

# Occupational Safety and Health in India: Now and the Future

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**Abstract:** India, a growing economy and world's largest democracy, has population exceeding 1.2 billion. Out of this huge number, 63.6% form working age group. More than 90% work in the informal economy, mainly agriculture and services. Less than 10% work in the organized sector; mainly industry, mining and some services. New service industries like Information Technology (IT), Business Process Outsourcing (BPO) are increasing rapidly; so is the proportion of females in the workforce. The occupational safety and health (OSH) scenario in India is complex. Unprecedented growth and progress go hand in hand with challenges such as huge workforce in unorganized sector, availability of cheap labor, meager public spending on health, inadequate implementation of existing legislation, lack of reliable OSH data, shortage of OSH professionals, multiplicity of statutory controls, apathy of stakeholders and infrastructure problems. The national policy on OSH at workplace, adopted by the government in 2009, is yet to be implemented. Some of the major occupational risks are accidents, pneumoconiosis, musculoskeletal injuries, chronic obstructive lung diseases; pesticide poisoning and noise induced hearing loss. The three most important OSH needs are: 1. legislation to extend OSH coverage to all sectors of working life including the unorganized sector; 2. spreading the awareness about OSH among stakeholders; 3. development of OSH infrastructure and OSH professionals. Other issues include integration of occupational health with primary health care.

**Key words:** India, Occupational safety and health, OSH challenges, OSH organization in India, OSH policy, OSH legislation, OSH needs

## Introduction

India is a growing economy, the world's most vibrant and largest democracy and an aspiring superpower. Occupational safety and health (OSH) for India is a 'developmental tool' and an empowering movement. As a result of globalisation, Indian industry is exposed to the latest trends in OSH. Progressive industries have launched many initiatives to spread awareness on OSH among all stakeholders and to reduce OSH risks at workplace. A

large number of companies have a corporate health, safety and environment (HSE) policy and have opted for various certifications in OHS.

However, majority of Indian population is engaged in unorganized sector and resides in rural area; though the urban population has been on rise.

## OSH Panorama

India's population has crossed 1.21 billion according to recently released figures of the last government census carried out in 2011<sup>1</sup>. Of these, 833 million reside in rural area and 377 million reside in urban area. Those in working age group are estimated to be 63.6%<sup>2</sup>. More than 90%

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**Table 1. Industry-wise Classification of Workers in India**

Place of Residence	Total workers (Main + Marginal)	Cultivators	Agricultural laborers	Household industry workers	Other workers
Total	402,512,190	127,628,281	107,447,725	16,395,870	151,040,314
Rural	310,655,339	124,682,055	103,122,189	11,709,533	71,141,562
Urban	91,856,851	2,946,226	4,325,536	4,686,337	79,898,752

Source: Census of India, 2001

**Table 2. Statistics of Factories at a Glance (2009)<sup>4</sup>**

Registered Factories	324,761
Working Factories	270,294
Employment	13,100,129
Safety Officers	2,642
Welfare Officers	3,096
Factory Med. Officers	6,809
Total Injuries	33,093
Fatal Injuries	1,509

work in the informal economy, mainly agriculture and services (60% self-employed and 30% without regular jobs). Less than 10% have jobs in the organized sector; mainly industry, mining and some services. It is anticipated that the average daily employment in the mineral industry at present is about 1 (one) million<sup>8</sup>). Industry wise classification of workers as measured in 2001 Census is given in Table 1.

Major occupational risks are accidents, pneumoconiosis (especially silicosis), musculoskeletal injuries, chronic obstructive lung diseases, pesticide poisoning, byssinosis, asbestosis, noise induced hearing loss and workplace stress. Increasing proportion of females in the workforce adds to traditional OSH issues. Women are subjected to indoor air pollution due to biomass fuels (more so in rural area) and to the dual burden of home work and occupation. Agriculture, mining and construction have high levels of accidents and diseases.

Statistics on accidents and occupational illnesses is not easily available. The Director General of the Factory Advisory Services & Labour Institutes (DGFASLI) reported 1,509 fatal and 33,093 non-fatal injuries in 2009, using records from registered factories which employed about 5% of total workforce<sup>4</sup>). Research reports suggest that the official figures of fatalities and injuries may be grossly underestimated. Statistics of factories as reported by DGFASLI is given in Table 2. The OSH challenges in India may be summarized as follows:

1. Huge workforce in unorganised sector
2. Availability of cheap labour due to high unemployment
3. Meagre public spending on health
4. Inadequate implementation of existing legislation
5. Large numbers of unrecognised / unreported occupational illness
6. Relative shortage of trained and skilled OSH professionals
7. Multiplicity of statutory controls
8. Apathy of stakeholders
9. Infrastructure problems
10. Delay in implementation of national policy on OSH.

## Policy and Legislation

India has 16 Laws related to working hours, conditions of services and employment. The major legal provisions for the protection of health and safety are contained in two acts: the Factories Act (1948) and the Mines Act (1952)<sup>8</sup>). The Factories Act was amended in 1987. It provides for pre-employment and periodic medical examination and mandatory, periodic monitoring of the work environment in those industries defined as hazardous. Maximum permissible limits have been established for a number of chemicals. The list of 116 such chemicals and substances is given in the 'Second Schedule' of the Factories Act and the same is also available on the DGFASLI web site<sup>9</sup>). There are similar provisions in the Mines Act. The Factories and Mines Acts are implemented by the State Factory Inspectorates. The Factories Act is applicable only to factories employing 10 or more workers and covers only about 13 million workers. Employees State Insurance (ESI) Act, 1948, is applicable to non-seasonal factories employing 10 or more persons and other establishments employing 20 or more persons. The existing wage limit for coverage under the Act is Rs. 15,000/- per month (US\$300). Number of employees covered is 15.4 million (2011). Employees get benefits in case of sickness & injuries<sup>6</sup>).

There are other legal provisions for protection of special

groups of workers including those in plantations, docks, building and construction, tobacco, mining, and insecticides. There are also legal provisions on prohibition and regulation of child labour.

OSH is split between two ministries. While primary health care and medical education fall in the mandate of Health Ministry, the Ministry of Labour has the main responsibility for OSH. OSH is implemented and monitored at state level, through the Directorate of Industrial Safety and Health who employ engineers and medical staff to inspect factories. DGFASLI reports for 2009 indicate engagement of about 6,809 Factory Medical Officers, 2,642 Safety Officers, 938 factory inspectors and 55 Certifying Surgeons in the country for 13.1 million workers employed in the registered factories<sup>4)</sup>. This number is grossly inadequate.

Two important International Labour Organization (ILO) conventions in the OSH area, the Radiation Protection Convention (No.115), 1960, and the Benzene Convention (No.136), 1971, have been ratified<sup>7)</sup> and consultations are taking place with stakeholders for ratifying two more conventions; no. 170 (Safety in the use of Asbestos, 1986) & no. 162 (Safety in the use of Chemicals at work, 1990). Other ILO conventions are yet to be ratified.

## OSH Organisation

The organised sector, both private and public, has well developed OSH based on ILO conventions; however, this sector is miniscule. OSH in the largest unorganised sector is almost non-existent.

Currently there is no government agency or department that deals exclusively with OSH matters. DGFASLI deals with the safety and health of workers employed in factories and ports, whereas the Directorate General of Mines Safety deals with the safety and health of miners. While there are other departments under the Ministry of Labour that deal with OSH issues in different sectors, e.g. the construction sector, there is no agency that covers safety and health for workers in unorganised sectors. Inter sectoral linkages in the occupational health in India can be seen in Fig. 1.

Statutory regulations require all hazardous process industries to have a Central Safety Committee. Both employers and workers participate and the committees are intended to promote cooperation between workers and management. They also participate in training and communication on OSH.

There is separate training on OSH for safety profession-

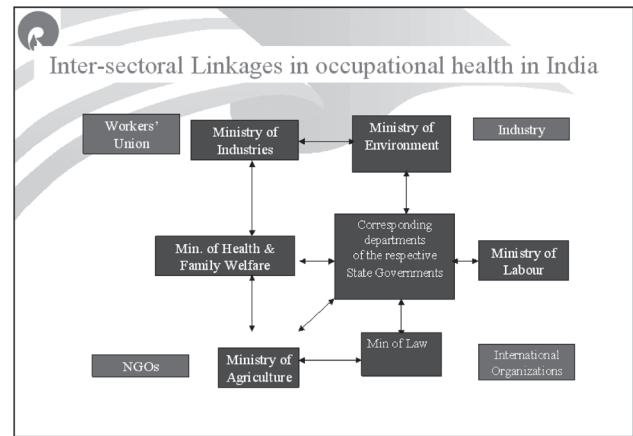


Fig. 1. Intersectoral Linkages in Occupational Health in India<sup>5)</sup>.

als and occupational health professionals. A demand for training Safety Officers already exists as it is a statutory requirement for factories, but training on occupational health is still in its infancy. The Central Labour Institute and its associate institutes offer a 3 month certificate course in Industrial Health with an annual intake of around 150.

The Central Labour Institute, National Institute of Occupational Health, National Safety Council of India, Regional Labour Institutes and NGOs such as Indian Association of Occupational Health, also organise periodic short training courses on occupational health for industrial physicians, safety professionals and industrial managers. Postgraduate courses in occupational health are not yet available though efforts are being made to start the same.

IAOH is an important NGO with 24 branches across the country and more than 3,000 OH physicians and OSH professionals as members. IAOH is involved in creating awareness, proactively influencing national policies through appropriate linkages, networking with national & international agencies to augment research and training in OSH and updating knowledge base and skill sets of OH professionals by holding scientific activities including annual national conferences regularly since last 64 yr. It also publishes a professional occupational & environmental health journal.

## Initiatives in Progressive Industries

Progressive industries have launched many initiatives. The Factories Act has mandated provision of Occupational Health Centres (OHCs) in hazardous industries. Many progressive companies go beyond the provisions of the

law and have set up full-fledged OHCs; not only at manufacturing locations but also in offices. Besides emergency medical services, the OHCs offer preventive, promotive and curative health services to its employees. The activities include: preventive medical services, medical surveillance, workplace surveillance, lifestyle modification efforts, health awareness, stress management, first aid training etc. Many opt for certification in OHS such as OHSAS 18001: 2007.

### **Current and Future Needs**

Liberalisation, privatisation and globalisation have affected working life in India and present new OSH challenges across a diverse range of professions.

The three most important OSH needs are: 1. legislation to extend OSH coverage to all sectors of working life including the unorganized sector; 2. spreading the awareness about OSH among stakeholders; 3. development of OSH infrastructure and OSH professionals.

Other issues include integration of occupational health with primary health care.

### **National Policy and Legislation**

After prolonged deliberations, the Government of India approved the National Policy on Safety, Health and Environment at Work Places in February 2009<sup>3)</sup>. The policy provides general guidelines for all stakeholders to develop a safety culture and environment in work places. It also deals with preparation of statutory frameworks, administrative and technical support, incentive systems, and prevention strategies and their monitoring, and inclusion of safety health and environment aspects in other related national policies.

In line with this national policy, a general OSH legislation needs to be enacted, applicable to factories, mines, plantations, ports, construction etc., as well as to unorganised sectors including home work. Workers' bodies, NGOs and other agencies can influence lawmakers to expedite the issue.

Suitable guidelines need be developed for the unorganised sector including agriculture and home work. Principal employers who outsource 'home work' should also have the basic responsibility to provide basic safety and health information to the persons who carry out this work.

There is a need for an appropriate enforcement strategy and overhaul of the existing enforcement agencies. There is an urgent need to build credibility, competence and ac-

ceptability for enforcement authorities. Extensive training of factory inspectors should be undertaken. A national registry of occupational diseases and accidents should be established and maintained.

#### *Creating awareness*

There is strong need to create OSH awareness among all stakeholders such as lawmakers, employers, employees, contractors and the general public. OSH needs to be included in educational curricula at all levels of school, university and technical education. Public awareness about, for example, the health hazards of environmental pollution, and diseases caused by exposure to harmful substances, should be created through mass media. The unorganised sector needs OSH training and effective awareness campaigns.

There is an urgent need to change the mindset of workers and employers through OSH education. Trade unions can be very effective in the prevention of accidents and work-related diseases through the use of OSH as a collective bargaining issue and by exerting pressure on political leadership.

Specific codes of practices on occupational safety and health issues such as noise, chemical handling; ship breaking, etc., should be prepared and published for use by selected industries. Video films, manuals, and booklets should also be prepared and distributed.

OSH training programmes should be organized at or near places of work with mandatory participation of employers and their representatives. Involvement of NGOs, professional organizations and employers associations should be sought in these efforts.

#### *Development of infrastructure and competence*

There is a great shortage of occupational health professionals in India. About 10,000 occupational health physicians and industrial hygienists are needed in the organised sector alone, but currently their number is little over 1,000. The majority of medical practitioners lack training in occupational health and consequently lack the skills to diagnose and prevent occupational diseases. India faces the twin challenges of integration of occupational health with our general health services and of delivery of occupational health from medical college hospitals. Short-term courses should be designed and conducted on a massive scale for medical doctors in the government and private sector in order to increase awareness and competence in the diagnosis of occupational diseases. Postgraduate courses in occupational health and industrial hygiene are needed

along with high level academic positions in occupational health at universities.

An independent, national accreditation agency is needed to establish national standards on OSH. An audit system for assessing the effectiveness of OSH in industries, ports and mines would be helpful as would an international exchange of OSH experts. For national level studies and surveys, government should seek cooperation from employers' organizations/associations, NGOs and professional organizations such as Confederation of Indian Industries, Indian Association of Occupational Health etc.

Other issues include the integration of occupational health with primary health care; appropriate care and protection in cases where hazardous industries are moved from developed countries; international collaboration. Liberalisation, privatisation and globalisation have affected working life in India, particularly in the service sector, and present new OSH challenges across a diverse range of professions.

### Path Ahead, New Challenges

There are many factors, which are changing the industrial environment in India such as: globalization, outsourcing, transfer of technology, newer type of jobs (IT, Call Centre), change in employment pattern etc. Additionally factors like increasing literacy / education will also lead to enhanced awareness and "Right to Know" demand from workers.

Another important factor in India is Judicial Activism, which has had a positive impact on matters of public interest. Indian judiciary is seen to be very receptive to PIL (public interest litigation) on matters of occupational & environmental health and safety importance and has

accelerated positive changes such as pollution control etc. NGOs, media and employee pressure groups are also playing a positive role in this matter.

### Conclusion

India, by virtue of its huge young population, is an important country not only in Asia but in the whole world. It has been slow to adopt the high standards of occupational health and safety. However, the situation is expected to slowly but steadily improve with emergence of young and educated workforce, increasing awareness and influence of globalized economy. I strongly believe that India can look at future of OSH with optimism. The journey has already begun.

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