INDOSHNEWS

Vol.10 No 2
April-June 2005
Published by the Directorate General Factory Advice Service & Labour Institutes, N.S. Mankikar Marg. Sion, Mumbai 400 022. INDIA

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FROM THE DESK

Occupational Safety & Health in the unorganized sector, especially in the homework segment is increasingly demanding the attention of the policy makers. The beedi manufacturing industry in India is an age-old industry and a large rural population is engaged.

The beedi rolling has grown from household occupation to the level of cooperative societies, especially in the State of Kerala wherein workers work in groups in beedi manufacturing process. However, the occupational hazards have remained the same such as poor environmental conditions and improper work procedures and work stations. The beedi workers lack education and training and because of their poor socio-economic condition they are forced to work continuously in improper work postures which lead to the development of serious physiological manifestations.

The DGFASLI conducted a National study on beedi workers in order to study the above problems and has come up with ergonomic intervention by designing low cost automations in beedi manufacturing process.

S.K. SAXENA
EDITOR –IN- CHIEF

OCCUPATIONAL HEALTH PROFILE OF THE BEEDI WORKERS AND ERGONOMIC INTERVENTION.

PC GHOSH.. et..al

INTRODUCTION

The beedi manufacturing industry in India is an age-old industry in which a huge population (more than 40 lakhs) is engaged for their two square meals. Previously beedi rolling was a household occupation but presently it is not only confined to the houses of the workers but also co-operative societies have come up wherein workers are working together in beedi making process. The main problem for beedi workers now-a-days is their poor socio-economic status, education, and training which forces them to work in unsafe environmental conditions and improper working postures. Govt. of India has provided various welfare measures and schemes for the beedi workers like, Welfare measure for beedi workers, Health schemes, Education schemes, Housing scheme, Social security, etc.

In spite of various welfare measures, the socio economic status of the beedi workers remain at low level since the welfare measures are insufficient in comparison to the number of beedi workers in India. Due to poor socio economic status, the beedi workers are forced to work continuously for hours in improper working postures and beyond their normal working capacities, which lead to the development of serious physiological manifestations. The occupational health hazards of beedi workers remained neglected since long time and there is a need to study the health hazards predominant in beedi works and to reduce if not eliminate the hazards of the beedi workers for greater safety and health. Therefore, there was a need to identify the occupational health problems associated with the beedi workers in India and to suggest remedial measures in order to bring about possible automation in the process with a view to eliminate the problems of safety, health and improper ergonomic conditions faced by the workers. Consequent to this, "A National Study on Beedi Workers – an Ergonomic Approach" was taken up by the Industrial Ergonomics Division of the Directorate General Factory Advice Service and Labour Institutes (DGFASLI), Mumbai.

AIMS AND OBJECTIVES

The study was conducted with the following aims and objectives:

1. To study the manual involvement in the process of making of beedi.
2. To evaluate the working postures of the workers involved in beedi making processes.
3. To study the commonly and frequently found occupational health hazards among the beedi workers.
4. To suggest some ergonomic interventions relating to work station and possible mechanization for beedi making process to reduce occupational health problems.

MATERIALS AND METHODS

Place of study and Investigation subjects

The National study of beedi workers contained three different phases:

Phase l: The first phase of the study was conducted in Vidharbh region in Nagpur in the state of Maharashtra. The investigation subjects (n = 246) were chosen on random basis from both male (n =103) and female (n =143) belonging to various age groups. Detailed body dimensions of both the male and female beedi

workers were taken and a data pack was developed for designing of the work station for beedi workers.

Phase ll: The second phase of the study was conducted in Mangalore and Kannur. The investigation subjects (n = 25) were chosen at random basis from both male (n = 10) and female (n = 15) belonging to various age groups.

Phase lll: The third phase of the study was in Jabbalpur and kanpur . The investigation subjects (n = 31) were on random basis from

both male (n = 17) and female (n = 14) belonging to various age groups.

Methodology: Following techniques were adopted for the study:

1. Observation technique
2. Questionnaire analysis
3. Anthropometric study
4. Photographic technique

MANUFACTURING PROCESS

The entire process was divided into 6 stages as under :

Stage I - Procurement of tobacco and leaves
Stage II - Blending of Tobacco for obtaining superior quality
Stage III - Supplying of blended tobacco and leaves to beedi rollers
Stage IV - Rolling of raw beedis
Stage V- Collection and supply of rolled raw beedis
Stage VI - Inspection, Baking of raw beedis, packing and labeling for shipment.

RESULTS AND DISCUSSION

Beedi workers

Beedi work was found to be by and large female dominated specially in rolling of beedi and blending of tobacco. Male and female of varying age groups were engaged in the beedi works. Beedi workers start their profession at a very early stage of life. Entry to this profession starts from 15 to 16 years of age for both the sexes. Physical profiles of the beedi workers have been presented in Table 1.

Beedi workers were extensively engaged in beedi profession. Daily exposure in beedi work ranged from 5 to 10 hrs for both males and females.

Socio-economic status of the beedi workers

Average family of a beedi worker contained four members in which two were earning members and their average monthly income was Rs. 1719/- (Table 2). This earning included the earning from beedi making as well as from other source like daily wage labour, vender etc. Average number of earning member was two that included husband and wife. Minimum number of earning member was one and that was wife in most of the cases, since husband was struggling for a job.

Occupational health profile

Occupational health profile was evaluated through questionnaire and interview separately to the beedi workers as well as to the doctors working in the Welfare Commissionaires dispensaries. Health hazard is created due to two main factors –

1. Hygienic factors
2. Ergonomic factors

Hygienic factors

Poor socio-economic status, poor education and lack of hygienic consideration leads to various

health problems to the beedi workers. Following hygienic factors have been found affecting the beedi workers and their family:

<u>Direct contact</u>
Hygienic factor involves direct contact of tobacco to the body. During rolling of beedi nicotine of tobacco powder comes into direct contact with the skin and becomes absorbed through the skin into the blood. Nicotine is harmful to the body since it is carcinogenic in nature and can cause cancer during long exposure.

<u>Inhalation</u>
Inhalation of tobacco takes place during blending operation. Blending operation was done in a small room without using any mask and the blender directly inhales fine dust particles of tobacco. The problems are:

1. Chronic obstructive pulmonary disease
2. Bronchitis
3. Respiratory inflammations

4. Hypertension
5. Sinusitis
6. Allergic rhinitis, etc.

Passive recipient

Passive recipient is the child due lack of hygienic awareness in the mother. This was mainly found in case of home based beedi making process when the mother feeds her child without washing her hands properly. As a result, the child also becomes affected by tobacco and develops tobacco-caused ailments at an early age.

In case of cooperative societies it has been found that working mother brings her child along with her, so that the child can be nearer to her during the work. But doing this the child becomes a passive recipient of tobacco.

Ergonomic factor

Improper work station, work process, poor education, knowledge and lack of human

factors consideration lead to various physiological stress that become hazards due to prolonged exposure. Main ergonomic factors are:

Work station

Blending of tobacco

Blending operation was done manually by lifting tobacco powder in the basket / tray and different blend was mixed together in a different place. Lifting was done in forward bending posture. Workers were mainly females. Blending operation took 4 – 5 hrs to be completed. Repeated bending posture in awkward position develops low back pain.

Beedi rolling

In case of home based beedi making, the workers sat on the floor and kept the beedi rolling tray on their lap for rolling of beedi. But in case of cooperative society workers come to the society, worked together for cutting of leaves and rolling of beedi. In cooperative societies,only sitting arrangement was provided to the workers and they kept the Beedi rolling tray on their lap. Some times they collected a small box and balance the tray between the lap and the box to make a workstation and start working. In the absence of proper back support and arm rest the worker worked in tensed body position. There was no proper leg room and the worker worked in immovable body position. Due to low position of the tray (since it was kept on lap), head and neck of the worker bent downward that develops stress in the shoulder and neck.

Sorting

Sorting of beedi and arranging of bundle in the tray for curing process was done by both males and females. Trays were arranged in inclined position and workers sat in squatting posture for arranging of bundle in the tray. Some times the arranging of tray was balanced by a stand to make a table form and the worker sat on a box and arranged the bundles in the tray. Prolonged work in squatting posture is not recommended since it is prone to develop and increase back and knee problem.

Leveling and Packing

Leveling and packing operation was done in the factory premises. Female workers sat on the floor in cross legged posture for leveling operation. Male workers were found sitting on a box and packing the bundle of beedi for dispatch.

Working posture

Following working postures have been observed during various process of beedi making:

- Sitting on the floor in cross legged position
- Sitting on the floor in one leg folded and another leg extended position
- Sitting on the floor with both the leggs extended position
- Sitting on the floor with both the legs folded behind at the knee
- Squatting posture
- Stooping posture
- Sitting on the chair / stool / box with less or no leg room
- Sitting on the chair / stool / box with improper back support
- Sitting on the chair / stool / box with no arm rest
- Downward bending of head and neck during work

Survey of occupational health profile revealed various occupational hazards among the beedi workers. The hazards may be attributed to improper working posture and unhygienic

conditions at work place. It has been observed that almost all the workers have developed pain in various body parts. Table 3 and Table 4 shows occupational health problems as reported by the male and female beedi workers.

It is found from Table 4 and Table 5 that most frequent pain is shoulder pain in both the males and females followed by back pain and neck pain. Apart from that, knee, chest, elbow and wrist pain have also been reported to a significant degree. High intensity of shoulder, back and neck pain is

due to sitting in forward leaning posture and bending head and neck downward for prolonged hours without any back support and arm rest .

It has been found that the percentage of female workers suffering from pain at moderate and high level is greater than the percentage of male workers. Comparison of pain profile between males and females has been presented in Chart 1. It is found that that the frequency and intensity of pain is more in all the cases in females than the males. The reason is less tolerance to fatigue and less physiological working capacity in females. Another cause may be improper diet and malnutrition.

Apart from the musculo-skeletal problems, there are also other problems reported by the beedi workers as well as the doctors are as under:

- Chest infection
- Asthmatic problem
- Bronchitis
- Tuberculosis
- Amaebiosis / Dysentery
- Hyper acidity
- Dermatitis (Skin diseases)
- Bleeding piles
- Nutritional deficiency, inducing iron & calcium
- Malnutrition

RECOMMENDATION

Recommendations for ergonomic interventions and automations have been suggested to restore safety and health of the beedi workers:

- Workstation for beedi rollers.
- Hand driven siever for tobacco sieving/blending operation
- Device for making bundle of beedi
- Model lay out for inspection, baking, bundling, labeling and packing in a sequence.
- Model design for work area, lighting & ventilation
- Model design for bhatti process.

The details of the recommendations are available in the report of the National study conducted by the DGFASLI.

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Table 1: Mean and SD of the physical profile of the beedi workers.

Subjects	Variables	Age (yr)	Height (cm)	Weight (kg)	Exp (yr)	Duration of work / day (hr)	No of days work / week
Male (n = 27)	Mean	45.9	163.1	53.4	22.1	7.5	6.2
	±SD	12.66	7.80	8.62	10.30	0.94	0.39
	Min	15	150	40	1	5	6
	Max	75	175	70	40	8	7
Female (n = 49)	Mean	38.2	150.9	42.8	16.9	8.1	6.1
	±SD	13.03	12.98	4.59	10.87	1.73	0.36
	Min	17	120	35	5	5	6
	Max	60	164	50	35	10	7

Table 2: Socio-economic status of the beedi workers

Variables	No. family members	No. of earning members	Total monthly income
Mean	4	2	1719
±SD	1.3	0.8	963.6
Minimum	2	1	500
Maximum	8	4	5000

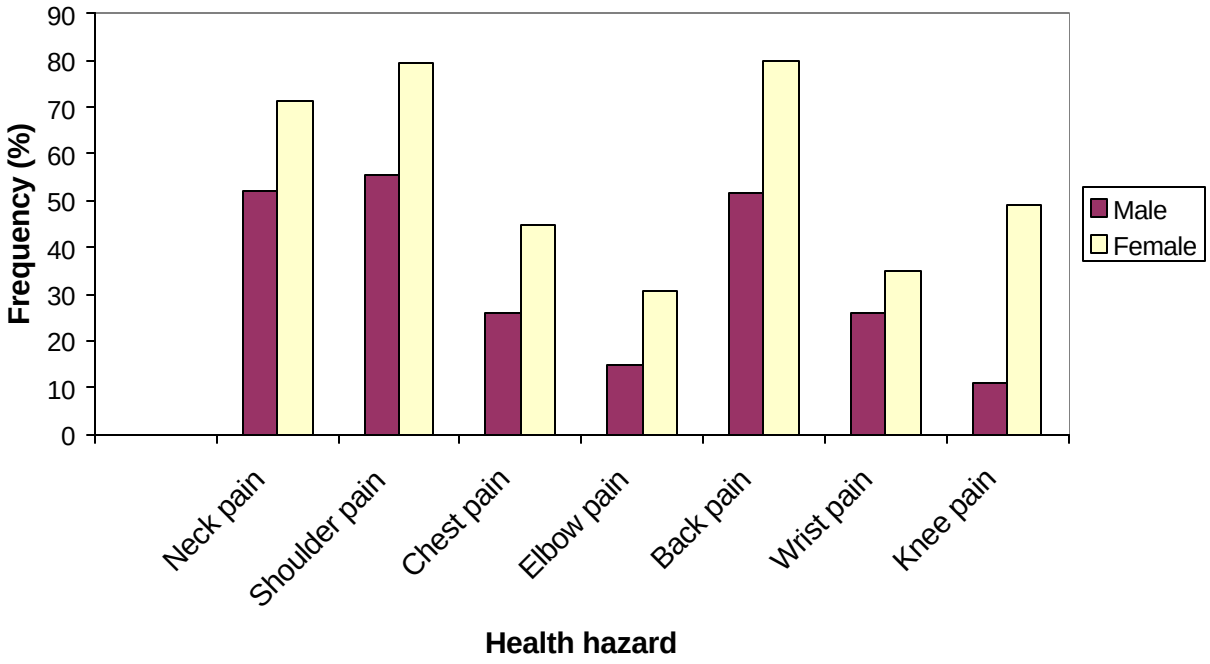
Table 3: Occupational hazards in male beedi workers.

Occupational hazards	Low (%)	Moderate (%)	High (%)	Total % affected
Neck pain	22.2	3.7	29.6	55.5
Shoulder pain	22.2	11.1	22.2	55.5
Chest pain	11.1	3.7	11.1	25.9
Elbow pain	--	3.7	11.1	14.8
Back pain	14.8	22.2	14.8	51.8
Wrist pain	11.1	7.4	7.4	25.9
Knee pain	7.4	3.7	--	11.1
N = 27				

Table 4: Occupational hazards in female beedi workers.

Occupational hazards	Low (%)	Moderate (%)	High (%)	Acute (%)	Total % affected
Neck pain	6.1	14.2	38.8	12.24	71.3
Shoulder pain	10.2	22.4	32.7	14.3	79.6
Chest pain	14.3	24.5	6.1	--	44.9
Elbow pain	2.04	10.2	16.3	2.1	30.6
Back pain	10.2	8.2	32.7	28.6	79.7
Wrist pain	2.1	8.2	16.3	8.2	34.8
Knee pain	--	14.3	28.6	6.1	49.0
N=49					

Chart 1: Comparison of health hazards between male and female beedi workers.



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IMPACT OF GLOBALISATION ON OCCUPATIONAL SAFETY, HEALTH AND ENVIRONMENT-WHAT IS TO BE DONE?

H. MAHADEVAN

OCCUPATIONAL HEALTH – CRUCIAL CONCERNS

Occupational health and safety in the developed and developing countries and the emerging economies have been affected with the emergence of new technologies and expansion of trade and financial regimes, as a result of globalization. With the expanded market economy, while, the industrialized countries face the challenge of maintaining the standards of their welfare systems, in the developing countries and the economies in transition, ensuring employment and social security becomes all the more arduous.

As a result of this worldwide liberalization, parallely to trade and economies, occupational diseases and accidents are on the rise in the developing countries. An estimation says that every year over 1.2 million workers die of occupational hazards, while 250 million suffer from occupational accidents and 160 million have occupational ailments. The economic loss undergone is about 4% of the total Gross National Product. The trend, on the other hand, as the figures depict, the number of poor have increased in absolute terms since the second half of the last decade, in almost all the regions of the world. Holkeri H.,President of the 55th General Assembly of the United Nations, mentions that, the financial crisis in South east Asia spreads to other continents and some developing countries also. In the Southern countries, there is a big chunk of workers, who work in the informal sector, where not only health and safety rights are non existent, but no legal remedial measures are also assured.

Clubbed with occupational health, environmental health problems are being discussed about, in the public domain more vigorously now than in the decade, that passed by. The domain of environmental health basically deals with the various production and disposal process of an industry, which has short term or long term effects on the vicinity environment. Understanding this would entail monitoring the accountability of the industries, understanding the national and the international standards to be maintained by them, the process of waste disposal, etc. This would also help us to understand the community's awareness and response towards such infrastructure and industrial development in their vicinity. While nationally, the legal framework, policies, service delivery and access to education are means to ensure healthy and safe work conditions, internationally the rights based approach towards sustainable development needs a particular focus on occupational and environmental health.

SITUATION BECOMING WORSE

Workers in many countries still face the grimmest threat to their occupational safety and health. Be it the factory fire at 'Triangle Shirtwaist Factory' in New York in 1911 killing 146 workers or 82 years later on May 10, 1993 in Kedar Toy factory in Thailand, similarities do exist. The Silicosis believed to have been found in the workers who built the Pyramids in Egypt continue as a dreadful disease now also. The two notorious disasters - Three Mile Island of Pennsylvania in 1979 or Chernobyl in Ukarine in 1986 still warn of the future nuclear plant accidents.

Since the first documented case of carcinogens and sectoral cancer in the London Child –Chimney – Sweepers, comparable occupations causing environmental cancer exist even in 2003. The giant MNC-Union Carbide Factory disaster at Bhopal whose sufferers continue in the next century also did not provide enough lessons to prevent subsequent chemical disasters. What at all these illustrations drive us to?

The dismal record of ratifications and implementations of OSH Conventions and Recommendations, the manufacture and usage of even banned chemicals, the work related stress and hazards reducing the active life of the 'educated bonded labour' in the 'sunrise' industry, IT sector, the reproductive hazards, the untold miseries silently suffered by the vulnerable workers in the growing informal sector, an aftermath of globalisation and similar horrifying experiences drive us to the conclusion that we have not done enough and the intellectual jugglery to justify what has been happening cannot continue any more.

SAFETY AND HEALTH – A DEVELOPMENTAL ISSUE?

According to the World Health Organisation, 3% of the global burden of disease is caused by preventable injuries and exposure to toxic substances, noise and hazardous work patterns.

Occupational accidents and ill health must be a major cause of poverty. A very small number of workers in the organised sector receive compensation for accidents. If a worker is killed, the family may receive some compensation and where the union demands it, a family member may get a job. The vast majority of workers or their families will receive no compensation.

There is a business case and a development case to reduce such a huge, preventable burden on poor people and the country. Occupational safety and health (OSH) should be a development issue. However, the donor community accords it a very low priority.

Occupational safety and health is arguably at least as serious a public health issue as AIDS, but attracts little donor support. As aid agencies do not employ trade union, labour or safety specialists, they do not have staff who can advise in this area. There is perhaps a vague assumption that OSH is a problem of mines and big factories, and of course most poor people in developing countries do not work in such places. They work on the land, or in small workshops.

Unfortunately, this view is wrong. Agricultural work is more than twice as dangerous as factory work, according to the ILO. This estimate may be too low. The EU average fatality rate in agriculture is 14 per 100,000 only slightly less than construction, and for manufacturing it is 4.6 per 100,000.

There is a deeper, ideological reason why the aid community ignore safety and health. It is a workplace issue, and aid organisations generally avoid the whole area of work relations and the labor process. Most agencies are now committed, at least on paper, to the idea of empowering poor people and a rights based approach. Empowerment and the realisation of the rights at work of poor people is only possible through trade unions. This is an extremely uncomfortable territory for aid organisations which are, in practice, anti trade union.

One organisation does recognize the importance of safety and health – the ILO. However, it is not a donor, but is essentially an implementing agency.

OCCUPATIONAL HEALTH AND TECHNOLOGY TRANSFER IN THE ERA OF GLOBALISATION:

India is moving very fast on the path of liberalization but also becoming the garbage dump of the technologies of the West. It is also the effect of the liberalization that the expenditure on health and social security is decreasing.

The number of unorganized and contract workers are also on increase due to the policies of retrenchment and voluntary retirement. Companies are seeking more freedom in hiring and firing of employees. It is generally observed that if permanent workers are aware of the involved hazards in work, they might refuse to carry out such hazardous tasks. That is why, industries prefer to employ workers on contract basis in order to carry out hazardous activities. Since these workers are not organised, they cannot protest or demand for safety precautions. Apart from this, no information or training is provided to them because their status of employment is not regular. This also hampers their right to get compensation in case they are disabled.

India produces some goods in spite of the worldwide ban on them. Some of the deadliest pesticides and insecticides are produced and consumed in India. Asbestos is banned in most of the countries as it has now been scientifically proved that there is no safe limit for asbestos. However, in the last decade, this industry has flourished in our country. Only 20% raw asbestos is mined in India, while the rest of it are imported mainly from Canada, Brazil, Kazakhstan, Russia, etc. The next industry in the race is foundry. Foundry has been declared as one of the most hazardous industries in the developed world, but it is also a fact that it is the backbone of the engineering industry . Now, India along with the other developing countries has been identified as the country where it can be processed and exported to developed countries.

It takes one whole generation of workers to maintain the negative effect of any technology on their health. There is a proper cycle, which works in technology transfer. Technologies are invented in the West; and when it is realized that it is dangerous; subsequently, it is shifted to developing countries. Even in the less developed countries, they are initially installed at industrially advanced states (Gujarat, Maharashtra, Karnataka) and then transferred to industrially backward states (Orissa, Madhya Pradesh etc.). So, at every stage, one generation of workforce is sacrificed. Against this backdrop, in the era of liberalization, where free flow of technologies being promoted; it is necessary to be more vigilant towards this.

EXPORT PROCESSING ZONES:

The Export Processing Zones (EPZs) of Mexico called Maquiladoras are examples of unfair free trade zones. The establishment of the EPZs is linked to Mexico's membership to the North American Free Trade Agreement (NAFTA). They offer long working hours, low salarie, low benefits for workers, weak or no labour and environmental laws. About 70% of the labour force in these maquiladoras are young women who work in unsafe conditions for very long hours. The women workers here have daily struggles which challenge their right to humanity. They are sexually harassed by male bosses. When unions achieve victories, the companies simply relocate their factories to other areas.

Unfortunately in a world where trade in dominated by the WTO, the IMF and the World Bank and unfair NAFTA like agreements, most of the Third World Countries have been forced to accept the

worst possible terms and conditions. It is regrettable that Mexico, Indonesia, El Salvador and several others in Central and Latin America, the Dominican Republic and others in the Caribbean and Turkey, Bangladesh, Pakistan, India, China, Philippines and others in Asia have had to accept the so-called "Free Trade Zones". According to ILO, some 27 million people (2000-01) work in some 850 zones worldwide. In all the countries, the transnationals, and their local counterpart contractors, routinely violate labour laws, ignore basic standards of safety and sanitation, heap extra abuse on women workers and cheat workers of even the criminally low wages they pay in the first place. Some are guilty of heinous child labour practices.

The women delegates participating in the Southern Initiative on Globalisation and Trade Union rights (SIGTUR) inJohannesburg explained their plight in EPZs. The women delegate from Sri Lanka explained the plight of women workers in garment manufacturing units. To combat that, they had organized in their country an exchange programme of manufacturing unit workers of Thailand, Bangladesh and Sri Lanka in the previous month. Some Korean companies also ill treat their women workers. Some women are grabbed by their hair, small mistakes are not tolerated and women are assaulted.

WHAT IS REQUIRED TO BE DONE IN INDIA?

I. It is extraordinary that India, a member of the ILO since 1919, and a permanent member of the Governing Body ratified more Conventions under the British colonial rule (22 ratifications in a 18 year period) than it has since independence. (18 ratifications in a 55 year period).

Article 253 of the Constitution gives the Parliament the power to make"any law for the whole or part of the territory of India for implementing any treaty, agreement **or Convention** or any decision made at any international Conference, association or any other body". So there should be no difficulty in legislating to apply the standards laid down in the ILO Conventions on OSHE.

Needless to state that all ILO Conventions and recommendations on OSHE work environment will have to be ratified by the Government and the existing laws to be attuned to the provisions contained in these conventions, besides enacting laws where they do not exist, for example, in agriculture sector and implement them without relaxations.

II. Directive Principles on OSH Related Matters.

Recently the Supreme Court of India has turned the spotlight on one issue contained in Article 44 of the Constitution of India "Directive Principles of State Policy" and regretted that the Indian Parliament has not given effect to Article 44 of the Constitution.. The same article "directs" to provide (i) for securing the health and strength of workers, men and women (ii) against abuse of children / child labour (iii) just and humane conditions of work (iv) secure the participation of workers in the management, etc. In the light of the recent direction of the Supreme Court on one such provisions of Article 44, **it is incumbent on the Government to enact laws on the other most important provisions also including Occupational Safety and Health.**

III. Planning Commission and OSH National Policy

Agenda 21 of the Earth Summit of June 1992 held at Rio de Janeiro is to be understood and the specific recommendations of Rio Declaration

put into actual practice at the national level primarily and other levels subsequently.

IV. Inspection – Unorganised Sector

On "giving priority to inspection in the unorganized sector" the (first) National Commission on Labour has observed "that malpractices prevail in unorganized sector and small scale industries where the arm of the law does not reach and where workers have little awareness of their rights and also where payment is on the basis of piece rates and there is no guarantee that work is properly measured/weighed . It was further observed that the implementing machinery should be more vigilant in cases of units where malpractices are likely to be common. In small establishments in traditional industries, malpractices could be cancerous and in such cases more drastic remedies are called for. The emphasis on implementation of labour laws in unorganized sector has to become a declared statutory policy of the country".

Needless to emphasis that the notifications in some states abolishing the visits of inspectorate are unconstitutional, undesirable and untenable. This shall have to be dealt with seriously and in any case inspections should not be done away with.

V. Enactment of a comprehensive law on Occupational Safety and Health on the lines of Occupational Health and Safety Act of USA, HASAW Act of UK or WE Act on Denmark.

VI. 'Clean Production' should be the objective, not 'production at any cost'. 'Green Clauses' must compulsorily be part of the periodic settlement between the unions and managements.

VII. Law should prohibit blackmail, by employer, through freezing of jobs or the closing down of factories in case of demands for investment in pollution elimination and safety by workers or public authorities. Opposition from employers towards anti-pollution measures demanding mechanical, physical and chemical means implying investments should not be legally allowed. In short employer should guarantee:-

1. The workers that his / her professional activity will involve no danger to his/her health and certainly not his life;
2. The neighbouring area that its activities do not endanger the health of the population outside the enterprise or the flora; and
3. The users of the objects and products which it supplies that no harm can be caused to the users and their surroundings.

VIII.Development, which is essential, shall not be at a premium on safety and health or a compromise on OSH protection. New strategies and solutions need to be developed and applied to prevent and control the hazards and risks not only in the areas known, but also in the emerging new areas causing biological hazards, psychological hazards and muscular skeletal diseases as seen in the newly emerging IT section where practically no rules exist.

IX. SAFETY AND HEALTH MUST BE A FUNDAMENTAL HUMAN RIGHT OF THE WORKERS. Decent work agenda of the ILO shall be our agenda also, which can not be achieved without asserting Safety and Health as a fundamental right of the

workers, irrespective of employment relations and economic donations. It is necessary to remove the wrong belief that many occupational diseases are the necessary components and inevitable constituents of their work; that any solutions to these problems would entail high degree of technical expertise and large financial investments. This negative thinking and unhealthy attributions should be proved wrong and to be totally altered by means of appropriate training on OSHE and education at all levels. In short, our national goal should be to make India as a different industrially advancing nation-accident free, occupational disease free, pollution free and polluters free in the era of implementing the decent work agenda."

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PRODUCT SAFETY MANAGEMENT

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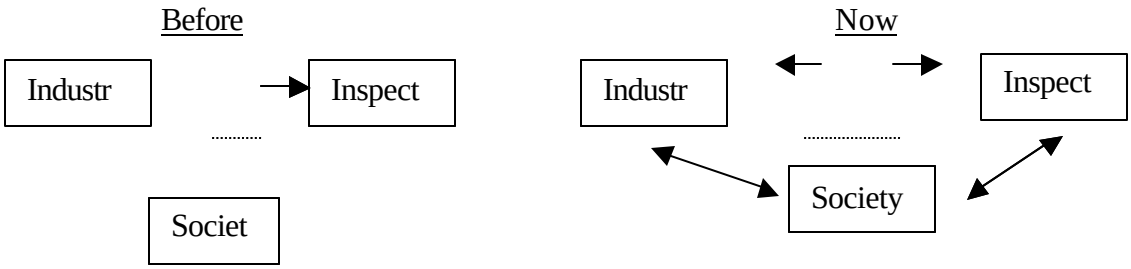
INTRODUCTION

Nothing is perfect. Safety is relative.

This concept encourages everyone to think rationally for safer design/manufacturing/ use/disposal system for Products. Historical reviews point out that over design, margin of safety, various court decisions, economics of the project and various other considerations had bogged down Product Safety (PS). The fast industrial development and its growth conferred not only lot of benefits but also it is having its own undesirable effect on us. For example, the consumption of Pesticides, had increased from 432 metric tones in the 1950s to 10,000 metric tones in the '90s.But there is no well planned and properly designed system for regular monitoring of contaminants entering our food cycle. However, at every point of time it is the safety effort which is enabling us to enjoy the fruits of industrialization to a greater part. When the theme propounded by Lord Raben's Committee is well appreciated by everyone including the manufacturers, it is quite possible to achieve both the societal needs that is production and protection as the available knowledge and technology is not deficient.

NEED FOR PSM

The industry needs to take a comprehensive pro-active role in Product Safety and make sustained efforts in creating awareness among users and society. There are a number of regulatory provisions available in our country but possibly only its implementation & monitoring strategy requires a revamping to take care of user and society. This is essential due to their changing relationship among them. The relation is shown below:



Apart from financial gain, avoidance of Product liability is among the main benefits of Product Safety Management. Therefore many of the corporate Managements are also tempted to look afresh and accord proper status and practice in their organization.

ESTABLISHMENT OF PSM

Establishment of PSM consists of the following stage:

- PSM - policy declaration
- PSM - Programme Co-ordinator (PC) appointment
- PSM - Co-ordination committee (If found essential)
- PSM - Auditor (P A) appointment
- PSM - Audit report and follow up.

ROLE OF SAFETY AND HEALTH PROFESSIONALS

Safety and Health Professional is likely to contribute on :

- Evaluation of PS Practices (EPSP)
- Offer views on PSM
- Evaluation of exclusive Training Sessions on PSM
- Assisting in Product accident investigation (P AI)
- Customer misuse avoidance (CMA)

In small and medium industries, the safety professional is likely to be appointed as Programme Co-ordinator or Programme Auditor. Because of their past experience, Safety and Health departments may be aware not only of potential product hazards but also of ways & means by which Product Safety, Product Accident Investigation, avoidance of user misuse etc. may be improved upon. Thus representatives of safety and health departments are playing a vital role.

AUDIT PROGRAMMES

Though the PSM audit covers all the departments and areas involved an indicative list is given here for audit programmes:

A. DEPARTMENTS

- Design Engineering
- Manufacturing Engineering
- Services
- Legal department/
- Marketing Dept.
- Purchase Dept.
- HR Dept.
- Insurance Dept
- Quality Assurance & Testing Dept.
- P R Dept.

B. AREAS

- Design reviews
- Codes & Standards
- Human factors
- Critical part evaluation
- Classification, packaging, Labelling, handling & Transportation
- Hazard Communication
- Record keeping
- Review of Liability.

- Field information system/
- Data Collection/analysis
- Analysis of complaints
- Incidents & Accidents
- Sample Inspection
- Evaluation of non-conforming material
- Material status & storage
- Error Analysis & Corrective action.

Manuals

Evaluation & Control of suppliers

Special process control

Product recall

Calibration

Product Modification

Field Modification

CONCLUSION

As PSM surely helps in loss prevention and provides realistic & quantitative results to correct deficiencies or to improve existing procedures, the corporate managements are in a position to derive maximum economic advantage from PSM which has been hitherto a neglected area.

Shri S.Bharathi
Director (Safety)
Regional Labour Institute,DGFASLI
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AN OCCUPATIONAL HEALTH STUDY OF WORKERS EMPLOYED IN INDUSTRIES USING SILICIOUS MINERALS

This study was carried out by Regional Labour Institute, Kolkata in 13 units belonging to 5 eastern states of the country.

OBJECTIVE

The objectives of the study were:

- To ascertain the prevalence of silicosis and related disorders among the workers employed in trades especially where risk of exposure to dust existed, and
- To evolve necessary preventive measures to control the disease if any.

MATERIAL & METHOD

A total of 1022 workmen inclusive of 47 women workers belonging to 13 different units were selected. These belonged to 4 different types of industries such as Refractories, Ceramics, Cement and Small Scale units.

The selected workers were interviewed with the help of a questionnaire and a thorough clinical examination including lung function tests and a full size chest radiography. The radiographs were read individually and jointly by 3 experts as per the criteria prescribed by ILO.

In the present study, cases with breathlessness, restrictive lung function disorders and +ve radiological lesions were categorized as Silicosis, whereas those which were asymptomatic yet showed positive radiological lesions were categorized as Simple Benign Pneumoconiosis.

RESULTS & DISCUSSIONS

Overall prevalence rate of Pulmonary disease was found to be 9.09% of which women workers comprised 0.58%.

Simple Benign Pneumoconiosis accounted for 5.57% prevalence whereas Silicosis for 3.64% prevalence.

Another category of Silico-Tuberculosis disease alone accounted for 0.87% prevalence.

The prevalence of Simple Benign Pneumoconiosis and Silicosis in the women workers were found to be 0.19% and 0.39% respectively.

It may be noted that the workers in the exposure group 20-30 years were maximally affected with the pulmonary disease (3.72% prevalence) of which, cases of SBP, Silicosis and Silico-Tuberculosis accounted for 1.96%, 1.37% and 0.39% respectively.

RECOMMENDATIONS

1. In view of the prevalence of Silicosis and Silico-Tuberculosis in the refractory units being considerable, it was strongly recommended to subject all refractory workers to medical examination.
2. It was also advised to immediately isolate 3.51% of symptomatic cases of Silicosis and Silico-tuberculosis and suitable pre-placement in non-dusty jobs and to be kept under strict medical supervision.
3. Periodical follow up of cases of Simple Benign Pneumoconiosis was also suggested.
4. Recommendations were also made for control of dust in work environment and use of dust mask in dusty areas .

HANDLING PROBLEM BEHAVIOUR OF EMPLOYEES

INTRODUCTION

A critical challenge to the manager's productivity effort lies in the area of uncooperative subordinate behaviour. The few employees who refuse to cooperate, who come to work late, who argue over the assignments, who fail to follow the direction and who are chronic rule violators, provide constant barrier to productivity. Some employees have family difficulties; others may suffer from alcoholism, drug dependency or a variety of physical or psychological ailments. All these personal difficulties have the potential to interfere with the workers' abilities to satisfactorily perform their jobs. Such behavioural problems if ignored or inappropriately handled by the supervisors or the managers, they may result in various organizational problems. Productivity declines, absenteeism increases, quality of product or services deteriorates, safety guidelines are ignored, company policies, procedures, rules are disobeyed and ultimately entire work culture gets contaminated. Before these signs become apparent, intervention is usually essential as a preventive measure.

OBJECTIVE

The programme is designed to equip managers and shop floor engineers with the latest approaches and skills to correct the uncooperative subordinate behaviour to enhance productivity, safety and sense of well being at the place of work.

COURSE CONTENT

The content of the programme will be a blend of Behaviour Modification and Counseling Techniques. The topics will be:

- Identification of problem behaviour
- Counseling skills(Carkhuff Model)
- Behaviour modification approach and techniques.
- Performance Counseling
- Handling addiction behaviour
- Employee assistance programme
- Practical tips for handling employee behavioural problems.

METHOD

Lectures, Micro-Lab, Group discussion, video aided role-play exercises and case studies.

FACULTY

Experts from the Central Labour Institute, Mumbai, eminent management consultants and practicing professionals from industries.

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Conducted by:

Industrial Psychology Division
Central Labour Institute
N.S. Mankikar Marg
Sion, Mumbai – 400 022.

INTERNATIONAL OCCUPATIONAL SAFETY AND HEALTH INFORMATION CENTRE (CIS)

CIS (from the French name, Centre international d'Information de securite et d'hygiene du travail) i.e. International Occupational Safety and Health Information Centre, is a part of the International Labour Office, Geneva, Switzerland. The mission of CIS is to collect world literature that can contribute to the prevention of occupational hazards and to disseminate this information at an international level. CIS imparts to its users the most comprehensive and up-to-date information in the field of Occupational safety and health. The work of CIS is supported by a worldwide Safety and Health information exchange network which includes over 91 affiliated National Centres and 38 CIS collaborating Centres. Central Labour Institute, Mumbai has been designated as the CIS National Centre of India.

CIS can offer you rapid access to comprehensive information on occupational safety and health through:

- Microfiches on original documents abstracted in CIS DOC (CISILO)
- ILO CIS Bulletin "Safety and Health at Work"
- Annual and 5-year indexes
- The CIS Thesaurus
- The list of periodicals abstracted by CIS

EXCERPT FROM CIS DOC

Title: Characterization of clinical tolerance to inhaled zinc oxide in naï ve subjects and sheet metal workers.

CIS ACCESSION NUMBER
CIS 03-295

ABSTRACT

The aim of this study was to determine whether clinical tolerance to the acute exposure effects of zinc oxide is accompanied by a reduction in pulmonary inflammation and cytokine responses. Never-exposed subjects inhaled 5mg/m^3 zinc oxide for two hours during one or three consecutive days and underwent bronchoalveolar lavage 20 hours after the final exposure. Sheet metal workers inhaled zinc oxide on one day and control furnace gas seven days later. Among never-exposed subjects in whom tolerance was induced, neutrophils and interleukin-6 (IL-6) levels were significantly decreased compared with subjects who underwent only a single exposure. Sheet metal workers were much less symptomatic, but still experienced a significant increase in plasma IL-6. Clinical tolerance to zinc oxide is accompanied by reduced pulmonary inflammation. These results explain why sheet metal workers are not clinically affected by long-term exposure to zinc oxide fumes at the Occupational Safety and Health Administration permissible exposure limit.

Note:

For details write to CIS National Centre fo India, Central Labour Institute, Sio Mumbai 400 022.

The Library & Information Centre of Central Labour Institute has unique collection of Material Safety Data Sheet of about 1,20,000 chemicals/materials taken from Canadian Centre for Occupational Health & Safety. MSDS provides extensive coverage over safety perspective with detailed evaluation of health, fire and reactivity hazards. It also provides precaution as well as recommendation on handling, storage, personal protective equipment, accidental release, etc.

PRODUCT NAME: GTL NAPHTHA / DMM

Hazards Identification

Physical state: Liquid
Color: Colorless
Emergency Overview: Danger! Extremely flammable. Causes eye irritation. Causes skin irritation. Aspiration hazard. Harmful or fatal if liquid is aspirated into lungs.Causes respiratory tract irritation. Inhalation of vapor/aerosol concentrations above the recommended exposure limits may cause headaches, drowsiness, nausea, and central nervous system depression. Do not ingest. If ingested do not induce vomiting. Avoid contact with eyes, skin and clothing. Do not breathe vapor or mist. Use only with adequate ventilation. Wash thoroughly after handling.

POTENTIAL HEALTH EFFECTS

Eyes: Causes eye irritation.
Skin: Causes skin irritation. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.
Inhalation: Causes respiratory tract irritation. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness, and nausea, and may lead to unconsciousness or death.
Ingestion: Aspiration hazard if swallowed -- harmful or fatal if liquid is aspirated into lungs. Causes gastrointestinal irritation and diarrhea.

First Aid Measures

Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.
Skin Contact: In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.
Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.
Ingestion: If swallowed, do NOT induce vomiting. Never give anything by mouth to an unconscious person. Aspiration hazard if swallowed- can enter lungs and cause damage. Get medical attention.

Fire Fighting Measures

Unusual fire/explosion hazards**:**Flammable in presence of open flames, sparks and static discharge, of shocks, of heat, of oxidizing materials. This material is not explosive as defined by established regulatory criteria. This material is combustible/flammable and is sensitive to fire, heat, and static discharge. Vapors can travel to a source of ignition and flashback.
Fire Fighting Media and Instructions: Flammable liquid, insoluble in water.
Small Fire: Use dry chemical powder
Large fire: Use water spray or fog. Use dry chemicals, CO2, water spray or foam. Cool containing vessels with water jet in order to prevent pressure build-up, auto ignition or explosion.
Protective Clothing (Fire): Firefighters should wear full bunker gear, including a positive pressure self contained breathing apparatus.

Accidental Release Measures

Large Spill and Leak**:** Shut off all ignition sources; no flares, smoking, or flames in hazard area. Combustible liquid and vapor.Insoluble in water. Treat as an oil spill. If emergency personnel are unavailable vacuum or carefully scoop up spilled materials and place in an appropriate container for disposal by incineration. For large spills dike

spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Minimize contact of spilled material with soils to prevent runoff to surface waterways.

Handling and Storage

Handling: Keep away from heat, sparks and flame. Keep container closed. Use only with adequate ventilation. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Do not ingest. Wash thoroughly after handling. Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when this material is loaded into tanks previously containing gasoline or other low flash point products.

Storage: Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Exposure Controls, Personal Protection

Engineering Controls: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:

Eyes:Avoid contact with eyes. Chemical splash goggles.

Skin and Body: Avoid contact with skin and clothing. Wear clothing and footwear that cannot be penetrated by chemicals or oil.

Respsiratory: Use with adequate ventilation. If ventilation is inadequate, use a NIOSH certified respirator with an organic vapor cartridge and P95 particulate filter.

CAUTION: The protection provided by air-purifying respirators is limited. Use a positive pressure air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are not known, or if concentrations exceed the protection limits of air-purifying respirator .

Hands: Wear gloves that cannot be penetrated by chemicals or oil.

Toxicological Information

Acute toxicity: Acute oral toxicity (LD50): Not available.

Acute dermal toxicity (LD50): Not available.

Chronic toxicity: This product contains n-hexane. Overexposure to n-hexane may cause progressive and potentially irreversible damage to the peripheral nervous system, particularly in the arms and legs. Animal studies have also shown that n-hexane overexposure may cause testicular injury. However, animal studies conducted with commercial hexane, containing 53% n-hexane, showed neither peripheral nervous system damage nor testicular injury at inhalation exposures up to 9000 ppm.No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH or the International Agency for Research on Cancer (IARC). No component of this product present at levels greater than 0.1% is identified as a carcinogen by the U.S. National Toxicology Program (NTP) or the U.S. Occupational Safety and Health Act (OSHA).

NOTE

The above details constitute part information of MSDS taken from Canadian Centre for Occupational Health and Safety. For complete MSDS write to MIS division, Central Labour Institute, Sion, Mumbai-400022. MSDS on about 1,20,000 chemicals/materials are available with Central Labour Institute. Computer printout will be supplied on nominal charge basis.

WOMEN CAN WORK NIGHTS IN FACTORIES

The government has decided to amend the Factories Act to allow women to work nightshifts.

The Union Cabinet gave its approval for introduction of a bill to amend Section 66 of the Factories Act, 1948, which puts restrictions on employment of women in a factory between 7 pm and 6 am.

Under the section as it exists, state governments can notify exemptions, extending the working hours slightly. But in no case can women work between 10 pm and 5 am in places over which the Factories Act extended. The Act does not, for example, cover hotels or very small manufacturing units.

The proposed amendment will allow flexibility. A state government could issue a notification allowing women workers to work the entire nightshift provided the factory had enough safeguards for them.

The amendment bill suggests that the state governments could issue such notifications after consulting the employer and workers or their representative organizations. The notification could apply to a factory "or group or class or description of factories". Thus a state government could allow nightshifts in a special economic zone, or in a particular sector.

The proposed bill says the state governments will give their go-head for nightshifts only when there are safeguards regarding "occupational safety and health, equal opportunities for women workers, adequate protection for their dignity, honour and safety and their transportation from the factory premises to the nearest point of their residence.

At its meeting, the Cabinet also decided to extend VAT, the value added tax, to the Union territories of Daman and Diu and Dadra and Nagar Haveli through an ordinance.

It also gave the nod to the introduction of a bill in Parliament to give Manipur University the status of a Central university. This decision implies Central funding for the institute and is meant to" minimize the imbalance of educational facilities" in the Northeast. Also ratified was an agreement between India and Serbia and Montenegro on cooperation in science and technology.

Source: The Asian Age

FACTORIES ACT AMENDMENT TO BENEFIT GARMENT INDUSTRY

The government will amend the Factories Act 1948 to allow women to work in night shifts.

Commenting on the decision, Deepak Seth, Chairman of Pearl Global, said,"This is the first positive step of the government towards labour reforms. It will help the garment industry to meet its targets and compete with neighbouring countries such as China and Indonesia".

Welcoming the decision, Garment Exporters Association president and INDSPA managing director, Shri Sudhir Kharabanda, said, "The government should also liberalize norms related to over timing to take full benefit of the decision".

Garment exporters have said the move will benefit mainly South-based textile companies, specially the Tirupur cluster. "The South-based garment factories employ 90% women folk, whereas North Indian factories employ over 70% men, a garment exporter said.

Expressing hope that" This is the beginning of labour reforms", Indian Cotton Mills' Federation Secretary General, Shri AKG Nair said, "If we want to remain competitive in the post-quota regime, flexible labour norms are necessary.

Source: The Economic Times

TRAINING PROGRAMMES
JULY-SEPTEMBER 2005
CENTRAL LABOUR INSTITUTE ,SION, MUMBAI-400 022

Programme title	Contact person
Diploma in Industrial Safety	Director (Safety) & Incharge Indl. Safety Division
Management of Occupational Stress for ensuring Safety, Health & Productivity at Work.	Director (Physiology) & Incharge Indl. Physiology Division
Personnel Growth & Group Dynamics	Director (Staff Trg./Productivity) & Incharge Productivity Division
Industrial fitness, a key to improve Safety, Health & Productivity	Director (Physiology) & Incharge Indl.Physiology Division
Industrial Hygiene Techniques	Director (Indl.Hygiene)&Incharge Indl.Hygiene Division
Occupational Health Hazard in use of computers & VDT-its evaluation & management for ensuring Safety, Health & Productivity.	Director (Physiology) & Incharge Indl.Ergonomics Division
Understanding Human Behaviour for Safety, Health & Productivity	Director (Indl.Psychology) & Incharge Indl.Psychology Division
Occupational back pain - its evaluation & management for Safety, Health & Productivity	Director (Physiology) & Incharge Indl.Physiology Division
Training workshop on Hazard & Operability(HAZOP) studies	Director (Indl.Hygiene) & Incharge Major Accident Hazard Control Advisory Division
Safety, Health & Environment In Chemical and Petrochemical Industry	Director (Indl.Hygiene)&Incharge Indl.Hygiene Division
Physiological basis of manual material handling for Accident Prevention at Work	Director (Physiology)&Incharge Indl.Physiology Division

One month specialised certificate Course for Supervisors working in Hazardous Process Industries	Director (Staff Trg.) & Incharge Staff Training Division
Refresher course for Senior Inspectors of Factories	Director (Safety) & Incharge Indl. Safety Division
Advanced training programme on Occupational Health & Environmental Medicine for Doctors/Factory Medical Officers.	Director (Medical) & Incharge Indl. Medicine Division
Industrial Ergonomics – its application in Industries for Promotion of Safety, Health & Increased Productivity at Work	Director (Physiology) & Incharge Indl.Ergonomics Division
Industrial Heat Stress & Heat Disorders – its evaluation & management for ensuring Safety, Health & Productivity at Work	Director (Physiology) & Incharge Indl.Ergonomics Division

TRAINING PROGRAMMES
JULY-SEPTEMBER 2005
REGIONAL LABOUR INSTITUTE , NO.1,SARDAR PATEL ROAD ADYAR, CHENNAI-600 113

Programme title	Contact person
Diploma in Industrial Safety	Director Incharge
Training Programme on Safety Audit	. Director Incharge

TRAINING PROGRAMMES
JULY-SEPTEMBER 2005
REGIONAL LABOUR INSTITUTE , LAKE TOWN KOLKATA-700 089

Programme title	Contact person
Diploma in Industrial Safety	Director Incharge
Workers Development Programme	Director Incharge

Appreciation course on Industrial Hygiene	Director Incharge
Training programme on Emergency Planning & Preparedness in MAHC installation	Director Incharge

TRAINING PROGRAMMES
JULY-SEPTEMBER 2005
REGIONAL LABOUR INSTITUTE , SECTOR 19
FARIDABAD

Programme title	Contact person
Managing Safety at Work	Director Incharge
Safety in Engineering Industry	Director Incharge

TRAINING PROGRAMMES
JULY-SEPTEMBER 2005
REGIONAL LABOUR INSTITUTE, SARVODAYA NAGAR
KANPUR- 208 005

Programme title	Contact person
Training programme on Chemical Hazards in Industry	Director Incharge
Training programme on Personal Growth & Group Dynamics for Safety & Health	Director Incharge
Workshop on Safety Engineering & Management	Director Incharge

Training programme on Chemical Safety	Director Incharge
Workshop on HAZOP	Director Incharge
Refresher course on Occupational Health	Director Incharge

INDOSHNET

Ministry of Labour, Government of India, is developing a National Network on Occupational Safety and Health information system known as INDOSHNET. Directorate General Factory Advice Service & Labour Institutes (DGFASLI), an attached office of the Ministry of Labour will act as a facilitator of the network system. The objective of the network is reinforcement and sharing of national occupational safety and health (OS &H) information on no-profit no-loss basis with a view to pooling our information resources for mutual benefit. The sharing of information will not only confine to the national level but also includes international sources. The communication of information will be through E-mail as well as postal/courier service. DGFASLI invites industrial organisations, institutions, industry associations, trade unions, professional bodies and non-governmental organisations having information on OS&H and willing to share the same with others at the national and international level to participate as members in the network. Interested agencies may please write for proforma of organisational profile to Director General, DGFASLI, Central Labour Institute Bldg., N.S. Mankikar Marg, Sion, Mumbai 400 022.

Note: Those who have responded to our earlier communication and sent organisation profile in the prescribed format need not write again.

NATIONAL REFERRAL DIAGNOSTIC CENTRE

Early detection and diagnosis of occupational health disorders and occupational diseases is one of the most important factors in the prevention and control of adverse health effects on workers due to various factors - physical, chemical, biological and psycho-social. The Industrial Medicine Division of Central Labour Institute, Mumbai runs a National Referral Diagnostic Centre (N.R.D.C.) for early detection and diagnosis of occupational diseases and recommends necessary measures for prevention/control of occupational health problems/occupational diseases. The diagnostic centre is well equipped for medical examination of the exposed workers and facilities are available for carrying out special investigation, e.g. Pulmonary function tests, Audiometry, ECG, Titmus vision test, Biological monitoring, etc. Medical professionals including Factory Medical Officers, ESI Doctors, Medical Inspectors of Factories and Certifying Surgeons, Doctors from Medical Colleges and Hospitals can refer suspected cases of occupational diseases to N.R.D.C. for diagnosis and advice. The communication should be addressed to the Director General, DGFASLI, Central Labour Institute Bldg., N.S. Mankikar Marg, Sion, Mumbai 400 022 for further details.

INDOSHNEWS is a quarterly newsletter that facilitates exchange of ideas and data developed through research, study and surveys in the areas of occupational safety and health. DGFASLI invites articles from individuals, industry, industrial associations, trade unions, professional bodies etc. having information on OS & H and willing to share the same with others at the national and international level.

1. **Manuscripts for publication should be typed in double space within 3 to 4 A4 size sheets only on one side of the paper and sent in duplicate to the Editor-in-Chief. No photographs can be published.**

2. **Once the manuscripts are accepted for publication, publisher reserves the right to make editorial changes as may be necessary to make the article suitable for publication; and publisher reserves the right not to proceed with publication for whatever reason.**

3. **Authors should take care to ensure the accuracy of data and reference.**

GOVERNMENT OF INDIA, MINISTRY OF LABOUR
DIRECTORATE GENERAL FACTORY ADVICE SERVICE & LABOUR INSTITUTES

The Directorate General Factory Advice Service & Labour Institutes (DGFASLI) is an attached office of the Ministry of Labour, Government of India. DGFASLI organization was set up in 1945 under the Ministry of Labour, Government of India to serve as a technical arm to assist the Ministry in formulating national policies on occupational safety and health in factories and docks and to advise State Governments and factories on matters concerning safety, health, efficiency and well-being of the persons at workplace. It also enforces safety and health statutes in major ports of the country.

The Directorate General Factory Advice Service & Labour Institutes (DGFASLI) comprises:

* Headquarters situated in Mumbai
* Central Labour Institute in Mumbai
* Regional Labour Institutes in Kolkata, Chennai, Faridabad and Kanpur

The Central Labour Institute in Mumbai functions as a socio-economic laboratory and is a national institute dealing with the scientific study of all aspects of industrial development relating to the human factors.

Over the years the Central Labour Institute has constantly grown not only in size but also in stature and has earned national and international recognition. It has been recognised by the International Labour Organisation as a Centre of Excellence in training on Occupational Safety and Health in the Asian and Pacific Region. It also functions as a National Centre for CIS (International Occupational Safety and Health Information Centre) and the Centre for National Safety and Health Hazard Alert System. At the national level, apart from providing research and training support to the Government and functioning as a technical arm of the Ministry of Labour, the institute provides comprehensive and multi-disciplinary services to the Industrial Port sector through studies, technical advice, training and dissemination of information. It also runs National Referral Diagnostic Centre for early detection of occupational disorders and thereby controls and prevents them. It has a modern Audio Visual Studio fully equipped with sophisticated video production equipment to produce quality U-matic video films on Safety and Health. The Regional Labour Institutes are a scaled-down version of the Central Labour Institute and cater to the needs of their respective regions.

The organization is poised to grow further, and meet the increased demands on it. In a developing country with a large number of industries having diverse and complex nature, the task of protecting safety and health of workers is an uphill task. Armed with the technology, good will of the industrial society and the strength of the dedicated staff, the organization is well prepared to meet the challenges of tomorrow. It is committed to the goal of making the workplace safer.

Visit us at : www.dgfasli.nic.in