	70	90	82
3	Arunachal Pradesh	3	1	3	#
4	Assam	8	8	74	74
5	Bihar	33	44	54	65
6	Chandigarh	3	3	3	3
7	Chhattisgarh	171	185	234	268
8	Daman and Diu & Dadra and Nagar Haveli	24	28	35	36
9	Delhi	14	#	14	#
10	Goa	59	60	137	124
11	Gujarat	706	758	934	807
12	Haryana	129	124	148	305
13	Himachal Pradesh	20	20	20	20
14	Jammu and Kashmir	45	21	45	21
15	Jharkhand	69	68	183	165
16	Karnataka	274	344	288	357
17	Kerala	42	40	43	42
18	Lakshadweep	*	*	*	*
19	Madhya Pradesh	114	111	134	130
20	Maharashtra	386	497	464	675
21	Manipur	4	4	4	4
22	Meghalaya	#	11	#	11
23	Mizoram	#	#	#	#
24	Nagaland	#	#	#	#
25	Odisha	126	110	342	371
26	Puducherry	10	9	10	9
27	Punjab	70	59	70	59
28	Rajasthan	68	66	73	82
29	Sikkim	*	*	*	*
30	Tamil Nadu	282	259	295	275
31	Telangana	147	141	147	141
32	Tripura	1	1	1	1
33	Uttar Pradesh	239	212	278	236
34	Uttarakhand	185	125	185	125
35	West Bengal	254	139	209	113
Total		**3565**	**3518**	**4517**	**4601**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.17- State-wise Status of Declaration of Safety Policy (2018)

Sl.	State/UT	2018	
		No. of factories	
		Requiring Safety policy	Having Safety policy
1	Andaman and Nicobar Islands	2	2
2	Andhra Pradesh	#	#
3	Arunachal Pradesh	3	1
4	Assam	132	132
5	Bihar	12	12
6	Chandigarh	#	#
7	Chhattisgarh	551	466
8	Daman and Diu & Dadra and Nagar Haveli	64	78
9	Delhi	3687	#
10	Goa	235	220
11	Gujarat	6828	6866
12	Haryana	1969	1696
13	Himachal Pradesh	370	370
14	Jammu and Kashmir	45	9
15	Jharkhand	627	431
16	Karnataka	2225	1885
17	Kerala	549	566
18	Lakshadweep	*	*
19	Madhya Pradesh	1942	1850
20	Maharashtra	3818	2924
21	Manipur	6	6
22	Meghalaya	202	202
23	Mizoram	#	#
24	Nagaland	#	#
25	Odisha	1622	1317
26	Puducherry	30	29
27	Punjab	512	431
28	Rajasthan	364	354
29	Sikkim	*	*
30	Tamil Nadu	2561	2534
31	Telangana	1135	1020
32	Tripura	#	#
33	Uttar Pradesh	5478	4671
34	Uttarakhand	275	270
35	West Bengal	893	83
Total		**36137**	**28425**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.18 State-wise Constitution of Safety Committee (2018)

Sl.	State/UT	2018	
		No. of factories	
		Requiring Safety Committee	Having Safety Committee
1	Andaman and Nicobar Islands	2	2
2	Andhra Pradesh	916	601
3	Arunachal Pradesh	1	#
4	Assam	132	132
5	Bihar	#	#
6	Chandigarh	#	#
7	Chhattisgarh	560	442
8	Daman and Diu & Dadra and Nagar Haveli	66	85
9	Delhi	43	#
10	Goa	215	218
11	Gujarat	5503	5521
12	Haryana	1027	930
13	Himachal Pradesh	370	370
14	Jammu and Kashmir	#	#
15	Jharkhand	197	169
16	Karnataka	2052	1629
17	Kerala	207	197
18	Lakshadweep	*	*
19	Madhya Pradesh	1503	1476
20	Maharashtra	2145	1724
21	Manipur	6	6
22	Meghalaya	80	20
23	Mizoram	#	#
24	Nagaland	#	#
25	Odisha	563	368
26	Puducherry	30	29
27	Punjab	422	381
28	Rajasthan	459	446
29	Sikkim	*	*
30	Tamil Nadu	1901	1730
31	Telangana	1135	1020
32	Tripura	10	1
33	Uttar Pradesh	3537	3241
34	Uttarakhand	275	270
35	West Bengal	893	83
Total		**24250**	**21091**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.19- State-wise Onsite Emergency Plan (in respect of MAH Units) (2018)

Sl.	State/UT	2018	
		No. of factories	
		Required to draw Emergency plan	Having drawn Emergency plan
1	Andaman and Nicobar Islands	2	2
2	Andhra Pradesh	86	86
3	Arunachal Pradesh	3	1
4	Assam	24	24
5	Bihar	39	39
6	Chandigarh	#	#
7	Chhattisgarh	38	38
8	Daman and Diu & Dadra and Nagar Haveli	#	26
9	Delhi	16	16
10	Goa	15	15
11	Gujarat	485	485
12	Haryana	62	56
13	Himachal Pradesh	8	8
14	Jammu and Kashmir	9	9
15	Jharkhand	18	18
16	Karnataka	308	303
17	Kerala	41	41
18	Lakshadweep	*	*
19	Madhya Pradesh	85	85
20	Maharashtra	393	386
21	Manipur	6	6
22	Meghalaya	#	#
23	Mizoram	#	#
24	Nagaland	2	2
25	Odisha	35	35
26	Puducherry	3	3
27	Punjab	72	72
28	Rajasthan	53	53
29	Sikkim	*	*
30	Tamil Nadu	110	98
31	Telangana	75	74
32	Tripura	9	8
33	Uttar Pradesh	138	115
34	Uttarakhand	185	180
35	West Bengal	85	85
Total		**2405**	**2369**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.20- State-wise Medical Facilities in Factories (2018)

Sl.	State/UT	2018			
		No. of medical officers			
		Full time basis		Retainership/ part time basis	
		Required	In position	Required	In position
1	Andaman and Nicobar Islands	#	#	#	#
2	Andhra Pradesh	251	209	#	#
3	Arunachal Pradesh	3	#	#	#
4	Assam	#	#	#	#
5	Bihar	27	22	3	3
6	Chandigarh	#	#	#	#
7	Chhattisgarh	207	148	331	220
8	Daman and Diu & Dadra and Nagar Haveli	20	20	#	85
9	Delhi	24	#	451	#
10	Goa	42	42	100	110
11	Gujarat	390	374	1891	1824
12	Haryana	100	76	113	117
13	Himachal Pradesh	350	350	2455	2408
14	Jammu and Kashmir	11	#	34	13
15	Jharkhand	89	92	144	94
16	Karnataka	534	463	395	361
17	Kerala	23	21	57	65
18	Lakshadweep	*	*	*	*
19	Madhya Pradesh	152	148	321	308
20	Maharashtra	763	496	1775	980
21	Manipur	1	1	5	5
22	Meghalaya	10	8	65	22
23	Mizoram	#	#	#	#
24	Nagaland	#	#	#	#
25	Odisha	127	157	105	74
26	Puducherry	10	9	29	23
27	Punjab	#	#	#	#
28	Rajasthan	99	63	45	70
29	Sikkim	*	*	*	*
30	Tamil Nadu	212	173	331	272
31	Telangana	264	218	51	51
32	Tripura	5	3	1	1
33	Uttar Pradesh	716	312	2336	1211
34	Uttarakhand	235	65	200	110
35	West Bengal	299	69	13	13
Total		**4964**	**3539**	**11251**	**8440**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.21- State-wise Ambulance Van and Ambulance Room (2018)

Sl.	State/UT	2018			
		No. of factories			
		Requiring Ambulance Vans	Having Ambulance Vans	Requiring Ambulance Rooms	Having Ambulance Rooms
1	Andaman and Nicobar Islands	2	2	2	2
2	Andhra Pradesh	#	#	152	143
3	Arunachal Pradesh	3	#	#	#
4	Assam	16	16	16	83
5	Bihar	30	30	30	30
6	Chandigarh	#	#	#	#
7	Chhattisgarh	190	171	150	121
8	Daman and Diu & Dadra and Nagar Haveli	#	34	#	38
9	Delhi	43	#	43	#
10	Goa	42	42	42	42
11	Gujarat	343	354	416	444
12	Haryana	139	125	137	112
13	Himachal Pradesh	203	203	203	203
14	Jammu and Kashmir	3	3	3	3
15	Jharkhand	67	60	85	74
16	Karnataka	501	461	447	438
17	Kerala	15	18	38	40
18	Lakshadweep	*	*	*	*
19	Madhya Pradesh	129	123	157	152
20	Maharashtra	813	496	526	436
21	Manipur	2	2	2	2
22	Meghalaya	15	2	1	8
23	Mizoram	#	#	#	#
24	Nagaland	#	#	#	#
25	Odisha	171	176	113	108
26	Puducherry	10	9	10	9
27	Punjab	#	#	112	92
28	Rajasthan	64	52	121	107
29	Sikkim	*	*	*	*
30	Tamil Nadu	244	224	387	341
31	Telangana	221	184	221	184
32	Tripura	5	3	5	3
33	Uttar Pradesh	903	338	802	403
34	Uttarakhand	200	70	250	210
35	West Bengal	317	39	301	65
Total		**4691**	**3237**	**4772**	**3893**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.22- State-wise Canteens, Shelters, Rest Rooms and Crèches (2018)

Sl.	State/UT	2018					
		Canteen		Shelter, Rest Room, Lunch Room		Crèches	
		Requiring	Having	Requiring	Having	Requiring	Having
1	Andaman and Nicobar Islands	3	3	3	3	2	2
2	Andhra Pradesh	340	329	511	491	427	377
3	Arunachal Pradesh	9	2	9	2	#	#
4	Assam	29	108	36	112	19	45
5	Bihar	114	34	98	48	1	1
6	Chandigarh	4	4	4	4	#	#
7	Chhattisgarh	179	166	250	251	21	26
8	DD and DNH	145	242	241	346	98	82
9	Delhi	144	#	428	#	#	#
10	Goa	160	163	180	260	75	43
11	Gujarat	1276	1240	2140	1899	405	395
12	Haryana	559	511	953	826	144	125
13	Himachal Pradesh	378	378	119	119	109	109
14	Jammu and Kashmir	5	5	18	18	#	#
15	Jharkhand	143	140	258	262	28	20
16	Karnataka	1007	974	1202	1242	1550	1320
17	Kerala	339	359	1216	1221	793	791
18	Lakshadweep	*	*	*	*	*	*
19	Madhya Pradesh	268	252	556	551	80	78
20	Maharashtra	1496	1338	2646	2378	836	445
21	Manipur	6	6	10	10	21	21
22	Meghalaya	15	25	11	35	8	2
23	Mizoram	2	1	2	1	2	1
24	Nagaland	82	51	#	#	#	#
25	Odisha	198	180	351	355	62	54
26	Puducherry	37	28	53	38	7	4
27	Punjab	316	286	404	376	104	87
28	Rajasthan	309	293	595	590	64	64
29	Sikkim	*	*	*	*	*	*
30	Tamil Nadu	1772	1714	3098	3008	3546	3327
31	Telangana	452	435	789	735	263	234
32	Tripura	3	2	3	2	1	#
33	Uttar Pradesh	743	591	1573	1324	243	220
34	Uttarakhand	586	545	260	185	65	48
35	West Bengal	179	94	549	183	29	6
Total		**11298**	**10499**	**18566**	**16875**	**9003**	**7927**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.23- State-wise Welfare Officers (2018)

Sl.	State/UT	2018			
		No. of factories		No. of welfare officers	
		Requiring welfare officers	Having welfare officers	Required in factories	Working in factories
1	Andaman and Nicobar Islands	2	2	2	2
2	Andhra Pradesh	139	114	157	129
3	Arunachal Pradesh	5	#	5	#
4	Assam	16	81	16	81
5	Bihar	28	24	41	37
6	Chandigarh	3	3	3	3
7	Chhattisgarh	131	134	111	112
8	Daman and Diu & Dadra and Nagar Haveli	49	49	76	76
9	Delhi	43	#	#	#
10	Goa	42	42	42	42
11	Gujarat	572	574	620	610
12	Haryana	177	158	190	166
13	Himachal Pradesh	91	91	91	91
14	Jammu and Kashmir	3	3	3	3
15	Jharkhand	74	70	111	95
16	Karnataka	490	496	554	558
17	Kerala	53	53	53	54
18	Lakshadweep	*	*	*	*
19	Madhya Pradesh	157	151	171	168
20	Maharashtra	639	606	710	645
21	Manipur	1	1	1	1
22	Meghalaya	1	2	1	2
23	Mizoram	#	#	#	#
24	Nagaland	#	#	#	#
25	Odisha	146	111	156	149
26	Puducherry	10	9	10	9
27	Punjab	144	120	144	120
28	Rajasthan	135	132	138	138
29	Sikkim	*	*	*	*
30	Tamil Nadu	447	374	484	411
31	Telangana	212	190	212	190
32	Tripura	1	1	1	1
33	Uttar Pradesh	317	245	341	279
34	Uttarakhand	384	72	384	72
35	West Bengal	163	127	167	103
Total		**4675**	**4035**	**4995**	**4347**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.24- Fatal and Non-Fatal Injuries in Factories (2018)

Sl.	State/UT	2018		
		Dangerous occurrences	Fatal injuries	Non-fatal injuries
1	Andaman and Nicobar Islands	#	#	39
2	Andhra Pradesh	6	61	182
3	Arunachal Pradesh	#	#	#
4	Assam	#	12	35
5	Bihar	3	21	67
6	Chandigarh	2	#	2
7	Chhattisgarh	37	91	67
8	Daman and Diu & Dadra and Nagar Haveli	#	25	50
9	Delhi	31	5	26
10	Goa	#	3	36
11	Gujarat	551	263	1036
12	Haryana	41	45	27
13	Himachal Pradesh	22	9	13
14	Jammu and Kashmir	1	#	1
15	Jharkhand	#	18	52
16	Karnataka	126	85	363
17	Kerala	48	22	145
18	Lakshadweep	#	#	#
19	Madhya Pradesh	1	22	265
20	Maharashtra	118	142	1292
21	Manipur	#	#	#
22	Meghalaya	3	4	5
23	Mizoram	#	#	#
24	Nagaland	#	#	#
25	Odisha	5	42	46
26	Puducherry	#	5	53
27	Punjab	#	16	85
28	Rajasthan	#	32	259
29	Sikkim	#	#	#
30	Tamil Nadu	108	84	205
31	Telangana	14	43	45
32	Tripura	#	2	6
33	Uttar Pradesh	#	48	62
34	Uttarakhand	#	15	41
35	West Bengal	7	39	23
Total		**1124**	**1154**	**4528**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.

Note: (i) *: There are no registered factories in this State/UT.
(ii) #: Data not reported by the CIF/Data not available/NIL.

Table 8.25- Occupational diseases (2018)

Sl.	State	Occupational Diseases	2018
1	Andaman and Nicobar Islands	-	NIL
2	Andhra Pradesh	-	NIL
3	Arunachal Pradesh	-	NIL
4	Assam	-	NIL
5	Bihar	-	NIL
6	Chandigarh	Silicosis	NIL
7	Chhattisgarh	Silicosis	2
		Noise Induced Hearing Loss	3
8	Daman and Diu & Dadra and Nagar Haveli	-	NIL
9	Delhi	-	NIL
10	Goa	-	NIL
11	Gujarat	Noise Induced Hearing Loss	3
12	Haryana	Silicosis	43
13	Himachal Pradesh	-	NIL
14	Jammu & Kashmir	-	NIL
15	Jharkhand	-	NIL
16	Karnataka	-	NIL
17	Kerala	-	NIL
18	Lakshadweep	-	*
19	Madhya Pradesh	-	NIL
20	Maharashtra	-	NIL
21	Manipur	-	NIL
22	Meghalaya	-	NIL
23	Mizoram	-	NIL
24	Nagaland	-	NIL
25	Odisha	-	NIL
26	Puducherry	-	NIL
27	Punjab	-	NIL
28	Rajasthan	Silicosis	3
29	Sikkim	-	*
30	Tamil Nadu	-	NIL
31	Telangana	-	NIL
32	Tripura	Silicosis	1
33	Uttar Pradesh	-	NIL
34	Uttarakhand	-	NIL
35	West Bengal	-	NIL
Total			**55**

Source: Data collected by DGFASLI through correspondence with Chief Inspector of Factories (CIF) of States/UTs.
Note: (i) *: There are no registered factories in this State/UT.

9

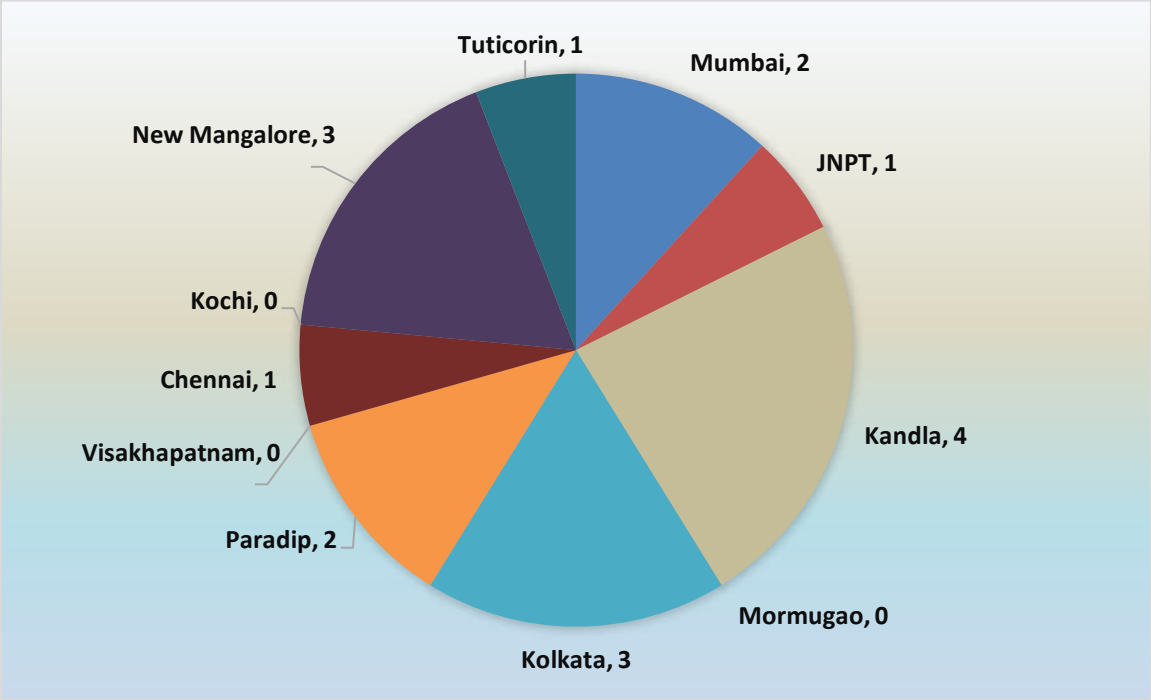
Statistics on Occupational Safety and Health in Dock Works of Major Ports

DGFASLI enforces the Dock Workers (Safety, Health & Welfare) Act, 1986 and Regulations 1990 in all the major ports of the country. The Inspectorate of Dock Safety offices located in the major ports enforce the Act and Regulations. Under Regulations 91(1) & (6) it is obligatory on the part of the Employers of the Dock Workers to report the accidents/dangerous occurrences to the Inspectorates.

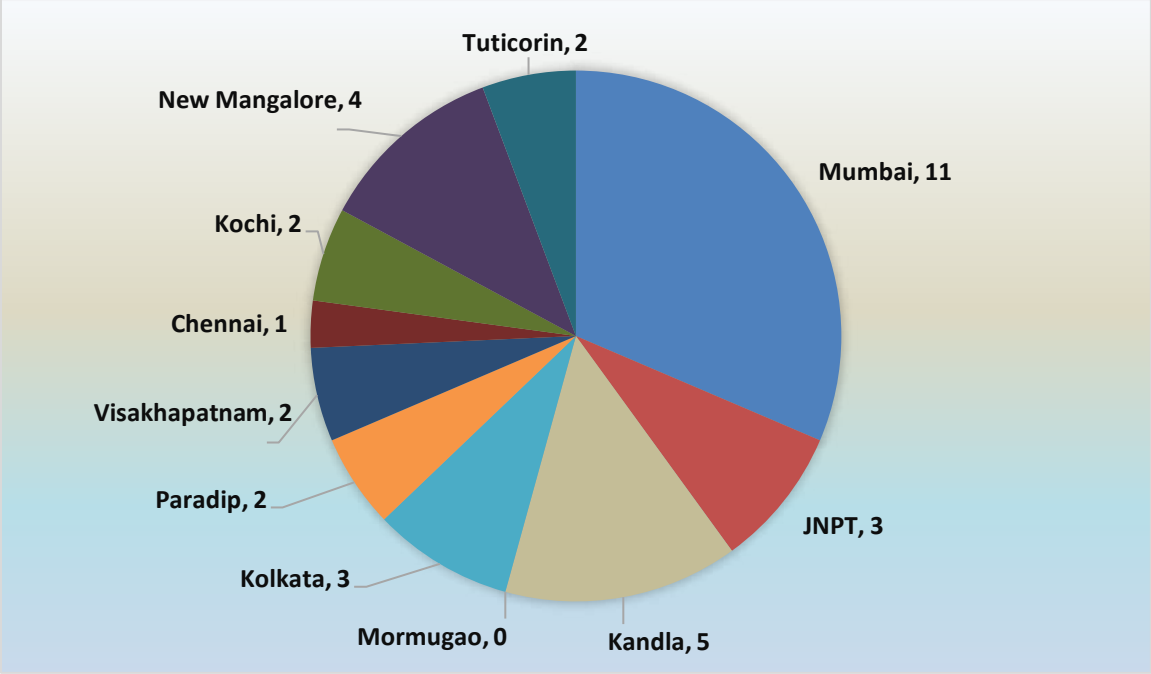
Important Statistics on Occupational Safety & Health in the major Ports of the country for the year 2019 are given in the subsequent tables:

Table 9.1- Reportable Accidents & Dangerous Occurrences in major Ports during the year 2019

Sl. No.	Port	Fatal	Total (Including Non-Fatal)	Dangerous Occurrences
1.	Mumbai	02	11	00
2.	JNPT	01	03	00
3.	Kandla	04	05	00
4.	Mormugao	00	00	02
5.	Kolkata	03	03	01
6.	Paradip	02	02	00
7.	Visakhapatnam	00	02	00
8.	Chennai	01	01	00
9.	Kochi	00	02	00
10.	New Mangalore	03	04	00
11.	Tuticorin	01	02	00
Total		**17**	**35**	**03**



Pie chart-1: Fatal Injuries in major ports (2019)



Pie chart-2: Fatal and Non-Fatal Injuries in major ports (2019)

Table 9.2: Average Daily Employment & Rates of Reportable Accidents in major Ports during the year 2019

Sl. No.	Port	Average Daily Employment	*Frequency Rate		*Incidence Rate of injuries per Thousand persons employed	
			Fatal	Total	Fatal	Total
1.	Mumbai	476	1.451	7.979	4.202	23.109
2.	JNPT	6219	0.056	0.167	0.161	0.482
3.	Kandla	3723	0.371	0.464	1.074	1.343
4.	Mormugao	1002	-	-	-	-
5.	Kolkata	9150	0.113	0.113	0.328	0.328
6.	Paradip	1566	0.441	0.441	1.277	1.277
7.	Visakhapatnam	2639	-	0.262	-	0.758
8.	Chennai	1297	0.266	0.266	0.771	0.771
9.	Kochi	269	-	2.567	-	7.435
10.	New Mangalore	153	6.771	9.028	19.608	26.143
11.	Tuticorin	347	0.995	1.990	2.882	5.764

***** Formula (As per IS: 3786 of 1983)

Frequency Rate = No. of Reportable Accidents X 1,000,000/Man-hours worked#.

Incidence Rate = No. of Reportable Accidents X 1000/ Avg. No. of Persons Employed.

Man-hours worked are calculated on the basis of 362 working days in a year

NA : Not Available

Table 9.3-Classification of Reportable Accidents in Major Ports – According to Agency for the Year-2019

Agency	Mumbai	JNPT	Kandla	Mormugao	Kolkata	Paradip	Visakhapatnam	Chennai	Kochi	New Mangalore	Tuticorin	TOTAL
I. Lifting appliances	01	01	--	--	--	--	--	--	--	--	--	**02**
II. Loose gear & Ropes	02(01)	--	--	--	--	--	--	--	02	01	--	**05(01)**
III. Unitized & Break bulk cargo	06	--	--	--	--	--	--	--	--	--	--	**06**
IV. Bulk cargo	--	--	--	--	--	--	01	--	--	01(01)	--	**02(01)**
V. Electrical equipment	--	--	--	--	--	01(01)	--	--	--	--	--	**01(01)**
VI. Tools & Implements	--	--	--	--	--	--	--	--	--	--	--	**--**
VII. Means of Access	--	--	01	--	--	--	--	--	--	--	--	**01**
VIII. Means of Transportat-ion	01(01)	01(01)	03(03)	--	01(01)	01(01)	--	01(01)	--	01(01)	02(01)	**11(10)**
IX. Other agencies	01	01	01(01)	--	02(02)	--	01	--	--	01(01)	--	**07(04)**
TOTAL	**11(02)**	**03(01)**	**05(04)**	**00**	**03(03)**	**02(02)**	**02**	**01(01)**	**02**	**04(03)**	**02(01)**	**35(17)**

Note: Figures in brackets represent Fatal Accidents.

Table 9.4- Classification of Reportable Accidents in Major Ports – According to Type for the Year-2019

TYPE		Mumbai	JNPT	Kandla	Mormugao	Kolkata	Paradip	Visakha-patnam	Chennai	Kochi	New Mangalore	Tuticorin	Total
I.	Fall of persons	02	02(01)	02(01)	--	02(02)	--	--	--	--	01	--	**09(04)**
II.	Fall of objects	03(01)	--	--	--	--	--	--	--	01	--	--	**04(01)**
III.	Stepping on, striking against or struck by objects excluding falling objects.	06(01)	--	03(03)	--	--	01(01)	--	01(01)	01	02(02)	02(01)	**16(09)**
IV.	Caught in or between	--	--	--	--	01(01)	--	--	--	--	--	--	**01(01)**
V.	Over exertion or wrong movement	--	--	--	--	--	--	--	--	--	--	--	**--**
VI.	Exposure to or contact with extreme temperature	--	--	--	--	--	--	--	--	--	--	--	**--**
VII.	Exposure to or contact with electric current	--	--	--	--	--	01(01)	--	--	--	--	--	**01(01)**
VIII.	Exposure to or contact with dangerous goods	--	--	--	--	--	--	--	--	--	--	--	**--**
IX.	Explosion	--	--	--	--	--	--	--	--	--	--	--	**--**
X.	Others	--	01	--	--	--	--	02	--	--	01(01)	--	**04(01)**
TOTAL		**11(02)**	**03(01)**	**05(04)**	**00**	**03(03)**	**02(02)**	**02**	**01(01)**	**02**	**04(03)**	**02(01)**	**35(17)**

Note: Figures in brackets represent Fatal Accidents.

Table 9.5- Details of Inspections and other visits in Major Ports during the Year 2019

Sl.	Port	Ship	Docks	Gear	Isolated Storage/ Pipelines	Other Visits
1.	Mumbai	122	007	117	01	167
2.	JNPT	051	034	034	00	056
3.	Kandla	184	132	104	11	107
4.	Mormugao	119	038	119	00	038
5.	Kolkata	225	092	217	04	217
6.	Paradip	183	052	183	02	134
7.	Visakhapatnam	202	028	217	01	262
8.	Chennai	094	088	104	01	063
9.	Kochi	061	109	248	03	056
10.	N. Mangalore	118	121	106	03	053
11.	Tuticorin	199	064	222	06	059
Total		**1558**	**765**	**1671**	**32**	**1212**

Table 9.6- Details of Prosecution in Major Ports during the Year 2019

Sl.	Port	Pending From Previous Year	Launched during the year	Decided during the year	Convicted
1.	Mumbai	05	00	00	00
2.	JNPT	02	00	00	00
3.	Kandla	07	00	00	00
4.	Mormugao	07	00	02	04
5.	Kolkata	12	08	02	02
6.	Paradip	07	02	00	00
7.	Visakhapatnam	05	00	03	06
8.	Chennai	06	01	00	00
9.	Kochi	02	01	02	00
10.	N. Mangalore	00	00	00	00
11.	Tuticorin	06	01	00	00
Total		**59**	**13**	**09**	**12**

Table 9.7- Investigation into Reportable Fatal Accidents/Dangerous Occurrences in 2019

Sl.	Port	Pending from Previous Year	Initiated during the year	Concluded during the year
1.	Mumbai	01	02	00
2.	JNPT	00	01	01
3.	Kandla	05	04	00
4.	Mormugao	01	02	01
5.	Kolkata	02	05	05
6.	Paradip	01	03	03
7.	Visakhapatnam	01	00	00
8.	Chennai	02	01	01
9.	Kochi	00	00	00
10.	New Mangalore	00	03	02
11.	Tuticorin	01	01	01
Total		**14**	**22**	**14**

Table 9.8- Dock Safety Committee Meetings conducted/Safety Weeks celebrated in 2019

Sl.	Port	Committee Meeting	Safety Weeks
1.	Mumbai	04	01
2.	JNPT	03	00
3.	Kandla	03	00
4.	Mormugao	02	01
5.	Kolkata	07	04
6.	Paradip	03	01
7.	Visakhapatnam	04	01
8.	Chennai	04	01
9.	Kochi	04	01
10.	N. Mangalore	04	01
11.	Tuticorin	04	01
Total		**42**	**12**

Table 9.9- Total Number of Ships Called in the Major Ports during 2018 and 2019

Sl.	Port	Total Nos. of Ships Called			
		Oil Tankers		Others	
		2018	2019	2018	2019
1.	Mumbai	1115	0855	0450	0639
2.	JNPT	0626	0587	3447	3304
3.	Kandla	1544	1735	1301	1603
4.	Mormugao	0144	0103	0673	0528
5.	Kolkata	1282	1281	2371	2248
6.	Paradip	0496	0559	1460	1453
7.	Visakhapatnam	0548	0583	1476	1471
8.	Chennai	0311	0299	1264	1240
9.	Kochi	0374	0417	1158	1218
10.	New Mangalore	0729	0746	0564	0592
11.	Tuticorin	0204	0200	1458	1246
Total		**7373**	**7365**	**15622**	**15542**

Table 9.10- Cargo Handled in Major Ports during 2018 and 2019

Sl.	Port	Cargo Handled					
		Container in TEU's		POL (Tons)		Others (Tons)	
		2018	2019	2018	2019	2018	2019
1.	Mumbai	30078	27140	37451297	38076117	23218433	23276570
2.	JNPT	5051915	5100918	19174676	26218158	1024817	1029865
3.	Kandla	207845	407613	69984960	17455452	44722404	105445263
4.	Mormugao	36110	32114	1738533	884841	30047033	14797737
5.	Kolkata	973698	847941	9061	15764	53568	36145
6.	Paradip	11350	11089	35767883	39160386	72278051	73303801
7.	Visakhapatnam	438015	494520	16329341	18410902	42117409	42638965
8.	Chennai	1612880	1452925	13077993	13611034	39207578	35390184
9.	Kochi	574582	633947	20604987	22085610	2568325	2908783
10.	N. Mangalore	133851	143736	25370000	22740423	17570000	15456824
11.	Tuticorin	642103	790618	667471	512570	37795120	18738987
Total		**9712427**	**9942561**	**240176203**	**199171257**	**310602738**	**333023124**

Table 9.11- Safety Facilities in Major Ports during the year 2019

Sl.	Port	Safety Facilities		
		No. of Safety Officers	No. of Visits to Safety Exhibition Centers	No. of Competent persons
1.	Mumbai	03	00	23
2.	JNPT	19	00	05
3.	Kandla	01	00	06
4.	Mormugao	01	00	02
5.	Kolkata	06	00	11
6.	Paradip	01	00	05
7.	Visakhapatnam	06	00	10
8.	Chennai	01	00	08
9.	Kochi	03	00	03
10.	New Mangalore	01	01	04
11.	Tuticorin	01	00	07
Total		**43**	**01**	**84**

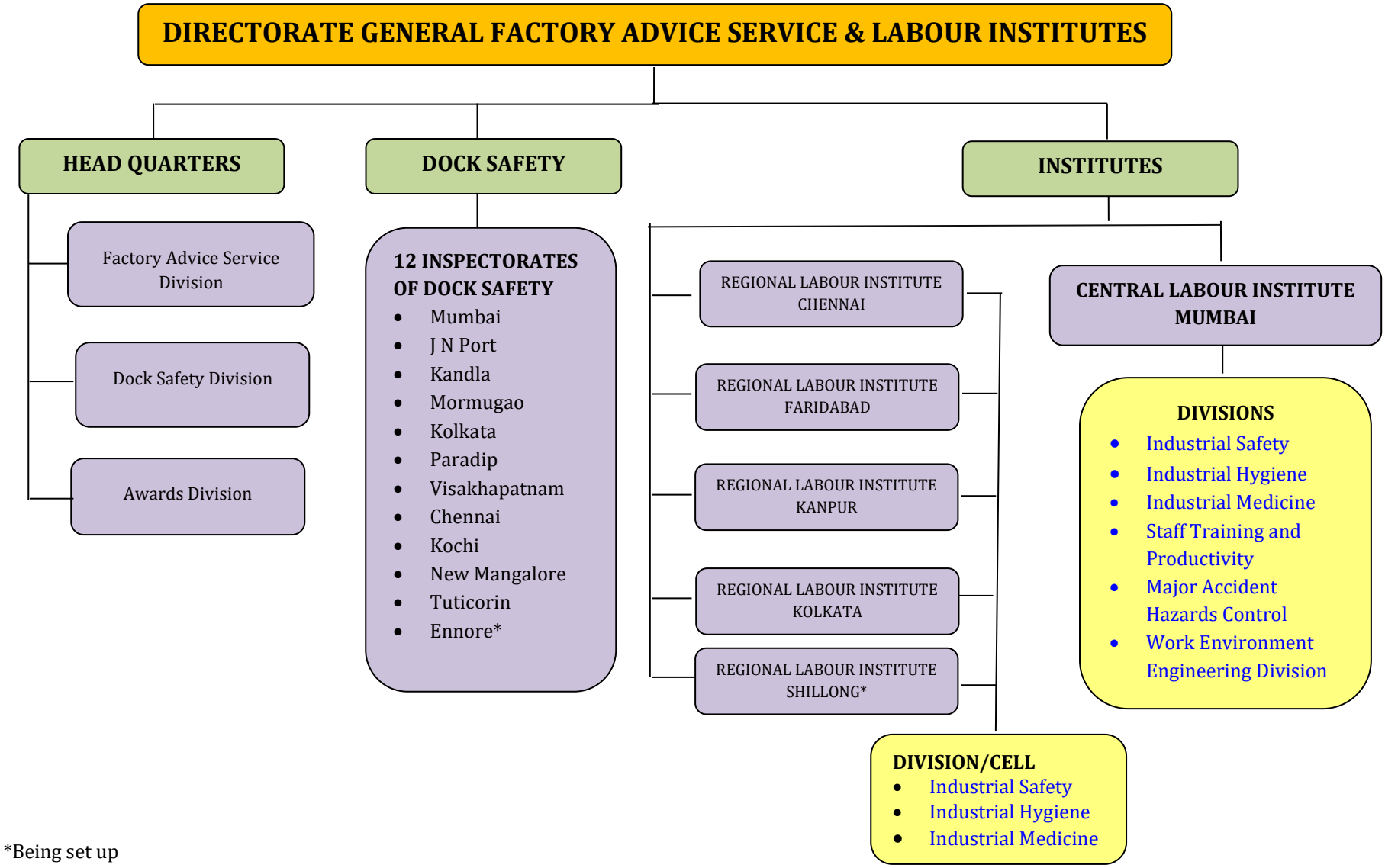
Table 9.12- Health Facilities in Major Ports during the year 2019

Sl.	Port	Health Facilities			
		OSH Centers	Ambulance Rooms	First Aid Centers	Empaneled Doctors
1.	Mumbai	01	02	91	05
2.	JNPT	03	04	46	03
3.	Kandla	01	01	01	00
4.	Mormugao	01	01	01	01
5.	Kolkata	02	04	52	01
6.	Paradip	01	03	06	00
7.	Visakhapatnam	01	02	42	01
8.	Chennai	01	01	01	01
9.	Kochi	01	02	02	01
10.	New Mangalore	01	03	01	00
11.	Tuticorin	01	03	03	00
Total		**14**	**26**	**246**	**13**

Table 9.13 Welfare Facilities in Major Ports during the year 2019

Sl.	Port	Welfare Facilities				
		No. of Welfare Officers	Canteens	Drinking Water	Washing	Urinals
1.	Mumbai	07	17	027	101	704
2.	JNPT	12	09	112	228	360
3.	Kandla	01	02	009	009	009
4.	Mormugao	01	07	052	053	073
5.	Kolkata	02	06	150	149	218
6.	Paradip	01	05	041	014	033
7.	Visakhapatnam	06	10	041	053	113
8.	Chennai	02	05	115	030	040
9.	Kochi	01	06	047	125	109
10.	New Mangalore	00	03	020	008	043
11.	Tuticorin	00	04	010	007	012
Total		**33**	**74**	**624**	**777**	**1714**

APPENDIX – I



*Being set up

APPENDIX - II

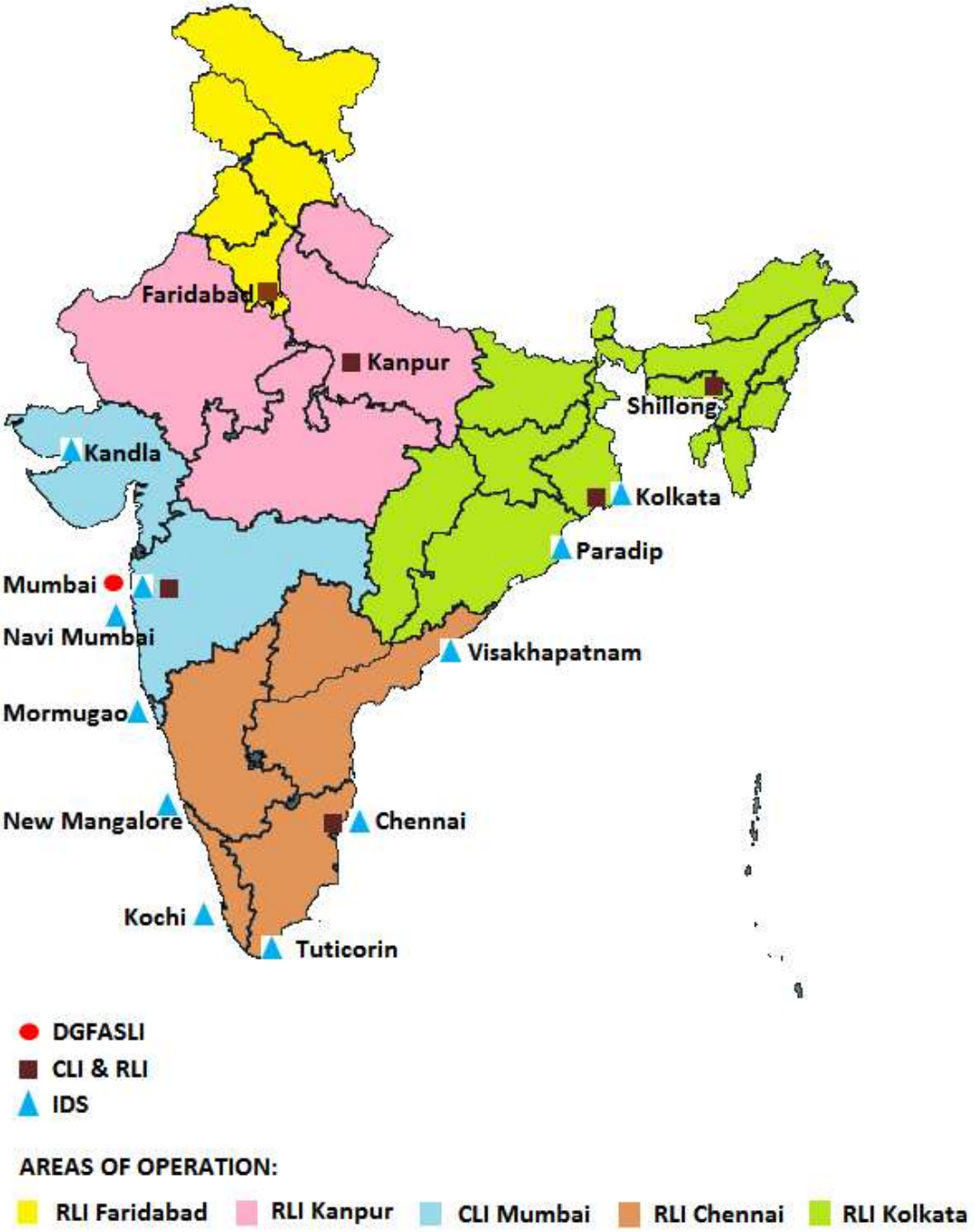
Address of DGFASLI and its subordinate offices:

<table>
<tr><th colspan="2">HEADQUARTERS</th></tr>
<tr><td colspan="2">Directorate General Factory Advice Service & Labour Institutes, Mumbai
N. S. Mankikar Marg, Sion (East),
Mumbai-400 022
PBX No. 91-22-24074538
Fax: 022-24071986
e-mail: fasli@dgfasli.nic.in</td></tr>
<tr><th colspan="2">CENTRAL LABOUR INSTITUTE</th></tr>
<tr><td colspan="2">Central Labour Institute, Mumbai
N. S. Mankikar Marg, Sion (East),
Mumbai-400 022
PBX No. 91-22-24074538
Fax: 022-24071986
e-mail: cli@dgfasli.nic.in</td></tr>
<tr><th colspan="2">REGIONAL LABOUR INSTITUTES</th></tr>
<tr><td>Regional Labour Institute, Chennai
Sardar Patel Road, Adyar, TTTI PO,
Chennai-600 113
Tel: 044-22350737, 22351569, 22355690
Fax : 044- 22352457
e-mail: rlichennai@dgfasli.nic.in</td><td>Regional Labour Institute, Faridabad
Sector 47, Faridabad-121 003
Haryana
Tel: 0129-2468022
Fax: 0129-2437064
e-mail: rlifaridabad@dgfasli.nic.in</td></tr>
<tr><td>Regional Labour Institute, Kanpur
Sarvoday Nagar,
Kanpur-208 005
Tel: 0512-2218691, 2218692, 2218745
Fax : 0512-2215112
e-mail: rlikanpur@dgfasli.nic.in</td><td>Regional Labour Institute, Kolkata
Lake Town,
Kolkata-700 089
Tel: 033-25342732, 25342735, 25343254
Fax: 033 – 25348182
e-mail: rli.kolkata@dgfasli.nic.in</td></tr>
</table>

THE INSPECTORATES OF DOCK SAFETY	
Inspectorate Dock Safety, Mumbai MbPT OSC Bldg., 3rd floor, Opp. GPO, P. D'Mello Road, Mumbai- 400 038 Office Tel.: 22692180 / 66565558 Fax: 022-22613391 Email : idsmumbai@dgfasli.nic.in	**Inspectorate Dock Safety, Kandla** Near Bunder Gate, Kandla Port, New Kandla, Post Box No.18, Dist Kutch, Pin-370 210, Gujarat Office Tel.: 02836 - 270249 Fax: 02836 - 270249 Email : idskandla@dgfasli.nic.in
Inspectorate Dock Safety, Mormugao Civil Maintenance Office Building Mormugao Port Trust, Headland Sada, Mormugao, Goa- 403 804 Office Tel.: 0832-2520752 Fax: 0832-2520752 Email : idsmormugao@dgfasli.nic.in	**Inspectorate Dock Safety, Navi Mumbai** Jawaharlal Nehru Port, P.O.C. Canteen Bldg., Ground Floor, Sheva, Navi Mumbai-400 707 Office Tel.: 022-27245099 Fax: 022-22623391 Email : idsjnpt@dgfasli.nic.in
Inspectorate Dock Safety, Kolkata Nizam Palace, 1st floor, 2nd M.S.O.Bldg. 234/4 A.J.C. Bose Road, Kolkata-700 020 Office Tel.: 033-22830718 / 22830719 Fax: 033-22830718 Email : idskolkata@dgfasli.nic.in	**Inspectorate Dock Safety, Paradip** Badapadia, Post Box no.126, Paradip-754 142, Odisha Office Tel.: 06722-222413 Fax: 06722-222413 Email : idsparadip@dgfasli.nic.in
Inspectorate Dock Safety, Visakhapatnam Ex. D.L.B. Bldg., 5th floor, Visakhapatnam Port Area, Visakhapatnam-530 035 Office Tel.: 0891-2563857 Fax: 0891-2563857 Email : idsvizag@dgfasli.nic.in	**Inspectorate Dock Safety, Chennai** 3rd floor, Anchor Gate Bldg., Rajaji Salai, Chennai-600 001 Office Tel.:044- 25220888, 25246419 Email : idschennai@dgfasli.nic.in

Inspectorate Dock Safety, Tuticorin Tuticorin Port Trust, Admn. Office Bldg. Harbour Estate, Tuticorin-628 004 Office Tel.: 0461-2352372 Fax: 0461- 2352372 Email : idstuticorin@dgfasli.nic.in	**Inspectorate Dock Safety, Cochin** C.D.L.B. Dispensary Bldg., G. V. Ayyar Road, Willington Island, Cochin-682 003 Office Tel.: 0484-2666532 Fax: 0484-2666532 Email : idscochin@dgfasli.nic.in
Inspectorate Dock Safety, New Mangalore New Mangalore Port, Panambur, New Mangalore-575 010 Office Tel.: 0824-2407781 Fax: 0824-2407781 E-mail:idsmangalore@dgfasli.nic.in	**Inspectorate Dock Safety, Ennore** (being set up) Operated from Inspectorate Dock Safety, Chennai

LOCATION MAP OF DGFASLI OFFICES



N.B.: i) This pictorial Map of India does not purport to be the Political Map of India.
ii) Map not to scale. The map shows offices of DGFASLI/CLI/RLI/IDS as on 31.12.2019.