BLACK LUNG: Coal Workers' Pneumoconiosis

Although the Chasnala coal mine disaster, more than a decade ago, shocked the country regarding the working conditions and lack of adequate safety measures in coal mines, yet the hazards miners face are much more widespread than caving in of roofs. The accidents and mishaps recorded in the office of the Inspector of Mines reveal the prevalence of a wide range of hazards - caving in of roofs, electrical accidents, machinery accidents involving roof-bolting equipment, power drills, conveyor belts, defective protective equipment, equipment control failure, explosives and blasting, concentration of Carbon

dous work conditions, the workers are asked to get adjusted to the process of production.

The question that arises, therefore, is whether legal provisions are being reduced hazards at workplace. In the industrialized countries, particularly in the U.K. and the U.S.A., the laws have been framed after a clear understanding of the requirements of the safety issues. The black lung movement against cotton dust and the black lung movement against coal dust have laid down the safety principles to be practiced at the workplace. Without any clear-cut management practices on health and safety, the hazards can only multiply and the laws will lag behind or remain merely on paper. Action must be taken to ensure safe management practices at all workplaces in India.

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Monoxide and Nitric Oxide, fire, noise, etc.

But the frequency of all the above hazards remains at a low level compared to the hazards caused by exposure to coal dust. The worker gets exposed to the dust throughout the long working hours of his life. A prolonged retention of fibrous coal dust in the lungs leads to a disease called 'Coal Worker's Pneumoconiosis', commonly known as 'black lung'.

Definition

The Third International Conference of Experts on Pneumoconiosis organised by ILO at Sydney in 1950 adopted the definition: Pneumoconiosis is a diagnosable disease of the lungs produced by the inhalation of dust, the term dust being understood to refer to particulate matter in the solid phase, but excluding living organisms. Not all dust exposure results in Pneumoconiosis. The dust that enters the lungs and gets deposited in the alveoli (the gas exchanging sacs of the lung) cases Pneumoconiosis. Only the very small dust particles (less than 0.003 mm in diameter) reach the air spaces in the lungs in significant numbers. The dust particles cover the air sacs and the lung tissue comes in direct contact with the dust. The intensity of tissue reaction to dust varies with different dust and leads to different types of lung damage and diseases. The fibrogenic dust cases more violent reaction leading to the destruction of the capillaries of the alveol and resulting in scars. The scars may be in the form of round nodules and damage the lung tissue. Dust which has a high fibrogenic potential is capable of incapacitating a large amount of lung tissue following a shorter exposure.

The 'Black Lung' disease shows a series of symptoms. These include bronchitis, emphysema, shortness of breath, etc. Coal worker's pneumoconiosis exists in two forms: simple and complicated. In mining-workers the risk of acquiring complicated pneumoconiosis increases steadily as simple pneumoconiosis advances.

All types of coal dust are fibrogenic in nature. Generally, the risk of developing black lung lessens as one proceeds from anthracite to bituminous and lignite coal. But with mechanisation of mines, the risk has been heightened because the machines generate more minute dust particles which are easily respirable.

At the initial stage of exposure to coal dust, a small area of the lung gets affected; with continued exposure it progressively increases. The affected areas of the lungs on an X-ray resemble a golf ball and sometimes are of the size of a cricket ball. In advanced cases, obliteration of blood vessels in the lungs may cause failure of the right side of the heart.

Diagnosis

When pneumoconiosis is diagnosed it is necessary to understand the degree or amount of pneumoconiosis present. The X-ray or radiograph appearance has to be studied carefully. But X-rays do not always reveal black lung, and they do not show some other important diseases such as chronic bronchitis. Other medical tests for black lung are breathing tests and blood gas tests which measure the level of Oxygen in the blood. A quantitative diagnosis of pneumoconiosis is required so that adequate advice may be given to the individual and a systematic record can be established.

Preventive Measures

If the radiographic appearance shows category 1, 2, or 3 of simple pneumoconiosis or complicated pneumoconiosis, the transfer of the worker to a dust-free job or less dust-laden job is the first requirement.

A small-scale study was conducted in 1960-66 by the Chief Advisor of Factoy. This study revealed that 178 (18%) of 2754 coal miners who were radiologically examined were suffering from coal worker's Pneumoconiosis. Another random representative survey done by Dr. Viswanathan in 1964 showed the incidence of black lung varying between 6 to 17 percent.
What are the health rights that workers in potentially hazardous jobs should be entitled to? Given below is an extract from Franklin Wallick's book 'Don't Let Your Job Kill you'. Perhaps it can be used as a guideline to formulate an Indian Worker's Bill of Health Rights.

1. The right to protection from job hazards.
2. The right to work without fear.
3. The right to medical information.
4. The right to information about all potential job hazards.
5. The right to have known or fixed dangers clearly described by the employer.
6. The right to have variable dangers measured regularly.
7. The right to discover and preserve a record of job hazards.
8. The right to corroboration of information and enforcement of standards.
9. The right to be protected and to protect himself.
10. The right to limit hazardous work exposure to working hours.
11. The right to recover for damages resulting from violation of standards.
12. The right to recover the full value of health damaged by employer failures.
13. The right to recover hidden or delayed injuries to health.
14. The right to recover an adequate level of workmen's compensation for all job-related health impairments.
15. Every worker has the right to receive health and life insurance equivalent to the true and complete value of his life to him and to his family, from his employer, at a rate equivalent to that which federal employees receive.
16. Every worker has the right to bargain for stricter standards than those established or provided by law.

*Published by Progressive Press, 7620 Morningside Dr., NW, Washington DC 20012, USA.

Events of Interest

*At the instance of the Government of India two ILO specialists had submitted a report to the Government on how to prevent a Bhopal-type tragedy. The report dealt with onsite and offsite emergency planning, training operating personnel and ensuring adequacy of safety systems. After this report was prepared, the West German Government has sanctioned 1.5 million dollars to Govt. of India for a major hazard control project in India. (Mr. S. Sankaranarayanan, Director of ILO, Area Office, New Delhi).

On February 10, more than 200 affected women marched under the banner of Bhopal Gas Pidit Udhyog Sangathan in a demonstration to the Chief Minister's residence, to press their demands against inadequate rehabilitation. Most of these women have been incapacitated by the toxic gases of Union Carbide. They cannot carry on with their normal routine work.

*The National Campaign Committee for General Legislation on Construction Labour has drafted a model bill that will ensure some equity, security and welfare to the construction workers. The draft provides for compulsory welfare levy for special funds for construction workers, guarantee of minimum wages and registration of workers, category-wise and employers. The National Campaign Committee organised a workshop on April 18-19, 1987 at New Delhi. Representatives of construction workers, government officials, members of the Tripartite Working Group and members of parliament participated in the workshop. The workshop evaluated the existing laws and their implementations and the bill and scheme formulated by National Campaign Committee. (R. Venkatramani, Convenor, 14A/13, W.E.A., Karol Bagh, New Delhi 110005).

*The International Labour Office intends to convene the 7th International Pneumoconiosis Conference in the USA in Autumn 1988. The agenda will focus on respiratory disorders (caused by occupational exposure to mineral and organic dust) and their control. For more details: Robert E. Gleen, Conference Chairman, NCM, 944 Chestnut Ridge Road, Morgantown, WV 26505, USA.
Leakage

* In a thermal power station, based at Faridabad, a boiler exploded on February 3, 1987. Fortunately no worker was present at the site of the accident, which caused a loss of Rs. 4 lakhs.

*At least 213 persons were killed in accidents during 1986 as against 204 the previous year in various mines run by Coal India Limited. The figures for serious injury stand at 1100 in 1986 as against 1090 in 1985.

* On April 18, machinery and goods worth about Rs. one crore were destroyed when fire erupted in a solvent plant at Hanavadar in Junagadh district, Gujarat.

Educational Materials

* Miner's Manual

It covers many of the more serious safety and health problems the miners encounter in their job. Written in the context of American miners, it gives guidelines to miners on the use of the Federal Mine Safety and Health Act. A useful manual for miners all over the world. Prepared by J. Davitt McAtee, Occupational Health and Safety and Health Law Centre, 1536 16th Street N.W. Washington D.C. 20036, USA.

* Hazards

An informative bulletin on health and safety. Each issue of Hazards Bulletin contains an in-depth analysis on a particular health and safety topic. Contact: Hazards, P.O. Box 199, Sheffield S1 IPQ, England.

* Which Side Are You On? Workers Education In A Changing World

It reports the deliberations held at the International Seminar on Workers' Education in Asia, organised at Sri Lanka in October 1986. It provides the context in which workers are toiling in different Asian countries and focuses on workers of the unorganised sectors like construction, plantation, rural workers, workers in the free trade, and women workers. The report is available from FRIA.

* Mismanaging Health And Safety At Work Place

This is an attempt to list together some aspects of the practices of industrial management which damages the health of workers, primarily in the Indian Chemical industry. The workers and unions attempting to work for improving health and safety at work place may find this booklet useful. Prepared by Vijay Ranhare, available from FRIA.

* Health And Safety Bulletin

The Institute of Occupational Health has published the first Issue of Health and Safety Bulletin, a four page newsletter. Contact: Dr. P.A. Martin, Institute of Occupational Health, University of Birmingham, University Road, West, P.O. Box 363, Birmingham, B15 2TT, U.K.

* Respiratory Symptoms in Wool Textile Workers

Positive associations were confirmed between inspirable dust concentrations and the prevalences of persistent conjunctivitis, rhinitis, chronic bronchitis, wheezing and breathlessness in a study of wool textile workers by the Institute of Occupational Medicine. To order: The Librarian, Institute of Occupational Medicine, 8 Roxburgh Place, Edinburgh EH8 9SU, UK.

* Living in Fear

'Living in Fear' is a case study of Indian Rare Earths Ltd., Alwaye. Here, risk of cancer and genetic disorder is the highest. Unscientific disposal of radioactive wastes during the 33 years of its existence has already resulted in an increased cancer incidence in the state.

Along with the case study, experts in the field of science, technology, environment and law speak about the nuclear programme in India.

Tracing the immediate problem of IRE, the film raises a few questions about the energy options and technological choices for a third world country.

The film is the latest contribution of Media Collective, a group of film activists who are involved in the production and distribution of alternate films.

Copies available from: Media Collective 'Jyotsana' Temple Road, Thirumala, Trivandrum-695006 Kerala, India.

Price: Rs. 500/-

The next issue of this bulletin will be focussing on the health hazards of women workers in the unorganised sector.

Contributions in the way of personal experiences or materials are welcome.