BARGAINING DEATH

For centuries, human beings have struggled and fought to secure their lives threatened by death due to various reasons. Starting from the days when the law of the jungle prevailed and everyone was free to kill everyone, various philosophies and declarations came about to secure the very sanctum of life, i.e., human life. Today it is realised that though the human being is born conferred with a universally acclaimed right to life, all over this right is violated, suppressed and ignored. Threats to this life come from the police and state brutalities, from groups committed to violence or from social behaviour such as the female infanticide, euthanasia et al. All these attacks are direct and visible, so it is quite natural that a voice against them can be raised easily. But the most dangerous threat comes from the subtle and indirect attack by the overall socio-economic situation in which the right to life is threatened. No right can be exercised in isolation. The socio-economic realities force individuals to opt for hazardous professions in which he/she becomes, knowingly or unknowingly, the victim of early death from a variety of occupational diseases or accidents.

The declaration of human rights which was adopted in 1948, realised this by going far beyond the boundaries of old declarations of 1776 and 1789. It included the rights to economic and social security, as well as traditional liberties of civil, political and democratic rights. Article 29, for example, talks about the right of an individual to protect himself against unemployment, and to just and favorable wages ensuring for himself and his family an existence worthy of human dignity, supplemented if necessary by other means of social protection. To improve the working conditions, Article 24 further adds the right to rest and leisure, including reasonable limitation of working hours and periodic holidays with pays.

It was this period when the policy makers and the implementors had realised the importance of well-being of world population for peace over the globe. The well-being of life in a community is inseparably bound up with the health of its members. Healthy citizens are an asset for the country as well as for society. Disease due to man made or natural calamities can destabilise the life of the group, which in turn can affect peace in the state. This is practically true when people fall ill with widespread diseases and thus menace the life of their fellowmen, or when individuals become a burden on the community because of illness or disability. To deal with such matters, society creates agencies, establishes laws, and institutes procedures to implement laws. It was this thinking which gave birth to the concept of social medicine. During the middle ages, the sin was considered as the cause of all human misery. But with the development of science, rationality came into the thinking of progressive and medicine got liberated from ancient conjecture. Centuries passed and the concept of medicine also changed with the changing nature of state and the rights of individuals. Today governments are not thought to be instituted merely to respect people’s rights, but for their better enforcement and protection.

As it is commonly understood, health and ill-health have their biological roots, but these biological processes which give birth to disease and sufferings have been and are being mediated through the context of changing political, economic, social and cultural elements. Indeed, this is the very fact for occupational health problems. The social and economic pressures which make individual’s work inhume conditions are the cause of majority of occupational diseases and workplace accidents. The policy of low wages and piece-rate system forces workers to perform the dangerous work at the shopfloor. One may almost
say that in each period of history the working class has always been denied its right to life. A right to life, which was guaranteed under Article 6 of UN International Convention of Civil Rights (1966) (that every human being has an inherent right to life).

Declaration of this right without proper mechanisms to safeguard them is a mockery. The belief that the rights of human beings ought to be roughly the same world over has not been fulfilled till now. There is a wide difference of rules and regulations regarding health and safety requirements from country to country and from state to state. The working conditions of workers are different in the USA than what they are in India. Even within India, there is a wide difference between workers of organised sector and unorganised sector. More than two lakhs workers die worldwide every year with a variety of occupational diseases and due to accidents at the shopfloor. No record is maintained about the cause of their death, their due right to compensation is denied. Various laws meant for their welfare are not implemented and are mostly obsolete. Human rights are rights of individuals which they claim from society rather than from individuals. It is society’s responsibility to ensure that the rights concerned are given a legal force and upheld against all persons and bodies within the community.

Similar is the situation faced by women in our society. It took a long persistent struggle by the women’s groups to include the right to life denial in the agenda papers of World Conference in Vienna. This problem is also exacerbated by the lack of systematic data on the numbers and the types of abuses women experience. Yet it is common knowledge that women are routinely subjected to such maltreatment because they happen to be women.

Human rights are human creations. They grow out of a feeling of injustice which human beings experience on their bodies and minds when their dignity is abused. Today the adjustment policies impose restrictions on the welfare of the workers and narrow their existing rights. The export-oriented industries are not only left outside the Trade Union Act but also restriction and control of statutory bodies are reduced to let them boom. Such socio-economic situations are created in which children are forced to work in the industries and deprived of their basic right to education, health and proper growth.

In such a situation it is the duty of every individual, government, and the bodies who consider themselves as the vanguard of human rights to rethink over the very concept. NGO declaration on human rights at Bangkok (March) reiterated the fact that a holistic and integrated approach to human rights is needed and one set of rights cannot be used to bargain for another. The demand for a just society will remain a dream until and unless a safe and healthy workplace and living place is not provided to the workers. It is the trade union leaders and the workers who are the worst cases of human rights abuses. About 260 trade unionists were killed last year as a result of repression by the governments, security forces and death squads. In the last three months 414 workers were buried alive in various mine and wall collapse, 207 workers were burnt to death in various accidents world over. These figures are based on a very small number of paper clippings we collect. So these are just a drop in the ocean. India also became the first Asian country to host the World Conference of Occupational Health and Safety in April, 1993. This year there has been 25 percent increase in the accident rate in the coalmins in India. Many hazardous industries have started mushrooming. Do we not need a comprehensive action plan with all the citizen groups to check this trend of losing whatever humanity had gained from centuries of struggles?
SAND STONE MINES; EATING INTO THEIR LUNGS

In 1992, PRIA in collaboration with Gramin Vigyan Vikas Samiti, School for Desert Sciences and S.N. Medical College, Jodhpur conducted a study on the prevalence of silicosis and the socio-economic condition of the labourers in the sandstone mines of Jodhpur, Rajasthan. The reports of this study were made in two sections. First about the socio-economic condition and second about the prevalence of silicosis, tuberculosis and the silico-tuberculosis made by, Dr. P.K. Gupta, Dr. D.D. Mota and Dr. S.S. Kaushal of Department of Chest Diseases, Dr. S.N. Medical College. The methodology followed and the findings both the studies are given below.

PART-I

INTRODUCTION:

Development is like fire. On one side it has the good qualities and on the other devastating power. Fire provides heat and light but it also has the potential to ravage and destroy the people and land over which it sweeps. In Jodhpur the sand stone mining acts like fire. On one side it provides raw material to construct buildings and periodically increasing profits for mine-owners and revenue for state government, on the other side it gives miseries, diseases and bondage to the labourers. This haphazard, unplanned and blind development of mining activities has raised a question, "Will mining be the ultimate destruction of Jodhpur?"

All resource problems basically arise from conflict over the way in which resources are utilized and how the welfare derived from them is allocated within the various groups of society. This report is the search of such explanations in the context of Jodhpur. But this search is not simple, as it must evolve from the understanding of physical system, economic processes, social organizations, legal and administrative structures and political institutions. In this search for explanations, it is necessary to abandon the idea that any model, theory or disciplinary perspective can provide all the answers. Unless we are prepared to merely accept the distributive outcomes, these explanations are not an end in themselves, but are a crucial guiding light in the policy formation.

As early as in 1935, Dr. A.M. Heron, then Director General of Geological Survey of India, published an account of Rajputana's economic minerals, in which he had mentioned that this area was not rich in mineral wealth (memories of GSI, vol.LXXX). But the development trend of this area since Independence has proved him wrong. Today, Rajasthan is one of the richest mineral bearing states of the country and possesses a large variety of useful minerals important for economic development. The state of Rajasthan is next to Bihar in respect of the range of minerals and is rightly known as "Museum of Minerals". This wealth varies from minerals like building stones, bentonite and fuller's earth to copper, manganese ore, garnet, emerald, lead, zinc, silver asbestos, barite, calcite, feldspar, forite, iron ore, mica, lignite, limestones, gypsum, steatite etc.

The District of Jodhpur, which is located on the western part of Rajasthan, resembles in shape to a rectangle studded with few small hillslook in Bilara and Osian teals. Large part of the district falls in the region of Thar Desert. Along with the wealth of bentonite, fuller's earth, gypsum, salt etc., this region has large reserves of dimensional sand stones. It is primarily mined in Bharatpur, Dholpur, Tonk, Nagaur, Kota, Sawar Madhopur, Chittorgarh, Bundi, Jodhpur and Pali districts of Rajasthan. These sandstones are widely used for the building construction.

SANDSTONES

The two important minerals found in Jodhpur district are sandstone and limestone. Sandstone has always played a significant role in history and development of this area. If one tries to trace back the history, it goes back to stone-age. Numerous artifacts of early stone-age are found on the banks of river Luni. The implements of middle stone-age are discovered at Luni, Pichiyar, Pipar and Shikarpur, etc., while the remnants of late stone-age are found in the region around Bilara.

Even in the modern days stone has played a very significant role in the economic development. Just before the city was founded in 1450 AD, it seemed that construction of building from this stone started in around 1450 AD. The Red Fort of Delhi and Agra are the mute witness to the acceptance and the popularity of this stone during that period. Most of the old buildings, many of which have now become monuments, were constructed using brown stone from the exposed rocks. Commercial mining, which has no evidence till 1920, was infrequent till 1940. Until this period mining was mainly for the construction of local dwellings and state buildings and was in proportion to the population increase of the city. It was only during 1960's after the availability of trucks and pneumatic drills, that mining activity witnessed tremendous growth.
THE MINING BELT

The Aravalli Plateau, a diagonal ridge running about thirty kilometers long and four to six kilometers wide constitutes the major mining belt. The important locations are Chonka, Bari, Kandakandri, Kaiberi, Soomagar, Chopasani, Kailana, Jodhpur Fort, Kaga, Bhadasia, Balanand, Mandore, and Bari. They are dispersed in about 140 sq. kms, in the northeast, north and west of the Jodhpur city. The stone which is available from these mines is known as "CHITTAR". White clay which is found near Pipar town is being used as the paste to join two stones.

MINING AND REVENUE

The mining activities in Rajasthan has gone through a tremendous jump in the last forty years. In the year 1950-51, there were 47 prospecting licenses, 50 major mining leases and 195 minor mining leases and 1200 quarry licenses. This number swelled up to 190 prospecting licenses, 1391 major mining leases, 9,181 minor mining leases and 17,408 quarry licenses. Out of all these mining leases 590 and 337 are allotted to the people from Scheduled Caste and Scheduled Tribes respectively. 4650 quarry licenses are also allotted to the members of Scheduled Caste and Tribal Communities. Only in Jodhpur range there were 9 prospecting licenses, 140 major mining bases, 799 minor mining bases and 8993 quarry licenses in 1950-91.

In 1990-91, there were 2173 leases of only sandstone which covered 83634.40 hectares of land in the whole state and the Jodhpur circle had 25 bases of sandstone which covered around 44.00 hectares of land.

The continuous rise in the mining activities has also enhanced the state revenue. There is high and continuous rise in the revenue from minerals. In 1985-86 it was 56.03 crores of rupees, which increased upto Rs.69.47 crores in 1986-89. During 1990-91 it touched to the highest point when it was 78.57 crores of rupees as compared to Rs.71.02 crores in 1989-90. The value of minerals produced in Rajasthan has also increased from 590 crores of rupees in 1987 to Rs.1500 crores in 1990.

The total revenue of the state, minor minerals contribute 60% and major minerals contribute 40% as the way of royalty. The revenue wise contribution of all minerals was Rs.907.25 lakhs in 1960-67, it increased to Rs.1660.38 lakhs in 1987-88 and in 1988-89 it touched the height of Rs. 2088.01 lakhs. This increase continued, and in 1989-90 it was Rs.2124.57 lakhs and Rs.2222.18 lakhs in 1990-91.

Sandstone is second in the minor minerals in providing revenue to the state. It was Rs. 466.23 lakhs in 1990-87 and came down in the year 1987-88 to Rs.432.89 lakhs. But the very next year saw an increase. In the year 1988-89 it was Rs.532.01 lakhs and in 1989-90 it touched Rs.775.36 lakhs and finally in 1990-91 it was 839.05 lakhs of rupees. The production wise contribution also gradually increased. But during the year 1989-90 there was decrease of 19.38% (from 4794.5 to 3965.6 thousand tons). Out of the total Rs.78711.11 lakhs of rupees as royalty the contribution from sandstone is Rs.1158.88 lakhs.

The total production of sandstone in Rajasthan was 3737.5 in the year 1986 and 3665 in 1987. The production declined in 1986 when it was 2900.4 but increased in 1989 to 2960.4 and touched upto 4794.3 in 1990. (All figures in thousand tons.) The total sale value was Rs.6,74,590 in 1986, in 1987 it was 854543, in 1988, 713759.39 in 1989, 1233269.7 and in 1990 it was 1043465.3 (all figures are in thousand rupees.)

The average number of employment per day in the sand stone mines also increased during this period. In 1986 it was 75198, in 1987,83566 in 1988 it was 56666, in 1989 it was 76627 and finally in 1990 it touched 90679.

Only in the district of Jodhpur, the production of sandstone and patli katla increased from 799.2 thousand tons in 1986 to 1136.5 thousand tons in 1990. The sale value of it also increased from 53934.9 thousand rupees to 296623.2 thousand rupees in 1990. The employment also increased from 12120 in 1986 to 23138 in 1990. The revenue shot up from 6688.39 thousand rupees in 1986 to 14413.98 thousand rupees in 1990.

The mining department targeted to collect Rs.780 lakhs from Jodhpur circle as revenue whereas they succeeded in collecting Rs.801.60 lakhs. There are 41 check post nakas under Jodhpur circle which collected Rs.1619217.15 as revenue toll.

PART - II

In Part-I, we saw that the mining activity has increased at a very tremendous pace, especially after 1940's. This has not only increased the revenue of the state government, but also played a very significant role in the socio-economic and the political structure of Jodhpur town. There is a certain group and class of people who have benefitted through their direct or indirect involvement in the sandstone trading while others have paid through their socio-economic and political suppression. Today the sandstone is famous
not only in Rajasthan but also in the whole of northern India. Many influential political leaders have emerged from the beneficiary group.

It is only the bright side of the moon we see in the night and talk about its beauty, but rarely we mention the dark side of it. Same is the case in India’s development. The development process in any country is characterised by the number of people who get benefit out of it. But we had a process of trickling down in our development in which the lower strata of society gets only the leftover of the upper and middle class. In Jodhpur, the silent but aggrieved group of workers are the victim of this. In this part of the report, a brief mention is made about the sufferings of the workers involved in the mining of the sandstone. This section is based on the survey conducted in the latter half of 1992, and also the observation made by the activists involved in the process.

OBJECTIVE OF THE STUDY

The main objective of the study was to understand the dimension of this problem. Experts drawn from different disciplines deliberated over sandstone related issues and prepared an exhaustive questionnaire to elicit baseline data on various facets of this problem so as to work out a tangible solution for the sandstone mine workers and their problems. Through this, an attempt was made to expose the workers to their rights, to develop leadership, and to appraise them of rules, regulations and provisions of state and central legislation. It is not only to highlight the hardships faced by the workers but also an attempt to search for the possible solutions for improvement.

METHODOLOGY

This is a cross-sectional study with special reference to the problems of the mining workers of different age group, social background, and length of service to have a composite picture of the world of miners as a group.

SURVEY TEAM

Six young workers after extensive orientation undertook survey and deliberations with sandstone mine workers in the premises of mines while they were at work. All responses were meticulously recorded, data tabulated and inferences drawn from about 264 mine workers.

PARTICIPANTS

Altogether, 264 workers engaged in the mining of sandstone were randomly involved in this study. To ensure the active participation of the workers it was assured to them that at no stage the information taken from them will be used to endanger their survival and daily earning.

REVIEW OF EARLIER STUDIES & MOVEMENTS

After identifying the problem and issues of these unorganized labourers, thorough review was done on the existing literature. Discussions were also conducted with the persons who had some familiarity with the life situation of these workers and the trade of sandstone. The basic objective of this step was to find out whether they have articulated any change in the conditions of the mining workers. If yes, why? If not, why not?

QUESTIONNAIRE

The questionnaire addressed such issues like, wage pattern, age group, economic status, caste structure, child labour, compulsions to work in mines, period of working in mines, and evidence of involvement of two generations. The workers were categorised as skilled, semiskilled and unskilled. The employee-employer relations were also subjected to intense questioning besides accidents and health related issues. What facilities and medical benefits are available in case of emergencies and diseases?

FINDINGS AND ANALYSIS

The profile of mining workers.

Age-wise distribution of workers

Workers interviewed were grouped into four categories. This categorization was done to know the presence of child labour, age and period of work. Majority of workers 229 (83%) were in the age group of 16 to 40 years, the prime period of their life. In the age group of 40 to 60 years, the number was much less 29 (11%). This means that after forty years of age, the capacity of workers to perform hard work goes down considerably, around the age 50 years and only a few 6 (2%) continue work. In this sample 10 (4%) child workers below the age of 15 years were identified. The general practice in this occupational appears to be that the young boys join mines as helpers (to remove scrap stones) and gradually learn the art of making holes and breaking big slabs, lifting, etc. During this age in which these youth need to go to school, they learn the art of hard work like breaking stones, rubble removal
SPOTLIGHT

etc. This leads to illiteracy and exploitation. Besides these children are exposed to health hazards like silicosis.

Composition to the Workforce:

The workers, who can break big slab, neatly out of the rocks or those who can run the pneumatic drill are considered as skilled labour. Those who can run the drill but cannot break slabs are considered to be semi-skilled and those engaged in removing hard soil, scrub, rubble, etc. are considered unskilled. In the whole group of 264 workers, there were 168 (63%) skilled, 56 (21%) semi-skilled and 40 (16%) were unskilled workers. There is no organised training to climb up on this ladder, but it is only through the practice of learning that workers acquired their due status.

During the course of survey and study, it was found that there were 1322 workers engaged in 284 mines. Thus the average number of workers per mine came out to be 8 per mine.

Land Holdings:

Most of the workers were from the rural sector. Majority of the workers involved are either landless or have small land holdings. In the total sample, 107 (40.5%) were landless and 91 (34.4%) had less than ten acres of land.

Annual Income:

Work stops in these mines during rainy season. Therefore, workers get employment for about 8 months in mines in a year. The average yearly income of a worker from mining is around Rs.3850/- which come to Rs.475.25 per month during the working period. The annual income of the family of the worker from agriculture and allied activities is estimated to Rs.3300/- per year in the four months of employment. The average works out to be Rs.825/- per working month which is much more than the income derived from mines.

In this sample, 162 (47.7%) workers had their annual income less than Rs.10,000/- which was followed by 101 (30.25%) workers whose income were between Rs.10,000/- to Rs.20,000/-.

Housing Status:

Our survey reveals that out of 264 workers, 171 (64%) workers live in small huts and only 75 (26%) had 'paccia' house made of sandstone.

Reasons for Working in Mines:

Out of 264 workers interviewed, 258 (98%) reported that since they do not have any other choice or alternative employment they have to work in mines.

Problem of Indebtedness:

Since, these workers are from the lowest strata of the society and that their wages are very low, these workers have to take loans. During the survey, the team observed that the mine owners do provide loans only for non-productive purposes. In the whole sample it was found that 179 (45%) workers took loan from their employers for domestic purposes, 45 workers (26%) for marriage and 33 (10%) workers for religious rituals and rites to be performed after death of a kin in the family.

The study reveals that out of 264 workers, 172 (65%) took loans from owner. The amount of loan varied from Rs.1,000/- to Rs.23,000/-. Maximum workers 56 (21.5%) were found to have taken loan between Rs.6,000/- to Rs.10,000/- and 37 (14%) workers between Rs.11,000/- to Rs.20,000/-. There were 18 (9.3%) workers who took loans of more than Rs.20,000/- in order to ascertain the effects of indebtedness in their employment status in the mines, it was found that 135 (51.5%) workers said that they can not quit their jobs due to loan. 40 workers (15.15%) said that their wages were reduced due to loans and 65 (24.62%) workers were so afraid that they refused to give their opinion on this issue.

Use of intoxicants:

During the survey it was found that as high as 237 (90%) cases were found to consume alcohol. The shops of country liquor were located in and around the mining area. Workers consuming alcohol said they consume liquor to get rid of pain and fatigue because of very hard work they do every day in the mines.

Working conditions & implementation of Law:

Working Hours:

No regular working hours were observed. 197 (75%) workers said that they work for eight hours, but, 57 (21%) said that they work for 10 hours and 10 (4%) more than 10 hours.

Mode of Wage Payment:

Out of 284 workers 183 (69%) were working on daily wages and 81 (31%) on piece work basis.
Wage Records

Records of attendance are not kept properly. 26 (10%) workers said that their names do not figure in the attendance register. 53 (20%) had their names on rough note books and names of remaining 132 (50%) workers do not figure anywhere.

Weekly Off

Almost all the workers said that there is no system of holiday or week off.

Absence of Facilities

Out of 264 workers, 66 (25%) workers said that the drinking water is not provided by the mine owners. Almost all the workers reported that the basic facilities like shade (for rest) is not provided by the owners.

Fixation of wages

168 (6.6%) workers said that their wages are fixed by the mine owner and in 99 (38.7%) cases, it was found that both the parties fix the wage by negotiations.

Ignorance About Minimum Wage

The whole lot of workers expressed their ignorance about the minimum wage stipulated by the government.

Facilities of ESI, PF, Gratuity, Group Insurance, etc.

All workers said that there is no facility of group insurance, ESI, PF, Gratuity, etc.

Inspection of Mines

On asking whether anyone from mining or labour department have ever inspected the mines, only 5 percent workers replied in positive.

Compensation

It was reported that according to their knowledge, not a single legal case of compensation or any other facility for which workers are entitled, have ever been made or filed in any of the courts. Besides, other types of compensation are strange that a single case on the basis of silicosis or silico-tuberculosis has been reported and this fact has been cross verified by the State Labour Department.

Casual Leaves

250 (94%) workers said that if they do not report or remain absent from work, the leave is not given to them. Hence there is no question of other leaves like maternity, casual, festival or Medical etc.

Women Workers

Large number of women workers do work in these mines on purely daily basis. Their wages are low compared to men. Maternity leave or any other leave is not given to women workers. Almost all workers showed serious concern on the exploitation of women workers.

Silicosis - A Mega 'AIDS'

The radiological investigations coupled with socio-economic and other associated aspects as emerged out in this sample survey of mine workers revealed a very alarming health scenario of mine workers. A large number of workers were found suffering from silicosis, silico-tuberculosis and tuberculosis. These findings concomitantly with the striking fact that there are villages in which young widows of mine workers predominate the women folk since their husbands have died after working in sandstone mines. It is probably because of the widespread health hazard to which mine workers are exposed. The Rajasthan Government has framed strict legislation to protect and compensate the sandstone mine workers way back in 1955. If the health problems of sandstone mine workers is assessed under the existing legal provisions, the silicosis and silico-tuberculosis cases will inflate as much as 90% as compared to general population. The prevalence of tuberculosis therefore comes to about 120 times that of the general population. It is worthwhile to mention that in diseases like AIDS, the recorded prevalence of tuberculosis is 500 times more than the general population, which together are a fatal combination. It will therefore, not be unfair to equate the silicosis with AIDS and label it as 'Mega AIDS' for sandstone working population in respect to tuberculosis. It is strange that silicosis rules are redundant since no worker is examined as per rules.
Health and Accidents

In this sample survey, 189 (71.6%) workers complained of respiratory problems. Some of them were either under treatment for tuberculosis or were suffering from perennial cough syndrome. 34 (12.6%) workers said they have no health problem, while remaining 31 workers (11.74%) did not respond. Accidents are frequent as most of the work is done manually with the help of heavy hammers, heavy slabs, stones, etc. fall on the workers, resulting into serious injuries. During recovery period, workers neither get wages nor leave as reported by 250 (94.6%) workers in this study. Regarding the medical treatment 237 (89.7%) workers said that they themselves have to bear the cost of treatment and also to pay for medicines and other expenses. But 24 (9.3%) workers did mention that their employers pay for their treatment. Even in the case of accident, 170 (72.7%) workers reported that no treatment support is provided by the employer. Only 69 (26%) workers said that first aid is given but there is no hospital in the mining area. 176 workers (66.6%) felt that dispensaries or medical care units should be established in the mining belts. On being asked what percent of their earnings, do they spend on their medical bills, it was reported by 80 (50.3%) workers that they have to spend 10-25 percent of their wages and 76 (29.8%) said they spend 25-50 percent of their wages on medical treatment.

In a survey conducted by Jay Bharat Serva Kalyana Nyas of Keruvillage (Rajasthan) it was found that 90% of the blindness was due to accident in mines.

PART-III

During the socio-economic survey it was found that the tuberculosis and other respiratory diseases are wide spread. So, 82 workers were selected on the basis of their occupational history, for the radiological test to detect whether they suffer from TB, silicosis or both (silico tuberculosis).

MEDICAL REPORT

Silica particles, 0.5 to 5 microns in diameter are likely to produce the disease. Most of the coarse particles of the size 5 to 10 microns or above are removed in the upper respiratory tract. The small particles that are deposited in alveoli of lungs are eaten away by cells called macrophages where they are acted upon by lysosomal enzymes that liberate the dust and allow it to enter the cell cytoplasm resulting into death of cell. Silica particles are acted upon by protein and act as antigen and antibody causes complex tissues reac-}

The prevalence of TB is 13.25 per thousand persons in India. Since silicosis results into lowering of local resistance of lungs, the prevalence of pulmonary tuberculosis is likely to be higher in the persons who are exposed to silica dust. Together this disease is known as silico - tuberculosis.

The present pilot survey-cum-study was aimed at understanding various facts of mining operations and more so on silica related disorders. The present report is based on the radiological examination of 82 X-rays of persons exposed to silica sand stone mines.

Aims and Objectives:

The aims and objectives of this preliminary study was to assess the extent of silicosis, tuberculosis and silico-tuberculosis in mine workers exposed to silica dust in and around sandstone mines of Jodhpur district.

Methodology:

A randomly selected sample of 82 persons comprised of this study. All of them were questioned on the basis of exhaustively designed proforma covering aspects like number of years working in the mines, type of jobs performed in the mines, economic status and other aspects relevant to this study. The details were recorded in a proforma.

Of all the persons, standard X-ray chest P.A. projection was taken. X-rays were interpreted by two different viewers separately and in case of difference of opinion a group of three doctors sat together to arrive at an acceptable conclusion. X-ray findings are classified according to the standard adopted by International Labour Office U/C 1971, classification.

Observation and discussion:

62 persons engaged in sand stone mines were subjected to radiological examination. Age of persons varied from 11 years to 50 years. Maximum number of workers belonged to age group 21 to 40 years (75.5%), with mean age 34 years as shown in Table B-1. Out of 82 persons, 64 (78%) were engaged in chiseling and cutting stones. Out of them, 35 (42.7%) had silicosis of different grades, 8 (9.3%) had tuberculosis and 6 (9.4%) persons engaged in other jobs like stone removing, etc. were also exposed to silica dust present in the atmosphere. Results showed that 3
(16.5%)

Out of 82 persons 8 (9.6%) had silicosis and silico-tuberculosis. Of these 8 patients, 3 (3.6%) had silicosis and 5 (6%) and silico-tuberculosis as shown in Table B-2.

It is evident also that out of 8 cases who had silicosis and silico-tuberculosis, 7 (87.5%) belonged to age group of 21 to 40 years. Considering tuberculosis disease only out of total 10 cases, 6 (60%) belonged to this age group therefore, persons between age group 21 to 40 years are more vulnerable to developing stone mining related disorders.

Table B-4 shows prevalence of silicosis and the relation with the period of working. Considering the period of working it is evident that maximum number of persons, 61 (74%) had worked upto 15 years. Thereafter there is a sharp decline in the number of persons continuing this job. While beyond 21 years the number of persons continuing their job is negligible and prevalence of silicosis and silico-tuberculosis is 87.5% with this period of working.

If it is considered in respect of the findings of Table B-2 which shows number of persons in different age groups, it is evident that 65 (79%) persons are between the age group 21 to 40 years. It can therefore be hypothesized that if a person joins the job at the age of 20 years, and performs this job for 20 years which is maximum (as maximum number of persons have worked upto 20 years) he is going to be invalidated or has to quit the job at around 41 years of age. There are few persons who have worked for more than 20 years. This indicates that persons quit their jobs after maximum working for 20 years. As observed out of 82 persons, 18 (22%) had silico-tuberculosis and tuberculosis which is a very high prevalence as compared to the prevalence of tuberculosis to general population which is 18 persons per thousand population. (National Sample Survey on Prevalence of Tuberculosis in India,1957-59.) Meaning thereby that stone workers are exposed to 100 times more risk of developing tuberculosis as compared to general population.

**TABLE A-1**

<table>
<thead>
<tr>
<th>AGE</th>
<th>NO. OF WORKERS</th>
<th>PERCENTAGE</th>
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</thead>
<tbody>
<tr>
<td>0 - 15</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>16 - 25</td>
<td>84</td>
<td>32</td>
</tr>
<tr>
<td>26 - 40</td>
<td>135</td>
<td>51</td>
</tr>
<tr>
<td>41 - 50</td>
<td>23</td>
<td>11</td>
</tr>
<tr>
<td>Above 50</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>264</td>
<td>100</td>
</tr>
</tbody>
</table>

**TABLE A-2**

Composition of Workforce:

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>NO. OF WORKERS</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skilled</td>
<td>168</td>
<td>63</td>
</tr>
<tr>
<td>Semi-skilled</td>
<td>56</td>
<td>21</td>
</tr>
<tr>
<td>Unskilled</td>
<td>40</td>
<td>16</td>
</tr>
<tr>
<td>TOTAL</td>
<td>264</td>
<td>100</td>
</tr>
</tbody>
</table>
### TABLE NO.A-3
Distance of workers villages from mines:

<table>
<thead>
<tr>
<th>DISTANCE (km)</th>
<th>NO. OF WORKERS</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 20</td>
<td>80</td>
<td>30.3</td>
</tr>
<tr>
<td>20 - 30</td>
<td>30</td>
<td>11.3</td>
</tr>
<tr>
<td>30 - 50</td>
<td>44</td>
<td>16.6</td>
</tr>
<tr>
<td>50 - 100</td>
<td>64</td>
<td>24.2</td>
</tr>
<tr>
<td>Above 100</td>
<td>46</td>
<td>17.4</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>264</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

### TABLE NO.A-4
Reasons for indebtedness

<table>
<thead>
<tr>
<th>S.No.</th>
<th>REASON</th>
<th>NO. OF WORKERS</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Domestic</td>
<td>79</td>
<td>45.14</td>
</tr>
<tr>
<td>2.</td>
<td>Marriage</td>
<td>45</td>
<td>25.72</td>
</tr>
<tr>
<td>3.</td>
<td>Rituals</td>
<td>33</td>
<td>18.85</td>
</tr>
<tr>
<td>4.</td>
<td>Medical treatment</td>
<td>8</td>
<td>4.57</td>
</tr>
<tr>
<td>5.</td>
<td>Others</td>
<td>10</td>
<td>5.72</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>175</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

### TABLE NO.A-5
Status of indebtedness

<table>
<thead>
<tr>
<th>Amount in Rs</th>
<th>No. of workers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below Rs.1000</td>
<td>2</td>
<td>1.1</td>
</tr>
<tr>
<td>Rs. 1000 - 3000</td>
<td>28</td>
<td>16.3</td>
</tr>
<tr>
<td>Rs. 4000 - 5000</td>
<td>33</td>
<td>19.0</td>
</tr>
<tr>
<td>Rs. 6000 - 10,000</td>
<td>56</td>
<td>32.5</td>
</tr>
<tr>
<td>Rs. 11000 - 15,000</td>
<td>23</td>
<td>13.3</td>
</tr>
<tr>
<td>Rs. 16000 - 20,000</td>
<td>14</td>
<td>8.0</td>
</tr>
<tr>
<td>Above Rs.20,000</td>
<td>16</td>
<td>9.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>172</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
### TABLE NO.A-6
**Working hours:**

<table>
<thead>
<tr>
<th>Working Hours</th>
<th>No. of workers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upto 8 hrs.</td>
<td>197</td>
<td>75</td>
</tr>
<tr>
<td>8 - 10</td>
<td>57</td>
<td>21</td>
</tr>
<tr>
<td>Above 10</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>254</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

### TABLE NO.A-7
**Medical treatment in case of accident**

<table>
<thead>
<tr>
<th>Particular</th>
<th>No. of workers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expense made by</td>
<td></td>
<td></td>
</tr>
<tr>
<td>mine owner</td>
<td>24</td>
<td>9.3</td>
</tr>
<tr>
<td>Workers</td>
<td>237</td>
<td>89.7</td>
</tr>
<tr>
<td>Both together</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>254</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

### TABLES OF THE SELECTED 82 WORKERS WHO WENT FOR RADILOGICAL EXAMINATION

**TABLE B-1**

**Table showing age distribution of 82 workers.**

<table>
<thead>
<tr>
<th>No.</th>
<th>Age group</th>
<th>No. of persons</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>0 - 10</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>11 - 20</td>
<td>3</td>
<td>3.65</td>
</tr>
<tr>
<td>3.</td>
<td>21 - 30</td>
<td>29</td>
<td>35.35</td>
</tr>
<tr>
<td>4.</td>
<td>31 - 40</td>
<td>33</td>
<td>40.24</td>
</tr>
<tr>
<td>5.</td>
<td>41 - 50</td>
<td>15</td>
<td>18.29</td>
</tr>
<tr>
<td>6.</td>
<td>51 - 60</td>
<td>2</td>
<td>2.46</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>82</strong></td>
<td><strong>100</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Table No.B-2**

**Table showing prevalence of Silicosis, Tuberculosis & Silico-tuberculosis in respect of Types of jobs performed**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Type of work</th>
<th>No. of persons</th>
<th>Silicosis(%)</th>
<th>TB(%)</th>
<th>Silico(%) tuberculosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Labour</td>
<td>19(21.06%)</td>
<td>5(5.5%)</td>
<td>4(22.2%)</td>
<td>2(11.1%)</td>
</tr>
<tr>
<td>2.</td>
<td>Chiseling</td>
<td>64(78.04%)</td>
<td>2(3.1%)</td>
<td>6(9.3%)</td>
<td>3(4.6%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>82</strong></td>
<td><strong>3(3.6%)</strong></td>
<td><strong>10(12.1%)</strong></td>
<td><strong>5(6.0%)</strong></td>
</tr>
</tbody>
</table>
Table B-3  
Table showing prevalence of silicosis in relation to period of working

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Period of working years</th>
<th>No. of persons</th>
<th>Silicosis, including silico-tuberculosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>0-5</td>
<td>12</td>
<td>1 (8.3%)</td>
</tr>
<tr>
<td>2.</td>
<td>6-10</td>
<td>15</td>
<td>3 (20.0%)</td>
</tr>
<tr>
<td>3.</td>
<td>11-15</td>
<td>34</td>
<td>3 (8.8%)</td>
</tr>
<tr>
<td>4.</td>
<td>16-20</td>
<td>19</td>
<td>1 (5.2%)</td>
</tr>
<tr>
<td>5.</td>
<td>21-25</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>6.</td>
<td>26-30</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>82</td>
<td>8 (5.7%)</td>
</tr>
</tbody>
</table>

Table B-4  
Table showing Radiological grade of Silicosis and silico-tuberculosis in relation to period of working.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Period of working</th>
<th>Total No. persons</th>
<th>Grade of Silicosis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1/1  1/2  2/3  3/4</td>
</tr>
<tr>
<td>1.</td>
<td>0-5</td>
<td>12</td>
<td>0  0  1 (8.3%)  0</td>
</tr>
<tr>
<td>2.</td>
<td>6-10</td>
<td>15</td>
<td>0  2 (13.3%)  1 (6.8%)  0</td>
</tr>
<tr>
<td>3.</td>
<td>11-15</td>
<td>34</td>
<td>2 (5.8%)  0  0  1 (2.9%)</td>
</tr>
<tr>
<td>4.</td>
<td>16-20</td>
<td>19</td>
<td>0  0  1 (5.9%)  0</td>
</tr>
<tr>
<td>5.</td>
<td>21-25</td>
<td>2</td>
<td>0  0  0  0</td>
</tr>
<tr>
<td>6.</td>
<td>26-30</td>
<td>0</td>
<td>0  0  0  0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>82</td>
<td>2 (2.4%)  2 (2.4%)  3 (3.6%)  1 (1.2%)</td>
</tr>
</tbody>
</table>
13th World Conference on Occupational Safety and Health

The 13th world conference on occupational safety and health, held between 4 - 8 April, 1993, was significant in many ways for India. India became the first country in Asia to host such a conference. A major eye-opener were the newspaper reports about the 25 percent increase in the accident rate in the coal mines in our country.

It was indeed a unique opportunity for the delegates to share their failures and success in the field of occupational health and safety. The three organisers of the world conference namely, National Safety Council (India), International Labour Office (Geneva) and International Social Security Association (Geneva) deserve appreciation for organising such a significant event.

The representative of the ILO reiterated their organisation’s fundamental principal that every man and woman has the right to work in a safe and healthy environment. Mr. Herbet Meir, Dy.D.G., ILO (Geneva) in his opening speech highlighted the more commonly identified issues, like the need to build infrastructure to protect workers in all sectors and to establish a legal framework to cover all the working populations, with the clearly marked roles for government, employers and workers. It was also felt that there is lack of national action programmes with tripartite consensus of governments, employers and workers, which often leaves a fragmented and inadequate approach to cover most work related risks.

Delegates from European community gave the examples from the achievements of 1992, which was declared the year to provide safety and health in Europe. During this period along with the numerous other programmes, all television stations of European Community aired a wide range of programmes aimed at raising awareness about occupational safety and health. Proper attention was also given to educate youth about the importance of safety and health. In this context Austria also launched a campaign entitled “Safety Together”. The activities of this campaign brought together for the first time all the representatives of the Austrian state, a wide range of statutory and voluntary bodies, Trade unions and the media. The outcome clearly confirmed the correct measures because there was 22 percent drop in the fatal accidents as compared to 1991.

Many national and international trade union representatives presented their papers highlighting their activities. Many government departments also tried to use the opportunity to present their achievements which immediately received questions from the trade unions. If we compare the number of delegates from employers and workers side, definitely there were more managers and less trade unions. Only Trade Unions of public sector participated in large numbers. There was literally no representation from the agricultural and unorganised sectors.

All this raises the question whether these types of conferences if organised in five star hotels with such a high participation fee are really fruitful. No specific action programme was announced by the government of India. This opportunity could have been used for declaring not only action programmes for the year but also declaring 1993 as the year of safe and healthy workplace for the workers in India who are more than the total number of the entire working population of the European Community.

Study for the Issue:

Formaldehyde Induced Symptoms in Medical Laboratories:

By Kharigaonkar M.B. and Fakur M.B.

The study was conducted among the persons exposed to formaldehyde in anatomy and histopathology departments of three medical colleges namely Government Medical College, Nagpur, Indira Gandhi Medical College, Nagpur and Mahatma Gandhi Institute of Medical Sciences, Sewagram. A group of persons not exposed to formaldehyde served as controlled group. All the persons from exposed and controlled group were interviewed for occupational history and work exposure, with the help of a standardised questionnaire with emphasis on symptoms of upper respiratory tract. Analysis of air samples revealed that the concentration of formaldehyde at workplace was significantly more. The frequency of all symptoms, because of irritation of nasal or upper respiratory mucosa, was significantly more in exposed group.
The results of the study were as follows:

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Exposed group n=74</th>
<th>Controlled Group n=74</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>no.</td>
<td>%</td>
</tr>
<tr>
<td>Cold</td>
<td>19</td>
<td>25.67</td>
</tr>
<tr>
<td>Catarh</td>
<td>33</td>
<td>44.49</td>
</tr>
<tr>
<td>Frontal headache</td>
<td>35</td>
<td>47.29</td>
</tr>
<tr>
<td>Nasal obstruction</td>
<td>14</td>
<td>18.91</td>
</tr>
<tr>
<td>Epistaxis</td>
<td>1</td>
<td>1.35</td>
</tr>
<tr>
<td>Hoarseness of voice</td>
<td>29</td>
<td>39.18</td>
</tr>
<tr>
<td>Burning in trachea</td>
<td>48</td>
<td>64.86</td>
</tr>
</tbody>
</table>


SAFETY AT ATOMIC SITES:

The Narora atomic station fire in March was preceded by 147 Safety Related Unusual Occurrences (SRUO's) at various Department of Atomic Energy (DAE) sites last year, the latest Atomic Energy Regulatory Board (AERB) report said.

Five of the 147 incidents involved fatalities. The report lists SRUO's that led to restrictive action on plant operations, including plant shutdowns, but does not specify the fatal incidents except one at the Manuguru heavy water plant, where a scientist died after exposure to hydrogen sulphide gas leaking out of two valves.

SRUO's listed by the AERB include a 'jet fire', with 40 meter high flames, at the Thermal heavy water plant, and an explosion at the nuclear fuel complex, Hyderabad. Both incidents led injuries to the persons at the site.

A break up of the SRUO's received from all DAE units shows that 10.3% involved electric systems, 24.5% related to primary systems, 6.8% percent involved fire incidents, 3.4% (5 incidents) involved fatalities.

The AERB report cites human error, violations of technical specifications, and leakages, among the causes of some of the SRUO's that led to plant shutdowns for periods ranging from 26 days to two months.

A leak in a four inch diameter underground pipeline pumping radioactive water at the Cirrus reactor in Trombay led to subsoil contamination. AERB typed this as a SRUO under violation of technical specification. A leak in emergency condenser tube at unit 2 at Tarapur atomic power station in May, 1992, led to the release of 11.94 curies of radioactive material into the environment. At the Rajasthan Atomic Power Plant (RAPP), in January 1992, four tons of heavy water spilled due to rupture of an inlet hose of primary heat transport filter, resulting in emergency core cooling.

The Narora atomic power station, site of the turbine fire in March this year, also reported SRUO's last year. In one incident, two persons were exposed to high radiation dose due to operator error in fuel handling.

In May 1992, the soil in the area around the effluent treatment plant at Trombay was contaminated following leakage of liquid waste from an underground pipe at the plant. In the explosion at the nuclear fuel complex in September, the door of a chamber was blown away, and three persons received burns on the face and the body.

The AERB report has observed that fuel failure rates at the Dhruva research reactor continued to remain high and the cause of failure could not be established. Deteriorating health and safety status at the thorium plant, Trombay, prompted the AERB to order a shutdown of the plant in June. It was later ordered to operate until December 1993 after plant authorities took "necessary action."

*Courtesy - Times of India (New Delhi) 14 May, 1993.*
1. Gas leak kills four in Italy:

Three workers and an ambulance man were killed by a poisonous gas at a chemical plant in April, 1993. The accident occurred at a Veneta Minerara Spa plant which produces sulfuric acid, and is situated in the town of Caravaggio, east of Milan. *The Statesman (New Delhi)* 25 April, 1993.

2. Six labourers electrocuted:

Six workers were electrocuted and one suffered serious burns, on 4 May, 1993, in Delhi. This accident occurred when they were in contact with high tension cable as they were trying to put up a hoarding in the factory premises. While Dal Singh (30), Ram Arse (35), Dinesh Singh (25), Pritu (55), Ram Ropoo (40), and an unidentified worker died on the spot, Pyara Lal (35) was admitted to Deendayal Upadhyay Hospital with 30% burns. The factory was owned by K.L. Jain and he had given it to one architect for renovation. The architect in turn had given the contract to Viney Bhardwaj, who was arrested by police under section 304 IPC for causing death due to negligence. *Indian Express (New Delhi)* 6 May, 1993.

3. Blast in mine kills 13 workers:

In the northern part of China, 13 miners died and 26 were missing after a major blast in the coal mine. 56 workers were seriously injured in the accident. *Jagran (New Delhi)* 12 May, 1993.

4. Three crushed to death under iron platform:

Three workers died when an iron platform fell on them May 14, 1993 in Subash Engineering Company in Delhi. This factory which employs contract labour had the storage of 100 tons of iron at roof which was 60 tons more than the actual capacity of it. The building, machines and the cranes etc. were in miserable condition. Many times workers refused to climb on the weak platform but the threat of jobless made them work. Balwant (35), Om Prakash (34) and Veedprakash (35) died on the spot and Sukhibir was seriously injured. *Jansatta (New Delhi)* 16 May, 1993.

5. Five construction workers buried alive:

Five construction workers died, and five others were seriously injured, due to collapse of earth in Hindon, Muzaffarnagar, on 15 May, 1993. *Daake Hindustan (New Delhi)* 16 May, 1993.

6. 200 workers died in a major factory fire in Thailand:

Due to fire in a toy manufacturing factory on 9 May, 1993, 188 women and 14 men workers died. This factory is located at Futamchhaen area, which is around 25 Kilometers from Bangkok. *The Times of India (New Delhi)* 11 May, 1993.

7. 44 workers lost life in mine accidents in South Africa:

More than 39 workers died and 14 were reported missing due to methane gas explosion in a mine in South Africa. This mine is located at hundred kilometers away from Johannesburg. In another simultaneous accident in a gold mine five workers died. *Indian Express (New Delhi)* 15 May, 1993.

8. 7 killed in factory fire in Delhi:

Seven workers were killed and four seriously injured after a boiler burst in an illegal rave factory at Peragarahi in west Delhi on May 30, 1993. The unauthorised factory, N.J.Foam Private Limited used to manufacture rave behind downed shutters. The workers who died were Rajeshore (20), Ranjit Singh (18), Almgirl (30), Badinarayan (20), Kalacharn, Ali Akbar (30) and Shyam Babu (30). The impact of the blast was so great that it caused cracks in the walls of adjoining houses. Mangled pieces of shutter could be found 100-150 feet away from the site. Several factories and the houses were damaged by the flying pieces. *Times Of India (New Delhi)* 31, May, 1993.

9. 9 Workers buried alive as earth cave in:

Due to caving in of white clay mine, in village Jharnihi at Bagha (Madhya Pradesh), nine workers died on the spot and two were seriously injured. This accident occurred on 28 May, 1993. *Daake Hindustan (New Delhi)* 31, May, 1993.

10. 3 Workers died after the wall collapse in brick kiln:

In the Jafarpur area of Delhi three workers died after the wall collapse in a brick kiln. In this accident which occurred in MS Bhalla Company, on 30 May, 1993, Poornam (7), Mannu (20), and Sushil (21) died on the spot when the water tank, which was built with substandard material collapsed. Four others were seriously injured. *Jansatta (New Delhi)* 10 May, 1993.

11. Two worker died after wall collapse:

In the Usuf Sarai area of Delhi, one worker died when the wall of an under construction building of Indian Oil Corporation collapsed. The Delhi Development Authority was undertaking this construction task and had employed 10-12 workers. On 10 May, 1993, a wall of this building collapsed and three workers got serious injuries. Two of them Sabu Alam (25) and Vivekanand (26) died in the Safdarjung Hospital, Jansatta (New Delhi), 13 June, 1993.

12. Four workers died:

13. **8 Workers died due to mine collapse:**

In Mandsaur (Madhya Pradesh) District’s Dahanumdi village, eight workers died and one was seriously injured when the mine collapsed on 14 June, 1993. *Navbharat Times (New Delhi)*, 15 June, 1993.

14. **3 Workers died after mine collapse:**

On 11 April, 1993, three workers died after the collapse of mine in the Faridabad (Haryana). The workers were Ramesh, Chandor and Kamina. *Pashtha Sahara (New Delhi)* 19 May, 1993.

15. **Factory blast kills four:**

Due to a blast in the boiler of the soda manufacturing unit on April 18, 1993 four workers lost their lives. The factory was located at Sutrapada in Veraval port town in Junagadh district (Gujarat). *The Statesman (New Delhi)* 10 April, 1993.

16. **Seven workers buried alive:**

7 workers died after collapse of wall in the Pali stone crushing zone in Faridabad (Haryana). On 25 June, 1993, the wall of the rooms located in the premises of two companies namely, Chandra Stone Crushing (Plot No. 54) and Sushil Stone Crushing (Plot No. 55) collapsed and seven workers lost their life. *Jansatta (New Delhi)*, 25 & 26 June, 1993.

17. **200 Miners buried alive:**

Tones of soil and rocks buried a mining community in southern Ecuador. The approximate number of dead was between 200 and 250, given by the Governor Vinicio Suarez of Loja province. *Times Of India (New Delhi)*, 11 May, 1993.

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**BEASTLY DEED ON WORKER**

In Usmanabad (Maharashtra) on 22 April, 1993, a worker was sacrificed for water. The landlord of Jawabhuda village, Chagan Ramchandra Pawar did not get water even after deeply digging a well, so he went to neighboring villages to take advice from a fortune teller, who said that the well is demanding a sacrifice of a young man. So he sacked a worker named Rejaban Lumbay Loda and two other workers for work on 22 April, 1993. He performed religious ceremony (puja) of Loda first and then directed him to go inside the well with the help of a crane. Then, he again directed Loda to perform puja inside the well and in the meantime electric current was flown through crane. As a result Mr. Loda, a daily wage worker died on the spot. *Bhag (Bombay)* 3 July, 1993.

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**TWENTY FOUR PERCENT INCREASE IN THE ACCIDENT RATES IN COAL MINES**

Fatal accidents have witnessed a 24 percent increase in 1992 in coal mines as compared to the previous year. According to a report of Ministry of Coal, which was submitted to National Committee on Safety in Coal Mines, as many as 148 coal miners have lost their life during 1992 as compared to 116 during 1991. The increase is attributed to the steep rise in accidents in the Eastern Coalfields, Bharat Cooking Coal Limited and Central Coalfields Limited. The majority of accidents were due to collapse of roofs or the side walls in the mines.

56 percent of the fatal accidents took place in the underground mines and 33 percent in the opencast mines. In Singram coalfields in Andhra Pradesh 27 miners lost their life as compared to 19 last year.
260 TRADE UNIONISTS KILLED:

Worldwide, about 260 trade unionists were killed last year as a result of repression by the governments, security forces and death squads. This shocking fact emerged from the 1993 edition of the ‘Annual Survey of Violation of Trade Union Rights’ brought out by the International Confederation of Free Trade Union (ICFTU). A further 2500 trade union activists were arrested, and imprisoned over the same period. The mass dismissal of unionised workers, a tactic highlighted in the previous survey continued in 1992. More than 40,000 workers lost their jobs in 1992 simply demanding better pay or working conditions. 87 countries are named in the survey for violating to varying degree, the ILO’s basic trade union rights standards. South Africa, Burma, China, Colombia, El Salvador, Guatemala, Iran, Malawi, Peru, and Sudan are among the most dangerous countries for the trade unions today.

The survey is available with:

ICFTU
rue Montagne aux Herbes
Potageres 37-41
B-1000 Brussels
Belgium


HALOGEN LIGHTS MAY CAUSE CANCER:

Halogen lamps look smart, they give a good light — and they are dangerous. The reason is that they may cause cancer.

The proof of carcinogenic properties of halogen lamps has been provided by Hans Christian Wulf, Chief Physician at Photobiological Laboratory at Rigshospitalet (the Copenhagen University Hospital). In the research project funded by the Danish Working Environment Fund, hairless mice were exposed to the light cones from the popular lamps for up to 70 hours per week. It turned out that the more light the mice were exposed to, the larger their risk of developing cancer.

‘Halogen bulbs may cause problems in offices and retail shops in particular, as here the staff is forced to stay in the light for many hours every day,’ says Hans Christian Wulf.

There are different types of halogen bulbs. The most hazardous ones are those in which the filament is only surrounded by a quartz material, as that does not prevent ultraviolet radiation from the filaments.

1. CAW-HEALTH AND SAFETY SHEETS:

The National Automobile, Aerospace and Agriculture Implement Workers Union of Canada (CAW-Canada) has published fact sheets on various issues of health and safety. It is divided into two sections. The first part includes following topics:

1. Accident investigations,
2. Cancer and the worker,
3. How chemicals poison you?
4. Light duties - who benefits?
5. Medical issues,
6. Overuse injuries,
7. Rehabilitating disabled workers,
8. Safety awards blame workers,
9. Stress in the workplace,
10. TLVs,
11. ILIC15-Star.

The second part of physical hazards includes:

1. Industrial Noise,
2. Ionising radiation,
3. Vibration white finger disease,
4. VDT's,
5. Lighting.

For details contact: CAW-TCA
205 Placer court, North York,
Willowdale, Ontario M2H 3H9.
CANADA

2. SAFETY HEALTH AND WORKING CONDITIONS;
TRAINING MANUAL.

This manual is the result of combined efforts of the ILO and the Swedish Joint Industrial Safety Council. It is prepared as a tool for training people directly concerned with workplace improvements and is designed particularly for use in developing countries.

Pages-106, Year of publication-1987.

For details write to:
Joint Industrial Safety Council,
The working environment body for management and labour,
Post box 3208, S-10364 Stockham,
SWEDEN.

3. PROFILE OF OCCUPATIONAL SAFETY AND
HEALTH IN INDIA:

Edit. by H. Oono and K. Enomoto
Year of publication - 1992.

This book is part of the study initiated by ILO/ARPLA in 1990, in 14 countries to fill the vital documentation gap. This booklet provides the information on the national administrative structure, legislation, activities, trends and problems. This book is based on the study by Mr. G. Vaktyanathan, Director (Safety) Regional Labour Institute, Ministry of Labour, India.

4. MANUAL ON EMERGENCY PREPAREDNESS
FOR CHEMICAL HAZARDS:

The manual details the possible hazards, their causes and consequences: methods of preparing the plans; hazard identification and analysis, basic elements of the on-site and off-site plans; key personnel and their duties during an emergency, steps to be taken before and after emergency; response capability and updating of the plans. It also discusses the steps to be taken during accidents related to transportation of hazardous substances. Emphasis has also been laid on the role of various agencies of inter-state relief to be provided under Public Liability Insurance Act, 1991.


5. A GUIDE TO MANUFACTURING, STORAGE
AND IMPORT OF HAZARDOUS CHEMICAL
RULES, 1989:

This volume of the guidelines details the requirements of the Manufacturing, Storage And Import of Hazardous Material Rules, 1989, along with an indication of the steps to be taken and procedures to be followed.


For both of this documents write to:
Joint Secretary,
Hazardous Substance Management Division,
Ministry of Environment and Forest,
Parayavaran Bhawan,
CGO Complex, Lodhi Road,
New Delhi - 110 003.

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