

NHRC INTERVENTIONS ON SILICOSIS



**NATIONAL HUMAN RIGHTS COMMISSION
INDIA**

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Preface

Silicosis is a lung disorder caused by inhalation, retention and pulmonary reaction to crystalline silica during mining, stone crushing, quarrying and such other activities. It is an occupational disease which profoundly affects the work productivity, economic and social well-being of workers, their families and dependents.

The National Human Rights Commission is of the view that the occupational hazard of silicosis is preventable if the working conditions are properly regulated and proper protective equipment are used. at the same time, once a worker or any other person is afflicted by silicosis, it becomes a constitutional obligation on part of the State to take appropriate short-term and long-term measures from the point of view of providing medical facilities and rehabilitation of the victims.

The Commission in 2009, constituted an Expert Group on Silicosis to assist in devising strategies for dealing with this occupational hazard and to evolve necessary preventive, remedial, rehabilitative measures to alleviate the problem faced by the affected workers and their families. Based on the advice of the Expert Group, the Commission has prepared a set of recommendations on Preventive, Remedial, Rehabilitative and Compensation aspects of Silicosis.

This publication is a compilation of the proceedings of the conferences and meetings organized by NHRC on the subject of silicosis. The work has been carried out by Dr. Balbir Kaur Teja, Consultant, NHRC in consultation with Shri J.S. Kochher, Joint Secretary, NHRC. Dr. Kanchan Dwivedi, Research Associate, NHRC also have assisted in this effort.

I am sure that this publication will be of immense use to the concerned stakeholders in the area of health care both in government and non-government sector.

(Dr. Satya N. Mohanty)

Secretary General

National Human Rights Commission, India

New Delhi,
10 December, 2016



Introduction

The National Human Rights Commission (NHRC) was established on 12 October 1993. Its Statute is contained in the Protection of Human Rights Act (PHRA), 1993 as amended vide the Protection of Human Rights (Amendment) Act, 2006. The constitution of NHRC is in conformity with the Paris Principles that were adopted at the first International Workshop on National Institutions for the Promotion and Protection of Human Rights organized in Paris in October 1991, and endorsed by the General Assembly of the United Nations in Resolution 48/134 of 20 December 1993. The Commission is an embodiment of India's concern for the promotion and protection of human rights.

FUNCTIONS OF NHRC

The Commission has a wide mandate. Its functions as laid down in Section 12 of the PHRA include:

- Inquire, suo motu or on a petition presented to it by a victim or any person on his behalf or on a direction or order of any court, into complaint of (i) violation of human rights or abetment thereof; or (ii) negligence in the prevention of such violation, by a public servant;
- Intervene in any proceeding involving any allegation of violation of human rights pending before a court, with the approval of such court;
- Visit, notwithstanding anything contained in any other law for the time being in force, any jail or other institution under the control of the State Government, where persons are detained or lodged for purposes of treatment, reformation or protection, for the study of the living conditions of inmates thereof and make recommendations thereon to the Government;

- Review the safeguards provided by or under the Constitution or any law for the time being in force for the protection of human rights and recommend measures for their effective implementation;
- Review the factors, including acts of terrorism that inhibit the enjoyment of human rights and recommend appropriate remedial measures;
- Study treaties and other international instruments on human rights and make recommendations for their effective implementation;
- Undertake and promote research in the field of human rights;
- Spread human rights literacy among various sections of society and promote awareness about the safeguards available for the protection of these rights through publications, the media, seminars and other available means;
- Encourage the efforts of non-governmental organizations and institutions working in the field of human rights;
- Such other functions as it may consider necessary for the protection of human rights;

The National Human Rights Commission has been working on a range of issues relating to civil, political, economic, social or cultural issues. Silicosis is one of the important issues being dealt by the Commission. It is an important concern.

Silicosis is a fibrotic lung disorder caused by inhalation, retention and pulmonary reaction to crystalline silica, as a result of exposure during mining, stone crushing and quarrying activities. The most common form of silica is quartz. Exceptionally high exposure of silica can cause silicosis within a month with a significant impairment of lungs within few years. The major silicosis prone industries are all stone quarries and crushers, quartz mining, foundries, sand blasting, ceramics industries, gem cutting and polishing, slate/pencil industries, construction, all mining industries and glass manufacture industries

As per the report of Indian Council for Medical Research (1999), there are about 30 lakhs worker in India who are at a high risk of exposure to silica. Out of these, 17 lakhs are in mining/quarrying activities, 6.3 lakhs in glass and mica industry and 6.7 lakhs in metals industry. In addition, 53 lakhs construction workers are also at the risk of silica exposure.

The Supreme Court of India while hearing the Writ Petition (Civil) No 110/2006 (People's Rights and Social Research Centre (PRASAR) vs Union of India & Others)

passed an interim order on 5 March 2009, whereby it issued directions to the Union Ministries of Health and Labour and Employment to provide all necessary assistance to the NHRC for any action concerning silicosis. In the said order, it further directed that the NHRC may take up the specific and confirmed cases of persons suffering from Silicosis and recommend providing immediate medical relief to them through the concerned authorities. In cases of death on account of Silicosis, NHRC may facilitate in providing compensation to the families of the diseased through the authorities concerned.

In view of the directions given by the Supreme Court, the Commission adopted a two prolonged approach to tackle the issue of silicosis. Firstly, it is giving focused attention to the individual cases and is making recommendations to the States/Union Territories to provide monetary compensation to the victims along with rehabilitation measures including medical relief. Secondly, it is recommending to the States/Union Territories to take preventive, remedial and rehabilitative measures for dealing with the problem of Silicosis.

The steps taken by the NHRC to prevent the occupational hazard of silicosis are mentioned below:

- ❖ The NHRC convened a meeting of States and Union Territories on 1 May, 2008 at NHRC and observed that none of the States/Union Territories have a policy that encompasses preventive, curative and rehabilitative measures for the benefit of silicosis victims. Accordingly, NHRC directed that the Union Government and the States/Union Territories to furnish complete information with regard to the ten points.
- ❖ The Commission constituted an Expert Group on Silicosis in 2009 to assist in devising strategies for dealing with this occupational hazard and to evolve necessary preventive, remedial, rehabilitative measures to alleviate the problem faced by the affected workers and their families.
- ❖ The Commission organized a National Conference on Silicosis on 1 March 2011 at New Delhi to assess the action taken by the States/Union Territories on the recommendations made by the NHRC with regard to preventive, remedial, rehabilitative and compensation aspects; know the action taken by the States/Union Territories on the ten points made by it in the meeting convened on 1 May 2008; discuss the present status of various non-governmental organizations and technical institutions dealing with the issue of silicosis; and make certain recommendations.

- ❖ The Commission convened four regional review meetings with concerned officials of States/Union Territories, the representatives of technical institutions and civil society organizations. During these meetings, the NHRC reiterated the need for State Governments/UTs to address the problem of silicosis through proper survey and other preventive, rehabilitative and compensatory measures.
- ❖ In order to draw the attention of the Government and the Parliamentarians towards the inhumane conditions faced by all those ailing from silicosis including their immediate family members, the Commission prepared a Special Report on Silicosis and forwarded it to the Ministry of Home Affairs, Government of India for laying it before the Parliament.
- ❖ The Commission organized a one-day National Conference on Silicosis on 25 July 2014 to discuss the status of action taken by Union Ministry of Labour & Employment and States on recommendations made earlier by the NHRC for prevention, detection, and eventual elimination of Silicosis.
- ❖ The Commission organized a meeting of experts on 23 December, 2014 to discuss the memorandum of Action Taken Report on the Special Report of NHRC on Silicosis that was laid in the Parliament earlier.

These meetings helped to draw the attention of all stakeholders, especially the State Government officials of concerned Department to the serious problem for taking necessary action.

Special Report to Parliament of India on Silicosis

I. INTRODUCTION

The National Human Rights Commission (NHRC) sent the special report on the prevalence of silicosis, a dreaded occupational disease which is affecting lakhs of workers in India. The report is in accordance with the provisions of Section 20 of the Protection of Human Rights Act, 1993, as amended by the Protection of Human Rights (Amendment) Act, 2006 (PHRA). The main objective of sending the Special Report was to draw immediate attention of the Government of India and Members of Parliament towards the impact of this deadly disease on the lives of affected workers and their families. They suffer in silence without access to health care, social security and rehabilitation.

The Report was intended to bring to light the pathetic conditions of labour involved in certain occupations which are at risk of this fatal disease. The risk is exacerbated by the negligence of Government officials who do not enforce the provisions of several labour laws in place to provide the requisite welfare and protection for workers. The employers, for small pecuniary savings involved, do not take necessary precautions available to ensure safety and security of workers against the onslaught of the disease. The situation strongly calls for the need to bring in substantive changes in the way the Inspectorate of Factories and other enforcement officers under the labour laws take up their duties in order to ensure adequate protection for workers. It also points to some needed changes in the existing legislation so as to cover the loopholes which the employers/officials surreptitiously use to serve their selfish and vested interests. Few of these modifications are suggested at the end of this Report.

The ultimate aim of this Report is to bring about a situation where:

- labourers working in risk prone industries are suitably protected against the disease by taking recourse to latest technologically available precautionary measures.

- At the same time, if a worker contracts silicosis disease, his/her rehabilitation in terms of ensuring basic livelihood as well as health care should be automatically provided as an inherent right without necessitating the intervention of the NHRC.

Silicosis: A National Challenge

Silicosis is an incurable lung disease caused by inhalation of dust containing free crystalline silica. Crystalline silica or silicon dioxide (SiO₂) is found in quartz, sandstone, flint, slate, a number of mineral ores and many common building materials including clay bricks, concrete, mortar and tiles. Occupations with exposure to silica dust include mining; tunneling; stone work and sand blasting. In all these occupations, workers breathe in tiny silica particles released into the air with the dust created by cutting, crushing, chipping, grinding, drilling, blasting or mining, and in the process become victims of silicosis. All those engaged in the manufacture of ceramics, glass and abrasive powders are also susceptible to silica dust.

Workers involved in dry sweeping of areas where sandstones and rocks are broken down or crushed or those confined to loading, unloading and dumping sand or concrete or cleaning of building materials with pressurized air are all susceptible to silicosis as these processes generate large quantity of dust clouds. Hence, any activity in which crystalline silica dust exists, even if it is carried out in open air, can be perilous.

The silica particles inhaled are so small that they can only be seen with a microscope. At the same time, they are so light that they can remain airborne for a long time. As a result, silica can travel long distances in the air and affect population not otherwise considered to be at risk. Research studies conducted by the World Health Organization, Indian Council of Medical Research and the National Institute of Occupational Health have time and again brought forth the fact that silicosis is not only a serious threat to the health of all those who are engaged in occupations that are potentially exposed to crystalline silica dust but is a constant health hazard for people living in the vicinity where these occupations are carried out.

These studies have further shown that exposure to crystalline silica dust, even for a short period of time can cause silicosis and lead to gradual impairment of lungs in few years along with other temporary or permanent disabilities and finally death. Unlike other diseases, there are no symptoms whatsoever whereby one can come to know about the onslaught of the disease in its early stages. A frequent cause of death in people with silicosis is silico-tuberculosis or lung cancer. Respiratory insufficiencies

due to massive fibrosis and heart failure are other causes of death. However, due to lack of awareness, even among the doctors, silicosis is often confused with other diseases. The number of persons who die from silicosis in India is large but there are no statistics available concerning these deaths. It has also been established that there is no medical treatment for silicosis. Silicosis is thus a disabling, irreversible, fatal disease and continues to progress even when contact with silica stops. It is, therefore, ironic that in comparison to other deadly diseases like HIV/AIDS and cancer, silicosis has not received the required attention which it deserves. As a result, a large number of workers affected by it receive negligible support and their families are left in miserable conditions.

Silicosis: A Human Rights Issue

Silicosis is both a health issue and a human rights issue. It has an impact not only on the right to life but also on the right to live with dignity of all those affected and their families. The Government agencies and employers under whose jurisdiction any such occupation is carried out in the absence of preventive measures, and which causes silicosis, are responsible for serious violation of human rights of the affected workers and their families. Furthermore, there is an important issue of social security in terms of taking care of not only the medical expenses but also the basic day-to-day needs for survival of these workers and their immediate family members. These obligations on the part of Government agencies and employers become especially vital when the affected person has died. Most of the affected persons belong to the unorganized sector of labour and are not covered by the Employees' State Insurance Corporation (ESIC) Scheme of the Union Ministry of Labour, Government of India. Being casual and contract workers they are deprived of various social security benefits available to organized labourers under the existing labour laws from their employers.

The officials of the Union/State Labour Departments across the country are not taking adequate steps to ensure the compliance of statutory requirements. It is the primary responsibility of the concerned officials of these Departments to ensure enforcement of the labour laws and make the employers accountable for their legal obligation towards workers. They also need to make all out efforts to prevent silicosis by ensuring all necessary precautionary measures through the employers. Timely diagnosis followed by appropriate medical care of affected workers too needs to be ensured.

Taking note of the serious implications associated with silicosis disease and the adverse impact on human rights of people affected by it, as well as considering

the fact that a large number of silicosis cases have been brought to the notice of the Chairperson and Members of the Commission, the issue has generated serious concern among them.

II. NHRC'S CONCERNS AND ACTIONS

The NHRC has taken a serious view of the callous approach adopted by the Government, especially at the State level towards silicosis. During the course of one of its National Review Meetings on Health convened on 6 March 2007, the Commission had categorically pointed out that silicosis is an occupational hazard that needs necessary Government intervention involving convergent action of the Ministries of Industry, Labour and Health, the National Institute of Occupational Health and the National Institute of Miners' Health (NIMH). The Commission recommended a comprehensive legislation and an effective operational mechanism to ensure the required care and rehabilitation of all affected persons and their families as well as prevention of further cases.

As a follow-up of its recommendation for convergence, the NHRC organized a meeting of various stakeholders on 24 April 2007. The participants to this meeting included representatives from the Ministry of Labour and Employment along with its Directorate General of Mines Safety, Dhanbad and Directorate General, Factory Advice Service and Labour Institutes, Mumbai as well as the Ministry of Health and Family Welfare and its National Institute of Occupational Health (NIOH), Ahmedabad. In this meeting, NHRC expressed concern over the fact that even though silicosis is a "notified disease" under the Factories Act, 1948, there is no authentic reporting system pertaining to people affected by silicosis. After extensive deliberations, the NHRC made the following short-term and long-term recommendations:

Short Term Recommendations

- Carry out vigorous publicity campaigns by making use of the electronic and print media at all levels in order to create awareness among workers, employers and medical practitioners about silicosis being a health hazard.
- Identify and monitor States/Union Territories with high number of silicosis cases.
- The identified States/Union Territories should issue a notification under Section 85 of the Factories Act so that the law is applicable also to entrepreneurs employing less than 10 labourers and they along with their employees become aware about their vulnerability to silicosis.

- The case study pertaining to Madhya Pradesh should be thoroughly studied and analyzed in order to comprehend the steps taken by the State with regard to the issue of silicosis prevention, health care and insurance in a convergent and comprehensive manner.
- Collect survey reports already available with different agencies to identify and map pockets with incidence of silicosis. The concerned State Government officials should then be summoned by NHRC for monitoring of steps being taken by them.
- Work towards removal of existing deficiencies in the context of silicosis prevention in the States/Union Territories including the enforcement machinery so as to ensure their overall efficacy.
- The Ministry of Labour and Employment to prepare a background paper for launching a national programme for eradication of silicosis.
- Work out a compensation package for victims of silicosis or next of kin affected by silicosis as well as its modalities.
- Invite select NGOs to share their experience of combating the problem of silicosis.

Long-Term Recommendations

- Deliberate on the adequacy of existing laws and whether there is a need for separate/specific legislation on the issue.
- Constitute a National Working Group or a National Task Force or a National Core Group on Silicosis. The concerned Group or Task Force must work within the given time-frame and make recommendations which in turn may be taken-up with the Central/State Governments, as the case may be.

Constitution of National Task Force

In response to the above recommendations, the NHRC constituted a National Task Force on Silicosis under the chairmanship of one of its Members. The Task Force convened its first meeting in the NHRC on 6 September 2007.

The Task Force recognized the inadequacy of information base and need for creating a sound database regarding silicosis through a survey. Migration of labour was considered to be the main cause for lack of authentic information/data. During the course of the meeting, the situation regarding notification of silicosis under Section

85 of the Factories Act, 1948 was also reviewed. After extensive deliberations and detailed discussions, the following action points were identified:

- Emphasize that States/Union Territories have to assume primary responsibility for this issue.
- The Ministry of Labour and Employment to follow-up with States/Union Territories who have not yet issued notifications under Section 85 of the Factories Act, 1948.
- All States/Union Territories to undertake a survey either themselves or by engaging a public or private research institution.
- The Ministry of Labour and Employment to make available to NHRC a comprehensive survey form which covers all information required on silicosis and also focuses on the preventive mechanisms of States/Union Territories.
- Before the commencement of the required survey, there is a need to organize a pre-survey meeting. This meeting should be used as a forum to sensitize the State/Union Territory officials about the issue of silicosis and related safety of workers.
- Consider involving Panchayats in monitoring health-related aspects of silicosis.

In order to work out the details concerning the format of the survey and pre-survey meetings with all the States/Union Territories, a meeting on silicosis was convened in the NHRC on 29 October 2007. In the said meeting, it was suggested that along with giving the tolerable limits of dust level, the proforma prepared for the survey should indicate a list of engineering measures to minimize dust level and should also enclose a list of preventive methods. In this meeting, the Directorate General, Factory Advice Service & Labour Institutes (DGFASLI) was also requested to provide a list of confirmed cases of silicosis, which the Commission could take up as individual complaints.

Subsequently, in a meeting convened in the NHRC on 1 May 2008, it was reiterated that silicosis is an occupational hazard and could only be prevented if the working conditions of workers are properly regulated and needful precautions are adhered to by the employers, both in the organized and unorganized sector. It was further observed that none of the States/Union Territories have a policy that encompasses preventive, curative and rehabilitative measures that could be taken for the benefit of silicosis victims. Accordingly, NHRC directed that the Union Government and

the States/Union Territories should furnish complete information with regard to the following points:

- (i) What steps the Government is taking to prevent and ultimately eliminate the problem of silicosis, within how much time-frame and how it proposes to monitor its actions?
- (ii) Whether the Government has undertaken any survey regarding the prevalence of silicosis? If yes, the total number of victims identified and the status of their treatment.
- (iii) How many complaints have been received by the States/Union Territories regarding the problem of silicosis and what steps have been taken by the Government?
- (iv) What steps have been taken to implement Schedule No. XIII prepared by the Directorate General Factory Advice Service and Labour Institute under model Rule 120 framed u/s 87 of the Factories Act, 1948?
- (v) How many Hospitals/Treatment Centres exist for diagnosis and treatment of the occupational disease – silicosis?
- (vi) Whether a policy has been formulated for simplifying the procedure to enable the workers to file claims for compensation?
- (vii) Whether the States/Union Territories have paid any compensation to the victims of silicosis? If yes, the details of such persons and the amount paid.
- (viii) What steps are contemplated by the Government to ensure that the workers employed in industries/ factories/quarries/mines receive compensation?
- (ix) Whether the Government has evolved any policy for prevention and cure of silicosis and payment of compensation to the persons working in the unorganized sector?
- (x) Whether the Government proposes to constitute any Board or set-up any fund for the rehabilitation and insurance of all the workers affected by silicosis?

Action Relating to Supreme Court Directions

Looking at the gravity of the problem, the Supreme Court of India while hearing a Writ Petition (Civil) No. 110/2006 (*People's Rights and Social Research Centre (PRASAR) vs Union of India and Others*), passed an interim order on 5 March 2009, whereby it issued directions to the Union Ministries of Health and Labour

& Employment to provide all necessary assistance to the NHRC for any action concerning silicosis. In the said order, it further directed that the NHRC may take up specific and confirmed cases of persons suffering from silicosis and recommend providing immediate medical relief to them through the concerned authorities. In cases of death on account of silicosis, NHRC may facilitate in providing compensation to the families of the deceased through the authorities concerned. A copy of the Supreme Court interim order is annexed (Annexure. I).

In view of the directions given by the Supreme Court, the Commission has adopted a two-pronged approach to tackle the issue of silicosis. Firstly, it is giving focused attention to the individual cases and is making recommendations to the States/Union Territories to provide monetary compensation to the victims along with rehabilitation measures including medical relief. Secondly, it is recommending to the States/Union Territories to take preventive, remedial and rehabilitative measures for dealing with the problem of silicosis.

Constitution of Expert Group on Silicosis

In order to deal with the problem of silicosis in the country by ensuring necessary preventive, remedial and rehabilitative measures, the Commission constituted an Expert Group on Silicosis under the chairmanship of one of its Member. The other Members are:

- Director General, Directorate General of Factory Advice Services Labour Institute, Mumbai (M/o Labour & Employment, Government of India);
- Director General, Directorate General of Mines Safety, Dhanbad (M/o of Labour & Employment, Government of India);
- Director, National Institute of Occupational Health, Ahmedabad (Ministry of Health & Family Welfare, Government of India);
- Representative of M/o Commerce & Industry, Government of India;
- Representative of M/o Environment and Forests, Government of India;
- Representative, People's Rights and Social Research Centre (PRASAR), New Delhi;
- Advocate, Supreme Court of India, New Delhi; and
- Joint Secretary (Programme & Administration), NHRC, New Delhi.

The first meeting of the Expert Group was convened in the NHRC on 5 January 2010. After detailed discussions, the Expert Group identified the following silicosis-prone industries:

- All stone quarries and crushers
- Quartz mining
- Foundries
- Sand blasting
- Ceramics industries
- Gem cutting and polishing
- Slate/pencil industries
- Construction
- Glass manufacture industries
- Other mining industries

The Expert Group further suggested practical and implementable measures encompassing preventive, remedial and rehabilitative aspects in addition to important aspects relating to payment of compensation for tackling the problem of silicosis. Based on the advice tendered by the Members of the Expert Group and extensive consultations held with all the stakeholders, the NHRC has evolved a set of recommendations on various dimensions – preventive, remedial, rehabilitative measures and compensation to the affected persons. These recommendations were later forwarded to the Chief Ministers of all the States/Union Territories by the Chairperson of the Commission. The details of these recommendations are annexed (Annexure. II).

National Conference on Silicosis

The NHRC organized a National Conference on Silicosis on 1 March 2011 in New Delhi. The main objectives of this conference and the recommendation that emerged from the national conference are mentioned in Chapter 3.

III. HUMAN RIGHTS VIOLATION CASES

The number of silicosis cases brought to the notice of the NHRC till August 2011 by non-governmental organizations and individuals from the States of Andhra Pradesh, N.C.T. of Delhi, Gujarat, Haryana, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Puducherry were 72. In a few cases, the NHRC has also taken *suo motu* cognizance on the basis of press reports concerning silicosis.

On receipt and thorough examination of the complaints, the Commission has issued notices to the Chief Secretaries of the concerned States directing them to submit a

report about the confirmation of the cases and given relief to the victims of silicosis or to the next of kin of persons who died due to silicosis.

Given below are in brief a few illustrative cases examined so far by the NHRC.

1. Complaint by PRASAR, New Delhi (Case No.1053/30/2003-2004)

Shri S.A. Azad, President, PRASAR, a non-governmental organization in New Delhi submitted a petition before the Commission on 13 June 2003 stating that on the basis of the survey conducted in Lalkuan area in the month of August 2001, silicosis was detected among the stone crushers, stone quarry workers, miners and construction workers. The petitioner sought remedy for the occupational disease of silicosis on the ground that the State Government, contractors, agents, etc., were grossly negligent towards the working conditions of workers which resulted in silicosis among many of them. On these grounds, the petitioner requested for a grant of compensation for these workers. It was further submitted that in the year 1992, the Supreme Court of India in *M.C. Mehta vs Union of India* had ordered for the closure and shifting of the stone crushing, quarrying, mining and other activities from the Lal Kuan area to Pali in Haryana. The petitioner had enclosed a list of 83 persons alleged to have been suffering from silicosis.

The Commission on 30 September 2004 took cognizance and decided to club all the complaints regarding silicosis affected persons and their families received and registered in the Commission for necessary consideration and action.

On May 2008, the Commission after hearing the petitioners and representatives of various State Governments observed that the occupational hazard of silicosis is preventable if proper warning is given and the working conditions are properly regulated and monitored. Once the worker or other person is afflicted by silicosis, it becomes a constitutional obligation on the part of the Government to take appropriate measures for providing the necessary health care and rehabilitating the victims. The welfare of workers, especially those in the unorganized sector, should be given priority.

It is important to note that the complainant, Shri S.A. Azad, had pointed out in the initial report that 83 persons were found to be suffering from silicosis and 55 persons had died due to this disease. The complainant had also submitted that as per examination conducted by the Centre for Occupational & Environmental Health in Maulana Azad Medical College, New Delhi, 44 more patients had been identified who suffered from silicosis. Lala Ram Swarup Institute of Tuberculosis & Respiratory

Diseases, New Delhi had also identified 12 silicosis patients. The Commission on 6 October 2009, thereupon asked the complainant to assist the Commission by way of sending medical proof of persons who died of silicosis in Lal Kuan area.

In response, Shri S.A. Azad, in November 2009 furnished a list of 44 persons who were diagnosed as victims of radiological abnormalities in Lal Kuan area by the Centre for Occupational and Environmental Health, New Delhi. He also forwarded a list of 12 persons identified by Lala Ram Swarup Institute of Tuberculosis & Respiratory Diseases, New Delhi who died on account of silicosis. He also forwarded along with the aforementioned lists, the medical and identification certificates of the victims.

The Commission on 20 May 2010 sent the list to the Chief Secretary, Government of N.C.T. of Delhi with a request to provide information:

- (i) As to whether any compensation has been provided to the victims mentioned in the list;
- (ii) As to whether the persons suffering from silicosis have been given any medical treatment and rehabilitation package by the Government of N.C.T. of Delhi.

In spite of reminders, the reply is still awaited from the Government of N.C.T. of Delhi.

2. Complaint by Khedut Mazdoor Chetna Sangath (Case No. 300/6/5/2007-2008)

In the given case, Shri Juwan Singh, Shri Shankar Talwade and Shri Bhim Singh associated with Khedut Mazdoor Chetna Sangath, a Trade Union of Bhil Tribals in Alirajpur District, informed the Commission on 30 July 2007 that the tribals of Alirajpur and Jhabua Districts of Madhya Pradesh who migrated to Gujarat in search of employment found work in the Districts of Baroda, Kheda, Panchmahal and Godhra, where stone is crushed. Despite being kept on work, these workers were not given any employment letter nor a record of their attendance was kept. They were also not provided any masks which they could wear while performing their duties. These workers on contracting silicosis returned back to their native Districts from where they had initially migrated. It was reported by them that 197 persons belonging to the Districts of Alirajpur and Jhabua had already died on account of silicosis. In their complaint, they also mentioned names of 12 mineral factories located in the Districts of Panchmahal and Godhra in Gujarat where these workers had found employment. They further enclosed a list of 489 labourers who were employed in these factories out of which 164 had died and the remaining 325 were

suffering from silicosis. They sought the intervention of the Commission on their complaint as no relief had been given to the poor tribals either by their employers or by the Government.

On 21 August 2007, the Commission directed its Director General (Investigation) in the NHRC to depute a team for an 'on the spot enquiry' in the matter. The team from the Investigation Division of NHRC inspected the concerned areas in Jhabua (Madhya Pradesh), Kheda, Panchmahal and Gandhi Nagar (Gujarat) and found that 96 labourers who had worked in the District of Godhra in Gujarat had died on account of silicosis. 118 labourers were suffering from silicosis in the Districts of Jhabua and Alirajpur in Madhya Pradesh. The team also submitted that the labourers being illiterate were totally ignorant about filing their compensation claims. Only three of them had filed claim cases under the ESI Act in Ahmedabad.

The Commission on 13 August 2009 ordered that the list of 96 labourers who had died on account of silicosis and the other list of 118 labourers who were suffering from silicosis be sent to the respective District Magistrates of Jhabua & Alirajpur. This, the Commission felt, would not only help in re-confirming the number of silicosis deaths but also the exact number of workers who were ailing from silicosis. The District Magistrates were also requested to inform the NHRC whether any compensation had been given to the next of kin of the deceased by the State Government. They were further requested to submit a report to the NHRC about any kind of arrangement being made by the State for the rehabilitation and medical care of the labourers suffering from silicosis as well as steps being taken by the State Government for controlling the problem of silicosis. The Chief Secretary, Government of Madhya Pradesh was also directed to depute a senior officer for providing the necessary assistance to the District Magistrates in preparation of the report to be submitted to the Commission within six weeks.

Pursuant to above directions, the District Magistrates on 8 October 2009 submitted a detailed report to the Commission informing that from the survey conducted at the District level, it was found that 259 persons had died of silicosis and 304 persons were suffering from silicosis in Jhabua and Alirajpur Districts of Madhya Pradesh.

The Commission on 25 November 2009 also decided to call over the District Collectors of Jhabua, Alirajpur (Madhya Pradesh) and Godhra (Gujarat) in NHRC for a hearing. Accordingly, on 18 December 2009, the District Collector of Godhra informed the Commission that the State Government of Gujarat had taken several

measures to prevent the ailment of silicosis. For example, protective masks were being supplied to all the labourers working in the District of Godhra. The District Collectors also submitted that so far no compensation had been given to the victims of silicosis by the State of Gujarat though the ESIC was providing medical services to the labourers suffering from silicosis. Considering the fact that the persons suffering from silicosis were residing in Jhabua and Alirajpur Districts, but working in the factories located in Gujarat, the Commission recognized it as an inter-state problem necessitating constitution of a Coordinating Committee comprising members of both the States.

The District Collectors of Jhabua and Alirajpur also submitted that the State Government of Madhya Pradesh was providing medical facilities to the workers suffering from silicosis and had taken various steps for their rehabilitation too. Thereafter, on 24 February 2010, the concerned District Collectors of Panchmahal and Godhra in Gujarat and Jhabua and Alirajpur in Madhya Pradesh also submitted their reports to the Commission. The Commission on 8 March 2010 observed that in a survey conducted by the District Magistrates of Jhabua and Alirajpur, it was found that 259 persons had died on account of silicosis. It was also available on records that these labourers were working in stone crushing factories and after contracting the occupational disease of silicosis, they returned back to their native Districts of Jhabua and Alirajpur. All these workers had died due to carelessness of the enforcement agencies of the State of Gujarat. If the Inspectorate of Factories and other enforcement officers would have taken appropriate preventive steps, the lives of the workers who died of silicosis could have been saved. The Commission was of the view that it was the duty of the State enforcement agencies to take appropriate preventive steps by directing the factory management to take such measures which could have saved the workers suffering from the ailment of silicosis. Thus, the State of Gujarat had failed to save the lives of the workers who suffered from silicosis.

The Commission further observed that this was a case of violation of human rights of persons who died on account of silicosis and the next of kins of the deceased were entitled for compensation. Consequently, the Commission on 8 March 2010 issued a notice to the Chief Secretary of Gujarat u/s 18(a)(i) of the Protection of Human Rights Act, 1993 calling upon him to show cause as to why compensation be not recommended in favour of the next of kins, who died of silicosis.

The Commission on 11 June 2010 requested the Chief Secretaries of both the States to appear before the Commission along with their suggestions for compensating the victims of silicosis.

The Chief Secretary of Gujarat along with Principal Secretary (Labour) and other senior officers from the Government of Gujarat appeared before the Commission. The Chief Secretary of Gujarat submitted that only 238 persons as against earlier reported 259 persons, had died on account of silicosis who may be considered for compensation. Out of the remaining 21 persons, three were found to be alive, 12 names were duplicate, one had died a natural death, four persons were found untraceable and one was a three-year old child. It was further submitted that out of 238 deceased persons, 148 were from Godhra in Gujarat and were entitled for compensation from ESIC as they were eligible for benefits under the provision of ESI Act, 1948. Under this Act, the legal heirs of the deceased are entitled for a monthly pension.

It was also mentioned that 90 persons were found to have been working in Uma Minerals, Gayatri Minerals, Jyoti Minerals and Akil Metal Industries in Godhra and the workers employed there were covered under the Workmen's Compensation Act.

The Chief Secretary of Gujarat assured that the State Government was ready to provide free legal aid and necessary support to the victims of silicosis for filing petition for compensation before competent authorities.

On the basis of the above, the Commission observed it was established that the tribals residing in Madhya Pradesh had gone to work in quartz/stone crushing factories situated in Godhra, Gujarat and after contracting the dreaded disease of silicosis they returned back to their native places and later died. It was also established that the State enforcement agencies of Gujarat had failed to adopt appropriate preventive measures, which could have saved the lives of the poor labourers. Thus, the Government of Gujarat had failed to protect the lives of workers who died of silicosis while working in stone crushing units in Gujarat and also the next of kins of the 238 persons. They were all entitled for compensation from the State Government of Gujarat.

The Commission recommended that a sum of Rs. 3,00,000/- (Rupees Three Lakhs only) each be given to the next of the kins of the 238 deceased (mentioned in the list submitted by District Collectors, Jhabua and Alirajpur) by the State Government of Gujarat.

Out of the above mentioned amount, it was also recommended that a sum of Rs. 1,00,000/- (Rupees One Lakh only) be given to the next of kins of the deceased in cash and rest of the amount of Rs. 2,00,000/- (Rupees Two Lakhs only) be kept in fixed deposit, which will be available to the next of kins of the deceased in the shape of monthly interest.

The Chief Secretary of Gujarat was asked to submit a compliance report along with the proof of payment within eight weeks. The Commission also recommended that 304 persons who were suffering from silicosis and were staying in Madhya Pradesh be given a rehabilitation package by the State Government of Madhya Pradesh. Further, the details of package awarded to each of the victims of silicosis be communicated to the Commission within eight weeks.

Pursuant to the directions of the Commission, the Government of Madhya Pradesh has submitted an Action Taken Report in respect of the rehabilitation package granted to 304 persons who were suffering from silicosis. The Government of Gujarat has also submitted a report in which they have raised certain points and have expressed their inability to comply with the recommendations of the Commission.

In a review meeting held on 10 June 2011, the Commission again sternly conveyed to the officials of Government of Gujarat the need for implementing its directions. So far, action on the part of Government of Gujarat is still pending.

3. Complaint by Occupational Safety and Health Association of Jharkhand (Case No.1013/34/6/2007-2008)

In another case Shri Sumit Kumar Carr, Secretary General, Occupational Safety and Health Association of Jharkhand (OSHAJ), Jamshedpur on 8 August 2007 informed the Commission that in Village Teranga situated on Jaduguda Musaboni Road, M/s. K.K. Minerals and M/s. K.K. Sales are emitting silica dust which is resulting in occurrence of occupational diseases like silicosis among the labour working in the plant and leading to several cases of deaths among them. It was further submitted that these plants are established in the vicinity of residential areas, thus causing violation of prohibitory clause set by the Central Pollution Control Board and that there are no environmental safeguards and arrangements for protective measures concerning the health of the workers. He also submitted a list of 29 workers who were suffering from silicosis and enclosed the treatment record of the workers.

Pursuant to the directions of the Commission, the Principal Secretary, Government of Jharkhand, Department of Home vide communication dated 24 June 2010 submitted that the matter was being investigated by the Deputy Commissioner, East Singhbhum and had constituted the following teams for this purpose:

- i) A team of Specialised Doctors under the Civil Surgeon, East Singhbhum, Jamshedpur; and
- ii) A Joint Inspection Committee comprising officers of Mining Department and Jharkhand State Pollution Control Board, East Singhbhum, Jamshedpur.

The Medical Team examined six persons out of seven persons on 19 June 2010. One person, named Joba Hansada could not be traced out. There was suspicion about one another person named Rani Murmu, aged 35 years which was being examined along with other six persons out of which five were cases of suggestive pneumoconiosis. All these persons had past history of exposure to “Sada Pathar dust” which was suggestive of pneumoconiosis and, therefore, the possibility of “silicosis” remained in these patients. It was further submitted that with regard to 22 persons whom the complainant alleged had died due to silicosis, efforts were made to identify these persons, but the exact reasons for their death could not be ascertained though it was stated by the villagers that the deceased were working in the factory named M/s K.K. Minerals.

It was further submitted that the Joint Inspection Team comprising officers of Mines & Pollution Control Board also inspected M/s. K.K. Minerals and found that the unit was closed due to cancellation of No Objection Certificate by the State Pollution Control Board of Jharkhand. No labourer was found to be working in the unit during the inspection. It was further submitted that the State of Jharkhand had earlier taken steps against M/s. K.K. Minerals when it was found to be violating the pollution norms. M/s. K.K. Minerals had subsequently filed a writ petition before the High Court of Jharkhand and the Court had directed the State of Jharkhand that till further orders, no coercive steps be taken against M/s. K.K. Minerals. It was lastly submitted that the State of Jharkhand is duty bound to take steps in this regard. On this report, the comments of the complainant were called for. Consequently, the complainant submitted his detailed comments, according to which 24 persons had so far died of silicosis and some of the workers who were working in M/s. K.K. Minerals were victims of silicosis.

The Commission on 13 December 2010 observed and ordered:

“Chief Secretary, Government of Jharkhand be asked to submit report (i) as to whether 24 persons mentioned in the list working with M/s. K.K. Minerals died due to silicosis; (ii) as to whether any financial assistance has been given to the next of kins of deceased who died of silicosis by the State of Jharkhand; (iii) whether the Government of Jharkhand intends to provide any medical assistance and rehabilitation package to the persons suffering from silicosis; and (iv) the Chief Secretary should also be asked to submit reply on the comments submitted by the complainant.”

As there was no response from the State Government, the Commission on 17 March 2011 issued a reminder to the Chief Secretary, Government of Jharkhand requesting him to submit the response. The Principal Secretary of Jharkhand wanted a month’s time to reply on the issues raised by the Commission and the same was granted.

IV. MANDATE OF LAW: SUGGESTED CHANGES

There are several labour welfare related legislations in place along with the administrative machinery to ensure their respective implementation. These are with the objective of ensuring the job security of the workers apart from providing them with social security benefits like medical assistance in case of illness or injury apart from compensation from employers wherever the latter is responsible. However, there are several problems which are coming in the way of benefits reaching the intended beneficiaries. Foremost among these is the fact that more than 90 percent of labour is working in the unorganized sector and majority of legislations are applicable to the organized sector. In other words, a large majority of workers do not get the benefit of the provisions of these legislations. In addition, employers deliberately adopt tactics to keep the worker outside the applicability of these legislations. They also neglect or avoid, with the connivance of concerned Government Labour Department employees, their obligations towards workers under the existing legislations. No records are maintained of their employment or salaries due to them and actually paid or for that matter, other benefits legally required to be made available to them.

These problems are especially evident in occupations prone to health hazards like silicosis. Here, neglect and non implementation of the existing legal provisions leads to immense suffering among labour. They suffer in terms of lack of health care and even incapacity to meet their livelihood and other basic necessities in life.

Accordingly, there is urgent need to address these problems and carry out the necessary changes in the legal provisions, wherever necessary as also strengthen the implementation of existing provisions in place. The detailed list of changes sought in the existing legislations is annexed (Annexure III). Some of the important changes in provisions among them are given below:

The Factories Act 1948

➤ Suggestions

- Every person employed in the dangerous operations shall be examined by a medical practitioner possessing requisite qualification within 15 days of employment. No person shall be allowed to work after 15 days of employment unless certified fit for such employment by the medical practitioner.
- The periodic medical examination of the employee. Certificate of fitness and health register shall be kept readily available for inspection by the authority.

- Directions to all the industries to preserve health records of each workman for a period of 40 years from the date of beginning of the employment or 10 years after the cessation of the employment, whichever is later. The Honorable Supreme Court has given this particular direction in case of Consumer Education & Research Centre and others vs. Union of India which deals with Asbestosis. (Relevant Section: Section 41C)

➤ **Suggestion**

- All the processes where silica dust is generated is hazardous in nature and, therefore, they should be notified by all State Governments under the factories Act, 1948. (Relevant Section: Section 85)

➤ **Suggestion**

- All the manufacturing process/operations where silica dust is generated should be declared as dangerous operations and the State Government should frame rules under this provision. (Relevant Section: Section 87)

The Mines Act, 1952

➤ **Suggestion**

- Inspection of mines should be made compulsory every six months by the inspectors and the report to be made public. It should be made a part of this statute requirement. Chief Secretary of the State to be responsible for the implementation.
- Rules for inspection of dust producing areas should be framed and implemented with clear mention of all the activities to be inspected upon. The report should be made available to all workers and posted on the website of the concerned authority. Any violations of the prescribed limits should be strictly punished.
- Threshold limits for silica dust environment should be reviewed periodically. (Relevant Sections: Section 5 to 9 & 11 & 22)

➤ **Suggestion**

- Occupational Health Survey to be made compulsory after every 6 months (Relevant Section: Section 9A).

➤ **Suggestion**

- All inspection reports and information gathered should be made public and the existing secrecy provision should be removed. (Relevant Section: Section 10).

➤ **Suggestion**

- There is a need for strict implementation of Section 23. However, fine for not reporting any accident is a paltry sum of Rs 500 or imprisonment up-to 2 months. This penalty should be enhanced. (Relevant Sections: Section 23 and 70)

➤ **Suggestions**

- Every person employed in the dangerous operations shall be examined by a medical practitioner possessing requisite qualification within 15 days of employment. No person shall be allowed to work after 15 days of employment unless certified fit for such employment by the medical practitioner.
- Each worker working in the hazardous process area should be periodically examined medically after every 6 months on the expenses of the employer. Medical examination should also be carried out at the time of cessation of employment.
- On the basis of above examination, if Silicosis is detected, the same will be notified to the concerned authorities. (Relevant Section: Section 25, 26 and 27)

Employees' Compensation Act, 1923

➤ **Suggestions**

- The payment for medical expenses should be made by the employer directly to the hospital/doctor and workers should get cashless treatment facility.
- Amount of compensation is calculated as per disability percentage. For Silicosis victims, this disability should be considered as 100% as per High Court of Gujarat order under case number 3449 of 1999 (Babubhai vs. ESIC)
- Mechanisms for ensuring enforcement of the compensation order should be set-up. Compensation should be delivered within a period of 1 month from the date of order.

- In both the Acts (Employees' Compensation Act, 1923 & ESI Act, 1948) a qualifying period is necessary to claim compensation. This has been a hindrance for workers to claim compensation. This should be removed and any worker found to be suffering from Silicosis (no matter for how long the employment was) should be compensated. (Relevant Sections: Section 3, Schedule II and III)

Employees' State Insurance Act, 1948

➤ Suggestions

- This Act is applicable to the Factories of the organized sector. Suitable amendments are to be made so as to provide the benefit of this Act to all the workers including those in unorganized sector.
 - Supreme Court directions in case of Customer Education & Research Centre and others vs. Union of India which deals with Asbestosis should be made applicable with regards to Silicosis-
1. "The ESI Act and the Workmen's Compensation Act provide for payment of mandatory compensation for the injury or death caused to the workmen while in employment. Since the Act does not provide for payment of compensation after cessation of employment, it becomes necessary to protect such persons from the respective dates of cessation of their employment till date. Liquidated damages by way of compensation are accepted principles of compensation. In the light of the law above laid down and also on the doctrine of tortious liability, the respective factories or companies shall be found to compensate the workmen for the health hazards which is the cause for the disease with which the workmen are suffering from or had suffered pending the writ petitions. Therefore, the factory or establishment shall be responsible to pay liquidated damages to the workmen concerned."
 2. "All the factories whether covered by this ESI Act or the Workmen's compensation Act or otherwise are directed to compulsorily insure health coverage to every workers."
 - Amount of compensation is calculated as per disability percentage. For Silicosis victims, this disability should be considered as 100% as per High Court of Gujarat order under case number 3449 of 1999 (Babubhai v/s ESIC). (Section 52A and Schedule III)

V. CONCLUSION

The National Human Rights Commission is deeply concerned with the plight of the workers inflicted with the dreaded disease of silicosis. The concern of the Commission is towards the right of these workers and their families to lead a life of dignity which is being denied to them due to the callousness of the official machinery. As a result, these workers, most of whom are working as unorganized labour without any means to social security and job security are left unattended after they contract the dreaded disease. Most of these inflicted workers die without recourse to the necessary health care support. Their families suffer from loss of livelihood but no compensation is available to them from the State authorities.

The Commission having been informed of such cases of suffering and denial of human rights has sought to ensure compensation for the affected workers and their families. However, it may be understood that these are at best, ad-hoc or provisional measures to provide them relief. What is necessary as a long-term and concrete measure is to have in place a legislative and implementation system for automatic compensation as well as social security benefits to be made available to such affected persons without the need for intermediation by bodies like NHRC. At the same time, there is immense need to ensure that the frequency of such cases is reduced to minimum by use of available technology and scientific means to put in place the preventive measures like wet drilling, face masks, etc. There is need to ensure proper utilization of the expertise available with specialized institutions like National Institute of Occupational Health (NIOH) and Directorate General of Factory Advice and Labour Institutes (DG FASLI).

Initiatives by the concerned Government Departments in even a small measure on the above lines will go a long way in ameliorating the sufferings of large number of workers.

MEMORANDUM OF ACTION TAKEN ON THE SPECIAL REPORT TO PARLIAMENT ON SILICOSIS

The special Report on Silicosis sent by the National Human Rights Commission to the Parliament was examined by the Government in Ministry of Home Affairs, in consultation with the Ministries concerned. The Commission in Annexure III of the Special Report has suggested various changes in the existing legislations to effectively enforce the provisions of several labour laws for ensuring welfare and protection of workers. Based on the views and the comments received from the concerned Ministries of Government of India, the action taken report on the various suggestions made by the Commission are given below:

I RECOMMENDATIONS/CHANGES SUGGESTED BY NHRC IN THE FACTORIES ACT, 1948

(1) Gems and Jewellery industry may be added

Action taken/comments thereon

In this regard, it is informed that the Ministry of Labour & Employment (MoL&E) has initiated a proposal to amend the Factories Act, 1948 wherein it is proposed to delete the first schedule of the said Act. The hazardous industry is proposed to be identified with reference to the hazardous substance which will be prescribed in the rules. The said amendment proposal is at an advance stage of consideration in the Government of India. Moreover, considering the processes involved in the Gems & Jewellery Industry, it has been declared as dangerous operation under section 87 of the Factories Act, 1948 by most of the State Governments. A Schedule on 'Manufacture of stone or any other material containing free silica' has been notified by the State Governments as dangerous operation under the State Factory rules. Hence Gems and Jewellery Industry cannot be included in the First Schedule.

- (2) **Factories where exposure to Silica is involved like stone crushing, agate industry etc do not follow the provisions of Section 7, therefore, the whereabouts of such factories are not known to the Chief Inspector of factories.**

Action taken/comments thereon:

The enforcement Directorates have the power to initiate legal action against factories which do not comply with the above provisions. All Chief Inspectors of Factories (CIFs) have been advised to initiate action against factories, which do not comply with the provisions contained in above Sections of the Factories Act, 1948. The Action Taken Report received from the CIFs are proposed to be included as an agenda item in the next Annual CIF Conference which is attended by all the State Governments and Union Territories.

- (3) **Ensuring enforcement of provisions in Section 7(a) pertaining to preparation of written statement by the occupier regarding the health and safety of the employed workers.**

Action taken/ comments thereon:

The aspect is already covered Under Section 7A (3) and the responsibility of declaring a policy on safety and health lies with the occupier of factory premises. The enforcement of this provision lies with the occupier of factory premises. The enforcement of this provision lies with the Inspector of factories under Section 9. All Chief Inspectors of Factories (CIFs) have been advised for ensuring enforcement of this provision and furnishing the Action taken report. The Action Taken Reports received from the CIFs are proposed to be included as an agenda item in the next Annual CIF Conference.

- (4) **All vacancies for the factory inspectors to be filled within 6 months.
(Section 8 & 9 of above Act)**

Action taken/ comments thereon:

The responsibility for filling up the vacant posts within the specified time lies with the respective State Government/UTs. All Chief Inspectors of Factories (CIFs) have been advised to fill up the vacant post within the specified time and furnish the Action Taken Report. The Action taken Report received from the CIFs are proposed to be included as an agenda item in the next Annual CIF Conference.

(5) The inspectors must carry out their duties in accordance with Section 9.

Action taken/comments thereon:

The duties and power of the inspectorate have been clearly enumerated in the law and are felt adequate. All Chief Inspectors of Factories (CIFs) have again been advised regarding provision contained in Section 9 of the above Act. This will also be re-emphasized during the next National Conference of all State/UTs CIFs.

(6) Inspection of premises will be made every month by the factory inspectors for the first 3 years after these directions and the report made publicly available, the inspections can then reduce in frequency. Chief Secretary of the State to be responsible for the implementation of the direction.

Action taken/comments thereon:

The respective State Government/UTs have issued administrative orders for carrying out the enforcement of the various problems of the Factories Act, 1948. District Magistrate has also been notified as inspectors for their districts, under Section 8 (4) of the above Act. The duties and powers of the Inspectorates have been clearly enumerated in the law and are felt adequate. The Chief Inspector of Factory is a part of State Administration, which comes under the control of Chief Secretary.

(7) Obstructing the inspector, failure to produce the documents etc, is punishable under Section 95.

Action taken/comments thereon:

This does not require any comments as the position stated is as per provision of the Act.

(8) Though the provisions here deal with appointment of certifying surgeons, however, adequate number of Occupational Health Institutes do not exist. Directions to set-up these institutes are necessary.

Action taken/comments thereon:

There are four Regional Labour Institutes located at Kanpur, Chennai, Kolkata & Faridabad and Central Labour Institutes, Mumbai under Director General, Factory Advice Service & Labour Institutes (DGFASLI) to cater to the requirement of Associate Fellowship of Industrial Health (AFIH) in the country. In addition, approval has been granted by the DGFASLI to private and government institutions/medical colleges to conduct the AFIH course. Till date, 10 institutions have been granted recognition and more are expected to follow.

- (9) All states to fill all vacancies within 6 months for certifying surgeons qualified in industrial health and occupational Health and Safety (Section 10 of Act).**

Action taken/comments thereon:

The responsibility for filling up the vacant posts within the specified time lies with the respective State Government/UTs. All Chief Inspectors of Factories (CIFs) have been advised to fill up the vacant posts and furnishing the Action Taken Report. The Action Taken Reports received from the CIFs are proposed to be included as an agenda item in the next Annual CIF Conference.

- (10) Each district should have at least one certifying surgeon.**

Action taken/comments thereon:

The appointment of certifying Surgeons/qualified Medical Practitioners, as per Section 10 (1) or 10 (2), rests with the respective State Governments/UTs. All Chief Inspectors of Factories (CIFs) have been advised to fill up the vacant posts and furnish the Action Taken Report. The Action Taken Reports received from the CIFs are proposed to be included as an agenda item in the next Annual CIF Conference which is attended by all the State/UT Governments.

- (11) All these provisions are ignored in most of the Factories. Strict enforcement of these provisions is required. In factories where silica dust is generated, the compliance and implementation of Section 14 is extremely important.**

Action taken/comments thereon:

The enforcement of the various provisions of the above Act lies with the State Factories Directorates/Inspectorates under the administrative control of State Governments/UTs. All Chief Inspectors of Factories (CIFs) have been advised for initiating action against factories, which do not comply with the above provisions and to furnish the Action Taken Reports. The Action Taken Reports received from the CIFs are proposed to be included as an agenda item in the next Annual CIF Conference.

- (12) Provision specified in Section 41B of Act pertaining to disclosure of hazardous processes is hardly implemented. It is required to be implemented strictly.**

Action taken/comments thereon:

Since the operation are declared as dangerous operations under Section 87, the provisions of Chapter IVA-to 41H are not applicable and these aspects could be covered under the Schedule XIII under Model Factories Rules 120 (MFR 120) for adoption by the respective State Governments/UTs. The enforcement of the various provisions of the Act lies with the State Factories Directorates/Inspectorates under the administrative control of State Governments/UTs. All Chief Inspectors of Factories (CIFs) have been advised to take necessary action in this regard.

(13) Failing to comply with this provision is punishable under Section 96A**Action taken/comments thereon:**

Failing to comply with this provision is punishable under Section 92, in place of Section 96A of above Act. While the operations are declared as dangerous under Section 87 of the Factories Act, 1948, the provision of Chapter IV A (41A to 41H) are not applicable as Chapter IVA relates to Hazardous Process. It is pertinent to mention that the Section 92 relates to General Penalty for offences which will be applicable in case of any violation under Section 7 of the Factories Act, 1948. It is further stated that Section 96A provide for penalty for contravention of the provisions of Section 41B, 41C, and 41H. Therefore, this particular Section would not be applicable in respect of violation done under Section 87 of the Factories Act, 1948.

(14) Report of Dust sampling by employers should be made available to the public.**Action taken/comments thereon:**

This aspect is proposed to be included in Schedule VIII (draft) under Model Factories Rules 120 (MFR 120) for adoption by the respective State Governments/UTs. The modified schedule was discussed during the 52nd Conference of Chief Inspector of Factories held during 23rd to 25th May, 2012 at Jamnagar, Gujarat. The Model Rule is being further processed by Ministry of Labour & Employment for finalization.

(15) Every person employed in the dangerous operations shall be examined by a medical practitioner possessing requisite qualification within 15 days of employment. No person shall be allowed to work after 15 days of employment unless certified fit for such employment by the medical practitioner.

- (16) The periodically medical examination of the employee, certificate of fitness and health register shall be kept readily available for inspection by the authority.**
- (17) Directions to all the industries and the official-respondents to maintain compulsory and keep preserved health records of each workman for a period of 40 years from the date of beginning of the employment or 10 years after the cessation of the employment, whichever is later.**
- (18) The Honorable Supreme Court has given this particular direction in case of Consumer Education & Research Centre and others Vs. Union of India which deals with asbestosis.**

Action taken/comments on (15) to (18):

These recommendations of NHRC (a) to (d) have been included in the Modified Schedule XIII on manipulation of stone or any other material containing free silica. The modified Schedule was discussed in the 52nd CIF (Chief Inspector of Factories) Conference held at Jamnagar, Gujarat during 23rd to 25th May, 2012 and the Model Factories Rules 120 (MFR 120) are being processed further for finalization.

- (19) Failing to comply with this provision is punishable under Section 96A**

Action taken/comments thereon:

Failing to comply with the above provisions is punishable under Section 92 in place of Section 96A. While the operations are declared as dangerous operations under Section 87 of the Factories Act, 1948, the provision of Chapter IV A (41A to 41 H) are not applicable as Chapter IVA relates to Hazardous process. It is further stated that the Section 92 relates to General Penalty for offences which will be applicable in case of any violation under Section 87 of the Factories Act 1948. Further, Section 96A provides for penalty for contravention of the provisions of Section 41B, 41C and 41H. Therefore, this particular Section would not be applicable in respect of violation done under Section 87 of the Factories Act 1948.

- (20) Review of the standards of silica dust by the Central Government.**
- (21) Industrial hygiene labs of the factory inspectorate to be set-up in all states (if not in place already) and should be equipped with qualified industrial hygienist and required instruments within 6 months.**
- (22) Regular monitoring for dust levels to be done by employers.**

- (23) Rules and procedures for inspection and monitoring of dust producing areas should be framed and implemented with clear mention of the interval of inspection, time and operation during which inspections will take place.**

Action taken/comments on (20) to (23) thereon:

The standards of Silica dust have been reviewed by the Central Government based on the scientific proof and research carried out in this area from time to time by amendment in the Second Schedule. The State Government are being advised to set up and upgrade their infrastructure facilities for carrying out effective monitoring of dust levels in silica prone industries. The provision for control of silica-dust exists in the existing Schedule XIII and the aspect of regular monitoring has been included in the Draft Modified Schedule XIII under Part 3 (III) Administrative Control Measures (1): Workplace/Environment Monitoring and is under consideration in the Ministry for Labour and Empowerment, thereafter the same would be forwarded to the State Governments for adoption in the State Factories Rules.

- (24) Any violations of the prescribed limits should be strictly punished. All inspectors to be equipped with relevant equipments to enable dust measuring and monitoring as per provisions in the Act, the TLV limits should be reviewed after every 5 years. Work environment monitoring should be done once in 8 hr shift.**

Action taken/comments thereon:

The State Government has been advised to upgrade and enhance their infrastructure for carrying out effective monitoring of dust levels in such factories. Directions are given from time to time by DGFASLI to State Government for carrying out the enforcement of the provisions contained in the Act.

- (25) Failing to comply with this provision is punishable under Section 96A**

Action taken/comments thereon:

Failing to comply with the above provisions is punishable under Section 92 in place of Section 96A. While the operations are declared as dangerous operations under Section 87 of the Factories Act, 1948, the provision of Chapter IV A (41A to 41 H) are not applicable as Chapter IVA relates to Hazardous process. It is further stated that the Section 92 relates to General Penalty for offences which will be applicable

in case of any violation under Section 87 of the Factories Act 1948. Further, Section 96A provides for penalty for contravention of the provisions of Section 41B, 41C and 41H. Therefore, this particular Section would not be applicable in respect of violation done under Section 87 of the Factories Act 1948.

- (26) All the processes where silica dust is generated is hazardous in nature and, therefore, they should be notified by all State Governments under the Factories Act, 1948.**

Action taken/comments thereon:

The States/UTs were advised to notify such industries as dangerous operations, under Section 87 & 85 of the Factories Act, 1948 as well. As per record, 22 States/UTs (Andhra Pradesh; Assam; Chhattisgarh; Daman & Diu; Delhi; Goa; Gujarat; Haryana; Himachal Pradesh; Karnataka; Kerala; Madhya Pradesh; Maharashtra; Orissa; Pondicherry; Punjab; Rajasthan; Tamil Nadu; Tripura; Uttar Pradesh; Uttaranchal and West Bengal) have notified such industries as dangerous and 7 States/UTs (Arunachal Pradesh; Chandigarh; Manipur; Meghalaya; Mizoram; Nagaland; Sikkim and Lakshadweep) have intimated that there are no silicosis prone industries in their State.

- (27) All the manufacturing process/operations where silica dust is generated should be declared as dangerous operations and the State Government should be directed to frame rules under this provision.**

Action taken/comments thereon:

Already most of the States/UTs have notified such operation as dangerous operations under Section 87 and also notified under Section 85. The details of such States/UTs have been indicated against Sl. No. 10 above.

- (28) Reporting of silicosis and silica related Occupational Diseases by medical practitioners should be strictly enforced and in case of any violation a fine of Rs. 10,000 should be applicable which will be added into the Silicosis relief fund. Medical practitioners of the diseases should be rewarded Rs. 1000 per case they report.**

Action taken/comments thereon:

This aspect was discussed in the 52nd CIF Conference held at Jamnagar, Gujarat during 23rd to 25th May, 2012. As discussed therein, methodology and feasibility, especially

for the financial implication and how to implement it, needs to be ascertained, for which further consultations will be held. Further in the proposed amendments, it is proposed to enhance the amount of fine by three times to Rs, 3,000/- from the present Rs. 1000/- for non compliance of provisions in Section 89.

(29) The section should be utilized and enforced by the State Government.

(30) Reporting Independent agency to conduct an Occupational Health and Safety survey in these industries.

Action taken/comments (29) and (30):

The observations have been noted and agreed to and Chief Inspector of Factories of all States/UTs are being advised to ensure compliance

(31) This provision came into force on 26 January 1976 but no safety and occupational health survey has been done in hazardous operations generating silica dust. A State/UT wise and National survey is necessary.

Action taken/comments thereon:

Agreed. It is felt that State/UTs wise and National survey could be undertaken by the Chief Inspector, DGHS, and DGFASLI. Chief Inspector of Factories of all States/UTs has been advised to carry out occupational health survey.

(32) The report of any factory inspection should be made available to all workers and placed on the website of the monitoring authority.

Action taken/comments thereon:

As per the power given to the Inspector under Section 9 of the Factories Act, 1948, an Inspector may carry out an inspection of a factory and list out the contraventions observed for non-compliance of the provisions contained the Factories Act, 1948 and take necessary action, obtain compliance by issuance of improvement notice/prohibition order/prosecutions etc. It is felt that the list of violation observed in a factory should not be placed in the public domain of the monitoring authority as the inspection/inquiries are considered to be confidential as per ILO Convention 81, ratified by the Government of India. However, it is felt that the State-wise details of contravention in these types of industries may be put in the website of the monitoring authority/displayed in the notice board of the State Factories Directorate.

(33) Centre should monitor the implementation of the Act by giving necessary directions to the State/UTs.

Action taken/comments thereon:

DGFASLI gives directions to State Government for carrying out the enforcement of the provisions contained in the Act. In the Annual Conference of CIFs, which is organized by the DGFASLI, discussion on matters relating to administration of the Act as well as techniques and methods of prevention of accidents and ill health, in factories, are carried out. Till date, 52 such conferences have been held and the last conference was held at Jamnagar, Gujarat during 23rd to 25th May, 2012.

II. RECOMMENDATIONS/CHANGES SUGGESTED BY NHRC IN THE MINES ACT, 1952

The recommendations/changes indicated at Sl No. 1 to 7 below have been proposed under sections 5 to 9, 11 and 22 of above Act.

(1) All vacancies for the inspectors to be filled within 6 months.

Action taken/comments thereon:

Total sanctioned strength of Inspecting Officer is 269 and out of these, 138 are in position and 131 posts are vacant. The vacant posts are to be filled up partly by fresh recruitment and partly through departmental promotions. Fresh recruitment of inspectors is done by selection through interview by UPSC at national level. 2 inspectors have recently been selected by UPSC and their appointments are in process. Efforts are being made to fill up the remaining vacancies on priority basis.

(2) Inspection of mines will be made every month by the inspectors for the first 3 years after these directions and the report made publicly available, the inspections can then reduce in frequency. Chief Secretary of the state to be responsible for the implementation of the direction.

Action taken/comments thereon:

There are total 6380 mines on record in the country and inspecting manpower sanctioned is 269. As such, inspecting a mine every month is not physically possible, as recommended. However, it is required that all notified mines and mines having problems of fires, explosions and other identified dangers, should be inspected once in a year. The violations observed during the course of inspections are immediately entered into a spot inspection register by the inspectors, which are displayed for at least 15 days at the Notice Board of the mine. A report on compliance of violation is required to be submitted by the management to the Directorate General of Mines Safety (DGMS), within 15 days of such violations. Whenever there is any serious

violation or dangers existing at the mine, improvement notice or prohibitory orders are issued by the inspectors and the same is brought to the knowledge of District Collector & Director of Mines & Geology of the concerned State to ensure suitable measures, so that persons are not exposed to danger, until removed in writing by DGMS. Also, as the DGMS is the statutory authority under the Mines, Act, 1952, delegation of this power to the Chief Secretary is not permissible under the Act.

- (3) Rules for inspection of dust producing areas should be framed and implemented with clear mention of the interval of inspection, time and operation during which inspection will be made available to all workers and placed on the website of the monitoring authority. Any violations of the prescribed limits should be strictly published.**

Action taken/comments thereon:

The provision regarding generation, liberation and control of respirable dust, sampling and monitoring of air borne dust in the mines are already existing in Reg.123; 123A; 123B; of Coal Mines Regulations, 1957 and Reg. 124 of Metalliferous Mines Regulations, 1961, framed under the Mines Act, 1952. The location, frequency, procedures for airborne dust, sampling and monitoring have already been prescribed under the above mentioned regulations. DGMS also issued technical circulars to the Mining Industry for regular monitoring and prevention of dust in the mines, from time to time. These circulars are also posted at DGMS website for public information.

- (4) Pollution Control Board and other Entities should monitor the Silica threshold level strictly and any violations should be punished with repeat offenders being shut down.**

Action taken/comments thereon:

Under the Mines Act, 1952, DGMS is the enforcement authority. In order to ensure compliance of dust control and preventive measures, the inspecting officers also put in special efforts during the course of their inspections. Improvement Notices and Prohibitory Orders are being issue by DGMS to ensure compliance.

- (5) Steps should be taken to prevent Silicosis and proper engineering control mechanisms should be installed in all premises. Government should provide soft loans to small enterprises who cannot afford the initial high capital costs for such installations. Workers should be provided with personal protective equipments and it should be ensured that the equipment is maintained property and is in sound working condition at all times.**

Action taken/comments thereon:

Periodical medical examination of persons employed in mines are conducted at an interval of five years, to detect silicosis at initial stages and for taking preventive measures, to ensure that the precautions stipulated under various regulations are taken in such identified mines. Adequate provisions for prevention of dust at its source through wet drilling and suppression of dust using appropriate dust suppression agents or mechanism, exits under Reg. 123 of Coal Mines Regulations, 1957 and Reg. 124 of Metalliferous Mines Regulations, 1961, framed under the Mines Act, 1952, which are being checked during the course of inspections, in addition to the checks being made by the concerned officers and safety officers appointed at the mine. The provisions for providing and use of dust masks and other personal protective equipments are already stipulated under Reg. 123 & 191B of Coal Mines Regulations, 1957 and Reg. 124 & Reg. 182B of Metalliferous Mines Regulations, 1961, framed under the Mines Act, 1952.

(6) Threshold limits for silica dust environment should be defined and monitored strictly.**Action taken/comments thereon:**

There are already provision for permissible limits of airborne dust, specified under the sub-reg. (2) of Reg. 123 of Coal Mines Regulations, 1957 and sub-reg.(2) of Reg. 124 of Metalliferous Mines Regulations, 1961, framed under the Mines Act, 1952. However, these standards are being reviewed regularly and updated. The recent updation was made in 2008, in which the permissible concentration of Asbestos fibre in the airborne dust was reduced from 2 fibre to 1 fibre per ml vide Gazette Notification No. G.S.R. 701 (E) dated 30th September, 2008. The provisions for monitoring of airborne dust already exist in subsequent sub-regulation of Reg. 123 of Coal Mines Regulations, 1957 and sub reg. of Regulation 124 of Metalliferous Mines Regulations, 1961.

(7) Central Government to ensure its full implementation.**Action taken/comments thereon:**

The 10th National Conference on safety in Mines held during November 2007, had focused special attention on prevention of dust and dust borne diseases in mines, which are being implemented and monitored by DGMS regularly. Efforts are being made through training of safety and ventilation officers including workmen, inspectors as well as Doctors engaged in medical examination of the workers employed in the mines by Mines Safety and Health Academy, DGMS, Dhanbad to educate and train

such officers, to ensure that the dust prevention and control measures programme are undertaken by the competent persons in the mines.

(8) Occupational health survey to be made compulsory after every 6 months (Section 9A of above Act.).

Action taken/comments thereon:

The occupational health surveys are conducted by the Medical Officers appointed in the mines under organized sectors and reports of such surveys/examinations are being checked by the Inspectors, Occupational health, DGMS. In order to make occupational health survey at every six month interval in each mine as recommended, large number of Doctors/Specialist on occupational health surveys will be required. Efforts are being made to get the occupational health survey done by expert agencies like National Institute of Miner's health (NIMH); National Institute of Occupational health (NIOH) etc.

(9) The provisions of Chapter 4 regarding certifying surgeons and chapter IVA regarding medical examination of employed or to be employed in mines as per Mines Rules 1955 should be complied with (Section 9A of above Act)

Action taken/comments thereon:

Initial and periodical medical examinations of persons to be employed in mines are conducted by the Medical Officers, in accordance with the standards specified under Rule 29B of Mines Rules, 1955 framed under the Mines Act, 1952. The standards of medical examinations have been specified in Rules 29A to 29P of above Mines Rules, 1955. Recently, a circular has been issued to conduct medical examinations once in every year for workers, who are directly exposed to dust, as per the recommendations of NHRC. The certifying Surgeons are also appointed for identified areas where there are clusters of mines.

(10) All inspection reports and information gathered should be made public (Section 10 of above Act)

Action taken/comments thereon:

The inspection reports or the observations made during the inspections are public in nature and the findings of inspections are required to be displayed on the Notice Board, as per the Statute. The system of participative safety management has already been introduced by appointment of workmen's inspectors and safety committee in the mines under the Mines Act, 1952.

- (11) The provision of reporting any accident by the Mines owners and pasting it on Notice Board should be strictly implemented. However, fine for not reporting any accident under section 70 is paltry sum of Rs. 500 or imprisonment upto 2 months. This punishment should be enhanced (Section 23 of above Act)**

Action taken/comments thereon:

The above provision is strictly observed. However, enhancement of penalty provision has been taken care of in the proposed amendment of the Mines Act, which has been tabled in the Parliament, wherein penalty of Rs. 50,000/- as fine and or imprisonment upto two months for contravening Section 70, has been proposed.

- (12) Every person employed in the dangerous operations shall be examined by a medical practitioner possessing requisite qualification, within 15 days of employment. No person shall be allowed to work after 15 days of employment unless certified fit for such employment by the medical practitioner.**

Action taken/comments thereon:

Provisions already exist for safety and health of persons employed in operations of dangerous nature with reference to preventive measures, personal, protective equipments to be provided, personal exposure profile against dust & noise through personal dust sampler and noise dosi meter. However, provisions for initial medical examination and standard of fitness already exists under Rule 29B of mines Rules, 1955 and no persons can be employed at any dangerous work place, unless otherwise protected and provided with personal protective equipment.

- (13) Each worker working in the hazardous process area should be periodically examined medically after every 6 months on the expenses of the employer. Medical examination should also be carried out at the time of cessation of employment.**

Action taken/comments thereon:

The provisions for medical examination at the cost of the mine management already exists under Rule 290 of the Mines Rules, 1955 framed under the Mines Act, 1952. At present, mines employees are being medically examined once in every five years as required under Rule 29B of Mines Rules, 1955. Recently, a circular has been issued to conduct medical examination once in every year for workers who are directly exposed to dust, as per the recommendations of NHRC.

- (14) Record of medical examination and appropriate test carried out by the said medical practitioner shall be maintained in a separate register and results shared with the employees.**

Action taken/comments thereon:

Standard report of the initial and periodic medical examination has been laid down in Form P, as required under sub-rule (1) of Rule 29F of Mines Rules, 1955. Findings are recorded in statutory Form-O, as required under sub-rule (2) of Rule 29F of Mines Rules, 1955. A copy of the same is also handed over to the concerned employee for sake of transparency.

- (15) Certificate of fitness and health register shall be kept readily available for inspection by the authority.**

Action taken/comments thereon:

Certificate of Fitness in Form-O, is maintained at mine and available for inspection, as required under sub-rule (2) of Rule 29F of Mines Rules, 1955

- (16) Directions to be issued to all the industries and the official-respondents to maintain compulsorily and preserve health records of each workman for a period of 40 years from the date of beginning of the employment or 10 years after the cessation of the employment, whichever is later. The Honorable Supreme Court has given this particular direction in case of Consumer Education & Research Centre and other Vs. Union of India which deals with asbestosis.**

Action taken/comments thereon:

All medical records of each and every employee are retained by the mines management as long as the employee is employed in that mine and a period of 10 years thereafter, as per Rule 29G of Mines Rules, 1955.

- (17) Reporting of Silicosis and Silica related Occupational Diseases by Medical practitioners should be strictly enforced and in case of any violation a fine of Rs. 10,000 should be applicable which should be added into the Silicosis relief fund.**

Action taken/comments thereon:

As per stipulations of Section 25 of Mines Act, 1952, any Medical Practitioner, on diagnosing any of the notified diseases including Silicosis, has to inform/notify the disease to the Directorate in the prescribed format. The subject of enhancement of

penalty for default has been considered and for this purpose, the Mines Amendment Bill, 2011 was introduced in the Rajya Sabha on 23.03.11. The Standing Committee presented their Report to the Lok Sabha and laid the same in the Rajya Sabha on 20.12.11. The Report of the Standing Committee has been examined in the Ministry of Labour & Employment and official amendments to the Mines (Amendment) Bill, 2011 are under consideration. However, there is presently no provision of any relief fund.

- (18) The Central Government should direct investigation into the causes of silicosis disease, with which approximately 10 million are stated to be suffering. The report of such investigation be made public.**

Action taken/comments thereon:

The Central Government has power to direct investigation into causes of disease under Section 26 of the Mines Act, 1952. The publication of report of such investigation has been stipulated in Section 27 of Mines Act, 1952.

- (19) There is non-compliance of this provision (Section 48) regarding maintaining registers of persons employed. The inspectors should ensure full compliance of this provision.**

Action taken/comments thereon:

The Inspectors make all attempts to ensure compliance of this provision during every inspection and enquiry. The observations recorded are regularly followed up during subsequent inspections till compliance is reported.

III RECOMMENDATIONS/CHANGES SUGGESTED BY NHRC IN THE EMPLOYEES' COMPENSATION ACT, 1923 (EARLIER WORKMEN'S COMPENSATION ACT, 1923)

- (1) The payment for medical expenses should be made by the employer directly to the hospital/ doctors and workers should get cashless treatment facility.**

Action taken/comments thereon:

The payment of compensation does not come under the administrative control of Central Government. The compensation is paid by the concerned employers or the State Government. The ESIC Act, 1948 provides for medical treatment to insured persons in case of injuries and accident (including certain occupational disease) sustained in the course of employment and resulting in disablement or death. The

payment of medical expenses in respect of organized workers is being made directly to the hospital by ESIC.

- (2) Amount of compensation is calculated as per disability percentage. For Silicosis victims, this disability should be considered as 100% as per High Court of Gujarat order under case number 3449 of 1999 (Babubhai v/s ESIC)**

Action taken/comments thereon:

In Schedule –III part ‘C’ of the Employees Compensation (EC) Act, 1923, all work involving exposure to the sclerogenic mineral dust (silicosis, anthraosilicosis, asbestos) are covered and if a worker is affected, he shall be entitled to get compensation under this Act. The payment of compensation does not come under the administrative control of Central Government. The compensation is paid by the concerned employers or the State Governments. The employer is liable to pay the compensation as per the provisions under Section 3 of the EC Act and the amount of compensation is determined as per the provision under Section 4 & 4A of this Act. The dispute, if any, is settled as per the orders of the Commissioner for Employees’ Compensation, who is appointed by the respective State Government. For calculation of compensation, the wage ceiling has been increased from Rs. 4000/- to Rs. 8000/- in May 2010 to provide maximum benefit to the employees. The minimum compensation for permanent total disablement and death is Rs. 1,40,000 and Rs. 1,20,000 respectively and maximum amount for death and permanent total disablement can go up to Rs. 9.14 lakh and Rs. 10.97 lakh respectively, depending on the age and wages of the employees.

- (3) Mechanisms for ensuring enforcement of the compensation order should be set-up. Compensation should be delivered within a period of 1 month from the date of order.**

Action taken/comments thereon:

The time limit of three months from the date of reference for disposal of cases is reasonable, keeping in view the various procedures adopted by the Commissioner.

- (4) In both the acts (Employees’ Compensation Act, 1923 & ESI Act, 1948) a qualifying period is necessary to claim compensation. This has been a hindrance for workers to claim compensation. This should be removed and any worker found to be suffering from Silicosis (no matter for how long the employment was) should be compensated. (Section 3, Schedule II and III of above Act).**

Action taken/comments thereon:

The contracting of any disease listed in the Schedule III to the Employee Compensation Act is deemed to be an injury by accident. If a workman employed in the employment specified in Schedule III of the Employees Compensation Act contracts any occupational disease peculiar to that employment, he become eligible for payment of compensation under the Act. The occupational disease should have been contracted while in the service of an employer in the specified employment. The Schedule III divides the occupational disease in three parts, namely, Part –A, Part –B and Part C. for diseases specified in Part – A, there is no qualifying period of employment. In case of diseases specified in Part – B, a person should have been employed in the specified employment for a continuous period of not less than six months before the disease is contracted. For the diseases specified in Part –C, the qualifying period is specified by the Central Government. The qualifying period specified under both the Acts’ is sufficient since a person, who is already suffering from diseases, cannot be given compensation on employment in this occupation. The diseases should be directly attributed to a specific injury by accident arising out of and in the course of his employment.

IV. RECOMMENDATIONS/CHANGES SUGGESTED BY NHRC IN THE EMPLOYEES’ STATE INSURANCE ACT, 1948.

- (1) This Act is applicable to the factories of the organized sector. Suitable amendments are required to be made so as to provide the benefit of this Act to all the workers including those in organized sector.**

Action taken/comments thereon:

Presently ECI Act is applicable to factories & certain establishment wherein 10 or more workers are employed. It mostly covers the organized sector. The workers of unorganised section are covered under Unorganized Social Security Act, 2008.

- (2) Supreme Court directions in case of Customer Education & Research Centre and others vs. Union of India which deals with Asbestosis should be made applicable with regards to Silicosis viz (a) “The ESI Act and the Workmen’s Compensation Act provide for payment of mandatory compensation for the injury or death caused to the workmen while in employment. Since the Act does not provide for payment of compensation after cessation of employment, it becomes necessary to protect such persons from the respective dates of cessation of their employment till**

date. Liquidated damages by way of compensation are accepted principles of compensation. In the light of the law above laid down and also on the doctrine to tortuous liability, the respective factories or companies shall be found to compensate the workmen for the health hazards which is the cause for the disease with which the workmen are suffering from or had suffered pending the writ petitions. Therefore, the factory or establishment shall be responsible to pay liquidated damages to the workmen concerned” and (b) “All the factories whether covered by this ESI Act or the Workmen’s compensation Act or otherwise are directed to compulsory insure health coverage to every worker.”

Action taken/comments thereon:

ESI Act already provides for compensation towards employment injury which includes occupational disease like silicosis as per schedule III of ESI Act. Even after cessation of employment, ESI Act provides following benefits:

- (i) An injured person, who leaves insurable employment on superannuation, on VRS or takes premature retirement, is eligible for medical benefit at the scale prescribed under the ESI Act, for himself and spouse on payment of Rs. 120/- in lump-sum for a year in advance subject to having been in insurable employment for minimum of five years.
- (ii) An insured person who ceases to be in insurable employment on account of permanent disablement, is eligible for receiving medical benefits for himself and spouse at the scale prescribed under the ESI Act on payment of Rs. 120/- in lump –sum for a year in advance. He is eligible for this benefit up to the date he would have vacated the employment on attaining the age of superannuation, had he not sustained such permanent disablement.
- (iii) Unemployment Allowance under Rajiv Gandhi Shrami Kalyan Yojana (RGSKY) is paid for one year to such insured persons, who have been in insurable employment for not less than 3 years and rendered involuntarily jobless due to closure of factory/establishment or retrenchment or permanent invalidity, no less than 40% arising out of on employment injury. Unemployment Allowance recipients, desirous of upgrading their skill, may also get training through AVTI for short duration and the fee is paid by the Corporation. To and fro rail/bus second class journey fare from residence to training centre is also reimbursed by the Corporation.

- (iv) An insured person, who sustains permanent disablement not less than 40% due to employment injury and is not more than 45 years of age, may get training through Vocational Rehabilitation Training Centre. The insured person is paid cash allowance equal to the expenditure charged by the Centre/Institution or Rs. 123/- per day, whichever is more, for all the days of his stay for training at Vocational Rehabilitation Training Centre/Institution including second class rail/bus fare for the journey.
- (v) **Permanent Disablement Benefit:-** A person who sustains employment injury (including occupational disease) is entitled for permanent disablement benefit to the extent of loss of his earning capacity determined by medical board for life.

As regards (b) above, there is no separate provision to insure health coverage under Employees Compensation Act, 1923. However, the same is covered under Unorganized Social Security Act, 2008.

- (3) **Amount of compensation is calculated as per disability percentage. For Silicosis victims, this disability should be considered as 100% as per High Court of Gujarat order under case number 3449 of 1999 (Babubhai v/s ESIC). (Section 52 A and Schedule III of above Act).**

Action taken/comments thereon:

ESI Corporation provides benefit to an employee if he contracts silicosis or other occupational diseases mentioned in Schedule III of ESI Act, 1948. As per Section 52 (A) of ESI Act, if an employee employed in any employment specified in Part A of the Schedule III, contracts any disease specified therein as an occupational disease peculiar to that employment or if an employee employed in the employment specified in Part B of that Schedule for a continuous period of not less than six months contracts any disease specified therein as an occupational disease peculiar to that employment or if an employee employed in any employment specified in Part C of that Schedule for such continuous period as the Corporation may specify in respect of each such employment, contracts any disease shall, unless the contrary is proved, be deemed to be an “employment injury” arising out of and in the course of employment. As per regulation 74 under the ESI Act, a special Medical Board will examine the Insured Person and determine if the Employment Injury is caused by the occupational disease and also determine the loss of earning capacity.

The Action Taken Report prepared above is based on the views received from the Ministry of Labour & Employment. In addition, the matter was referred to the Ministry of Health & Family Welfare (MoH&FW) also. As per report received from the National Institute of Occupational Health (NIOH), under MoH&FW, silicosis is an occupational disease occurring in the workers exposed to silica dust. Nearly 10 million workers are at the potential risk of exposure to silica (Crystalline free silica). Though presently there is no cure for it, the disease is preventable in nature. NIOH has developed dust control devices for agate grinding and quartz crushing industries based on the principles of local exhaust ventilation and also demonstrated these dust control systems for adoption in relevant hazardous occupations. However, the information on the morbidity, mortality, severity of the disease and burden associated with the silicosis or exposure to silica remain uncertain for many of the States of the country. As per NIOH, respiratory protective devices are useful for controlling the exposure. There are various types of such protective devices available, which can be used depending on the feasibility, in addition to the engineering control. In this direction, NIOH also contributed to NHRC for preparing disability estimation.

As per NIOH, the control and prevention is the only way for mitigating the problem and thus wherever possible, effective dust control measures such as installation of dust control devices, provision of personal protective measures and awareness of workers should be done. NIOH has carried out field investigations of workers in silicosis exposed environment and also some efforts have been made for intervention towards silica elimination from work place in the form of small scale/large scale engineering solutions. Besides over the years, the institute had imparted training and awareness to large number of doctors and other concerned personnel on silicosis diagnosis and its management.

NATIONAL CONFERENCE ON SILICOSIS HELD ON 1 MARCH, 2011 AT NEW DELHI

A National Conference on Silicosis was organized by the National Human Rights Commission (NHRC) on 1 March, 2011. The Conference was attended by the representatives of the concerned Central Government Ministries/organizations as well as State/UT Governments apart *from the* Non-Governmental Organizations (NGOs) working in this area. The objective of the conference was to assess the action taken by the State Governments to tackle the problem of silicosis, a disease of lungs caused by inhalation of dust containing crystalline silica. This was especially w.r.t. the action taken by the State/UT Governments on the preventive, rehabilitative and remedial recommendations issued by the NHRC in December, 2010. The other objective of the conference was to obtain the advice/suggestions of the NGOs/technical institutions working in the area.

Proceedings of the Conference

In the inaugural session chaired by Hon'ble Chairperson Justice Shri K.G. Balakrishnan, the welcome address was given by Hon'ble Member Shri P.C. Sharma. Shri P.C. Sharma highlighted the concerns of the Commission on the problems faced by the labourers and their families after being afflicted with this disease as a result of working in mines, quarries, quartz cutting industries etc. in States like Rajasthan, Madhya Pradesh and Gujarat as well as in other parts of the country. He stated that the labour working in unorganized sector was especially vulnerable being totally devoid of social security benefits from their employers. According to him, the requirements under the labour legislations are not being strictly adhered to. He stated that it was the duty of the employers to fulfill the obligations under these legislations and the State functionaries need to be held accountable for not ensuring their implementation in the area coming under their jurisdiction. The Factories Act, 1948 provides the Government with sufficient leverage to take measures for protection

of workers especially, those in hazardous industries. Silicosis is a notifiable disease as listed in the Third Schedule for the purpose of Section 89 and 90 of the Act. As per Section 85 of the Act, if the State Government notifies to this effect, the Act shall apply to any place wherein a manufacturing process is carried on irrespective of the number of workers. The Commission has noted from the complaint received and the visits made by its investigation teams that the State Departments concerned as well as employers have not been properly implementing the labour laws. As regards silicosis, he stated that there was lack of awareness regarding the disease in comparison to the other diseases. He mentioned about the plight of tribal workers of Madhya Pradesh which was brought to the notice of the Commission. These tribal workers had returned to their native villages after contracting silicosis while working in factories in Gujarat. The Commission had recommended a sum of Rs. 3 lakhs each to be given by the State Government of Gujarat to the next of kin of 238 deceased and rehabilitation package by State Government of Madhya Pradesh to the 304 persons affected by silicosis. He also informed regarding the ex-gratia payment of Rs. 1 lakh announced by Government of Rajasthan for the next of kin of 21 persons who had died due to silicosis contracted while working in the sand stone mines in Jodhpur. He also highlighted the need for the use of appropriate engineering devices as well as preventive gear for protection against inhalation of silica dust. He also highlighted the role of the civil society in this area.

Justice Shri K.G. Balakrishnan in his inaugural address stated that a clean environment and healthy atmosphere at work place is essential. He drew the attention of the participants towards Article 39 & Article 42 of the Constitution of India, according to which the State must ensure measures to protect the health of workers and to make provisions for securing just and humane conditions of work for them. He also mentioned about the Article 25 of UDHR and Article 12 of the International Covenant of Economic, Social and Cultural Rights. Regarding silicosis, Justice Shri Balakrishnan pointed out that it was a serious occupational health hazard which was preventable. The Commission, according to him, was deeply concerned about the issue and takes a serious view of the callous approach of institutions responsible for neglect in protecting the workers from this disease. The Supreme Court has also recognized the role that the Commission is playing to tackle this problem and has directed the concerned Government Departments to provide all necessary assistance to NHRC in addressing the problem. He stated that the Commission has adopted a twin-pronged approach to tackle the problem. On one hand, the Commission has recommended compensation for victims to be given by the concerned State Governments while on the other, several recommendations have been sent by the

Commission to all the concerned Governments on the preventive, rehabilitative and remedial measures to be taken to address the problem.

The next Session was chaired by Justice Shri G.P. Mathur, Member, NHRC. In his introductory remarks, Justice Shri Mathur stated that silicosis was one of the oldest occupational disease, which progresses even when exposure stops as it is irreversible. According to him, there is no cure of the disease and workplaces which produce crystalline silica dust must be identified in order to eliminate or at least, control this dust. He also highlighted the importance of diagnosis and health surveillance which are essential components of any programme aiming at elimination of silicosis. However, surveillance should be considered as a compliment to control strategies and never as a replacement for primary prevention. He mentioned about the ILO/WHO International Programme on the global elimination of silicosis launched in 1995 and training programme under the Prevention and Control Exchange (PACE) initiative of WHO. A basic document was also prepared by WHO on the subject. He highlighted the plight of tribals who were fighting a losing battle with the disease. According to him, labour laws were being flouted with impunity and workers who contract silicosis are quietly bundled off to their villages. A survey conducted by the Jhabua based Khedut Mazdoor Chetna Sangathan indicated that 128 persons have died and 277 were suffering from silicosis in just 20 villages in three blocks of Jhabua. A report published in a magazine conveyed that several persons working in Andhra Pradesh Mineral Development Corporation in District Mahaboobnagar were suffering from silicosis and 270 persons had already died. He stated that the Commission had taken suo-motu cognizance of this and called for a report from the concerned State Government. He also mentioned about other cases relating to Pondicherry, Jharkhand, M.P., Rajasthan, Haryana as well as Maharashtra which were brought to the notice of the Commission and the Commission had intervened in several of them. He pointed out that under Section 85 (1) (ii), even the contract workers were protected. He stated that the Commission in its meeting held on 1st May, 2008 had formulated a questionnaire consisting of ten questions and on which the Union and State Governments were directed to furnish information. He then invited the representatives of the State/UT Governments to make their presentations especially, with respect to the action taken on the ten point questionnaire as well as the recent recommendations sent by the Commission.

The information conveyed by the representatives of the State/UT Governments in brief is given below:

Andhra Pradesh

Secretary, Labour Employment Training & Factories Deptt., Govt. of Andhra Pradesh stated that they have yet to reply to the questionnaire of NHRC. He stated that they will give a response in one week. No proper survey was conducted earlier and only recently, they have started the process. Joint inspections have been planned by the Industries Department, Mines Department, Labour Department and Health Departments. However, they are paying attention on preventive measures i.e. wetting up the area, providing masks etc. In reply to a question by Shri P.C. Sharma, Member, NHRC seeking details regarding number of mines, quarries in the State and number of times, whether the officials of the Departments of the Industry or Labour had visited the sites, the State representative did not have sufficient information.

Assam

The Additional Chief Inspector of Factories, from Assam stated that no case of silicosis had been detected in Assam till date. The major factories having the potential to cause silicosis in Assam are stone crushing units, silicate factories, glass cutting and toughening factories, brick kilns and cement manufacturing units. The total number of workers employed in these units are 24,212 and Number of female workers were 8,705. Presenting the item-wise action taken report on the recommendations of the NHRC, he stated that dust survey is being carried out in stone crushers, glass cutting units, cement and brick kilns once in a year. Steps are being taken to make it at least twice in a year. All the dust borne factories are instructed for medical examination of workers before entering into the employment and once in a year while in employment. Concerned Inspectors of factories are instructed to check the medical records and health registers during their inspection. Strict inspection and enforcement of various legal provisions by the Inspectors of factories to control the silica dust evolved during operation through engineering control and other measures like use of PPEs, sprinkling of water, ventilation, isolation, substitution and dust control is being carried out. Inspectors of factories along with Industrial hygiene laboratory personnel are monitoring the work environment in dust prone factories for assessing the level of dust created and prevailing in the air to ensure that total dust content in the air does not exceed the level which may cause occupational injury to the workers. Awareness programme has been taken up by the Inspectorate by organizing seminars, training programmes etc. Two state level training and awareness programmes were arranged in the years 2010 and 2011 on identification and prevention of silicosis. Hoardings/banners on silicosis shall be displayed and distribution of leaflets and information brochures on silicosis shall be made in areas

having concentration of dust prone factories, provided financial assistance is made available by the Union Government in response to the application already made.

The State Government is also planning to form Occupational Health & Safety Committee (OHSC) in the Silica prone factories. As part of rehabilitative measures, the issue of payment of treatment cost to the silica affected person including permanent, temporary or contractual workers by the employer would be taken up soon. Steps are also being taken up soon on the rehabilitation of the silica affected workers by offering alternative job or a sustenance pension in case of inability. Appointment of NGOs for provision of appropriate counseling in respect of monitoring and implementation of the programmes initiated for the benefit of silica exposed workers is also being considered. It was also pointed out that at present the Industrial Hygiene Laboratory of the Inspectorate is not equipped with the instrument to determine the silica content in the collected dust sample. The Ministry of Labour, Government of India, has been requested to make arrangement for the procurement of such instrument. It was also requested that necessary steps be taken to bring the stone quarrying process under Factories Act to take care of the workers engaged in stone quarrying from the silica exposure.

Chattisgarh

Deputy Director, Industrial Health & Safety attended the Conference. He stated that there are 4010 registered factories in the State and 2,12,948 workers are employed in these factories. He stated that all the hazardous and silicosis prone factories are regularly inspected by the Inspecting Officers. He also informed that preventive measures like dust control through dust extraction system, ventilation, wet processing, processing in closed chambers have been taken. Workers are provided with dust masks. Annual medical check-ups being conducted by factory management. All workers are made aware of the disease by organizing medical check-up camps. He stated that there is no case of silicosis which has come to the notice of the Department.

Delhi

The State Programme Officer, Delhi represented Delhi and informed about steps taken by the Government of Delhi which include availability of facilities like special clinic at Tajpur near Lal Kuan with facility of X-RAY, ECG, PFT etc., 197 Diagnostic Centres, 590 Treatment Centres including 6 Centres in Lal Kuan Area for TB besides the Centre for Occupational and Environment Health – Conducting Associate Fellow of Industrial Health (AFIH) course and a good network of hospitals. Rehabilitation

strategies include a decision to have a multi purpose Hospital/CHC for the treatment of occupational diseases to be built at Tajpur near Lal Kuan; a medical team consisting of occupational health experts to immediately conduct clinical survey of the affected persons in Lal Kuan area; the Social Welfare Department to coordinate physical survey of the affected people; the Social Welfare Department will also assist for alternative livelihood opportunities for the citizens of Lal Kuan.

Medical assistance includes mobile medical vans now visiting for four days a week. It is distributing free medicines for silicosis and other respiratory and occupational diseases. The building of the hospital/PUHC at Tajpur with X-ray facility needed for the detection of silicosis is almost complete. The survey of the medical team is complete. A short report on the health survey has also been submitted to the Delhi Government. Silicosis Eradication is a State Level Programme. The survey stressed on the need for continued surveillance of the health of the people and a further comprehensive study on the health of Lal Kuan victims. The medical team had identified 44 persons suffering from silicosis/silico-tuberculosis. An expert group was constituted in MAMC under Prof. M. K Daga to further examine/validate these patients and provide medical help/health care. 24 patients out of 44 have been reported to the Expert group for further confirmation. 21 patients were confirmed by the expert group to be suffering from Silicosis in Delhi. This list has been sent to concerned Commissioner under Workman Compensation Act and Chief Inspector of Factories for further action and help to the silicosis victims.

A National workshop on silicosis was organized on 13th-14th January 2011 by DHS Delhi in collaboration with PRASAR (NGO). More than 125 delegates participated in the National Workshop. The objectives of this workshop included to generate awareness in all strata of society for silicosis; to sensitize stakeholders towards plight of silicosis victims. It was represented by Directorate General Factory Advice Services (DGFASLI) and Labour Institutes, GNCT Delhi, Certifying Surgeon, District Nodal Officer, National Human Rights Commission (NHRC), State Government Centre for Budget and Governance Accountability (CBGA) and Centre for Worker's Management (CWM).

Justice Shri B.C. Patel enquired about how many factories in Delhi are running in the organized and unorganized sector. The representative of Delhi while answering the question of the Commission informed that about 12500 registered factories are running in Delhi and most of them are Garment Factories, 20 Metal polishing units. He further stated that medical examination is periodically conducted. Member Shri P.C. Sharma directed the State to send a latest report within 2 months.

The next session was chaired by Member, NHRC Justice Shri B.C. Patel. The session was earmarked for presentations by the NGOs.

Gujarat

The representative of the Government of Gujarat narrated the steps taken by the Government to prevent silicosis. He stated that there were 3 cases reported in the State during 2010.

Member, NHRC Shri P. C. Sharma mentioned that based on the report of District Magistrate, Godhra district and on the basis of the Commission's discussions with the Chief Secretary, a notice was issued to the State Government to pay compensation to the silicosis victims. He also conveyed that it was doubtful if the workers are being paid wages as per Minimum Wages Act.

Member, NHRC Justice Shri G. P. Mathur queried about migrant workers from the State of M.P. to Gujarat. He asked whether they have any details about the migrated labour who contracted this disease while working in Gujarat and went back to their own state i.e. M.P. He also stated that it was the duty of Director, Factories to have such information. The State Government official did not have adequate information.

Haryana

The Deputy Director, Office of DGHS, Haryana stated that they have not conducted any ground level survey on the subject. However, through mobile medical vans Government of Haryana is conducting medical check-ups of workers/labourers of various factories. Till date, no case of silicosis has been reported. Justice Shri G. P. Mathur, however, stated that people from the State had come and reported to the Commission that they have contracted silicosis. Shri Satyabrata Pal, Member, NHRC enquired whether any survey has been done which shows that cases of T.B. are unusually high or not to which he replied in the affirmative. The Members agreed to the assurance of the officer that the State Government would complete a detailed survey within 6 months with a condition that progress report would be sent every two months.

Karnataka

The representative stated that as far as survey of silicosis is concerned, it has been undertaken by the Labour Department but there are no cases of silicosis diagnosed in the State. Health Secretary has issued the instructions to District T.B. Officers to coordinate in conducting surveys. The officer prayed for 10 months time for

carrying out a detailed survey regarding silicosis which was agreed to. Justice Shri B.C. Patel, directed the State to send periodical report. Shri P.C. Sharma stated from now onwards, the Commission will call review meetings of groups of States in batches every two months.

Madhya Pradesh

Principal Secretary, Department of Labour stated that 284 persons had died and 304 were suffering from silicosis and the Commission had given orders in this case for compensation which is under process. He stated that the State Government has requested the Commission to give time upto 31 March, 2011.

Justice Shri G. P. Mathur pointed out about cement factories in Satna and Rewa also. He queried whether the State Government had conducted any survey in these places. He gave directions to the State Government for full survey of the industries. Labour Department asked for three months time to survey the entire areas. Member, NHRC directed that the survey could be done in 6 months but the State should give periodic reports for every two months.

Manipur

Director, Health Services stated that no proper survey had been done in the State. He mentioned that there are no cement factories in the State but 23 registered stone crushers are there. They conduct health melas in each district, three times a year. Mobile vans with all the facilities like x-rays, labs etc. are also put to use. Justice Shri G. P. Mathur directed to hold a proper survey and train the doctors to detect the silicosis. He also directed the State Government Official to send the Commission a report within three months.

Mizoram

Senior Medical Officer representing the State Government stated that no proper survey has been conducted so far but 20 stone crushers are registered in the State. He also stated that there was no case of silicosis. Justice Mathur directed him to conduct a survey and report within three months.

Orissa

Special Resident Commissioner attended the conference. He could not give any details about the silicosis. Member, NHRC directed the State to give a proper reply within three months.

Punjab

State Surveillance Officer, IDSP, D/o Health & Family Welfare stated that there are 721 foundaries, 88 stone crushing industries, 9 ceramic glass factories, 4 cement factories in the State. A total of 12,701 labourers are engaged in these factories. He stated that till date, no case of silicosis has been detected. Director (Research and Medical Education) from Punjab Government stated that they issued instructions to all the medical colleges to report silicosis cases. However, no regular mechanism is existing in the State of Punjab. Member, NHRC Shri P.C. Sharma stated that the Commission had sent a list of persons affected by silicosis to the Punjab Government. But there is no response from the Government. He conveyed that complete information should be made available.

Rajasthan

The representative of the State informed that a DO letter had been sent to all concerned highlighting the need of using protective measures & medical monitoring, like pre-employment medical examination, routine check up every 3 years, pulmonary function test and annual evaluation for TB. Free medical investigations & treatment at all centers near the mining areas are being done. In follow up of the above directives in all the mining affected areas regular medical check up camps are being organized and free symptomatic treatment is provided. In case of suspected pneumoconiosis, the cases are referred to Department of TB and Chest, Medical Department, Rajasthan. Pneumoconiosis Board has been constituted at SMS College, Jaipur for evaluation of disability and compensation. The Board is chaired by Professor and Head, TB and Chest Dept., SMS Medical College, Jaipur. He further stated that there are 19 districts and 33 CHCs which have been identified as silica prone areas in the State. He also stated that compensation has already been paid to the next of kin (NOK) of silicosis victims as directed by the Commission.

Justice Shri B. C. Patel, Member, NHRC enquired whether all the persons working in the factories have been medically examined and how many persons are suffering from T.B. and silicosis.

Shri P. C. Sharma, Member, NHRC wanted to know whether the State responded to the Questionnaire of NHRC. The State Representative stated that the State responded partly to the questionnaire. The State was directed to carry out the detailed examination and submit a report.

Tamil Nadu

Principal Secretary, Department of Labour and Employment represented the State Government. He gave a brief presentation before the Commission. He stated that there are 826 factories and 69,377 workers. The silicosis control measures included rigorous dust control measures like substitution, complete enclosure, isolation, hydroblasting, good house-keeping, personal protective measures and regular physical examination and case management. Possible interventions at the work site itself included engineering control of dust in work sites, training the workers on crystalline silica, respiratory protection program, work clothes, change and wash area, air monitoring program within the campus and medical surveillance. Current situation in Tamil Nadu was that all patients with chest symptoms are screened for tuberculosis under the Revised National Tuberculosis Control Programme and cases identified with silicosis are referred to medical college hospitals for specialized treatment. Inspectors of factories are ensuring the use of personal protective gadgets, medical facilities for the workers in organised sector are given through the company medical facilities or ESI network of dispensaries and hospitals. Workmen compensation is being given by Labour Board. Health facilities available in Tamil Nadu comprises of 1539 Primary Health Centres, 30 District Headquarters Hospitals, 280 Taluk and Non-Taluk hospitals, 18 Medical College hospitals, 191 ESI dispensaries and 11 ESI hospitals.

The proposed activities include formation of inter-sectoral co-ordination committee involving labour, industries, health departments, civil society organizations, labour union representatives, industrialists and other stake holders as well as starting of PG course in occupational health for doctors, engineers working in Government as well as in industries under the Tamil Nadu Dr MGR Medical University.

Tamil Nadu has already taken steps to include cancer as a notifiable disease. Similarly, Tamil Nadu Public Health Act, 1939 will be suitably amended to include silicosis and other major occupational diseases like asbestosis as notifiable diseases and establishment of occupational disease surveillance system. The steps also include formation of Occupational Disease Control Board with mandate including workmen's compensation and rehabilitation, research on engineering measures, use of substitutes, review of the implementation status of schemes for control of occupational health hazards, data base on occupational health hazards and policy formulation. Dr. Balaganesh Kr. representative from Tamil Nadu also informed about the following 3 types of silicosis depending upon exposure:

1. Acute : (0 - 6 years)
2. Accelerated : (10 to 15 years)
3. Chronic : (10 -30 years)

Uttar Pradesh

State T.B. Officer represented the State of UP and stated that no silicosis case has been reported. Justice Shri B.C. Patel directed the State to provide the Action Taken Report. Justice Shri G.P. Mathur questioned whether they have conducted any survey? Hon'ble Member also directed the State to conduct a fresh survey of all districts and not only from 11 districts which was already sent by the State Government. This should be for both organized and unorganized sector. The State prayed for 3 months more time to send the new survey report to the Commission which was granted.

West Bengal

After the State Government Officer gave his presentation, the Commission directed the representative of West Bengal to give action taken report and reply to the questionnaire. Member Shri Satyabrata Pal directed the State that survey to be conducted must be comprehensive covering the unorganized sector also as the surveys should not be selective and cover all industries and all districts.

Presentations given by NGOs

Member NHRC first invited Dr. Ashish, of Shilpi Kendra and Silicosis Peedit Sangh, M.P to give his presentation. According to Dr. Ashish there are around 2000 affected persons in 3 districts of Madhya Pradesh viz., Jhabua, Alirajpur, Dhar. The affected area consists of 71 villages. As far as spread of silicosis in western M.P. is concerned, in 21 villages of Alirajpur district, 489 persons from 218 families were exposed, 424 were dead or found ill in 2007. During 2008, in 40 villages of 3 districts of Jhabua, Alirajpur, Dhar, the number of persons affected increased to 809. In 2010, as per NHRC order in 2 districts, 542 persons were affected (238 dead and 304 ill). In 2010, as per survey of Shilpi Kendra in 3 districts, 1135 persons (749 sick and 386 dead) were affected. The NHRC order has not been implemented by both States of Gujarat and MP and in last 5 months a total 11 silicosis affected persons have died.

Among suggestions, it was stated that Silicosis board of Mandasor pattern should be extended to affected districts of Western M.P. Other suggestions were as under:

- In MP, the status of victims is very poor and ill and, therefore, NHRC recommendation of granting sustenance pension should be implemented.
- All affected persons should be treated as BPL.

- A separate programme specially targeting silicosis victims should be designed which should cover health education as well as livelihood /social security.
- Landless persons should be given land as most persons have taken loan.
- Earlier recommendations made by CPCB and DGFASLI made on behest of NHRC should be implemented.
- Comprehensive strategy to check migration should be designed which can include modifications in the MGNREGA scheme to provide more number of wage days (throughout the year) per family and family members entitled for employment increased.
- Many hazardous factories still working in Godra and Balasinore should be closed.
- State should initiate criminal proceedings against the factories under the provisions of IPC and Factories Act where the labourers have contracted silicosis.
- States should submit ATR every month to NHRC.
- It may also be remembered that once a person has contracted the disease which may be without any symptoms, it progresses even without further exposure to silica. That means a person may not be still in employment when he/she gets the disease. Many contract the disease after leaving work and die in remote villages in oblivion. Surveys are usually done on currently working factory labourers. This reality/problem needs to be kept in view.
- It is also important that it is most easy and cheap to diagnose silicosis. No CT Scan, No MRI, Only Occupational History and chest X-Ray is sufficient. This is as per international standards (ILO) and, therefore, it can be diagnosed at any hospitals having X-ray facility.
- It was also stated that training of doctors is necessary.
- Survey should be divided into two Parts. Survey should be of both, workers and ex-workers.
- Survey of silica producing industry, mines, quarries etc. only should be done. Cement is limestone and not silica.
- For identification of industry producing silicon dust, silica detection equipment should be provided to factory inspectorate.

- Method should involve: 1st Step-Screening of persons who worked in silica dust producing factories and have symptoms like cough-breathlessness. 3 simple questions - (a) Are you breathless? (b) Have you worked in a “high risk industry”- to be defined; (c) Did you have the symptoms before starting work? 2nd Step-Medical examination and chest X-rays by doctor at designated “X-ray” center. 3rd step- Sending of X-rays to expert readers for final opinions.
- Apart from survey of workers, in silica producing factories, quarries etc, survey of ex-workers is needed. Actually tracing ex-workers is tricky job because most workers are casual workers and would not be recorded in factory/mines/quarry records. One method could be survey of areas where silicosis have been reported and also of the households of village in which existing workers and ex-workers live.
- DGFASLI should give standard questionnaire to all States. This should include name, address etc, work history- worked/is working in identified industries, duration of work, hours of work each day, type of work done, level of dust exposure, wages received, symptoms related to chest, wasting, weight loss, etc, record of employment.

Justice Shri B.C. Patel then asked Shri S.A. Azad of PRASAR to give the next presentation. The presentation highlighted the following:

- No compensation given in several cases of silicosis in Andhra Pradesh, Chhattisgarh, Haryana and M.P.
- Need to differentiate between relief and compensation.
- NHRC should constitute a team to check on the nil report given by States.
- There is need to impose penalties on negligence shown by employers/officials.
- A national registry should be set up at Centre and State level for filing cases.
- There should be a tripartite board at Centre and State level.
- TB should be included as occupational disease.
- We should take it up as a public health issue and it should be taken up at national level.
- Make a national task force for addressing all aspects of silicosis.
- Make a national data bank of all silicosis cases.

- Review of Factories Act, 1948, Contract Labour (Regulation and Abolition) Act 1970 and the Mines Act, 1952.
- Levy a cess on the mine owners and quarry owners to create a corpus to be spent on welfare and compensation.

The next presentation was given by Shri Jagdish Patel of Peoples Training & Research Centre, Vadodara, Gujarat. He conveyed the following:

- NHRC recommendations regarding silicosis are a good start. It should lead to serious debate.
- NHRC recommendations need to be further developed. Particularly, they should suggest changes in legal provisions.
- It may be further recommended to the Govt. of India to ratify ILO Convention no. 155 or 177 for the home based workers. That may resolve some of our problems.
- These recommendations, after amendments, should serve as National program for elimination of silicosis. Program should be time bound and have success indicators.
- Government of Gujarat issued notification in November, 2008 to the effect that even if one worker is employed, Factory Act will be applicable. This action needs rethink as it is not practical.
- No action has been taken by Government to identify units and cover them under Factory Act yet.
- Implementation of NHRC order backed by order of the Supreme Court is awaited to pay compensation to 238 confirmed cases of death.
- Govt. of MP has done some relocation of industry from residential area to industrial area successfully. This may be replicated elsewhere.
- No effort is made by Govt. of Gujarat for rehabilitation or give relief to the victims. Workers cannot feed their families, let alone their treatment. It is an extremely serious situation.
- ESIC is biggest scheme for social security where workers and employers give major contribution. It is mandatory in notified areas. Godhra is notified area. Selected workers were registered under the Act but were not issued identity card under the Act nor under Factory Act. The numbers of days worked also

were shown less so as to save on the amount of contribution. ESI accepted only 4 cases after lot of pressure. Rest were denied on the excuse that they did not work for mandatory 6 months. In 1992, ESIC resolved to say that work for lesser period also can be entertained but local officers are adamant. High level intervention is required.

- ESIC have no standards to assess disability and panel members decide arbitrarily.
- Gujarat High Court has passed order to the effect that all cases of Silicosis be given 100% disability. ESIC should resolve to make it rule.

The presentation particularly focused on the problems of workers in Gujarat. It was also highlighted that in unorganized sector in Gujarat, the situation was as under:

- No legal protection available.
- Affected families live in extreme penury. They go hungry. Some philanthropic organizations extend some help which is inadequate. Widows, children, elderly get no relief. There is no welfare program, no compensation, no insurance.

In the organized sector, the situation is as under:

- ESI & Factory Act is applicable but situation is still not satisfactory.
- No exemplary punishment to the violators who caused hundreds of deaths.
- Affected families from ST community have received no relief, no compensation. They are compelled to sell land etc.
- The efforts made by the organisation were also highlighted. It was also stated that the provision of notification is in force for last 60 years but has not given results. Now, we must seriously think of workers not covered by Factory Act. We should also make it mandatory to measure dust levels every 8 hours. Further, there is need to make compulsory to appoint Industrial Hygienists. All state Factory Inspectorate should have at least one Industrial Hygiene Expert. ESI Act is applicable to units employing less than 10 in Mandsaur. This should be extended to whole of India. All civil hospitals should have OPD for occupational diseases. All states should have Rules on the line of Rajasthan Silicosis Rules. Notification to cover units employing 1 worker is not practical and we need to evolve some other. Disability assessment standards need to be developed.

Some of the limitations stated included:

- When victim does not have adequate financial resources to pay fees to the lawyer, she/he refrain from taking up legal battle. This is particularly true for higher courts.
- At lower level, it is difficult to find competent and experienced lawyer to take up the cause. Recently, after 8 years, MAT dismissed the petition of 30 petitioners because the lawyer made some mistake.
- Legal system is very slow and by the time the case comes for hearing the litigant dies. Since in case of Silicosis life expectancy, after diagnosis is very low, system should offer faster justice.
- As regards ESI Act, it is based upon whether one in insurable employment when diagnosed? If no, not eligible. This may be true for accident but not for disease. This needs change.
- The ESI and Employees Compensation Act, 1948 require continuous employment in respective employment for 6 month or as stipulated by the law. 1992 resolution by ESIC has tried to give some relief but wordings are either not clear or misinterpreted by the ESIC officials. No benefit is given under this resolution.
- When a victim suffering from Occupational Disease dies, ESIC is to be notified before last rites are performed to ascertain cause of death. They also want post mortem to be done. It is difficult for the people from poor strata of the society to follow the process involving police. Also, it is not in line with the culture to keep the body for long time before funeral. This stipulation, therefore, requires change.
- Moreover, a worker may not have required legal documents to support his employment like identity card or attendance card or pay slip as well as length of exposure, when he is out of employment. This stipulation, therefore, requires change.
- In home based and other unorganized sector workers, since employer-employee relationship is not well established, it becomes difficult to locate the person from whom compensation may be claimed.
- Lack of diagnosis (they do not even suspect) by the doctor on paper is an important hindrance in any further action. Government as well as private practitioners thinks that they do not have legal 'power' to write on paper what

they suspect or what they have diagnosed. In some cases, there is conflict of interest and the doctors choose to be loyal to the employer rather than their profession.

- History of exposure is an important element in diagnosis. Dose of exposure is not known which may determine the expected response. Facilities for specific tests to confirm are also not available. Moreover, knowledge of the doctor on occupational illnesses is poor. There is also, no referral service available in most cases.
- Reliable data is absent. The data available is spread with DISH, ESIS and ESIC, NIOH, Health Department and voluntary agencies. There is need to centralize the data available with them. Data needs to be collected on number of workers in different occupations, number of workers exposed, list and number of workers affected, list and number of workers who have died and number of citizens (community) exposed. After base data collected, the data need to be updated continuously. There is also need to have detailed information on the type of work of the exposed workers, length of exposure, concentration of exposure, total and respirable dust, silica content, age and gender of the workers need to be collected. Map of affected areas may also be drawn and future projections should be made

The next presentation by Shri Samit Kumar Carr, Secretary General, Occupational Safety & Health Association of Jharkhand (*OSHAI*) conveyed the following:

- Jharkhand is a mineral bearing State in India.
- History of mining and processing of metallic and non-metallic minerals are 300 years old.
- More than 15,000 mines of different minerals, coal, copper, iron, quartz, granite, bauxite and uranium and several thousand related industries are currently operational.
- 10,000 - 12,000 stone crushers, 45-50 ramming mass units, 192 iron ore crushers and 50 sponge iron units are there.
- Several thousand-construction sites are there.
- 77 types of production (including construction) units are identified for silica dust emission at workplace.
- Many of these units come under the unorganized sector- in rural and industrial areas of urban localities.

- A conservative estimate shows that 25-30 lakh workers of Jharkhand are affected due to silicosis.
- Pneumoconiosis is preventable and incurable. Many silicosis victims are diagnosed as TB patients and there is no proper policy to prevent these occupational diseases.

Some facts highlighted regarding the situation of silicosis in Jharkhand were:

- K K Minerals started in 1998 and run without NOC from JSPCB till 2010. There are many more units like this. 29 workers expired from 2002 to 2010 and several hundred workers are ailing. Average life span of workers of this unit is 33 yrs, prevalence is 100% among the workers engaged as operators in crushing, disintegrating, sieving, packaging, loading & unloading for 1 year to 7 years. No health care was provided to them as per Rules. No dust collector was run and no proper safety measures were provided for the occupational safety & health of the workers. No compensation is provided to the kin of the deceased workers as per Rules and no rehabilitation is made available to the silicosis victims. District Commissioner, East Singhbhum never exercised his power to inspect the polluted sites. No proper action was taken by the concerned Government Departments as per the Rules even after being notified by the Civil Surgeon, East Singhbhum in 2005. Silicosis victims belong to ST, SC, OBC and Minority Communities in Jharkhand. No workers were/are provided gate passes, minimum wages set for industry and mines, PF, other facilities as per the Rules. 2 workers expired in January 2011 and 42 silica dust affected workers are identified, some of them from closed unit and others are from the running units of sister concern of same company. 3 out of 30 were chosen randomly for X-Ray.
- A group of Jharkhand Government's doctors identified 8 silicosis cases in Jharkhand in 2005 and the same was notified to Deputy Commissioner, East Singhbhum but no action was taken,
- Most doctors diagnosed the silicosis patients as cases of TB, Bronchitis, and issued one line of statement of not having a single case of silicosis in their district, but some of them later accepted that they did not carry out any health survey on silicosis.
- Planning Commission formed working groups for 10th and 11th 5-year plans and a report on Occupational Safety and Health (OSH) Board are hosted in the

DGFASLI's website. When OSHAJ expressed willingness to be part of said board, the reply was that no such legislation was made till then to form OSH Board. Death due to mishaps in industry and mines and suffering and death due to different form of pneumoconiosis has become rampant in mining areas of Jharkhand.

- There is non-implementation of Factory Act 1948, Mining Act 1952 and The Workmen Compensation Act 1923 in Jharkhand.
- Denial of the fact of persistence of cases of silicosis in Jharkhand viz. the report Ref. No 225 (III) dt 30.04.2008 submitted to NHRC on 1st May 2008.
- False, misleading, contradictory information are being provided to applicants on aforesaid report through RTI process that started in June 2008. Longest RTI process in Jharkhand is going on till today.
- Inputs provided in State Government's affidavit submitted to NHRC is baseless, incorrect, contradictory, irrelevant and was prepared violating the set norms of government protocol
- Not a single case of silicosis is referred to Regional Occupational Health Centre, Kolkata (Regional Centre of NIOH, Govt. of India).
- No response from the Government till end of 2010 to conduct investigation by the NIOH, ROHC, Kolkata, ITRC, Lucknow setting up of ODDC (Occupational Disease Diagnosis Centre) at ESI and Government Hospital and form a committee.

Some positive developments informed were as under:

- The Directorate General Health Services, Government of India has requested to Secretary, Health, Jharkhand Government & Mission Director and National Rural Health Mission to take appropriate action referring to the organizations concrete petition to identify and eliminate silicosis from Jharkhand.
- The office of the Chief Minister of Jharkhand has endorsed the Action Plan on silicosis Identification & Elimination Plan (prepared by OSHAJ) to Secretary Health Education & Family Welfare to take necessary steps.
- A five member separate cell named "Occupational Health Hazards Control Cell" is formed under NRHM. A pilot project in one or two district may be implemented in Jharkhand on identification and elimination of Silicosis for which Occupational Disease Diagnosis Centre is suggested to be set up in East Singhbhum.

Some recommendations given were as under:

- A joint Government committee should be formed under the Chief Secretary of Jharkhand comprising Health, Labour and Environment department of Jharkhand for continuing pneumoconiosis elimination program smoothly.
- Occupational Safety & Health Board should be formed
- Functioning of separate cell under NRHM/State Health Department should be started.
- Introduction of special courses of “Environment & Occupational Health” for the Junior Doctors and interns should be initiated by the State Government
- Immediate recruitment of certified surgeons, radiologists and chest specialists and their capacity building & training arrangement to be made for the doctors on dust diseases as per WHO & ILO standard.
- State Government must have a legislation to appoint certified surgeons mandatory by the polluting units or group of small units to certify the cases of dust diseases as and when required.
- Develop link with the Regional Occupational Health Centre Kolkata.
- Preparation of statewide inventory of hazardous units and dust affected persons and medical surveillances for the affected persons.
- A monitoring committee should be formed comprising public representatives IMA, NGOs, CBOs, Trade Unions and Human Rights groups.
- Setting up of the Occupational Disease Diagnosis Centre (ODDC) at district level ESI, Government hospitals and NRHM centers at different location.
- Collaborate with the NGOs and labour support group to start and run ODDC.

In the next presentation made by Mine Labour Protection Campaign (MLPC), Rajasthan, Shri Rana Sengupta stated the following:

- Health camps and legal camps organized by MLPC apart from its outreach campaign.
- Rs. 1 lakh interim relief for next of kin (NoK) of 21 victims in Jodhpur.
- There is need for stronger collaboration, more timely action involving quicker diagnosis and health check ups.

The next session was chaired by Hon'ble Member, Shri P.C. Sharma during which organizations coming under the Ministry of Labour & Employment and M/o Health & family welfare were called upon to give their presentations.

Presentations given by organizations coming under the Ministry of Labour & Employment and M/o Health & family welfare:

A short film on silicosis was shown by Directorate General Factory Advice Service and Labour Institutes (DGFASLI), Mumbai. This film highlighted the plight of the workers suffering from the lethal disease and the problems faced by their families. In their presentation, the following aspects were covered:

- Main activities of the organization.
- Important aspects of Factories Act, 1948.
- Action plan on the recommendations of NHRC on silicosis including amendments to the Schedule XIII of MFR 120, approaching NIOH for obtaining the dust control devices samples for evaluation, suitability etc., publicity campaign, etc.

DG FASLI, Ministry of Labour and Employment, stated that he has written to all the State Governments to report the silicosis cases. They have given Nil report in the last three years. He stated that a Medical practitioner under Section 89 should report to the Chief Inspectors of the Factories. He suggested conducting awareness programmes for medical practitioners to diagnose silicosis.

He requested the State Government representatives if the doctors are not able to diagnose whether it is a case of silicosis or tuberculosis they can send the x-rays reports/x-rays to their office. They will diagnose the case and send the report immediately.

Dr. Waghle stated that if all the workers migrating from one State to other State could be given identity cards through Central Monitoring System it will be easier for the treating doctors to get the history of the work place, their exposure to the silica dust, working conditions and health conditions of the workers.

Dr D. Behera, Director, LRS Institute of Tuberculosis and Respiratory Diseases, New Delhi representing the Ministry of Health & Family welfare in his presentation highlighted the following:

➤ Three types of silicosis:

- Simple chronic silicosis from long-term exposure (10-20 years) to low amounts of silica dust. Nodules of chronic inflammation and scarring, provoked by the silica dust, form in the lungs and chest lymph nodes. Patients often asymptomatic, seen for other reasons.
- Accelerated silicosis: Silicosis that develops 5-10 years after first exposure to higher concentrations of silica dust. Symptoms and x-ray findings are similar to chronic simple silicosis, but occur earlier and tend to progress more rapidly. Patients with accelerated silicosis are at greater risk for complicated disease, including progressive massive fibrosis (PMF).
- Acute silicosis from short-term exposure to very large amounts of silica dust. The lungs become very inflamed, causing severe shortness of breath and low blood oxygen level killed hundreds of workers during Hawk's Nest Tunnel construction early 1930s.

➤ **Diagnosis of silicosis involves:**

- Abnormal chest X-ray (or chest CT scan) consistent with silicosis.
- History of *significant* exposure to silica dust.
- Medical evaluation to exclude other possible causes of abnormal chest x-ray.
- Pulmonary function tests are helpful to gauge severity of impairment, but NOT for diagnosis.
- Lung biopsy rarely indicated (since no effective treatment, biopsy is done only when other diagnoses are being considered).
- Silicosis can mimic:
 - Sarcoidosis (benign inflammation of unknown cause).
 - Idiopathic pulmonary fibrosis (lung scarring of unknown cause).
 - Lung cancer.
 - Several other lung conditions (chronic infection, collagen-vascular disease, etc.).
- Can usually make right diagnosis with detailed history (occupational & medical) or, rarely, a lung biopsy.

- Silicosis associated risks:
 - Tuberculosis.
 - Atypical Mycobacteria.
 - Fungal infections.
 - Bronchitis/Emphysema.
 - Pneumothorax.
 - lung cancer.
 - Degree of increased risk is highly variable; depends on several other factors, including immune system & exposure history (for TB), and amount of lung scarring, age & smoking history (for cancer).
- Silicosis Management :
 - No specific treatment.
 - Prevention/Early diagnosis.
 - Symptomatic/Supportive.
 - Infections (TB etc).
 - Respiratory Failure.
 - Rehabilitation.
- Silicosis Screening through:
 - Mass awareness (Organized/Unorganized Sector).
 - Occupational history.
 - Symptoms.
 - Pulmonary Function Test.
 - Chest Radiology.
 - Medical curriculum – MCI.
 - RNTCP- Special risk group.
- Silicosis prevention through:
 - Engineering Control of Dust.
 - Training on crystalline silica.
 - Respiratory protection program.
 - Work clothes, change and wash area.
 - Air monitoring program.

- Medical surveillance.
- Housekeeping and Regulated Areas.
- Recordkeeping.

The next presentation was made by Dr. Umesh Chandra Ojha from ESIC Hospital, Basaidarapur, New Delhi. He explained the activities of the ESI Corporation and the ESI scheme. He underlined the occupations which are at risk of contracting silicosis like quarrying, drilling, tunneling, abrasive blasting, stone cutters, pottery cutters etc. He also mentioned about the forms of silicosis as under:

- i) Chronic Silicosis – latency of 10 to 15 years after exposure.
- ii) Accelerated silicosis – 5 to 10 years after exposure.
- iii) Either of these may be simple or complicated pneumoconiosis.
- iv) Acute silicosis – months to 5 years.

According to him, acute, chronic and accelerated silicosis may overlap in the same individual, patient or worker at the time of diagnosis. Silicosis is difficult to prevent since it is ubiquitous and it takes only a small chronic exposure to cause disease. He further stated that the dust control is the secret or the vaccine for controlling or eliminating acute and accelerated silicosis. Systemic steroids have been used and lung transplantation can also be considered. He explained the definition of occupational disease and that the ESI Corporation has set up five zonal occupational disease centres with a view to providing facilities for early detection and diagnosis of occupational diseases among ESI beneficiaries. He stressed upon deterrence and prevention and stated that monitoring of air quality and dust concentration in the workplace is essential to prevent silicosis and other pneumoconiosis. He emphasized that over the past four decades, the number of people dying with silicosis in the United States has declined dramatically because of improved workplace protection, but it still accounts for potential life lost before age 65 years. Limiting exposure to harmful dusts can be achieved further by suppressing dust generation, filtering or capturing dust particles, diluting the concentration with fresh air, and using personal protective respiratory equipment as further possible means of the preventing silicosis.

Another presentation was given by Dr. Nag, Director, NIOH. He has stated that his organization can provide some publicity material to educate the employers/ labourers. He said that there are 101 illustrations in different languages to see how we can manage the disease. Further, according to him, a diagnostic manual, narrating how silicosis can be diagnosed and what are the characteristics of the disease along with several examples is available with the NIOH.

He stated that there is no data available today about the silicosis cases. He suggested all the State Governments to send the cases of silicosis to the NIOH for better approach for awarding compensation.

In the end, the proceedings of the day-long National Conference were summed up in brief by Joint Secretary (Trg.). He also thanked the Hon'ble Chairperson and Members, NHRC as well as all the participants representing the concerned Central Government Ministries, State/UT Governments and NGOs.

Recommendations of the National conference on Silicosis

The important decisions and suggestions emanating from the Conference are listed below:

- All State Government should complete a detailed survey of the industries within 6 months, unless specific period indicated by the Commission as in case of some States.
- The Commission to call review meetings of concerned officials of few States in batches every two months.
- Silica detection equipment should be provided to factory inspectorate to identify industries producing silica.
- Survey should be divided into two parts. Apart from survey of workers, in silica producing factories, quarries etc, survey of ex-workers is needed.
- Silicosis Board of Mandasor pattern should be extended to affected districts of all States.
- Need to differentiate between relief and compensation.
- In MP, the status of victims is very poor and ill and, therefore, NHRC recommendation of granting sustenance pension should be implemented early.
- All affected persons should be treated as BPL.
- Separate programme specially targeting silicosis victims should be designed which should cover health education as well as livelihood/social security.
- Earlier recommendations made by The Central Pollution Control Board (CPCB) and DGFASLI made on behest of NHRC should be implemented.
- When a victim suffering from Occupational Disease dies, ESIC is to be notified before last rites are performed to ascertain cause of death. They

also want post mortem to be done. It is difficult for the people from poor strata of the society to follow the process involving police. Also, it is not in line with the culture to keep the body for long time before funeral. This stipulation, therefore, requires change.

- Method of diagnosis should involve: 1st Step-Screening of persons who worked in silica dust producing factories and have symptoms like cough-breathlessness. 3 simple questions - (a) Are you breathless? (b) Have you worked in a "high risk industry"- to be defined; (c) Did you have the symptoms before starting work? 2nd Step-Medical examination and chest X-rays by doctor at designated "X-ray" center. 3rd step- Sending of X-rays to expert readers for final opinions.
- Comprehensive strategy to check migration should be designed which can include modifications in the MGNREGA scheme to provide more number of wage days.
- Many hazardous factories are still working, they should be closed.
- State should initiate criminal proceedings against the factories under the provisions of IPC and Factories Act where the labourers have contracted silicosis.
- DGFASLI should give standard questionnaire to all States. This should include name, address etc, work history- worked/is working in identified industries, duration of work, hours of work each day, type of work done, level of dust exposure, wages received, symptoms related to chest, wasting, weight loss, record of employment etc.
- Silicosis is a public health issue and it should be taken up at national level.
- Govt. of MP has done some relocation of industry from residential area to industrial area successfully. This may be replicated elsewhere.
- Gujarat High Court has passed order to the effect that all cases of Silicosis be given 100% disability. ESIC should resolve to make it a rule.
- All State Factory Inspectorate should have at least one Industrial Hygiene Expert.
- ESI Act is applicable to units employing less than 10 in Mandsaur. This should be extended to whole of India.
- All civil hospitals should have OPD for occupational diseases.

- Moreover, a worker may not have required legal documents to support his employment like identity card or attendance card or pay slip as well as length of exposure, when he is out of employment. This stipulation, therefore, requires change.
- Functioning of separate cell under NRHM/State health department should be started.
- Introduction of special courses of “Environment & Occupational Health” for the Junior Doctors and interns which has to be initiated by the State Government
- Immediate recruitment of certified surgeons, radiologists and chest specialists and their capacity building & training arrangement to be made on dust diseases as per WHO & ILO standard.
- Setting up of the Occupational Disease Diagnosis Centre (ODDC) at district level ESI, Government hospitals and NRHM centers at different location.
- Limiting exposure to harmful dusts can be achieved further by suppressing dust generation, filtering or capturing dust particles, diluting the concentration with fresh air, and using personal protective respiratory equipment as further possible means of the preventing silicosis.
- All the workers migrating from one State to other state could be given identity cards to make it easier for the treating doctors to get the history of the work place, their exposure to the silica dust, working conditions and health conditions of the workers.

REVIEW MEETING OF WESTERN REGION ON SILICOSIS

A Review Meeting on Silicosis was convened in the National Human Rights Commission, New Delhi on 10 June 2011 as a follow-up to the recommendations made in the National Conference on Silicosis organized by the Commission on 1 March 2011. The Review Meeting was chaired by Shri P.C.Sharma, Member, NHRC. It was attended by State officials and representatives of Non-governmental organizations from the States of Gujarat, Madhya Pradesh, Rajasthan and NCT of Delhi; and DGFASLI, Mumbai. There was no representation from the State of Haryana.

Inaugural Remarks

At the outset, Shri P.C.Sharma, Member, NHRC, while extending a very warm welcome to all the participants highlighted the plight of victims affected by silicosis and the consequences faced by their families as majority of them were poor migrants from other States and worked as contractual labourers in the unorganized sector. Being illiterate, they were unaware of their rights including social security benefits to which they were entitled to from their employers. This not only endangered their right to health but their very right to life which is a basic human right. He added that silicosis being a notified disease, it is the duty of the employers to fulfill their obligations under the existing labour legislations and the State functionaries were equally responsible for ensuring proper implementation of these laws for protection of workers employed in hazardous industries. He further stated that there was enormous lack of awareness both among the medical fraternity and the general masses about the warning signs of silicosis disease in comparison to other deadly diseases like HIV/AIDS and cancer. He narrated the predicament of tribal workers of Madhya Pradesh which was brought to the notice of the Commission. These workers had contracted silicosis while working in the factories of Gujarat. Taking

cognizance of the matter, the NHRC recommended to the Government of Gujarat that a compensation of Rs. 3 lakhs each be paid to the next of kin of all the deceased by the State and a rehabilitation package be given by the Government of Madhya Pradesh to all those affected by silicosis.

Shri P.C. Sharma also appreciated the efforts of the Chief Minister of Rajasthan for earmarking a fund of Rs. 25.60 crore for medical and other facilities for stone quarry workers. This was a pioneering step in the country for the cause of poor people suffering from silicosis. The State Government, furthermore, had constituted a Committee under the chairmanship of its Principal Secretary (Mines) to ensure that effective measures are taken to deal with the problem.

Shri Sharma then called upon the concerned State officials of Madhya Pradesh, Rajasthan and Gujarat to give an update about the action taken by them on the recommendations/suggestions which emanated out of the National Conference on Silicosis that was organized by the NHRC on 1 March 2011.

Madhya Pradesh

The Principal Secretary, Department of Labour, Government of Madhya Pradesh informed that the State Government was drafting a Bill to provide respite to all those working in hazardous occupations, in particular, relating to dust. The State Health Commissioner present in the meeting stated that as per the recommendations made by the NHRC, the State Department of Health had begun the survey work which was earlier taken care of by the State Labour Department. He mentioned that out of a total of 50 Districts in the State, 16 Districts had so far been surveyed. The State has not come across any case of silicosis in 10 Districts. However, in 4 Districts, a few new cases of silicosis have been detected, especially in the tribal population of Mandsaur, Jhabua, Alirajpur and Dhar. The State has decided to provide free medicines to all those ailing from silicosis. Other than this, the Government of Madhya Pradesh had launched the Deen Dayal Antyoday Upchaar Yojana to provide free treatment and investigation facilities to underprivileged section of the society so that they are safeguarded from indebtedness arising from any kind of illness.

The Health Commissioner further informed that as pointed out by the NHRC in its last meeting held on 1 March 2011, the cement industries functioning in Satna and Rewa Districts of Madhya Pradesh had been surveyed by the State Health officials but they did not come across any case of silicosis therein. According to the two officials representing the State, the Government of Madhya Pradesh would complete the survey work in all the industries in two months time.

The present State officials were told by the Member, NHRC, to find out during the course of their survey and report back to the NHRC the kind of screening tests being carried out by the employers of various industries for detection of silicosis cases as well as the type of special measures being taken by them in suspected cases of silicosis. Not only this, they were asked to report whether the employers of various industries were maintaining a proper register or not for purposes of recording the daily attendance of workers, salary paid to each worker, overall leave given to each worker including medical leave, the steps being taken by the State for violation of labour laws by the erring employers and whether any kind of insurance cover is being given to the workers by their employers.

It was pointed out by the Secretary General of the NHRC that the Government of Madhya Pradesh should work in close coordination with its neighbouring States where the migrant labourers went for work and contracted silicosis. He further was of the opinion that the Bill being drafted by the State of Madhya Pradesh should have a provision for giving of financial assistance to the victims of silicosis as well as their family members when the victim dies.

An intervention was also made by the representative of PRASAR, New Delhi pointing to the fact that there is no need for the Government of Madhya Pradesh to draft a new Act as the provisions of the Factories Act, 1948 and its Rules covers everything. The need of the hour is to ensure that the Factories Act and its Rules are implemented in right earnest. This was also supported by the Director of DGFASLI, Mumbai. Prior to this, it was pointed out by the representative of Shilpi Kendra in Indore, Madhya Pradesh that no action had been taken despite directions given by the NHRC that a sum of Rs. 3 lakhs each be given to the next of kin of 238 deceased migrant workers of Madhya Pradesh by the State Government of Gujarat. Similarly, very little action had been taken by the State officials with regard to NHRC direction concerning the rehabilitation package to be given by the Government of Madhya Pradesh to 304 persons affected by silicosis. Another representative from Shilpi Kendra mentioned that the State was not giving any medicine free of cost to those ailing from silicosis. Besides, a direction should be given by the State to declare such families as Below Poverty Line (BPL) where any person is affected with silicosis or where a person has died on account of silicosis. He also insisted to share the list of beneficiaries to whom the rehabilitation package has been given by the State Government. The Principal Secretary and the Health Commissioner gave an assurance that the State would look into all these issues and also resolve it.

With regard to the intervention made by an NGO representative relating to sharing the list of beneficiaries, it was suggested by the Secretary General, NHRC that all the data pertaining to silicosis that is being derived from the survey as well as the rehabilitation measures along with the list of beneficiaries needs to be brought into the public domain and this could easily be achieved by posting all the information on the State website. Likewise, the Act being drafted by the State also needs to be posted on the State website. All this would lead to transparency in the system.

Ministry of Labour and Employment

The Director, Ministry of Labour and Employment, Government of India informed that the Ministry is bringing out a scheme on silicosis in the Twelfth Five Year Plan. The objective of scheme is to identify and eliminate silicosis.

Rajasthan

The Principal Secretary, Department of Mines and Petroleum, Government of Rajasthan informed that as per directions given by the NHRC, the State Government has paid rupees one lakh each to the next of kin of 21 persons who had died on account of silicosis. The State has furthermore created an 83 crore fund under the overall supervision of Additional Chief Secretary (Finance) for the well-being of silicosis patients and their families. In the current Plan as well, a large sum has been kept aside for medical and other needs of silicosis victims. Moreover, it has been decided by the State to upgrade medical facilities in all Community Health Centres so that immediate medical facilities are provided for diagnosis and treatment of silicosis. This exercise, he stated, has already been undertaken in 19 Districts of the State. The Rajasthan State Pollution Control Board has also been involved for prevention of silicosis. The State is in the process of coordinating with few non-governmental organizations who can work on the issue of silicosis at the ground level.

It was told by the Labour Commissioner, Government of Rajasthan that the State is promoting wet drilling in mines and stone quarries along with the usage of masks by workers in all hazardous industries. The State, she added, had also begun its survey work and currently is looking into the issue whether BPL status needs to be extended to families where a person is suffering from silicosis or has died due to silicosis.

It was next stated by the representatives of Mine Labour Protection Campaign, an NGO based in Jodhpur and New Delhi that as suggested by the Secretary General of the NHRC, the details of all the districts surveyed by the Labour Commissioner should be posted on the State website. They also brought to the notice of the Commission,

987 cases of silicosis which they had found in Jodhpur Hospital and requested the Commission to look into the same.

Member, NHRC, requested the representatives of Mine Labour Protection Campaign to hand over the list of 987 cases to the two State Officials of Rajasthan so that the matter could be examined by them instantaneously.

Gujarat

The Additional Labour Commissioner of Gujarat and his team comprising Director (Safety & Health); Joint Director (Labour); and Environment Engineer, Gujarat State Pollution Control Board informed that the State Government has decided to provide financial assistance to the victims and their families for seeking and enforcing compensation by employers from courts. The State had identified vulnerable districts under the 1948 Factories Act, such as, Kheda, Anand, and Panchmahal and so far only three persons have been identified who are suffering from silicosis. All the three have been referred to ESI.

It was brought to the notice of NHRC by the representative of Shilpi Kendra in Indore that the glass and gemstone cutting industries based in the State of Gujarat were responsible for many deaths and the State Government should initiate proceedings against all the offending employers. The representative from the People Team and Research Centre in Vadodara stated that he had sent a list of 54 confirmed cases of silicosis to NHRC on which decision was pending. It was, therefore, surprising to know that the State officials had only identified 3 cases of silicosis.

It was pointed out by Member, NHRC to the team of officers present that while considering cases of silicosis the Government of Gujarat should follow a human rights approach and not a litigational recourse. The State should thus take up the responsibility of paying compensation to the families of those who were employed in the State and had died on account of silicosis. It was emphatically stated by him that in case the State officials failed to pay financial relief, the matter would be brought to the notice of the Supreme Court. Further, in order to know the correct status of silicosis in the State, as recommended by the NHRC from time to time, the Government of Gujarat should complete their detailed survey of industries within the stipulated time frame. It should also concentrate on the medical treatment of all those suffering from silicosis and concurrently provide financial assistance to victims of silicosis as well as to their families.

Concluding Remarks

At the end of the meeting, Shri P.C.Sharma, Member, NHRC made an appeal to everyone present that wherever people were found to be suffering from silicosis in the country, the concerned State Government should own up the responsibility and take required measures for them and their families.

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REVIEW MEETING OF SOUTHERN REGION ON SILICOSIS

A meeting was chaired by Hon'ble Member, Shri P.C. Sharma in Bangalore on 18 November, 2011, in which a review of the action taken by the Southern States in the matter of Silicosis on the recommendations made by NHRC and circulated on 31.12.2010 was undertaken. This was pursuant to the decision taken in the National Conference on Silicosis held at New Delhi on 1 March, 2011.

At the outset, Member, NHRC in his address stressed upon the need for identification of hazardous industries and mapping them for silica generation. According to him, silicosis is one of the most dreaded diseases which is irreversible once it sets in. He highlighted the apathy shown by employers towards the poor people working for the development of the country. He emphasized that there is need to provide for preventive measures against this disease in the industries prone to silica generation. According to him, there was utmost need for regular medical health check up of the workers to detect the incidence of the disease at an early stage. There was also need to ensure that the State Governments provide adequate compensation to the workers and their families who have been affected by the disease and that this should be ensured irrespective of whether they belong to organized or unorganized sectors. The Member lamented the fact that the information sent by State Government on the questionnaire circulated by NHRC earlier in 2008 was patchy and sometimes even vague. It was generally observed that there is reluctance on the part of the State Governments to acknowledge the existence of silicosis among workers. They cannot shirk responsibility in this way and under the pretext that the workers are not belonging to the organized sector. According to him, the NHRC is extremely serious regarding this matter and in accordance with the Protection of Human Rights Act, 1993 has submitted a special report on the subject to the Parliament to draw its attention for the need to bring about necessary legislative changes and take other actions.

Andhra Pradesh

The officers of the Andhra Pradesh Government informed that a baseline survey has been carried out, in which 1,961 industries have been covered and a total of 27,800 persons have been screened. The next step would involve x-ray examination to be carried out on the persons suspected to be having the problems. It was also informed that the inter-sectoral synergy has been established between ESI, District Hospitals, NGOs and the Government and there were three Medical Inspectors for the entire State.

Member, NHRC desired to know about specific cases of how many persons suffering from silicosis have been identified by the State Government. He also stated that the information should not be restricted only to public sector industries but also private sector. He also wanted to know regarding the funds which have been set apart and the relief which has been provided. He emphasized on the need for the labour to get minimum wages especially in the industries where contractors are involved in engaging labour.

The Principal Secretary, Labour from the Government of A.P. assured that the entire information is being collected and the final report would be ready by 23 December, 2011. The final report will be submitted to NHRC by 31 December, 2011. He also informed that a pilot study was being carried out in the Ranga Reddy District as part of this survey.

Karnataka

As regards the situation in Karnataka, the Secretary, Labour informed that there are 13,500 registered factories out of which 200 are silicosis prone. Nearly 20,000 workmen are exposed. The industries classified are foundries, stone crushers, ore beneficiation plants, glass manufacturing. The State Government has not so far received any case of silicosis affected information either for compensation/rehabilitation or as a notification. The ESI Corporation representative mentioned that there are 04 reported cases of silicosis which dates back to almost 20 -25 years. He also mentioned that the compensation is being paid to the affected. He gave an account of 02 cases reported from a glass manufacturing industry in Bengaluru and 02 cases from Hutti gold mines, Chitradurga. The State Government has identified

05 Districts of the State to be silicosis prone, they are districts of Belgaum, Bellary, Koppal, Chitradurga and Shimogha.

It was also informed that 150 industries are likely to be covered in the survey which is being carried out by the State Government and in which a NGO is also involved. The preliminary report of this survey will be ready by January, 2012. The State Government would be able to convey the number of cases of identified cases of silicosis on the basis of this report.

Member, NHRC highlighted the need for focusing attention on the situation regarding problems faced by labour in the Bellary region. According to him, there is need to prepare a comprehensive plan based upon inputs relating to incidence of bonded labour and non-payment of minimum wages for the Bellary region. He cited the example of KBK region in Orissa where the State Government made a focused attention under the charge of an Additional Chief Secretary level officer to address the problem of starvation. A similar focused attention needs to be made by the State Government in Karnataka. He also mentioned that a proper catalogue of the different sites with industries identified as running in these sites may be made.

The officers of the State Government informed that several prosecutions have been initiated in order to control wrong practices by the employers which are detrimental to the labour welfare. As a result, the situation has improved and the employers are initiating necessary measures as per law.

A suggestion was also received that a Silicosis Board at national level may be constituted. The Secretary, Health gave a detailed description of the measures carried out by his department with regard to silicosis including the fact that the core committee consisting of doctors from ESIC, Health Department, Labour Department is being constituted. The time line action plan is prepared to complete the survey by January, 2012. The preliminary screening and survey work has been completed in the district of Shimogha wherein 50 workers medical data is available. The chest x-ray are under scrutiny. The results are awaited in the next one week's time. He also mentioned about the steps relating to training and IEC activities. He informed that the State Government had accepted the NHRC recommendations regarding treating the silicosis cases as under BPL and providing them with several facilities. He also informed about other additional facilities like x-ray technicians, setting up of district core committee etc. being put in place for addressing the problem of silicosis.

Tamil Nadu

Tamil Nadu government officials informed that 32 manufacturing industries were identified as hazardous industries out of which 6 were prone to silicosis. It was also stated that 27 suspect cases had been referred to higher medical institutions for further examination. Mobile medical units were constituted to cover the unorganized sector workers. A survey is being conducted to identify silicosis prone industries and workers affected by silicosis. The 100 per cent screening of labour working in dust prone industries is being carried out. It was conveyed that the survey which is being carried out will be completed by March, 2012.

Kerala

The Kerala government officer informed that there was no problem of silicosis in the State and hence no survey was conducted. The State Government officer was conveyed the need for carrying out the survey and he promised to complete the same by 31December, 2011.

Puducherry

The Puducherry government officials informed that they had industries involved in glass manufacturing and ceramic tiles and the State Government had initiated measures which included use of protective equipment, apart from educating the workers regarding the health hazards involved. It was conveyed that there was no case of silicosis in Puducherry. The officials of the NIOH, DG FASLI and Director General of Mine Safety also gave their expert views on the subject during the discussions.

Concluding Remarks

In the concluding session, the Member, NHRC thanked the participating State Government officials as well as the officials of NIOH, DG FASLI and Director General of Mine Safety for participating in the discussions which were very fruitful and served the purpose of focusing the State Governments' attention on this dread disease. He emphasized that the success of these discussions would be gauged by the action plans initiated by the respective State Governments on the important issues discussed. He urged the participants to remember the three word resolution made at the closing of the discussions i.e. 'let us begin'.

List of participants

Government of Karnataka

Shri E.V. Ramana Reddy

Secretary,
Deptt. of Health and Family Welfare

Shri G.S. Narayana Swamy

Secretary,
Deptt. of Labour

Shri Srinivasaiah

Director (Factories)

Shri R. Rama Prasad

Commissioner,
Health and Family Welfare

Shri Umashankar

Commissioner,
Deptt. of Labour

Ms. S. Indumathi

Joint Secretary,
Labour Department

Dr. M.D. Suryakant

Joint Director,
State T.B. Centre,
Bangalore

Dr. Ganga Dhara Swamy

Deputy Director (Programme),
Directorate of ESIS Medical Services

Shri C.N. Ravenndranatha

E.S.I. Corporation,
Regional Office

Dr. Rahimunnisa

Director, ESIS

Government of Puducherry

Dr. S. Sreerama Murthy

Medical Inspector of Factories,
Labour Department

Shri G. Ramasamy

O/o Chief Inspector Factories,
Labour Department

Government of Tamil Nadu

Shri C. Gnana Sekar Baburao

Joint Chief Inspector of Factories

Dr. K. Kodanda Swamy

Joint Director,
Deptt. of Public Health

Government of Andhra Pradesh

Shri Srinivasulu

Principal Secretary,
Deptt. of Labour

Dr. M.S. Srinivas Rao

Staff T.B. Officer

Dr. S. Aruna Kumari

Director,
Public Health & Family Welfare

Government of Kerala

Shri M. Archangelo

Special Secretary,

Health and Family Welfare Department

DG FASLI

Dr. Shakti Samant Waghe

Director (Medical) CLI,

Mumbai

Government of India

Shri D. Sengupta

Deputy Director General of Mines Safety,

Ministry of Labour Employment

Dr. Kaushik Sarkar

D.S.M.S

Ministry of Labour

Shri P.C. Rajak

Director of Mines Safety,

Ministry of Labour

National Human Rights Commission

Shri P.C. Sharma

Member.

Shri J.S. Kochher

Joint Secretary (Trg.)

REVIEW MEETING OF EASTERN REGION ON SILICOSIS

A Regional Review Meeting for Eastern region on silicosis was held in the National Human Rights Commission, New Delhi on 14 February 2012 as a follow-up to the recommendations made in the National Conference on Silicosis organized by the Commission on 1 March 2011. The Review Meeting was chaired by Shri P.C.Sharma, Member, NHRC. It was attended by State officials and representatives of Non-governmental organizations from the States of Bihar, Jharkhand, Chhattisgarh, Odisha and West Bengal; DG FASLI, Mumbai; and Directorate General of Mines Safety, Dhanbad.

Member, NHRC, Shri P.C. Sharma extended a warm welcome to all the participants. He pointed out in his address that the problem of silicosis has not received the attention it deserves considering the fact that a large number of people are suffering due to it. With this in view, the Commission has taken several initiatives. Among these, an important initiative has been that of submission of a Special Report on Silicosis to the Government of India for placing it before the Parliament in accordance with Section 20 of the Protection of Human Rights Act, 1993. The main objective of the Special Report is to draw immediate attention of the Government of India and Members of Parliament towards the impact of this deadly disease on the lives of affected workers and their families who suffer in silence without access to health care, social security and rehabilitation. According to him, while it is hoped that the Government of India will take measures and come up with a comprehensive legislation for workers in the unorganized sector, the problem can be tackled within the existing legislations through their effective implementation. Proper implementation can ensure that suitable conditions are created for all workers employed in hazardous work situations. He lamented that as of now, concern of NHRC is not matched by that of the States.

The Member further stated that the issue of silicosis has not only drawn the concern of NHRC, but has also attracted the attention of the Supreme Court and the civil

society at large. However, the situation remains pathetic at least in some States with regard to action taken regarding silicosis. According to him, if the questionnaire circulated by the NHRC to all the States/Union Territories had been filled properly, there would have been a complete data base available on the issue. But, even basic information has not come. According to him, there is reluctance on the part of the State Governments/Union Territories to acknowledge the existence of silicosis among its workers. The State, he added, could not shy away from taking the responsibility of its citizens, especially the poor people working in unorganized sector.

He mentioned that in the Regional Review Meeting held in Bengaluru on silicosis recently, the State representatives of Southern Region, appreciated the efforts of NHRC for creating awareness and sensitizing them to the problem of silicosis. During the course of the visit, he had met the Chief Secretary of Karnataka and suggested the idea of creating a Special Authority which would exclusively look into the problem of labour problems in the Bellary region holistically. Concluding his inaugural remarks, the Member urged to all the State representatives present on the occasion to go back and impress upon their Minister-in-charge or the Chief Secretary for urgent need of action on the problem. He advised them not to be in denial mode and the idea of such meetings was not to stigmatize any State or person but to seek genuine welfare of people affected by silicosis.

Bihar

Dr. S.B. Singh, Chief Inspector of Factories, Government of Bihar informed that the Inspectorate of Factories had collected data from stone crushers, cement factories, foundries, ceramics, potteries and graphite industries and found that there were approximately 15,000 workers who could be affected by silicosis directly or indirectly. The Inspectorate, he added, is in the process of conducting a survey of such industries to find out the prevalence of silicosis. The Inspectorate, he continued, is also trying to have a full fledged laboratory where analysis could be carried out. He also mentioned about problems relating to shortage of staff. According to him, the Inspectorate is also trying to coordinate with concerned departments like the Health Department, Pollution Control Board, E.S.I, Medical Wing and their hospitals and NGOs so that the problem of silicosis can be tackled in an effective manner. Shri Singh mentioned that so far, no case of silicosis has been reported to the Inspectorate. He also informed that the Inspectorate proposes to integrate silicosis control programme with the revised National Tuberculosis Control Programme.

Member, NHRC conveyed that the officials of Government of Bihar need to familiarize themselves with the various provisions of the existing laws viz. the Factories Act, 1948; the Mines Act, 1952; and the Employee's Compensation Act, 1923 and accordingly should know their obligations and responsibilities towards workers working in the unorganized sector. He also stated that the problem of silicosis needs to be brought to the notice of the Chief Minister and the Minister concerned in the State. He stated that on the pattern of Government of Rajasthan, other States could also create a separate corpus for providing compensation and medical treatment to all those afflicted by silicosis.

Jharkhand

As regards the situation of Jharkhand, Dr. Rakesh Dayal, State T.B Officer informed that the Health Minister and Chief Secretary in the State is aware about the existing problem of silicosis. According to him, a four-member Committee was constituted by the Department of Health in December 2010 to study the effects of red dust and recommend measures to control the disease of silicosis. In January 2011, a meeting under the chairmanship of Mission Director, NRHM was held in which the said Committee Members, other officials, OSHAJ and UNICEF participated, to discuss issues related to diseases caused by silica dust. Subsequently, meetings have been held with representatives of Department of Labour and Employment, Mines, Industries, Directorate of Health, State level NGOs and international organizations. Accordingly, a plan of action has further been drawn-up for the year 2012-2013.

Member NHRC, while agreeing that a plan as mentioned by the State official would help to tackle the problem of silicosis also noted that it is unfortunate that the State has not taken any steps for giving compensation to affected victims. Dr. S.S. Waghe, Director (Medical), DG FASLI, pointed out that it is surprising to know that no cases have been reported about silicosis from the State till now and there is no Chief Inspectorate in the State. At the same time, it was conveyed by Shri Samit Kumar Carr, Secretary General, Occupation Safety & Health Association of Jharkhand that 35 confirmed cases of silicosis had been reported in the State. Shri Arun Anand from Swaraj Foundation, Jharkhand conveyed that they had reported about 20 cases of silicosis to the Directorate General of Mines Safety in Dhanbad. Moreover, he stated, cases of T.B. should receive serious attention to rule out the possibility of silicosis. Member, NHRC agreed with the suggestion and stated that all reported cases should be disposed off properly. It was also agreed that a proper reporting mechanism should be in place for correct reporting.

Chhattisgarh

Shri Avinash Kunjan, Deputy Director, Industrial Health & Safety, Raipur, Chhattisgarh informed that out of 10,560 workers employed in the State 1,559 workers were exposed to silica dust. However, no case of silicosis has so far come to the notice of the State Government. It was also observed that the State did not have any kind of mechanism for detection of workers ailing from silicosis. There were also no Medical Inspectors in the State. He informed that the Government of Chhattisgarh proposes to medically examine all the workers employed in the crushers and construction sites during 2012-2013. Dr. S.S. Waghe mentioned that he too had visited the State in November 2011 for carrying out a survey in crushers and a cement factory in village Moora of Raipur District.

Member, NHRC was pleased to know that the State has plans to medically examine all the workers employed in different factories. He, however, reiterated that the State should complete the survey as recommended by the NHRC, and fill the questionnaire circulated by the NHRC. They should also inform NHRC about the status of compensation paid so far to the affected workers.

Odisha

Dr. B. Panigrahi, Additional Director, Health Services, Government of Odisha told that the State is aware about the problem of silicosis but there has been no reported cases during the last three years despite the existence of a Silicosis Board. Member, NHRC expressed surprise that a Silicosis Board has been set up but there is no case of silicosis. Shri S.A. Azad, from People's Rights and Social Research Centre, New Delhi informed that 10 cases of silicosis had been reported from the Mahanadi Coalfield Ltd. in Odisha, which needs to be examined by the State.

West Bengal

Smt. Mahua Banerjee, Joint Director (Personnel), Government of West Bengal informed that except in Birbhum and Bankura districts, the problem relating to silicosis in comparison to other Eastern States is comparatively less in West Bengal. According to her, a pilot study on wage earners in the stone crushing industry in Birbhum district, was jointly conducted by the Directorate of Health & Family Welfare and the Department of Environment, Government of West Bengal. The study has shown significant demonstrable respiratory morbidity in exposed population in spite of non-detectable range of free silica responsible for silicosis. The Directorate of Factories has prepared a list of 305 industries in the State. Chief Medical Officer of

Health of each district has been asked to find out the status of the workers working in the factories coming under its jurisdiction. She, however, expressed that the detailed survey about the prevalence of silicosis disease is yet to take place in the State as the same got postponed on account of the Assembly elections. She stated that there is also need to build up the capacities of the doctors and para-medical staff. Besides, there is a need to organize awareness generation programmes for factory owners, trade unions and workers so that they are aware about their rights and responsibilities. She further conveyed that a State Level Coordinating Committee is in the process of being constituted to evolve appropriate strategies for effective implementation of NHRC's recommendations covering preventive, remedial, rehabilitation and compensation aspects of silicosis to all those affected. She made a request to NHRC to grant the State Government, 8 month time for carrying out the survey. She also mentioned that the Government of India should provide them financial assistance for carrying out IEC and capacity building activities.

Shri Sunil Soren, from Birbhum Adivasi Gaota stated that in Birbhum alone, there are more than 2,000 stone crusher units and more than 800 stone quarries. The X-ray machines are always out of order. The doctors posted there have no knowledge about silicosis. They often confused silicosis with tuberculosis. Recently, 70 X-rays had been taken of workers, out of which 30 had the probability of being affected by silicosis. In 2009, three confirmed cases of silicosis were detected and reported to the State.

Member, NHRC remarked that the State of West Bengal seems to have made no serious effort to tackle the problem of silicosis. He suggested to Smt. Mahua Banerjee that on her return, she must apprise the concerned Secretary of her Department who then should explain the problem to the Chief Minister. He also desired that the Minister of Industries should also be told about the problem of silicosis. The ultimate responsibility of owning the problem lay with the State and it needs to ensure good working conditions for workers so that right to life which is a Fundamental Right is enjoyed by all workers. The State, he mentioned, in no way should abdicate its responsibility.

The officials of DG FASLI and Directorate General of Mines Safety (DGMS) also gave their detailed views on the subject during the discussions. The Director of DGMS, made a detailed presentation about the Directorate and laws dealt by it. It was also suggested/agreed that DG FASLI could assist the State Government in training of their officials on technical aspects of silicosis prevention and diagnosis.

Concluding Remarks

Concluding the meeting, Shri P.C.Sharma, Member, NHRC made an appeal to everyone present that wherever people were found to be suffering from silicosis in the country, the concerned State Government should own up the responsibility and take all necessary measures for providing relief to them.

List of Participants

State Officials

Dr. Rakesh Dayal

State T.B Officer,
Director Health Services,
Jharkhand

Smt. Mahua Benerjee

Joint Director (Personnel),
Health Services,
Kolkatta,

West Bengal

Dr. B. Panigrahi

Additional Director,
Health Services,
Bhubanehwar, Odisha

Shri Avinash Gunjal

Deputy Director,
Industrial Health & Safety,
Raipur, Chhattisgarh

Dr. S.B. Singh

Chief Inspector of Factories,
Government of Bihar,
Patna, Bihar

Dr. S.S. Waghe

Director (Medical),
DG FASALI,
Mumbai, Maharashtra

Dr. Kaushik Sarkar

Director,
Directorate General of Mines Safety,
Dhanbad, Jharkhand

Shri P.K. Sarkar

Deputy Director General (NZ),
Ghaziabad, Uttar Pradesh

NGOs

Shri Samit Kumar Carr

Secretary General,
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Shri Mohit Gupta

Secretary,
Mine Labour Protection Campaign,
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Neb Sarai, New Delhi

Shri Sunil Soren

Birbhum Adivasi Gaota,
Lalkuthi Para,
(opp. Birbhum Talkies),
Seuri. Bornji, West Bengal.

Mr. S.A. Azad

People Rights and Social Research Centre,
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Hamdard Nagar, New Delhi.

Dr. A.K. Swar

SEE, SPCB, Odisha

Dr. P.K. Prusty

Senior Scientist,
Forest & Environment Department,
Odisha

NHRC

Dr. Rajiv Sharma

Secretary General

Shri J.S. Kochher

Joint Secretary(Trg.)

Shri C.K. Tyagi

Presenting Officer
Smt. Mamta Singh,
DIG (I)

Dr. Savita Bhakhry

Deputy Secretary (R)

Shri C.S. Mawri

Assistant Registrar.
Shri Nishith,
PRP&P Division

REVIEW MEETING OF NORTHERN REGION ON SILICOSIS

A Regional Review Meeting on Silicosis was held under the chairmanship of Shri P.C. Sharma, Hon'ble Member, NHRC in the National Human Rights Commission, New Delhi on 4 May 2012 as a follow-up to the recommendations made by it in the National Conference on Silicosis organized on 1 March 2011 in New Delhi. The meeting was attended by Shri A.C. Pandey, Joint Secretary and Smt. Vandana Sharma, Director, Ministry of Labour and Employment, Government of India besides State officials and representatives of NGOs from Maharashtra, Punjab, Uttarakhand, Uttar Pradesh and N.C.T. of Delhi. Officers from DG FASLI, Mumbai and Directorate General of Mines Safety, Dhanbad were also present. There was no representation from the State of Himachal Pradesh and the Union Territory of Goa.

At the outset, Member, NHRC extended a warm welcome to all the participants and emphasized upon the fact that the situation relating to the problem of silicosis remained extremely grim in the country as the disease till date is not taken seriously both from the health and human rights perspective. Most of the State Governments have not made serious efforts to address the issue. According to him, silicosis is one of the most dreaded diseases since it is irreversible once it sets in. He highlighted the lack of concern shown by employers towards the poor people working for the overall growth and development of the country. He stressed that despite umpteen legislations, healthy working conditions are not being created for the workers by their employers nor are the concerned Government Departments keen to implement preventive, curative, rehabilitative and compensatory measures. The poor workers, who by and large work in the unorganized sector, are the worst affected. In some afflicted areas, Shri Sharma articulated, the entire young male population has been wiped out on account of silicosis. These workers contracted the disease while working in mines, slate industries, gem-cutting factories or other manufacturing units that emit fine invisible dust. While this health hazard is wreaking havoc, the appalling

lack of callousness on the part of State authorities is only adding to the agony of the poor workers, he emphasized.

The Member, however, applauded the efforts made by the State Governments of Rajasthan and Madhya Pradesh in providing financial relief, rehabilitative and other measures to those affected by silicosis as well as their kith and kin. He also had a word of appreciation for the civil society which continues to work painstakingly in identification of silicosis cases, in promoting the cause of victims and taking up cases for provision of relief and other entitlements to the workers and their families. They have been generating awareness about the existence of silicosis and its harmful effects on the health of the workers. The Hon'ble Member then requested Shri A.C. Pandey, Joint Secretary, Ministry of Labour and Employment (M/o L&E), Government of India to underline the steps being taken by the Government with regard to silicosis.

Joint Secretary (M/o L&E) expressed that he was grateful to the NHRC for highlighting the issue of silicosis and bringing it to the centre stage of Government priorities. As a result, the Government has now started pondering over the issue, though not much work has still been carried out by it. He further affirmed that while accidents are reported immediately, occupational diseases like silicosis take time to come to the surface due to lack of awareness on the subject. He also mentioned that majority of the people affected by silicosis in the country are casual workers and no attention is paid to them despite there being a clause both in the Factories Act, 1948 and the Mines Act, 1952 about compulsory disclosure of information by the employer where hazardous processes are involved. Absence of proper reporting system in the country with regard to engagement of casual and contract workers who represent 94% of the unorganized sector was another factor that led to nil reporting of silicosis cases in the country. Other than this, the equipments for identification and diagnosis of silicosis cases are not effective. As a result, instead of giving proper treatment on silicosis these cases are misinterpreted as tuberculosis. Given the existing reality, he informed that the Ministry of Labour and Employment has proposed a new plan scheme, namely, "Identification and Elimination of Silicosis in India" for the 12th Five-Year Plan. The total outlay proposed for the scheme is 24 crores. The Ministry also proposes to launch a major publicity campaign with Doordarshan for which an amount of Rs. 7.15 crores has been earmarked for creating awareness amongst the masses on silicosis. The Action Plan in respect of this initiative is being prepared. Further, according to him, the DGMS has been directed to undertake studies through the National Institute of Miners Health/National Institute of Occupational Health

relating to occupational diseases with particular focus on silicosis during the current year. The DG FASLI, conveyed that he has also modified Schedule XIII under Model Factories Rules 120 (Manipulation of Stone or any other material containing free silica) to include the aspect of mandatory health survey, dust survey and surveillance of the process.

Shri P.C. Sharma reiterated that the governmental approach suffers from lack of any thought for the social security of the workers, especially those falling in the category of migrant labourers. Dubious arguments are cited by the concerned authorities to evade the basic responsibility for ensuring the well being of the workers as envisioned in various laws such as the Factories Act, the Minimum Wages Act, the Mines Act and the Inter-State Migrant Workmen Act. The State, be it the Central Government or the State Government, should be held responsible for all silicosis deaths and an ex-gratia payment needs to be made immediately to the victim or their kith and kin. This point, he said, has been recommended by the NHRC as well in the Special Report submitted to Parliament of India on Silicosis.

Dr. Rajiv Sharma, Secretary General stated that the problem of silicosis should form an integral component of the National Rural Health Mission to ensure the health safety of the vulnerable workers.

It was also suggested to Joint Secretary (M/o L&E) that the Minister of Labour and Employment should convene a National Conference of all Chief Ministers on the issue of silicosis so that they are made aware about the disease and the problems faced by the victims of silicosis and their families.

Dr. U.C. Ojha, Director, Institute of Occupational Health and Environment Research, and Head, Department of Pulmonary Medicine, ESIC Hospital, Basai Darapur, New Delhi informed that there are five zonal occupational diseases centres for occupation related diagnosis and confirmation of any kind of disease(s). He then explained the ESIC coverage, its field infrastructure. He added that sincere efforts are being made to assist confirmation of the diagnosis of silicosis out of respiratory ailments by making the doctors aware about the disease of silicosis. He also explained the vision, mission, objective and functions of the Institute of Occupational Health and Environment Research (IOHER), which has been established as a new initiative.

Member, NHRC pointed out that there is a need to improve the working conditions of all those employed in silica prone industries and provision of adequate compensation for affected workers and their families.

Uttar Pradesh

Dr. Saudan Singh, DG Medical Education, Government of Uttar Pradesh, Lucknow stated that steps are being taken by the State to register all workers working in the unorganized sector. Moreover, the State is of the view that all those affected by silicosis should be allowed to avail the benefits given to the beneficiaries of BPL population. In addition, all dangerous industries should be closed down and the disease of silicosis should be made a notified disease under the State Public Health Act. During 2010-2011, the Government of Uttar Pradesh was able to diagnose only 15 cases of silicosis. However, according to him, there is a need to spread further awareness about the disease of silicosis among the medical fraternity.

Member, NHRC desired to know from the State representative the steps taken by the Government of Uttar Pradesh to deal with the social aspects of silicosis. He also expressed that the States have failed in carrying out a mandatory survey of workers and monitoring of the victims of silicosis including the survey of the population at risk. Nor according to him, have any of the States tendered replies to the ten questions framed by the NHRC or have drawn a plan of action to tackle the problem of silicosis.

Dr. Singh informed that there is a need to build-up a cadre of Master Trainers who could spread awareness on silicosis among the health professionals and para-medical staff. He also conveyed that in order to control the disease of silicosis, it should be integrated with the National Tuberculosis Control Programme. Moreover, he explained, there should be a close coordination between the Departments of Health, Labour, DG FASLI, Labour Institute, National Occupational Health Institute, T.B. Association and the civil society.

Maharashtra

As regards the situation in Maharashtra, Dr. A.B. Band, Certifying Surgeon, Directorate of Industrial Safety & Health, Mumbai, informed that the risk of silicosis occurrence is identified in two operations. These operations are classified as dangerous operations under schedule VIII Rule 114 of MFR 63. They are glass manufacturing, cleaning and smoothing of articles by jet of sand metal shot or other abrasive propelled by a blast of compressed air or steam. For these two operations, he described a range of safety measures like protective clothing and medical examination comprising clinical check-up, lungs function tests, chest X-ray, etc. These provisions, he stated, are enforced by the Factory Medical Officer whose appointment is made in a factory

on the basis of number of workers employed therein. He further informed that based on the recommendations of the Commission, the Government of Maharashtra is in the process of issuing a notification under section 85 of the Factories Act, 1948. In addition, he suggested that there is an urgent need to publicize the disease of silicosis and its symptoms through organizing workshops on quarterly basis at the Tehsil and District level by involving all the medical and para-medical staff.

Uttarakhand

The officials from Uttarakhand, Dr. Naresh Kumar Agarwal, ESI Scheme Labour Medical Services and Shri R.K. Singh, Deputy Director of Factory and Boilers, Office of the Labour Commissioner, Nainital communicated that there was no problem of silicosis in the State and hence there was no prosecution or an action plan drawn up by the State. The State Government officers were conveyed by the Member of NHRC the need for carrying out the survey and a plan of action which they promised to communicate to their senior officials for doing the needful.

Punjab

The representative from Punjab Government, Dr. Deepak Bhatia, State Surveillance Officer, Directorate of Health and Family Welfare, Chandigarh informed that the processes and operations having the potential to cause silicosis are foundries, ceramic and glass industries, cement industries and stone crushing industries. To tackle the problem, an action plan has been drawn up under the NRHM and the responsibilities for executing those actions have been given to the Department of Labour & Employment, ESI/Civil Hospitals and the Department of Health and Family Welfare.

The officials representing DG FASLI, Director General of Mine Safety and representatives of NGOs also gave their expert views on the subject during the discussions.

Concluding Remarks

In the concluding session, the Member, NHRC thanked the participating officials of ESIC, DG FASLI and Director General of Mines Safety as well as representatives of NGOs for participating in the discussions. He, however, reiterated that the State representatives deputed for the meeting did not come from the respective Ministries/Departments of Health and were thus not well-equipped for participation in the meeting. This amply demonstrated the lack of interest in the subject by State

Governments/Union Territories. He expressed that it would be desirable to call a meeting of the Secretaries of all the States/ Union Territories next time so that they are sensitized about the gravity of the problem and consequently draw up an action plan to tackle the issue.

List of Participants

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NHRC

Dr. Rajiv Sharma

Secretary General
Shri J.S. Kochher
Joint Secretary (Trg.)

Shri C.K. Tyagi

Presenting Officer

Smt. Mamta Singh

DIG (I)

Dr. Savita Bhakhry

Deputy Secretary (R)

Shri C.S. Mawri

Assistant Registrar.

Shri Nishith

PRP&P Division

NATIONAL CONFERENCE ON SILICOSIS HELD ON 25 JULY 2014 AT NEW DELHI.

A one-day National Conference on Silicosis was organized by the National Human Rights Commission at India International Centre, New Delhi on 25 July 2014. The main objectives of the Conference were: (i) to assess the status of action taken by all States/Union Territories on the earlier recommendations made by the Commission on preventive, remedial, rehabilitative and compensation aspects of silicosis; (ii) to evaluate the existing situation of silicosis in the light of action taken; and (iii) recommend/suggest effective measures for its eventual eradication.

The Conference deliberated on three major themes in three plenary sessions. Prior to these three plenary sessions, Shri J.S. Kochher, Joint Secretary, NHRC made a presentation on NHRC intervention on silicosis. This presentation is annexed at **(Annexure A)**.

The plenary sessions were as follows:

Session-I was chaired by Shri S. C. Sinha, Member, NHRC. The issues discussed included the existing Status of Silicosis and Implementation of NHRC Recommendations on Preventive, Remedial, Rehabilitative and Compensation Aspects of Silicosis & Other Initiatives/Best Practices Undertaken.

In this session, twelve presentations were made by State representatives of Governments of Andhra Pradesh, Chhattisgarh, Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu and West Bengal. These presentations are annexed at **(Annexure B. i-xii)**

Session-II: Narration of Ground Realities – Perspective of Civil Society Regarding Way Forward was chaired by Shri S. C. Sinha, Member, NHRC.

In this session five presentations were made by representatives of People Team & Research Centre, Baroda; Mine Labour Protection Campaign, Jodhpur; Dang

Vikas Sansthan, Karauli; People's Rights & Social Research Centre, New Delhi; and Occupational Safety and Health Association of Jharkhand (OSHAJ), Jharkhand. These presentations are annexed at **(Annexure C. i-ii)**

Session–III: Justice Shri D. Murugesan, Member, NHRC chaired this session Silicosis: Occupational Safety, Health, Welfare and Other Legislations and Regulations.

Four presentations were made by senior representatives of Directorate General Factory Advice Service & Labour Institutes (DGFASLI), Mumbai; Directorate General of Mines Safety, Dhanbad; National Institute of Occupational Health, Ahmadabad; and National Institute of Miners' Health, Nagpur. The last presentation on the subject was made by its former Director. These presentations are annexed at **(Annexure D. i-iii)**

Recommendations of the National Conference

Based on the deliberations held in the plenary sessions, the following recommendations emanated from the National Conference:

1. All States and Union Territories should provide complete information along with action taken on the following recommendations which the Commission has earlier made on the problem of silicosis:
 - To furnish complete information with regard to ten points sent to the State/UT Governments in the year 2009 for an action taken.
 - To furnish the action taken by the State/UT Governments on the set of recommendations prepared by the Commission on Preventive, Remedial, Rehabilitative and Compensation aspects relating to silicosis vide letter No. 11/3/2005-PRP&P dated 13 December 2010.
 - To furnish the action taken by the States/UT Governments on the recommendations emanated during the National Conference on Silicosis held on 1 March 2011 vide letter No. 11/3/2005-PRP&P dated 11 April 2011.
 - Action taken on all these 3 (three) sets of recommendations made by the Commission should be furnished by the end of December 2014. While doing so, the State/UT Governments must also furnish to the Commission their respective action plans for elimination of silicosis.
2. All States and Union Territories must particularly report to Commission the findings of the detailed survey of industries conducted by them, especially

of hazardous and suspected hazardous industries in both organized and unorganized sector, where workers are likely to be affected by silicosis. Besides, their survey should throw light on the status of ex-workers. States and Union Territories who have so far not acted upon to the aforementioned direction must complete their survey immediately and report its findings to the Commission latest by December 2014.

3. The States/UTs should maintain and share detailed information on:
 - Number of workers in silica prone industries;
 - Total number of incidents/cases of silicosis;
 - The status of treatment being given to victims;
 - Kind of screening tests being carried out by the employers of various industries for detection of silicosis cases;
 - Type of special measures being taken by employers in suspected cases of silicosis;
 - Whether the employers of various industries were maintaining a proper register for the purpose of recording the daily attendance of workers, salary paid to each worker, leave given to each worker including medical leave;
 - Steps taken by the State/UT for violation of labour laws regarding the erring employers;
 - Whether any kind of insurance cover given to the workers by their employers;
 - Measures undertaken for prevention of silicosis;
 - In the case of ex-workers, apart from making an assessment about their actual number, the kind of treatment, rehabilitation and compensation package given to them by their employers;
 - In case of death of a worker, their respective family is taken care of or not.
4. Some States have launched special drives for identification and registration of all unregistered factories where workers are likely to be affected by silicosis. Other States and Union Territories may also launch similar drive/effort.
5. The State and Union Territory Governments who have not yet notified smaller units having potential to cause silicosis notwithstanding that the number of persons employed therein being less than ten, if working with the aid of power

as may be declared to be a factory under Section 85(1) of the Factories Act, 1948. Besides, States and Union Territories should ensure strict enforcement of the Factories Act, 1948 by appointing Inspectors and Certifying Surgeons under the Act.

6. Similarly, the manufacturing processes or operations carried out in factories in which manipulation of stone or any other material containing free silica is carried on need to be notified as “dangerous operations” under Section 87 of the Factories Act, 1948 by all States and Union Territories. The Ministry of Labour and Employment, Government of India through DGFASLI has framed modified Model Factories Rules (MFR 120) on 27 dangerous operations and processes under Section 87 of the Factories Act 1948 including manipulation of stone or any other material containing free silica (Schedule XIII). These Model Factory Rules under Schedule XIII shall also apply to stone or other material that contain not less than 5 percent of free silica, by weight which includes stone crushers, gem and jewellery, slate pencil making, agate industry, pottery and glass manufacturing. Precautionary measures need to be taken by employers for protection of all persons employed therein by way of periodical medical examination, providing welfare amenities and sanitary facilities and the supply of protective equipments and clothing. Employment of women, adolescents and children in any of the operations involving manipulation or at any place where such operations are carried out should be completely prohibited.
7. As of now, there seems to be considerable variation in standards of medical protocol to confirm cases of silicosis. There is thus a need to adopt uniform diagnosis procedure across the country primarily consisting of detailed occupational history, chest radiography, C.T. scan and lung biopsy. There is also a need to create occupational disease centres in all ESI Hospitals and OPDs for occupational diseases in all civil hospitals. These should be well equipped with Chest Specialists, Radiologists and other technical staff for proper diagnosis, treatment and referral. In addition, districts having high rate of silicosis, their District Hospitals must be well prepared for diagnosis and management of silicosis.
8. As prevention is the only remedy, it will be paramount to lay emphasis on preventive/control measures by all States/UTs as specified in their respective State Factories Rules, by taking recourse to engineering control, medical control and administrative control measures. Besides, imparting training to

all workers and employers should become an annual feature whereby they are sensitized to the health effects of silica dust exposure including operations and material that produce silica dust hazards, application of engineering controls and work practices that reduce dust concentration, personal hygiene practices, etc. For this purpose, DGFASLI has also prepared a checklist for prevention of silicosis, which can be availed of by all States/UTs for usage of employers and workers. Moreover, there is need to empower State officials as this would enable them to judiciously undertake safety and occupational health survey.

9. Immediate recruitment of Chest Specialists, Certifying Surgeons and Radiologists and their capacity building and training on dust diseases as per WHO and ILO standards. Many States have nominated officers from associated Departments fulfilling medical qualifications and other requirements as Certifying Surgeons so as to overcome their shortage. This may be replicated by other States as well.
10. Need to issue identity cards to all workers so that the responsibility of employers is ensured and it is possible at any future point of time to establish an employee, employer relationship.
11. In Andhra Pradesh, workers in the unorganized sector are covered under the Rajiv Aarogyasri Community Health Insurance Scheme. The scheme provides financial protection to families living below poverty line up to ₹ 2 lakhs in a year for the treatment of serious ailments requiring hospitalization and surgery. A scheme on similar lines could be put in place by other States/ Union Territories if not already there in view of large number of affected workers in the unorganized sector.
12. The Government of Andhra Pradesh has also constituted the Building and Other Construction Workers Welfare Board under which schemes for the welfare of building and other construction workers are being implemented for all those working in the unorganized sector and afflicted by silicosis. Workers employed in stone quarries and stone crushers have further been declared building workers and are entitled to benefits extended by the Construction Board. Likewise, the Government of Madhya Pradesh has established Slate Pencil Workers Welfare Board. The fund collected by the Board through cess is used for providing social security to workers and their dependents. A Policy on Silicosis has also been framed by the Government of Madhya

Pradesh under which various schemes are being provided to affected workers. In addition, the Government of Madhya Pradesh has successfully relocated polluting units from residential areas to industrial estate, thereby reducing the exposure of silica. There is a need to replicate these best practices by other States and Union Territories as well.

13. The Andhra Pradesh Factories Rules, 1950 under the Factories Act, 1948 and Madhya Pradesh Factories Rules, 1962 should be examined and similar Rules put in place in other States and Union Territories.
14. There is a need to set up a separate Silicosis Board/Fund, similar to the one set up by the Government of Odisha, in all the States and Union Territories as a single window for purposes of claiming compensation by workers affected by silicosis and in the event of death of the worker by their dependents.
15. Need for better coordination between various Departments of Central and State Governments to deal with the problem of silicosis which includes the Departments of Health, Labour, DG FASLI, Labour Institute, Occupational Health Institutes, T.B. Association and the Civil Society. Similarly, there is a need for better coordination among States from where the workers migrate for better opportunities. However, it would be useful to evolve a comprehensive strategy to check migration which can include modifications in the MGNREGA Scheme by providing for more number of wage days in the interest of migrant workers as recommended by the NHRC in its earlier National Conference on Silicosis held on 1 March 2011.
16. States and Union Territories have not taken sufficient interest in dealing with the occupational health hazards of mining and related milling operations leading to silicosis. The implementation of the Mines Act, 1952 has revealed a number of defects and deficiencies which hamper its effective administration. Some of these necessitate new forms of control while others require strict enforcement of the existing legal provisions. Till the time, the existing Mines Act is recast, there is need to strictly enforce Sections 5-9, 11, 22, 23, 25, 26 & 27 of the Act. Simultaneously, there is need to strengthen the office of Director General of Mines Safety.
17. The National Institute of Occupational Health or the National Institute of Miners' Health should undertake a study about difficulties associated with mining and problems faced by mine workers.

18. Pollution from thermal power stations across the country need to be brought under surveillance for risk of silicosis of not only to workers but to the neighbouring population in residential areas as coal and coal ash contains silica ranging from 18% to 30% approximately.
19. Silicosis is not only a notifiable disease under Section 89 of the Factories Act, 1948, Section 25 of the Mines Act, 1952 but also a compensable disease under Schedule III, Part C of Workmen's Compensation Act, 1923, now known as Employees' Compensation Act, 1923. As per the Act, amount of compensation is calculated on the basis of actual disability. For victims of silicosis, this disability should be considered 100% as per order passed by the High Court of Gujarat in case 3449 of 1999 (Babubhai vs ESIC). ESIC should resolve to make it a rule so that the victim is compensated without the burden of proof.
20. Simplification of mechanism for compensation for occupational diseases needs to be carried out. For this purpose, there is a need to amend the Employees' Compensation Act, 1923 as well as Employees' State Insurance Act, 1948. In both these Acts, there is a 'qualifying period' for claiming compensation. This acts as a hindrance for workers to claim compensation. This should be removed and any worker found to be suffering from silicosis should be compensated. All compensation claims filed under the Acts should be processed urgently and disposed within three months from date of filing of claims.
21. 'Occupational Health' should be made part of MBBS curriculum.
22. The Unorganized Workers Social Security Act, 2008 provides for National/ State Social Security Boards. On the same lines, Mine Workers Welfare Boards may be constituted for recommending welfare schemes to be formulated for the welfare of mine workers employed in the unorganized sector.
23. A national helpline with Directorate General of Mines Safety should be started for registration of complaints and accidents of employees working in mines.

A MEETING OF THE EXPERTS ON SILICOSIS

A meeting of the experts was held in the National Human Rights Commission on 23 December, 2014 to discuss the Memorandum of Action Taken Report on the Special Report of the NHRC on Silicosis that was laid in the Parliament earlier. The meeting was chaired by Hon'ble Member, Shri S.C. Sinha.

2. Shri J.S. Kochher, Joint Secretary (Training & Research) extended a warm welcome to the experts and informed them about the purpose of the meeting. He also informed about the aim of the special report prepared by the NHRC, which was to bring before the Parliamentarians as well as the Government of India, the problems faced by workers affected by Silicosis and their families especially, those belonging to the unorganized sector. The participants were also informed that a large number of recommendations regarding the labour legislations were made by the Commission in the Report, on which the response of the Government of India has now been received. The meeting has been called for deciding about the action to be taken further. Shri Kochher then requested Hon'ble Member to give his opening remarks.

3. Shri Sinha, Hon'ble Member, NHRC also extended a warm welcome to all participants. He stated with humility that the invited experts were more informed on the issues at stake relating to Silicosis as contained in the special report and memorandum of action taken. He, therefore, invited the participants to give their views and reactions as well as suggestions regarding further action to be taken on these issues.

4. Shri Jagdish Patel, Director, Peoples Training and Research Centre, Vadodra, stated that in the action taken report, on many issues, the responsibility of State Governments has been mentioned. However, they are not shouldering that responsibility. He highlighted some of the shortcomings in the action taken report especially, regarding the recommendation to amend the law to include monitoring workplace environment at every eight hours and recommendation regarding amendment of law to provide for positive incentive of Rs. 1000/- to the medical practitioner for notification of listed occupational diseases. He also highlighted that ATR does not give any concrete reply

to the non-utilization of Section 90 of the Factories Act nor does it discuss regarding the inspection of illegal mines being operated. It also does not mention about the ESI Corporation resolution dated 25.2.1992 regarding relaxation of the minimum service condition of six months as a qualifying service under section 52 of the ESI Act, which is not being respected and victims of Silicosis are denied the benefits. He also stated that while even in organized sector, there are a large number of factories / workers employed therein not covered by Factories Act, the workers in unorganized sectors are completely ignored.

5. Shri Jagdish Patel suggested the following:

- He was of the view that Factory Act should be liberalized to give prosecution powers to the workers, trade union and civil society organizations for the violation of provisions of the Act and State Rules. A portion of the fines imposed should go to the complainant on the charges being proved which will encourage enforcement. The workers, trade union and civil society organizations can help in enforcement of the provisions of the Act. He also referred to an umbrella legislation in the form of “Occupational Safety and Health Bill, 2002” as suggested by the Second National Labour Commission for ensuring a minimum level of protection to the workers in the unorganized sector. He also sought ratification of ILO Convention No. 155 by Government of India which will place responsibility on Government of India to give protection and safety to workers.
- Further, he suggested that for the diagnosis of occupations diseases in all public hospitals, OPD for occupational diseases should be started, so that medical officers in PHCs/CHCs can refer the suspected cases for diagnosis. States can start with, opening OPD in one hospital on experimental basis and then extend this to other hospitals.

6. He suggested the following good practices for emulation in other States/Districts:

- In M.P., the State Government passed a State Law called M.P. Slate Pencil Workers Act Fund 1982 as well as Rules 1983. Under the provisions of this law, State collects cess on the production of pencil units and fund so collected is utilized for registered Silicosis victims. Local Civil Surgeon is empowered to diagnose and certify Silicosis. On production of the certificate issued by Civil Surgeon, silicosis victim would be registered by the Welfare Board.

- Slate Pencil units employing even one worker are covered under ESI Act and thus they get the benefits of the ESI Act.
- In city of Mandsaur, slate pencil units were being operated in residential areas where silica dust would threaten health of neighborhood. To protect non-workers and citizens, State Government used legal provisions to stop commercial activity in the residential areas, provided them separate industrial area outside city and successfully shifted them all there.

7. Dr. P.K. Sishodia, Director, National Institute of Occupational Health also added that the purpose of the proposed umbrella Act was to cover all the existing labour legislations. According to him, the basic concept of the umbrella Act related to the issues relevant to all workers working in organized as well as unorganized sectors and for the provision of their social security and other benefits. It also proposed to set up Occupational Health and Safety Commission with members representing various institutions and Government bodies. He stated that recently, the Ministry of Labour and Employment had come out with the proposed “The Occupational Health Regulatory Authority Bill, 2013”. The Bill proposes to provide establishment of the Occupational Health Regulatory Authority so as to regulate monitoring of workers who contract occupational diseases like silicosis, asbestosis and coal-workers who contract pneumoconiosis due to primary and secondary exposure to substances and processes which lead to these occupational diseases impacting the workers and their families adversely. Dr. Sishodia was requested by the Hon’ble Member to provide a note on this umbrella Act for which he agreed.

8. Shri Sinha, Member, NHRC, referring to the recommendations of the Commission relating to Section 85 as recommended in the Special Report on Silicosis stated that all the processes where silica dust is generated are hazardous in nature and, therefore, all such units should be notified by all State Government under the Factories Act, 1948.

9. Shri Patel from Peoples Training & Research Centre, Vadodara informed that Factories Act is applicable to only manufacturing activities and the Act has defined the manufacturing activities. However, there are large numbers of other silicosis prone activities which cannot be termed as factories.

10. Shri S.C. Sinha then referred to the issue of unauthorized mining and stated that if a number of mines are unauthorized, then how the safety standards in those mines can be ensured. He also stated that as against the sanctioned strength of 269 posts

of Mining Inspectors, only 138 are in position. In such a situation, enforceability of Mines Act is difficult by Government of India. Shri Ashim Sinha from DGMS stated that the basic responsibility, as far as mines is concerned, is that of mine owners and DGMS is only an enforcement agency and it primarily goes to the mines and inspects the safety mechanism in place and can take action if there is violation in this regard.

11. Shri Mohit Gupta, Coordinator, Occupational and Environment Health Network of India stated that the onus of implementation of all the Acts in India lies on the owners including in the case of Mines Act as well as Factories Act. The responsibility of the Inspectors is to ensure that its provisions are being enforced by the owner but practically, the enforcement is not happening. Hon'ble Member intervened and asked if the onus of enforcement of implementation of provisions is on the owners then who is going to enforce discipline, if it is not being enforced. Shri Gupta replied that most of the laws or rules which have been made are mostly for big mines like coal mines but there is no rule for smaller quarries which generally do not have any dust provision or dust protection.

12. Hon'ble Member sought clarification about the purview of Factories Act and Mines Act, and asked as to under which Act, the stone quarries will be covered. Shri Sinha expressed that no clear provision was there for stone quarries. Hon'ble Member inquired as to what needs to be done to fill the gaps. He further said that since for stone quarries, none of these Acts applies, there is a need of separate law to regulate the working of stone quarries.

13. Shri Patel suggested that some of the issues in the Act may need an amendment. With regard to the amendment, Shri Patel explained that in stone quarries, where stones are taken off from the soil, then it comes under the purview of mining and Mines Act, but when it comes out and broken into small pieces, then it falls under factory and comes under the purview of Factories Act. He further suggested that the Factories Act should be made more liberal by providing more powers to the workers, trade unions, etc. which means that the workers and trade unions can go to the court if they find any violation of the Act by the owner.

14. Shri M.R. Rajput, Director (Safety), Regional Labour Institute, stated that in the Factories Act, the workers have been given the power to warn the management about the danger and they have every right to approach the Inspectors of the factories in order to bring to their notice about all the violations going on at work place. At this point, Shri Sinha, Member, NHRC, enquired, if the worker has taken the initiative to inform the management or Inspector, then who is supposed to check whether the

factory owner has taken any preventive step or whether the factory Inspector has taken the cognizance or not? Shri Rajput replied that it is the Chief Inspector of the Factories at State level to inquire about this matter.

15. Further, the Hon'ble Member enquired about the number of mines operating in the country. Director of the Mines Safety, Shri Ashim Sinha replied that the figure varies but as per the DGMS estimation, those who have submitted the notice of opening i.e. legal mines are about eight thousand in number. Hon'ble Member further enquired about the cancellation of licenses by the DGMS in last five years. Shri Sinha, Director of Mines Safety replied that DGMS have no power to cancel the license but to the maximum, it can only put up a notice or an order if the work is not being carried out properly or there is any violation. Shri Ashim further said that DGMS can also report about the violations to Court of Law. Hon'ble Member, NHRC suggested that had there been some punitive action the things would have been improved.

16. Shri Gupta, Co-ordinator, Environic Trust informed that not even a single instance has come to the notice where mines have been closed because of violation of safety conditions. He added that even the small mines have also not been instructed for this purpose. Highlighting one of the important provisions of both the Acts i.e. Factories Act as well as Mines Act, Shri Gupta informed that under both the Acts there is a provision to collect data of inspection. At the same time, the DGFASLI on its website, can present such data. However, most of the States do not bother to provide the data like date of inspection, number of accidents, etc. He said that there is no provision for penalizing the factory Inspectors for not providing the data.

17. Shri Rana Sen Gupta, Managing Trustee, Mine Labour Protection Campaign, Jodhpur stated that only those mines are inspected which have given the notice of opening. It means that the mines which have not submitted the notice of opening, should not be allowed to operate. If the State is allowing them to operate, then it is illegal. Citing the example of Rajasthan, Shri Rana informed that approximately 33,000 mines are operational, of which only 3706 mines have submitted the Notice of Opening. The DGMS is unaware about the operation of the remaining mines and is thus unable to secure safe mining operations of these mines. He further elaborated that Mining is a State subject, whereas Mine workers are a Union subject. Thus, according to him, while enforcement of labour laws is a central subject, there is no system of monitoring the labour situation in the mines and quarries in States.

18. Shri Sinha, Hon'ble Member, NHRC, summing up the issue of information regarding mining operation and grant of license by State Governments, stated that it is an important gap which needs to be addressed. The State Government presently has no responsibility to inform the Department of Mines, Government of India. He suggested that it should be mandatory for every State Government to inform the Department of Mines, Government of India, whenever a license is granted to operate a mine. He suggested further that there should be a condition that the State should not collect royalty from a mine which is operating but has not given information about it to DGMS.

19. Shri Rana, while agreeing to the suggestions made by Hon'ble Member, stated that State Government should also take the responsibility of ensuring information of operation of a mine by the owner to the DGMS. Elaborating this suggestion, Shri Rana stated that the day the owner starts a mine, he should give a notice of opening to DGMS. It is also the responsibility of the State to ask from the owner, the day royalty collection starts, whether he has informed about the starting of operation to DGMS. Otherwise, his operations should not be allowed.

20. Shri Sinha, Member, NHRC, simplifying the issue, suggested that if among the conditions of licence which is granted by the State one more condition is imposed that the mines will be allowed to start the operations only if the mine operator gives the notice of opening to the Department of Mines, Government of India. To this provision, Shri Rana informed that this condition is already being imposed but the States do not take any measures to check as to whether the mine operator had actually done that. He suggested that the State should impose a condition that it will not collect Royalty from a mine which is operating but has not informed about it to DGMS.

21. Shri Rajesh Kishore, Secretary General, NHRC, suggested that there is no harm in informing simultaneously to the Ministry of Labour as well as Department of Mines by the mines owner about establishing and operating the Mines. Shri Rana informed that to prevent violation of Section 16 of the Mines Act, 1952, every lease deed or license agreement in the country should include the clause of submission of Form 1 and compliance with Mines Act; and that for renewal of leases and issuance of "Rawanna", the mineral concession holder should submit a Compliance report issued by DGMS. This will ensure compliance of occupation safety and health norms and ensure that DGMS is aware of the number of mining leases and quarry licenses issued in the country. This will be one of the much needed links between the State and the Union or State Mining Department and Ministry of Labour and Employment.

22. Shri Ashim Sinha referring to the Section 16 of the Mines Act, 1952 informed that as per the Section 16, the owner, agent or manager of a mine shall before the commencement of any mining operation, give to the Chief Inspector, Indian Bureau of Mines and the District Magistrate of the district in which the mine is situated, notice in writing in prescribed form and containing such particulars relating to the mine as may be prescribed which means 'intent of opening'. Shri Ashim Sinha further stated that every mine shall be under a sole manager who shall have the prescribed qualifications. Once the manager is appointed, he has to see that the mine is operating as per the statutory provisions. Shri Ashim Sinha also informed that DGMS will not allow operating the mines until owner appoints a manager which means that without appointing a manager one cannot operate a mine.

23. Reiterating the need for amendment in Mines Act, Shri Patel added that every mine owner or the State Government will have to send a notice to the DGMS regarding the collection of the revenue. The day the revenue starts coming, whether it comes through third party by way of annual auction, the onus is on the mine owner and the State Government to inform DGMS. But, normally according to him, the State Government is not interested in sending the reports. Rather, it is interested in collecting the revenue only.

24. Shri Rajeev Khanna, Professor, SGT University, stated that as informed, there are only eight thousand legal mines operating all over the country but in Rajasthan alone, there are, actually, thirty three thousand mines operating of which, only three thousand have submitted report. He further raised the question of sufficient number of manpower. On one hand, it is being discussed that posts are not being filled up, whereas, two hundred fifty odd posts are lying vacant. Prof. Khanna suggested for filling these posts.

25. Expressing his views, Shri Saurabh Prakash, Advocate, stated that there should also be an option for third party who is collecting the revenue to inform the State. Shri Rana stated that the people who are collecting the royalty on behalf of State are just contractors/agency and they only ensure whether royalty receipt is there or not. It is only the State which is giving the royalty receipt, he added. Shri Saurabh suggested that before allowing the third party to collect the royalty, it should be made mandatory to have a copy of the notice that has been served by the State without which the royalty cannot be collected.

26. Shri Rana raised the issue of regulation of activities which neither come under the purview of mines nor under the factories. For example, establishments involved in breaking stones on highways.

27. Shri Sinha, Member, NHRC, also sought solution to this problem about the activities going on at the road sides like stone cutting, stone polishing, stone grinding which is a manufacturing activity covered under the Factories Act but the Act is not getting applied to such units and they are also being not inspected by the Inspectors of the factories. He further asked about the amendments that need to be made either in the Factories Act or any other provision required to be made for the enforcement of Factories Act on such units so that all such manufacturing activities also comes under monitoring.

28. Shri Sinha, Member, NHRC, suggested that each State should carry out a survey of all such units where this kind of manufacturing activities are being carried out and all these units then could be required to register themselves under the Factories Act.

29. Shri Saurabh Prakash then commented that in construction industries, large part of the labour is casual or temporary and by the time, disease is diagnosed that labour may be employed somewhere else because there is a long gestation period for the disease like silicosis. He further informed that though there is a Building and Other Construction Workers Act, 1996 besides Cess Act. Under the Cess Act a huge amount of cess has been collected and until some years ago, nothing has been done with thousands crores of cess collected which could have been utilized for their welfare.

30. On providing compensation to the workers suffering from silicosis or other occupational diseases, Shri Sinha, Member, NHRC, suggested that the compensation should be out of this Cess Fund which is collected by the State Government Welfare Department.

31. Dr. Umesh Chandra Ojha, Director, Institute of Occupational Health & environment, New Delhi stated that unfortunately, silicosis or any other occupational diseases is not taught in MBBS course for more than four hours. He further informed that there are some seven thousand plus doctors for whom ESIC have started providing information in various forums about the occupational diseases, so that doctors can suspect the disease on the first instance when patient visits a doctor.

32. Shri Kishore, S.G, NHRC wanted clarification about the sectors being covered under the ESIC Act to which Dr. Ojha replied that it is only the organized sector which is covered under the said Act.

33. Further informing the participants of the meeting, Dr. Sishodiya said that except for one course no course in occupational diseases is being run at Post-Graduate level in the country. The only course which is being run by the Government Institute of

Public Hygiene and Health. So there is no training of the Doctors, in the MBBS or at Post Graduate level, he exclaimed. Shri Kishore, S.G, NHRC mentioned that though there is no specialized course being run, but silicosis is part of pulmonary medicine.

34. Dr. Sishodiya again reiterated that Government should at least, in some of the premier institutions like All India Institute of Medical Sciences or other medical colleges, start a PG course in occupational health. Shri S.C. Sinha, Member, NHRC, then suggested that there may be a paper of occupational health in MBBS. Dr. Sishodiya stated that it is not practically possible. Shri Rajesh Kishore suggested that instead of separate paper, a certain number of hours may be fixed per semester for imparting medical education on occupational health. He further suggested that if it is not possible to introduce a very large segment, then it can be thought for increasing the number of hours from four to at least ten.

35. Shri Sinha, Member, NHRC, then suggested the following solutions on the issue of training of doctors on occupational health which could be explored: (i) setting up of a department of occupational health in every medical college; (ii) a capsule course on occupational health should be taught as a part of MBBS course; (iii) there could be a separate post graduate course in occupational health; and (iv) National Board of Exams to have a diploma course on occupational health.

36. Shri Kochher, Joint Secretary, NHRC then asked Shri Rajput to inform about the efforts which are being made by DGFASLI regarding the training of the certifying surgeons as per the Section 10 of the ESIC Act. Shri Rajput replied that DGFASLI have started a three months Associate Fellowship of Industrial Health (AIFH) course and right now ten institutions across the country are running this course. Shri Kochher further inquired about the output every year, that is, the number of certifying surgeons which is coming out trained from the institutions.

37. Shri Rajput replied that twenty five to thirty candidates are generally admitted in the course so that about two hundred fifty or three hundred people are trained per year. Shri Sinha, Hon'ble Member, NHRC, requested Shri Rajput to provide the details about the total number of certifying surgeons in the country.

38. Shri Rajesh Kishore enquired about what is required to be done for diagnosis of silicosis as every district hospital in the county has got an X-ray machine since silicosis can be detected by X-rays test. To this, Dr. Sishodia replied that the main problem is that the Doctors don't have the intent to diagnose. They keep on treating the people like a case of tuberculosis and are not ready to put it on the record that the particular case is of silicosis. He further said that the doctors don't want to take

up the responsibility as diagnosing and not reporting is an offence but not diagnosing and not recognizing is not an offence.

39. Shri Sinha suggested that Department of Health and Family Welfare of States should consider the possibility of starting a crash course on Occupational diseases such as silicosis, asbestosis in their own training institution for in service doctors of the State Govt.

40. Shri Amulya Nidhi from Nai Shuruwat, Shilpi Kendra, Madhya Pradesh while referring to the comments of Ministry wherein it is stated that the enforcement officers have the power to initiate legal action against factories which do not comply the provisions of Factories act, stated that it has not been clearly mentioned in the ATR about the legal action which can be taken against the factories by the Inspectors. He further stated that in Section 8 and Section 9, the ATR says that the responsibility for filling up the vacant posts within the specified time lies with the respective State Governments/UTs. In this context, Shri Amulya said that Government should fix time lines.

41. Shri Amulya further suggested that there should be an MIS System for all the migrant workers so that as and when a worker goes out to another place for work, there is a record of his where about. Hence, there should be a comprehensive MIS System through which the Panchayats and the Government should have information about the employment of the migrant worker.

42. There was also discussion on preventive measures against contraction of deceases like silicosis. It was suggested that -:

- Each mine worker or a factory worker be provided with protective equipment kit.
- The State Government should grant the license of opening to only those factories/mines which are equipped with the wet drilling process.
- State Pollution Control Board should also inspect the factories/mines on a regular basis.
- State Governments should setup a helpline in each State so that if there is non compliance of the provision of the Acts an information can be given.
- DGFASLI should put up the inspection reports on their portal.

43. Summing up the discussions, Hon'ble Member, NHRC thanked the participants for their valuable suggestions and requested the participants to send their written comments/suggestions.

44. On the basis of the deliberations held in the meeting, the following recommendations emanated:

Recommendation of the Meeting of Experts on Silicosis

- (i) There is need to ratify the ILO Convention 155 by Government of India to ensure health, safety and proper working environment for workers.
- (ii) The Directorate General of Mines Safety, Ministry of Labour and Employment, Government of India, should make it mandatory for every State Government to inform the DGMS, Government of India whenever a new license to operate a mine is given to a mine owner by a State Government. Further as and when a mine lease holder submits the 'notice for opening' of the mine, a copy of the same i.e. information about opening of the mine should be given to DGMS.
- (iii) There is a need to issue a separate directive under the Mines Act, 1952, to resolve the issue of monitoring the stone quarries and stone crushers which at present, is not clearly covered by the Act. This is because in stone quarries when stones are dug out, the process comes under the purview of mining, however, crushing of the stone falls under the Factories Act.
- (iv) As per Section 17 of the Mines Act, 1952, it should be ensured by the mine owner that a Mine Manager is appointed with requisite qualifications to oversee the functioning of the mine. In case, the mine owner possesses the requisite qualifications, he may himself act as a Manager.
- (v) Each State should carry out a survey of all units where dust generating activities are being carried out and these units need to be registered under the Factories Act, 1948. All such units where dust is generated should be notified as per Section 85 of the Act.
- (vi) The Government of India should include a capsule on Occupational Health in MBBS curriculum/M.D. curriculum. Besides, this the MCI may consider starting a P.G. Course in Occupational Diseases in medical colleges. Further, the National Board of Examinations could also start a Diploma course on Occupational Health.
- (vii) It was recommended that each Doctor of ESI Hospital should undergo three months Associate Fellowship of Industrial Health being offered by DGFASLI and its Regional Labour Institutes.
- (viii) The Ministry of Health and Family Welfare, National Institute of Occupational Health (Ahmedabad) and the National Institute of Health and Family Welfare

- (New Delhi) should consider the possibility of starting a crash course on 'Occupational Diseases' like silicosis, asbestosis, etc. for Doctors in service in various States and Union Territories. The content and duration of these programmes need to be well defined.
- (ix) Welfare Boards should be setup in every State for providing relief fund for rehabilitation of workers ailing from silicosis and related diseases on the line of fund set up in the State of Madhya Pradesh where cess is collected from industries for welfare of workers.
 - (x) Every hospital in each district should have proper diagnostic facilities for diagnosis of silicosis.
 - (xi) The best practices based on the model of Mandsaur need to be replicated in other States as well.
 - (xii) States to constitute a separate Board for construction workers so as to provide rehabilitation and compensation fund for workers suffering from occupational diseases is being followed by the Government of Rajasthan.
 - (xiii) As of now, the public hospitals do not have an OPD for occupational health. The Ministry of Health and Family Welfare should be requested to advice all the States to start an OPD on occupational health in one public hospital in each district, on a pilot basis, to begin with.
 - (xiv) Every worker should have a medical insurance cover for health and safety purposes whereby he/she could have access to all hospitals for his treatment.
 - (xv) Each mine worker and factory worker should be provided with a set of protective equipment/kit as prescribed under the Factories Act and the Mines Act. Shri Ashim Sinha and Shri Rajput shall provide a detailed list of the protective equipments/kit presently being given to workers along with its costing. The said list will then be given to State Governments to: (a) carry out a survey of strength of workers in each and every mine of the State, and (b) provide every worker with a protective gear free of cost and recover its cost from the employer.
 - (xvi) The State Government should grant licenses for operation of mines to only those who adopt/follow wet grinding process. And, wherever dry grinding is being followed the same should be got converted to wet grinding by insisting in for the same at the stage of renewal of mining licence by the State Government.

- (xvii) State Government should set a telephone helpline so that complaints about mines can be lodged by workers immediately, especially in cases where there is non-compliance of the provisions of the related Acts.
- (xviii) DGFASLI and DGMS should put up the inspection reports of all factories and mines on their web portals.
- (xix) Number of posts of Inspectors lying vacant should be filled up immediately by the DGMS. If need be, more posts should also be created.
- (xx) There is need for greater involvement of State Governments in enforcement of Mines Act, which at present is lacking on their part. In order to reiterate this point, a meeting should be organized with the concerned representative of the State Governments by the NHRC along with the Ministry of Mines and Ministry of Labour and Employment, Government of India.

List of Participants

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The Commission's endeavour is to ensure relief to the families of the persons who have died of silicosis and those who have been suffering from silicosis and also that the erring factories and the establishments/industries which have been the cause of pollution and resultant silicosis to pay for their default in addition to the compensation being paid by the different State Governments due to their vicarious liabilities.

The Hon'ble Supreme Court of India in the Matter of PRASAR Vs Union of India and others, Writ Petition (Civil) NO. 110 vide an order dated 25.03.2009 directed that, "NHRC may take up the specific and confirmed cases of persons, who are suffering from Silicosis and shall recommend to provide immediate medical relief to them through the concerned authorities and in case of those persons, who died of silicosis, may provide compensation through concerned authorities."

The Commission has taken cognizance on the complaints from the NGOs and individuals and recommended compensation to the next-of kin of the persons who have died of silicosis. The NHRC has also directed the State Governments to provide for rehabilitation and medical treatment to the former workers suffering from silicosis.. Some of the important cases are illustrated as under:

Gujarat and Madhya Pradesh

1 Case No. 300/6/5/2007-2008

Complaint by Khedut Mazdoor Chetna Sangthan

The Commission has recommended payment of monetary compensation to Next-of-Kin of 238 persons who have died of Silicosis in Jhaubua and Aliragpur, districts of the State of Madhya Pradesh, and had been working in the Quartz crushing Units in Godhra District of Gujarat. The Chief Secretary, Government of Gujarat, was asked to make payment of Rupees 1,00,000 (Rupees one lakh) to the Next- of- Kin of the

deceased in cash and rest of the amount of Rupees 2,00,000 (Rupees two lakhs), to be kept in Fixed Deposit, which will be available to the Next- of-Kin of the deceased in the shape of monthly interest.

The Commission also recommended that the Chief Secretary, Government of Madhya Pradesh Shall give a rehabilitation package to 304 persons suffering from silicosis. The details of package awarded to each of the victims of silicosis shall be communicated to the Commission within eight weeks.

The Government of Gujarat has shown its inability to make payment of the monetary compensation to the Next-of-kin of 238 deceased persons. As a result thereof, the Commission was constrained to move before the Hon'ble Supreme Court of India in view of the Apex Court order dated 05.03.2009 praying for following directions:

- i. The State of Gujarat to immediately disburse the compensation of Rs. 3 lakh as recommended by the National Human Rights Commission in its proceedings dated 12.11.2010
- ii. The State of Gujarat to pay interest on Rs. 3 lakh from the date of recommendation i.e. 12.11.2010 till the date of disbursement to the next of kin of the 238 deceased.
- iii. Enhancement of compensation, in the fact and circumstances as the Hon'ble Court may deem fit and proper
- iv. The State of Madhya Pradesh to submit a comprehensive scheme of rehabilitation, medical treatment with regard to 304 persons who were suffering from silicosis and the said scheme should be permanent for the silicosis affected persons.
- v. Pass such other orders(s) or direction (s) which the Hon'ble Court may deem fit and proper in the facts and circumstances of the present case.

Jharkhand

2. Case No. 1013/34/6/2007-2008

Complaint by Occupational Safety and Health Association of Jharkhand (OSHAI)

The Secretary General, Occupational Safety & Health Association of Jharkhand (OSHAI), Jamshedpur, Jharkhand in a complaint dated 08.10.2007 alleged that Plants of M/s K.K. Minerals and K.K. Sales were emitting silica dust in village

Teranga on Jaduguda, Musaboni Road, East Singhbhum district of Jharkhand. As a result, thereof, the labourers working in the plant have been contracting and dying of the occupational disease, silicosis. Moreover, these plants were situated in the vicinity of the residential area, thus violating the norms set by the Central Pollution Control Board. Moreover no environmental safeguards or arrangement for protective measures for the workers were in place. He sought intervention of the Commission.

The Commission took cognizance of the case on 17/10/2009 and issued a notice to the Chief Secretary, Govt. of Jharkhand, Ranchi for sending a report. The State of Jharkhand informed the Commission that it has sanctioned Rs. 96 lakhs to the next of kin of 24 persons who had died due to silicosis.

Jharkhand

3. Case No 163/34/18/2012.

Complaint by Occupational Safety and Health Association of Jharkhand (OSHAJ)

The Secretary General, Occupational Safety & Health Association of Jharkhand (OSHAJ) on 8th December 2011 sent a complaint to the Commission and submitted that Manoj Prasad along with ten workers employed in M/S Mineral Grinding Works, Chaibasa, West Singhbhum District of Jharkhand for working in grinding of quartz, lime stone, bauxite, etc., had contracted the occupational disease silicosis. One of the workers Manoj Kumar was initially, diagnosed TB but he was a confirmed case of silicosis as the doctors had opined that it was an occupational lung disease, Pneumoconiosis. Medical record of Manoj Kumar had been attached with the complaint. The complainant further stated that these workers belong to the SC & ST communities. He had prayed for intervention of the Commission for recommending compensation to them under labour laws or from the State Government.

The Commission took cognizance on 30.01.2011 and directed to send a copy of the letter along with the medical record to the Chief Secretary, Government of Jharkhand who will inform the Commission as to whether the next-of-kins of Manoj Prasad and other workers who died of Pneumoconiosis have been rehabilitated by the State Government of Jharkhand or not.

The Commission vide proceedings dated 27.5.2015 directed the Chief Secretary Government of Jharkhand to submit the proof of payment to the next-of-kin of deceased Manoj Prasad. Pursuant to the directions of the Commission, Secretary, Labour, Planning & Training Department, Government of Jharkhand, Ranchi vide

communication dated 22.5.2015 informed the Commission that an amount of Rs.4 Lakh had been paid to Smt. Anshu Devi wife of Manoj Prasad. The proof of payment was also submitted. Since the proof of payment had been received, the case was closed.

Rajasthan

4. Case No . 1573/20/19/2009-2010, 550/20/20/2012 and 2079/20/20/2012.

Shri Ashok Kumar, Mine labour Protection Campaign, on 06/11/2009 sent a complaint to the Commission with the submission that around 7000 Sand Stone Quarries were employing more than 40000 workers in Rajasthan (Case No 1573/20/19/2009-2010). He alleged that the working conditions in mines are extremely polluted with very high stone dust level. The complainant had enclosed two lists including 60 and 7 workers, suffering from silicosis and had died due to silicosis. The complainant had also stated that Govt. of Rajasthan had leased out the mines to the contractors and the labourers working in these mines were not being issued identity cards. As a result, their employment with the employer could not be ascertained. Therefore, the workers were not in a position to file compensation cases under Workmen Compensation Act. He sought intervention of the Commission.

The Commission on 1.12.2009 observed that this was a matter of serious health hazard, Silicosis affecting a large number of labourers and asked DG(I), NHRC to send a team to Jodhpur, Rajasthan for conducting an on the spot enquiry and submit report.

The Managing Trustee of Mine Labour Protection Campaign, Jodhpur informed the Commission on 24.2.2012 that Mine workers in district Karauli, Rajasthan were suffering from silicosis (Case No 550/20/20/2012). He further submitted that National Institute of Miner's Health (NIMH), Nagpur conducted a study and according to the study 101 persons including 9 females were medically examined. These workers had been suffering from various respiratory symptoms and also had a history of working in the stone mines. It was found that out of 101 workers 73 workers were suffering from silicosis and 16 of them had developed Progressive Massive Fibrosis. He had requested that stringent measures were required to fight the menace of silicosis and all other occupational diseases. He has enclosed the list of persons who were found suffering from Silicosis.

The Commission on 12.03.2012 directed to send a copy of the complaint along with the list of persons who were suffering from silicosis to Chief Secretary,

Government of Rajasthan to enquire into the matter and submit report:- 1) As to whether persons mentioned in the list are the confirmed cases of silicosis. 2) What action the Government of Rajasthan had taken for prevention of Silicosis in the area. 3) Whether any rehabilitation package and medical facilities have been provided to the persons who are suffering from the ailment of silicosis.

Daang Vikas Sansthan, Karauli, Rajasthan an NGO vide a complaint dated 26.07.2012 forwarded a copy of the report of National Institute of Miners' Health, stating that 101 workers belonging to 18 villages of Karauli, Rajasthan were examined by them and out of these 101 workers 4 persons had died of silicosis and some were suffering from silicosis (2079/20/20/2012). The complainant had requested that the workers suffering from silicosis may be provided financial assistance and medical treatment and compensation may be provided to next-of-kin of those who had died.

The Commission on 16.8.2012 took cognizance and sent a copy of the complaint to the Chief Secretary, Rajasthan, Jaipur for furnishing a report within four weeks.

The State of Rajasthan informed the commission that:

- i. Medical Health Department has conducted a survey covering 388 cases, out of which 108 suspected of silicosis were referred to medical college. A special campaign was launched in Jodhpur in April, 2011. A total number of 2100 workers were screened and 55 suspected cases of silicosis were referred to medical college.
- ii. Government of Rajasthan has allotted a sum of Rs 24.4 crores to upgrade medical facilities in 19 mining district and each center will be well equipped and will be given sum of Rs. 5.5 lakh for free medicines for silicosis affected patients.
- iii. The State Medical and Health Department has been asked for diagnosis of silicosis cases on the basis of ILO protocol.
- iv. The state government has given ex-gratia relief of Rs. 1 lakh to each of next of kin of 21 persons who died of silicosis. The state government has also issued orders for granting Rs. 2 lakhs for each of the family of the 21 persons who died of silicosis in the form of fixed deposit.
- v. The state of Rajasthan, has paid the ex-gratia relief of Rs 1 lakh to each of 27 persons died due to silicosis and deposited Rs. 2,000,00 (Rupees two lakh)

each in their Fixed Deposit Account. They have also taken several measures for regular medical check of the persons involved in the mining activities and diagnosis, prevention and rehabilitation of the persons suffering from silicosis.

Madhya Pradesh

5. Case No. 430/12/32/2012

The Environics Trust, an NGO vide a complaint dated 03.01,2012 stated that the condition of thousands of workers working in numerous stone quarries in Panna, Madhya was abysmal. Since agriculture was risky due to drought conditions, the stone quarries were the single largest source of employment in the district. He alleged that the workers employed in these quarries were working in extremely hazardous conditions without any protective equipment provided by the employers. The majority of workers being illiterate were not aware of the risks caused by the silica dust.

The complainant further stated that their NGO organized a medical examination for 40 stone quarry workers in the month of August 2011 by renowned doctor, V. Murlidhar. It was found that of the 40 workers screened, 36 were found to be suffering from silicosis and one of these 36 persons had already succumbed to silicosis. The complainant had furnished a list of 35 persons suffering from silicosis and a list of persons who died due to silicosis.

The NGO sought intervention of the Commission with the request to direct the State Government to pay adequate compensation to the family of the deceased and provide immediate and comprehensive medical treatment to the victims who were still alive.

The Commission took cognizance on 21.2.2012 and directed to send a copy of the report along with the lists/annexure to the Chief Secretary, Government of MP for submitting the report on: (1) Measures have been taken to prevent silicosis in the area. (2) Whether the workers were rightly found suffering from silicosis. (3) Inform the Commission about the rehabilitation package to be given to victims of silicosis.

The Government of Madhya Pradesh has informed the Commission that the State had paid Rs. 3 lakhs to the next-of-kin of 4 diseased workers, namely Shahabuddin, Asha Ram, Bal Krishan Durga and Ramzan Khan who were mine workers and had died due to Silicosis.

Silicosis is an important human right issue. It has its impact not only on the right to life but also on the right to live with dignity. The workers inflicted with the dreaded disease of silicosis and their families are denied the right to lead a life of dignity due to the employers not taking preventive measures and callousness of the official machinery in enforcing the existing policies and laws. The labour working in the unorganized sector without any means to social security and job security are left unattended after they contract the dreaded disease of silicosis. Most of these inflicted workers die without recourse to the necessary health care support. Their families suffer from loss of livelihood but no compensation is available to them from the State authorities.

In view of the serious implications and adverse impact of silicosis disease on the human rights of people affected by the disease, it should be prevented with proper regulation of working conditions by the Government agencies and needful precautions taken by the employers, both in the organized and unorganized sector. A set of suggested guidelines for the law enforcement and other concerned agencies of State Government as well as employers to prevent the disease and also deal with the problem of afflicted persons are given below:

1. The State Governments should ensure the proper protection of labourers working in risk prone industries against the disease by taking recourse to latest available technology which include:

- Installing dust control devices to reduce dust generation at the workplaces;
- Providing a set of protective equipment/kit free of cost to each mine worker;
- Limiting exposure to harmful dust by suppressing dust generation, filtering or capturing dust particles, diluting the concentration with fresh air, and using personal protective respiratory equipment;

- Enforcing use of wet drilling and dust extractors by respective regulatory authorities;
 - Providing Silica detection equipment to factory inspectorate to identify industries producing silica;
 - Ensuring implementation of precautionary measures including the protective gears for the workers of silicosis prone industries by the concerned enforcement authorities.
2. The States/UTs should take appropriate steps to implement Schedule No. XIII prepared by the Directorate General Factory Advice Service and Labour Institute under model Rule 120 framed u/s 87 of the Factories Act, 1948.
3. The State and Union Territory Governments of identified States and UTs with high number of silicosis cases should issue notification under Section 85 of the Factories Act to make the law applicable also to the entrepreneurs employing less than 10 labourers and make them and their employees aware about their vulnerability to silicosis.
4. The States and Union Territories should ensure strict enforcement of the Factories Act, 1948 by appointing Inspectors and Certifying Surgeons under the Act;
5. All States and Union Territories should conduct occupational survey on half yearly basis in hazardous industries either themselves or by engaging public or private research institutes to have a complete picture of the silicosis problem - the total number of identified cases of silicosis and the status of their treatment. The survey should also throw light on the status of ex-workers.
6. The States/UTs should maintain information on:
- Number of workers in silica prone industries;
 - Total number of incidents/cases of silicosis;
 - The status of treatment being given to victims;
 - The kind of screening test being carried out by the employers of various industries for detection of silicosis cases;
 - Type of special measures being taken by employers in suspected cases of silicosis;
 - Measures undertaken for prevention of silicosis;
 - Whether any kind of insurance cover is given to the workers by their employers;

- In the case of ex-workers, apart from making an assessment about their actual number, the kind of treatment, rehabilitation and compensation package given to them by their employers;
- Whether in case of death of a worker, their respective family is taken care of or not;
- Steps taken by the States/UTs for violation of labour laws regarding the erring employers.

7. The States should ensure that all enrolled workers employed in the dangerous operations should be medically examined by a medical practitioner possessing requisite qualification before entering into the employment. The workers should be clinically examined with Chest radiography and Pulmonary Function Test to rule out any respiratory disorder. The States should also ensure regular medical check-up of each worker working in the hazardous process after every 6 months at the expense of the employer. The medical examination should also be carried out at the time of cessation of employment.

8. A uniform diagnosis procedure across the country primarily consisting of detailed occupational history, chest radiography, C.T. scan and lung biopsy to confirm cases of silicosis should be adopted. If Silicosis is detected, the States should provide immediate medical relief to persons suffering from silicosis;

9. The States should carry out vigorous publicity campaigns by making use of the electronic and print media at all levels to create awareness among workers, employers and medical practitioners about silicosis being a health hazard to improve self responding of cases and to facilitate early detection.

10. The identity cards should be issued to all workers to ensure the responsibility of employers and establish employee and employer relationship at any future point of time.

11. The States should ensure proper enforcement of several existing laws to provide adequate compensation to the silicosis affected workers employed in industries/factories/quarries/mines or to their families in case of their deaths. All compensation claims filed under Employees' Compensation Act, 1923 and Employees' State Insurance Act, 1948 should be processed urgently and disposed within three months from date of filing of claims.

12. The States may take appropriate measures for rehabilitation of the silicosis victim by offering them alternative jobs or a sustenance pension if they are unable to work; and arrange for appropriate counseling for the person affected by silicosis.
13. The silica prone industrial units should have an Occupational Health and Safety Committees (OHSC) with the representation from workers and Health Care Providers;
14. The NGOs should be involved in monitoring and implementation of the programmes initiated for the benefit of silica exposed workers.
15. The DGFASLI and DGMS should put up the inspection reports of all factories and mines on their web portals.

In view of the serious implications associated with silicosis disease and the adverse impact on the human rights of people affected by it, the States Governments should ensure overall efficacy and work towards removal of existing deficiencies in the context of prevention of silicosis, cure and rehabilitation measures, payment of compensation and enforcement machinery by bringing substantive changes in the manner the Inspectorate of Factories and other enforcement officers perform their duties. The States should also review the existing legislation to deal with the loopholes which the employers/officials surreptitiously use to serve their selfish and vested interests. The States and UTs may consider the following points for future course of action:

1. The Ministry of Labour and Employment may prepare a background paper for launching a national programme for eradication of silicosis. The State Government should take proper steps to prevent and ultimately eliminate the problem of silicosis with proper monitoring within a reasonable time-frame.
2. The States/UTs Governments should encourage development and promotion of various cost-effective engineering control measures to manage silica dust through surveillance of processes or operations where silica is involved. Expertise available with specialized institutions like National Institute of Occupational Health (NIOH) and Directorate General of Factory Advice and Labour Institutes (DGFASLI) may be utilized in devising and adopting preventive measures like wet drilling and face masks etc.
3. The States and UTs may organize training and awareness generation programmes for all workers and employers every year to sensitize them about the health effects of silica dust exposure including operations and material that produce silica dust hazards, application of engineering controls and work practices that

reduce dust concentration, personal hygiene practices, etc. and making available the checklist prepared by DGFASLI for prevention of silicosis for usage of employers and workers. Publications and films may also be prepared for this purpose.

4. Pollution from thermal power stations across the country should be brought under surveillance for risk of silicosis of not only to workers but to the neighboring population in residential areas as coal and coal ash contains silica ranging from 18% to 30% approximately.

5. All the manufacturing process/operations where silica dust is generated should be declared as dangerous operations and the State Government should frame rules under section 87 of the Factories Act 1948.

6. Silicosis is a notified disease under Mines Act 1952 and the Factories Act 1948. It may also be made a notifiable disease under the Public Health Act. As such all district/primary health centres/hospitals in the country will have to report the cases/suspected cases of silicosis to the Government.

7. The Government should evolve a mechanism to have intersectoral coordination among departments such as Ministry of Health & Family Welfare, Ministry of Labour & Employment, Directorate General of Factory Advice Services Labour Institute, National Institute of Occupational Health, Tuberculosis Association of India, National Institute of Miners' Health (NIMH) and Civil society organizations for devising an appropriate strategy to deal with the dual problems of silicosis and tuberculosis at the Center and State Level.

8. Silicosis control programme should be integrated with already existing Revised National Tuberculosis Control Programme (RNTCP). The District Tuberculosis Officer must collect and maintain accurate information and documentation on number of workplaces and workers at risk from silica exposure.

9. The States should make provision for adequate number of hospitals/treatment centres for diagnosis and treatment of the occupational disease – silicosis. The State Governments should set up district level Occupational Disease Diagnosis Centre (ODDC) at ESI, Government hospitals and NRHM centers at different location and OPD for occupational diseases in all civil hospitals. These should be well equipped with proper diagnostic facilities, Chest Specialists, Radiologists and other technical staff for proper diagnosis, treatment and referral.

10. To overcome the shortage of doctors, The Government of India may include a capsule on Occupational Health in MBBS /MD curriculum. The MCI may consider

starting a P.G. Course in Occupational Diseases in medical colleges. The National Board of Examinations may start a Diploma course on Occupational Health. The Ministry of Health and Family Welfare, National Institute of Occupational Health (Ahmadabad) and the National Institute of Health and Family Welfare (New Delhi) may consider the possibility of starting a crash course with well defined contents and duration on 'Occupational Diseases' like silicosis, asbestosis, etc. for serving Doctors in different States and Union Territories.

11. The States may take steps for recruitment of certified surgeons, radiologists and chest specialists as well as their capacity building and training arrangement on dust diseases as per WHO & ILO standard. Each Doctor of ESI Hospital should undergo three months Associate Fellowship of Industrial Health being offered by DGFASLI and its Regional Labour Institutes. The State Governments may introduce special courses of Environment & Occupational Health for the Junior Doctors and interns and develop Master Trainers to impart training to all public health doctors/paramedics for early diagnosis and detection of silicosis. The States may also adopt the practice of nominating officers from associated Departments fulfilling medical qualifications and other requirements as Certifying Surgeons.

12. Every worker should be provided a medical insurance cover for health and safety purposes whereby he/she could have access to all hospitals for his/her treatment. The district administration should ensure that workers get cashless treatment facility and the payment of entire medical expenses is made directly by the employer to the hospital/doctor for proper treatment of silica affected persons including permanent, temporary or contractual worker.

13. The States should simplify the mechanism of compensation as well as its modalities to enable workers to file their claims for compensation and work out a compensation package for victims of silicosis or next-of-kin of affected by silicosis. The qualifying period to claim compensation under Employee Compensation Act, 1923 & ESI Act, 1948 causing hindrance for workers to claim compensation should be removed by amending the Act and any worker found to be suffering from Silicosis (no matter for how long the employment was) should be compensated.

14. A worker may not have the required documents to support his employment like identity card or attendance card or pay slip as well as length of exposure, when he is out of employment. This stipulation, therefore, requires change.

15. The State Governments may constitute a Board or set-up a fund for the rehabilitation and insurance of all the workers affected by silicosis.

16. The Central Government may consider extending the Rashtriya Swasthya Bima Yojna, a health insurance scheme for BPL families and extended subsequently to some other vulnerable groups, to the workers at risk of contracting silicosis and their families.

17. Silicosis is a compensable injury enlisted under the ESI Act and the Workmen's Compensation Act. Therefore, a separate Silicosis Board may be formed in every State to carry out surveillance of silicosis cases and assessment of disability/loss of earning capacity resulting from the diseases for the purpose of compensation and rehabilitation.

Annexure

Item No. 2 Court No. 1 Section Pil
SUPREME COURT OF INDIA
RECORD OF PROCEEDINGS

Writ Petition (Civil No. (S). 110 of 2006

People's Rights & Social Res. Centre & Ors

Petitioner(s)

VERSUS

UNION OF INDIA & ORS.
(s)

Respondent

(With apln(s) for exemption from filing O.T., directions, interim directions,
Permission to file additional documents and office report)

Date: 05/03/2009 This Potition was called on for hearing today.

Doram : Hon'ble the Chief Justice

Hon'ble Mr. Justice F. Sathasivam

Hon'ble Mr. Justice J.M. Panchal

For Fetitioner(s) Mr. Colin Gonsalves, Sr. Adv.

Mr. Vipin M. Benjamin, Adv.

Mr. V. G. Pragasam, Adv.

Mr. S.J. Aristotle, Adv.

Mr. Pinky Behera, Adv. for

Mr. Hemantika Wahi, Adv.

Mr. Prsshant Bhushan, Adv.

Mr. S.W.A. Oadri, Adv.

Ms. Varuna Shandari Gugnani, Adv. for

Mr. D.S. Mahra, Adv.
For NHRC Mr. Sanjay Parikh, Adv.
 Ms. Anitha Shendy, Adv.
 Ms. Rashmi Nandakumar, Adv.
 Mr. Jitin Sahni, Adv.

UPON hearing counsel the Court made the following

O R D E R

In our view, central Pollution Control Board is a necessary party to be impleaded as an additional respondent in this matter.

Let notice be issued to Central Pollution Control Board returnable after six weeks.

Learned counsel appearing for National Human Rights Commission (for short 'NHRC') states that pursuant to the directions the NHRC has conducted a survey regarding the problem of silicosis which is affecting a large number of people working at the premises of stone crushers, stone quarry, construction works, glass factories, quartz crushing factories, stone mines and other silicon dust producing plants etc.. The Preliminary Report for NHRC shows that the problem of silicosis is prevalent in many States and further survey is to be conducted in this regard and since the Ministry of Health and Ministry of Labour, Union of India have to provide all necessary assistance, we direct the Ministry of Health and Ministry of Labour, Union of India to extend all further assistance to the NHRC for further action in this regard.

NHRC may take up the specific and confirmed cases of persons who are suffering from silicosis and shall recommend to provide immediate medical relief to them through the concerned authorities and in case of those persons who died because of silicosis, may provide for compensation through the concerned authorities.

Learned senior counsel appearing for the petitioner shall bring to the notice for the Court on the next date of hearing as to which States are to be impleaded as necessary parties-respondents in this matter. List this matter after six weeks.

Sd/-
(Parveen Kr. Chawla)
Court Master

Sd/-
(Veera Varma)
Court Master

Recommendations of National Human Rights Commission on Preventive, Remedial, Rehabilitative and Compensation Aspect concerning Silicosis

Preventive Measures:

1. The occupational health survey and dust survey on half yearly basis may be made mandatory in suspected hazardous industries. All the enrolled workers must be medically examined before entering into the employment. The workers should be clinically examined with Chest radiography and pulmonary function test to rule out any respiratory disorder
2. State/UT governments should encourage development and promotion of various cost-effective engineering control measures to manage silica dust through surveillance of processes or operations where silica is involved.
3. Implementation of precautionary measures including the protective gears for the workers of silicosis prone industries may make mandatory by the concerned enforcement authorities.
4. Dust control devices should be installed to reduce the dust generation at the workplace. National Institute of Occupational Health (NIOH) has developed control devices for agate, grinding and quarts crushing industries based on the principle of local exhaust ventilation. The use of wet drilling and dust extractors may be enforced by respective regulatory authorities.
5. The workers vulnerable to silicosis need to be made aware of the disease through wide publicity campaigns with the use of electronic and print media. This will also improve self responding of cases and facilitate early detection.
6. Silicosis is a notified disease under Mines Act 1952 and the Factories Act 1948. Silicosis may also be made a notifiable disease under the Public Health Act. As such all district/primary health centres/hospitals in the country will have to report the cases/suspected cases of silicosis to the Government.
7. There is a necessity to develop Master Trainers to impart training to all public health doctors/paramedics for early diagnosis and detection of silicosis.
8. Less hazardous substitutes to silica should be found out for use in place of silica.

9. Industrial units which are silica prone should have an Occupational Health and Safety Committees (OHSC) with the representation from workers and Health Care Providers.
10. Silicosis control programme should be integrated with already existing Revised National Tuberculosis Control Programme (RNTCP).
11. A mechanism to have intersectoral coordination among departments such as Ministry of Health & Family Welfare, Ministry of Labour & Employment, Directorate General of Factory Advice Services Labour Institute, National Institute of Occupational Health, Tuberculosis Association of India and Civil Society Organizations to evolve an appropriate strategy to deal with the dual problems of silicosis and tuberculosis may be set up at the center and state level.

Remedial Measures:

1. In each of the district where silicosis prone industry, quarrying or a big construction projects are on, there is a need to identify a facility for diagnosis of silicosis.
2. The District Tuberculosis Officer must collect and maintain accurate information and documentation on number of workplaces and workers at risk from silica exposure.
3. The accountability for the implementation and control over the rules & regulation of laws must be reviewed time to time.
4. The National /State Social Security Board set up under The Unorganized Worker's Social Security Act, 2008 should recommend welfare schemes to be formulated for the welfare of the unorganized workers who are at the risk of contracting silicosis as well as those already affected and their families.
5. The Central Government may consider extending the Rashtriya Swasthya Bima Yojna, a health insurance scheme for BPL families and extended subsequently to some other vulnerable groups, to the workers at risk of contracting silicosis and their families.

Rehabilitative Measures:

1. The treatment cost of the silica affected person including permanent, temporary or contractual worker should be borne by the employer. The district administration should ensure its implementation and treatment.
2. The victims of silicosis should be rehabilitated by offering an alternative job or a sustenance pension if they are unable to work.

3. NGOs should be involved in monitoring and implementation of the programmes initiated for the benefit of silica exposed workers.
4. Appropriate Counseling should be provided to the person affected by silicosis.

Compensation:

1. The silica affected person should be adequately compensated.
2. Silicosis is a compensable injury enlisted under the ESI Act and the Workmen's Compensation Act. Therefore, a separate Silicosis Board similar to the one set up by the Government of Orissa may be formed in every State. The guidelines and model calculation of compensation may be framed under the ESI Act and the Workmen's Compensation Act.
3. The Board can carry out surveillance of silicosis cases and assessment of disability/loss of earning capacity resulting from the diseases for the purpose of compensation and rehabilitation.
4. The compensation could be calculated based on Disability Adjusted Life Year (DALY) developed by World Health Organisation. The compensation may be calculated by using the model given below.

Calculation of compensation¹

WHO adopted strategy of the burden of disease essentially looks into the new metric of the Disability Adjusted Life Year (DALY) lost due to the disease. The DALY is a summary measure of population health that combines in a single indicator years of life lost from premature death and years of life lived with disabilities. One DALY can be thought of as one lost year of 'healthy' life and the burden of disease as a measurement of the gap between current health status and an ideal situation where everyone lives into old age free of diseases and disability. DALYs for a disease or health condition are calculated as the sum of the years of life lost (YLL) due to premature mortality in the population and the years lost due to disability (YLD) for incident cases of the health condition.

With due consideration of different estimates, it might be possible to arrive at DALY values associated to the silicosis. As a hypothetical example, a calculation to arrive at the DALY values for silicosis, some observations of NIOH studies are shown herewith. During the period from 1981 to 2004, 12 studies have been conducted at

¹ It is a model calculation. Wherever possible the data for the local population should be used.

NIOH and different work processes such as slate pencil workers, agate workers, quarry workers, ceramic and pottery workers. The prevalence of silicosis has been reported in the range of 12 to 54% in different occupational groups. The average age of workers ranged from 27 to 43 with the duration of exposure varied from 5 to 19 years.

Let us consider that the total number of workers exposed to silica in India with potential risk to contract with silicosis is 30 lakhs and the onset of silicosis is at the age of 27 years and the duration of exposure when silicosis reported is 8 years. The survival time data regarding silicosis patients in India after diagnosis of the disease are not available. The literature reported mean survival time (Lou and Zhou, 1989) of silicosis patients after diagnosis is 12.2 years. With the detailed calculation method available for DALY one can arrive at average age of death of silicosis patient of around 40 yrs. The life expectancy at the age of 40 yrs is 31.5 yrs and taking discount of 3% into consideration, the life expectancy at the age of 40 yrs becomes 21.82 yrs. Taking the prevalence of silicosis at 32%, the total workers that might have contracted silicosis 9.6 lakhs. Current data regarding mortality due to silicosis in India are not available. For the purpose of the calculation the mortality due to silicosis is taken as 2.3% (Nakagawa, et.al 1985). That means the mortality number is twenty two thousand. The summated YLL and YLD yielded the DALY value as 520262 yrs., and accordingly the total number of years lost per silicosis patient can be arrived at 23 years. With minimum income of a worker of Rs.36,000/- per annum, the estimated amount of compensation to a silicosis patient might be arrived at Rs. 13 lakhs due to disability adjusted life year lost of 23 years.

Limitations

This approach of estimation of compensation has certain limitations due to the non-availability of some basic estimates such as the total exposed population, prevalence estimate based on large scale study, survival time of silicosis patient after diagnosis, disability weights, etc. In the above hypothetical calculation the disability weight for silicosis patients is taken as 0.006.

Abbreviation

DALY	Disability Adjusted Life Year
ESI	Employee State Insurance
NIOH	National Institute of Occupational Health
OHSC	Occupational Health and Safety Committees
YLD	Years Lost due to Disability
YLL	Years of Life Lost

Changes Sought in the Existing Legislations

Act	Provisions	Action required to be taken
Factories Act 1948		
1.	Section 2(c) (b):- the section identifies 29 industries as hazardous under First Schedule. Foundries, Cement, Glass & Ceramic, Ferrous Metallurgical Industries, Power Generating Industries and Grinding of glazing of metals have the potential of exposure to free silica	<ul style="list-style-type: none"> Gems and Jewellery industry may be added
2.	Section 7:- Mandatory written notice to be given before using any premises as a factory at least 15 days in advance. This shall include name and situation of the factory and name and address of the occupier as well as number of workers occupied.	<ul style="list-style-type: none"> Factories where exposure to Silica is involved like stone crushing, agate industry etc. do not follow the provisions of Section 7, therefore, the whereabouts of such factories are not known to the Chief Inspector of factories.
3.	Section 7(A):- the section deals with the general duties of the occupier of factory premises. Sub section 3 prescribes for a written statement to be prepared by the occupier regarding the health and safety of the worker.	<ul style="list-style-type: none"> Non compliance. Seeking enforcement of these provisions.
4.	Section 8 & 9:- Deals with the appointment and powers of the factory inspectors. Every District Magistrate shall be an inspector for his district.	<ul style="list-style-type: none"> All vacancies for the factory inspectors to be filled within 6 months. The inspectors must carry out their duties in accordance with Section 9. Inspection of premises will be made every month by the factory inspectors for the first 3 years after these directions and the report made publicly available, the inspections can then reduce in frequency. Chief Secretary of the state to be responsible for the implementation of the direction. Obstructing the inspector, failure to produce the documents etc, is punishable under Section 95.

Act	Provisions	Action required to be taken
5.	Section 10:- Certifying surgeons. The section deals with the appointment of certifying surgeons and their responsibilities.	<ul style="list-style-type: none"> • Though the provisions here deal with appointment of certifying surgeons, however, adequate number of Occupational Health Institutes do not exist. Directions to set-up these institutes is necessary. • All states to fill all vacancies within 6 months for certifying surgeons qualified in industrial health and occupational Health and Safety. • Each district should have at least one certifying surgeon.
6.	Chapter 3(Sections 11 to 20) deal with health. In particular section 14 speaks about controlling the dust and fumes.	<ul style="list-style-type: none"> • All these provisions are ignored in most of the Factories. Strict enforcement of these provisions is required. In factories where silica dust is generated, the compliance and implementation of Section 14 is extremely important.
7.	Section 41B deals with compulsory disclosure of information by the occupier where hazardous processes are involved and is mandatory. All information regarding the hazards has to be disclosed to the Chief Inspectors, Local Authority and the general public.	<ul style="list-style-type: none"> • This provision is hardly implemented. It is required to be implemented strictly. • Failing to comply with this provision is punishable under Section 96A. • Report of Dust sampling by employers should be made available to the public.
8.	Section 41C:- Requires the occupier to maintain accurate and up-to-date health records of the workers and provides for medical examination of every workers while he is in job and after he has ceased to be in Job.	<ul style="list-style-type: none"> • Every person employed in the dangerous operations shall be examined by a medical practitioner possessing requisite qualification within 15 days of employment. No person shall be allowed to work after 15 days of employment unless certified fit for such employment by the medical practitioner. • The periodically of medical examination the employee. • Certificate of fitness and health register shall be kept readily available for inspection by the authority.

Act	Provisions	Action required to be taken
		<ul style="list-style-type: none"> • Directions to all the industries and the official-respondents to maintain compulsory and keep preserved health records of each workman for a period of 40 years from the date of beginning of the employment or 10 years after the cessation of the employment, whichever is later . • The Honorable Supreme Court has given this particular direction in case of Consumer Education & Research Centre and others Vs. union of India which deals with asbestosis. • Failing to comply with this provision is punishable under Section 96A
9	<p>Section 41F:- This Section deals with the Permissible limits of exposure of chemical and toxic substances. The standards: for silica dust has been prescribed long back which is required to be revised as per section 41(F) (2) by the central government.</p>	<ul style="list-style-type: none"> • Review of the standards of silica dust by the Central Government. • Industrial hygiene labs of the factory inspectorate to be set-up in all states (if not in place already) and should be equipped with qualified industrial hygienist and required instruments within 6 months. • Regular monitoring for dust levels to be done by employers. • Rules and procedures for inspection and monitoring of dust producing areas should be framed and implemented with clear mention of the interval of inspection, time and operation during which inspections will take place. • Any violations of the prescribed limits should be strictly punished. All inspectors to be equipped with relevant equipments to enable dust measuring and monitoring as per provisions in the Act, the TLV limits should be reviewed after every 5 years. Work environment monitoring should be done once in 8 hr shift. • Failing to comply with this provision is punishable under Section 96A

Act	Provisions	Action required to be taken
10	Section 85:- Power to apply the act to certain premises	<ul style="list-style-type: none"> All the processes where silica dust is generated is hazardous in nature and, therefore, they should be notified by all State governments under the factories Act, 1948.
11.	Section 87:- this section deals with the framing of rules by state government where manufacturing process or operation can cause serious risk of bodily injury. It enumerates the areas which will be covered under such rules.	<ul style="list-style-type: none"> All the manufacturing process/ operations where silica dust is generated should be declared as dangerous operations and the state government should be directed to frame rules under this provision.
12.	Section 89:- This Section deals with the responsibility placed on medical practitioners to report any occupational disease to the authorities like the chief inspector or others as specified. There is a provision of fine on the medical practitioner in case the disease is not reported	<ul style="list-style-type: none"> Reporting of silicosis and silica related Occupational Diseases by medical practitioners should be strictly enforced and in case of any violation a fine of Rs. 10,000 should be applicable which will be added into the Silicosis relief fund. Medical practitioners should be rewarded Rs. 1000 per case they report.
13.	Section 90:- deals with the power provided to the state government to appoint a competent person to inquire cause of any accident in a factory or into any case the disease specified in Third schedule has been contracted	<ul style="list-style-type: none"> The section should be utilized and enforced by the state government Independent agency to conduct an Occupational Health and Safety survey in these industries.
14	Section 91A:- Provides for Safety and Occupational health surveys by the Chief Inspector, DGHS, DGFASLI.	<ul style="list-style-type: none"> This provision came into force on 26 January 1976 but no safety and occupational health survey has been done in hazardous operations generating silica dust. A State/UT wise and National survey is necessary.
15	Section 111A:- Workers have right to obtain information related to health and safety at work	<ul style="list-style-type: none"> The report of any factory inspection should be made available to all workers and placed on the website to the monitoring authority
16	Section 113: deals with the powers of Centre to give directions.	<ul style="list-style-type: none"> Centre should monitor the implementation of the Act by giving necessary directions to the State/UTs

Act	Provisions	Action required to be taken
Mines Act 1952		
17	Section 2(J) defines ‘mine’ to which the Act applies.	
18	Section 5 to 9 & 11 & 22 relates to appointment of inspectors and Certifying Surgeons, Inspections, powers and duties. Section 22 gives Inspector’s power to give notice if he finds anything requiring attention on account of health of workers. There can be fine of Rs. 5000 under Section 72B	<ul style="list-style-type: none"> • All vacancies for the inspectors to be filled within 6 months. • Inspection of mines will be made every month by the inspectors for the first 3 years after these directions and the report made publicly available, the inspections can then reduce in frequency. Chief Secretary of the state to be responsible for the implementation of the direction. • Rules for inspection of dust producing areas should be framed and implemented with clear mention of the interval of inspection, time and operation during which inspection will be made available to all workers and placed on the website of the monitoring authority. Any violations of the prescribed limits should be strictly punished. • Pollution Control Board and other Entities should monitor the Silica threshold level strictly and any violations should be punished with repeat offenders being shut down. • Steps should be taken to prevent Silicosis and proper engineering control mechanisms should be installed in all premises. Government should provide soft loans to small enterprises who cannot afford the initial high capital costs for such installations. Workers should be provided with personal Protective equipments and it should be ensured that the equipment is maintained properly and is in sound working condition at all times. • Threshold limits for silica dust environment should be defined and monitored strictly. • Central Government to ensure its full implementation.

Act	Provisions	Action required to be taken
19.	Section 9A deals with Occupational Health Survey	<ul style="list-style-type: none"> To be made compulsory after every 6 months The provisions of Chapter 4 regarding certifying surgeons and chapter IVA regarding medical examination of employed or to be employed in mines as per Mines Rules 1955 should be complied with
20.	Section 10 deals with secrecy of information obtained by the inspectors during inspections and entails a fine on the Inspector in case information is disclosed	<ul style="list-style-type: none"> All inspection reports and information gathered should be made public
21.	Section 23 requires the mine owners to report any accident and pasting it on notice board	<ul style="list-style-type: none"> The provision should be strictly implemented. However, fine for not reporting any accident is under Section 70 a paltry sum of Rs 500 or imprisonment upto 2 months. This punishment should be enhanced
22.	Section 25, 26 and 27: These Sections deal with the provision of notifying the concerned authorities about the Occupational Diseases. It also talks about the medical practitioner being fine if the disease is not reported. The maximum fine although is a paltry Rs. 50. Section 26 gives power to direct investigation in the causes of disease. The report of such an investigation can be published by the Central Government under section 27.	<ul style="list-style-type: none"> Every person employed in the dangerous operations shall be examined by a medical practitioner possessing requisite qualification within 15 days of employment. No person shall be allowed to work after 15 days of employment unless certified fit for such employment by the medical practitioner. Each worker working in the hazardous process area should be periodically examined medically after every 6 months on the expenses of the employer. Medical examination should also be carried out at the time of cessation of employment. Record of medical examination and appropriate test carried out by the said medical practitioner shall be maintained in a separate register and results shared with the employee.

Act	Provisions	Action required to be taken
		<ul style="list-style-type: none"> • Certificate of fitness and health register shall be kept readily available for inspection by the authority. • Directions to all the industries and the official-respondents to maintain compulsorily and keep preserved health records of each workman for a period of 40 years from the date of beginning of the employment or 10 years after the cessation of the employment, whichever is later. The Honorable Supreme Court has given this particular direction in case of Consumer Education & Research Centre and other Vs. Union of India which deals with asbestosis. • Reporting of Silicosis and Silica related Occupational Diseases by medical practitioners should be strictly enforced and in case of any violation a fine of Rs. 10,000 should be applicable which will be added into the Silicosis relief fund • The Central Government should direct investigation into the causes of disease Silicosis with which approximately 10 million are stated to be suffering. The report of such investigation be made public.
23.	Section 48:- Register of persons employed	<ul style="list-style-type: none"> • There is non-compliance of this provision. The inspectors should ensure full compliance of this provision

Act	Provisions	Action required to be taken
Employee's Compensation Act, 1923 (earlier Workman's Compensation Act, 1923)	Section 3:- this section deals with the compensation to be provided in case of injury or accident to a workman during the course of employment. This section enables workers suffering from occupational diseases to avail compensation. Schedule II of the act includes persons employed in factories, construction works and other hazardous occupations. As per the Act, the occupational diseases should be contracted while in the service of the employer in the specified employment. Schedule III of the Act divides the occupational disease into three parts namely Part A, Part B, and Part C. for diseases specified in part A there is no qualifying	<ul style="list-style-type: none"> • Only cash compensation is granted. (Medical benefits are also now reimbursed). The payment for medical expenses should be made by the employer directly. • As per Section 2(n) certain categories of employees are not covered. • Amount of compensation is calculated as per disability percent. For Silicosis victims, this disability should be considered as 100% as per High Court of Gujarat order under case number 3449 of 1999 (Babubhai v/s ESIC) • Mechanisms for ensuring enforcement of the compensation order should be set-up. Compensation should be delivered within a period of 1 month from the date of order. • In both the acts (Employee Compensation Act, 1923 & ESI Act, 1948) it is started that a period is seen as QUALIFYING period to claim compensation. This has been a hindrance for workers to claim compensation. This should be removed and any worker found to be suffering from Silicosis (no matter for how long the employment was) should be compensated.
ESI Act 1948	Section 2(8):- this section deals with the definition of the employment injury	
	Section 51A:- This section deals with the presumption as to accident arising in course of employment and states that, an accident arising in the course of an insured person's employment shall be presumed, in the absence of evidence to the contrary, also to have arisen out that employment.	

Act	Provisions	Action required to be taken
	<p>Section 52A deals with occupational diseases. Schedule III of the act lists the Occupational diseases in three parts, with silicosis listed under Part C of the Schedule. For diseases specified in Part A there is no qualifying period of employment. For diseases specified in Part B a person should have been employed in the specified employment for a continuous period of 6 months before the disease is contracted. For the diseases specified in Part C, the qualifying period is specified by the Employee State Insurance Corporation which is set up under the Act.</p>	<ul style="list-style-type: none"> • All compensation claims filled under the Acts to be processed urgently and disposed within 3 months from the date of filling of claims. • In both the acts it is stated that a period of employment is required for the disease to occur. Though it is logical, the period is seen as QUALIFYING period to claim compensation. This has been a hindrance for workers to claim compensation. This should be removed and any worker found to be suffering from Silicosis (no matter for how long the employment was) should be compensated. ESIC had resolved in 1992 in this regard and this resolution should become part of the Act • In ESI Act, compensation is due from the date of confirmation and assessment by the Special medical Board. The Act is silent on the time period within which the claimant should be examined by the Board. In such circumstances, claimants have to wait for as long as two to three years for the Board to examine their claims. No compensation for the waiting period is paid. This should immediately changes by amending law to the effect that the compensation is due from the date of injury/diagnosis/first suspected. • In order to ensure effective implementation of these Acts: <ol style="list-style-type: none"> 1. Worker should be immediately given the employment card, within maximum 7 days. 2. Where ESI Act is applicable, the ESI inspectors should ensure that all workers are registered under the ESI Act.

Act	Provisions	Action required to be taken
		<p>3. Where ESI Act does not apply, in addition to Employee's Commendation Act, an insurance scheme for medical benefits and compensation for the dependents should be taken by the employer.</p> <ul style="list-style-type: none"> • Supreme Court directions in case of Customer Education & Research Centre and others vs. Union of India which deals with Asbestosis should be made applicable with regards to Silicosis- <p>1. "The ESI Act and the Workmen's Compensation Act provide for payment of mandatory compensation for the injury or death caused to the workmen while in employment. Since the act does not provide for payment of compensation after cessation of employment, it becomes necessary to protect such persons from the respective dates of cessation of their employment till date. Liquidated damages by way of compensation are accepted principles of compensation. In the light of the law above laid down and also on the doctrine to tortuous liability, the respective factories or companies shall be found to compensate the workmen for the health hazards which is the cause for the disease with which the workmen are suffering from or had suffered pending the writ petitions. Therefore, the factory or establishment shall be responsible to pay liquidated damages to the workmen concerned."</p>

Act	Provisions	Action required to be taken
		<p>2. “All the factories whether covered by this ESI act or the Workmen’s compensation Act or otherwise are directed to compulsorily insure health coverage to every workers.”</p> <ul style="list-style-type: none"> • Amount of compensation is calculated as per disability percent. For Silicosis victims, this disability should be considered as 100% as per High Court of Gujarat order under case number 3449 of 1999 (Babubhai v/s ESIC).

**Presentation
on
NHRC Interventions
on
Silicosis
25.07.2014**

Basic Facts

- Silicosis is an incurable lung disease caused by inhaling of free crystalline silica dust.
- Some of the silicosis prone industries :
 - All Stone quarries & crushers
 - Quartz mining
 - Gem cutting/polishing
 - Slate/pencil industries
 - Ceramic Industries
 - Foundries

NHRC view

- Silicosis is preventable if:
 - proper warning is given
 - working conditions are properly regulated
- If a worker gets afflicted with Silicosis, then Government under constitutional obligation to:
 - Provide necessary health care
 - Other rehabilitative measures

Some Early NHRC Initiatives

- In 2001, NHRC took cognizance of the labourers working in quartz mines of Andhra Pradesh Mineral Development Corporation in Shadnagar and Mahboobnagar.
- In 2003, NHRC took *suo motu* cognizance of silicosis deaths in glass container factory in Pondicherry.
- National Task Force on Silicosis constituted by NHRC under one of its Members. The Task Force recognized need for authentic data base regarding silicosis.

NHRC Directions on 1.5.2008

- Whether any survey undertaken regarding prevalence of silicosis ?
- Steps taken by the State Government to prevent and eliminate silicosis ?
- Complaints received regarding problem of silicosis ?
- Steps to implement Schedule No. XIII of DG FASLI under Model Rule 120 framed under Section 87 of Factories Act ?
- Number of Hospitals for diagnosis/treatment ?

NHRC Directions on 1.5.2008 (contd.)

- Whether compensation to victims of silicosis paid by State Governments and details ?
- Policy of the State Government for prevention and cure of silicosis and payment of compensation to unorganized sector workers ?
- Constitution of any Board or Fund for rehabilitation and insurance of workers affected by silicosis ?

Supreme Court Directions on 5.3.2009

- NHRC may take up specific and confirmed cases of persons suffering from Silicosis and recommend immediate medical relief to them and compensation to families in case of persons who died of silicosis through concerned authorities.
- Union Ministries of Health and Labour & Employment to provide all necessary assistance to the NHRC for any action relating to silicosis.

NHRC approach

Two-pronged :

- Taking up individual cases and making recommendations to States/UTs to provide compensation to victims and rehabilitation measures including medical relief.
- Recommending to States/UTs for taking preventive, remedial and rehabilitative measures for dealing with the problem of silicosis.

Some Important Complaint Cases

- Complaint by PRASAR, New Delhi regarding cases in Delhi Lal Kuan Area on the basis of a survey in 2001.
- Complaint by Khedut Mazdoor Chetna Sangathan regarding tribals of Jhabua district in M.P. working in Gujarat.
- Complaint by Peoples Training and Research Centre, Vadodara.
- Complaint by Occupational safety and Health Association of Jharkhand (OSHAI) regarding cases of silicosis among workers in M/s KK Minerals & KK Sales.
- Complaint by Mine Labour Protection Campaign Trust, Rajasthan regarding :
 - Silicosis affected workers in Jodhpur.
 - Mine workers suffering from Silicosis in Karauli, Rajasthan.

NHRC Expert Group

- Set up on 18.12.2009
- Chaired by Member, NHRC with representatives from DG FASLI, DG, Mines Safety, Director, NIOH, M/o Commerce & Industries, Environment & Forests, PRASAR.
- Identified silicosis prone industries.
- Suggested practical & implementable measures encompassing preventive, remedial, rehabilitative and compensation aspects.

NHRC recommendations dated 13.12.2010

Preventive

- Mandatory occupational health survey and dust survey in hazardous industries.
- Cost-effective engineering control measures to control silica dust.
- Protective gear for workers in silicosis prone industries.
- Awareness generation among workers.
- Silicosis may be made notifiable under Public Health Act.

NHRC recommendations dated 13.12.2010 (Contd.)

Remedial

- Facility for diagnosis of silicosis in each district with silicosis prone industry.
- District Tuberculosis Officer to maintain record/documentation of workplaces/workers at risk.
- Schemes for the welfare of affected unorganised sector workers and their family members.
- Rashtriya Swasthya Bima Yojana could be extended to cover these workers.

NHRC recommendations dated 13.12.2010 (contd.)

Rehabilitative

- Treatment cost of silica affected persons should be borne by the employer. District Administration to ensure its implementation.
- Alternate job or sustenance pension for victims.
- Appropriate counselling for silicosis affected persons.
- NGOs to be involved in monitoring and implementation of rehabilitative process.

NHRC recommendations dated 13.12.2010 (Contd.)

Compensation

- Silicosis affected persons should be adequately compensated.
- Silicosis is a compensable disease under the ESI Act and Workmen's Compensation Act. Guidelines for calculation of compensation under the Acts may be framed.
- Assessment of disability/ loss of earning capacity by the Silicosis Board for compensation/ rehabilitation purpose.

Special Report of NHRC

- Aim to draw the attention of the Government of India as well as Parliamentarians towards inhuman conditions faced by persons affected by silicosis including their family members.
- Suggest changes in labour laws to provide for better protection of labour working in silicosis prone industries especially those in the unorganized sector.

National Conference (1.3.2011)

Some of the important recommendations :

- All States/UTs should complete detailed survey within six months.
- Review meetings of concerned officials to be held to assess the action taken.
- All State Factory Inspectorates to have at least one industrial hygiene expert.
- All civil hospitals to have separate OPD for occupational diseases.

Review Meetings

States reported mainly as under :

- Survey of industries started and would be completed shortly (Tamil Nadu, M.P., Raj., Karnataka, A.P.) .
- Some States have identified vulnerable districts (Gujarat & Karnataka).
- Some States reported that a Plan of Action was being put in place to deal with the problem (M.P. & Jharkhand).
- Rehabilitation facilities being provided including medical treatment.
- Preventive measures being put in place and protective gear being provided to workers.
- Some States reported that there was no problem and hence no survey was necessary.

Important Issues

- Efforts made by the State Government to identify the industries within the State where workers are prone to Silicosis. Also, if such industries are in the vicinity of residential areas where residents are also similarly prone to Silicosis.
- Survey undertaken by the State Government regarding prevalence of Silicosis including number of victims identified and status of their treatment. Also, number of deaths due to silicosis?
- Hospitals/treatment facilities in the State for diagnosis and treatment of the Silicosis.
- Complete details of compensation paid by the State Government to the victims of Silicosis as well as their medical treatment.
- Steps taken by the State Government or any policy in place for the prevention of Silicosis.

Important Issues (contd.)

- Details of steps taken for payment of relief/compensation as well as medical facilities to the persons working in the unorganized sector and affected with Silicosis.
- Board or fund, if any, set up by the State Government for the rehabilitation and insurance of all workers affected by Silicosis. Also, details of any welfare schemes in place dedicated for workers affected by Silicosis.
- Steps taken by the Government to prevent and eliminate the problem of Silicosis. If the problem still exists, the time-frame within which it will be eliminated.
- Efforts made by State Government to create awareness among workers, employers and medical practitioners about Silicosis being a health hazard.
- Steps taken to ensure that the workers in the silicosis prone industries are suitably protected by use of latest technologically available precautionary measures.

Thank you

NATIONAL CONFERENCE ON SILICOSIS

25th JULY, 2014

Presentation by
Government of Andhra Pradesh

Efforts made by the State Government to identify industries where workers are Prone to Silicosis

- To extend statutory support under Factories Act, 1948 to workers employed in smaller factories having potential to cause Silicosis, the Government has notified such industries employing less than 10 workers also as 'factories' under Section 85 (i) of the Factories Act, 1948.
- Special Drive was conducted in the State in 2011 for identification and registration of all unregistered factories wherein workers are likely to be affected with Silicosis. A survey is also proposed to be conducted before December, 2014.

Total Number of registered factories where workers are Prone to Silicosis in the state are as follows:

Name of Industry	No. of factories	No. of workers employed
Stone crushers	1447	10656
Quartz Grinding	15	250
Glass Manufacturing	8	526
Ceramics/ Refractories	26	1148
Foundries	56	2727
Shot blasting	27	394

In addition to the above, there are an estimated 25 lakh construction workers in the state

Survey undertaken by the State Government regarding prevalence of Silicosis

- On the instructions of the Government a Base line Survey of Silicosis / TB prone industries was conducted by an International NGO, TB Alert India in few districts in the State.
- Medical Examination of 1420 workers in 26 foundries and 198 stone crushers was organised by the Department in Visakhapatnam, Srikakulam, Kurnool, Ranga Reddy and Nalgonda districts
- Director, Insurance Medical Services organised screening tests in 8 ESI Hospitals where not a single case of silicosis was reported.
- No cases/ deaths of Silicosis were identified / reported
- A detailed survey of the Industries prone to silicosis and identification of cases of silicosis is part of the State Action Plan for Elimination of Silicosis, being prepared.

Hospitals/treatment facilities in the State for diagnosis and treatment of the Silicosis

- Eleven Teaching General Hospitals attached to medical colleges and three specialists (TB & Chest) Hospitals are available in the State for diagnosis and treatment of Silicosis. In addition, facilities for diagnosis of Silicosis are also available in 17 Districts / Area Hospitals under the Andhra Pradesh Vaidya Vidhana Parishad and about 20 Institutions under the control of Director of Health, Government of Andhra Pradesh.
- ESI Occupational Health Centre is located at Chennai for South India
- Total unorganised sector is covered under the Arogyasree Scheme. Some of the major corporate hospitals are also empanelled under the said scheme for providing medical care.

Complete details of compensation paid by the State Government to the Victims of Silicosis as well as their medical treatment

- Silicosis cases were not identified in the formal inspections of the IMS and Factories Departments and no cases of silicosis were filed under Employees Compensation Act.
- This may not reflect non-existence of silicosis cases in the State. The employers are not willing to provide information and the workers are also not revealing the symptoms for fear of loss of employment.
- A detailed action plan towards implementation of recommendations of the Hon'ble NHRC is being prepared for addressing all issues of silicosis including identification and payment of compensation.

Steps taken by the State Government or any policy in place for the prevention of Silicosis

- Factories employing less than 10 workers were also brought under purview of the Factories Act by the Government of Andhra Pradesh under Section 85 (i) of the Factories Act vide notification issued in G.O.Ms.No 110, dated 6-11-2007 amending the G.O. Ms.No.43 of Labour, Employment, Training and Factories Department dated 30-5-2001.
- The processes/ operations in factories which have potential to cause silicosis such as stone crushing, glass manufacturing, graphite powdering, manufacturing of pottery, foundries etc., were notified as a dangerous operation under Section 87 of the Factories Act, 1948 and precautions to be taken, permissible limits, medical facilities and medical examinations for workers, maintenance of work places etc., have been included in Schedules IV, VIII, XI, XIV, XVII, XXX under Rule 95 of the A.P. Factories Rules, 1950.
- The State Government has also sanctioned 3 posts of Medical Inspectors of Factories in the Department

Schemes implemented by the A.P.L.W Board

• Accidental Death Relief	:	Rs.30,000
• Natural Death Relief	:	Rs.10,000
• Funeral Expenses	:	Rs. 5,000
• Financial Assistance for loss of limbs	:	Up to Rs.20,000
• Marriage Gift	:	Rs.10,000
• Maternity Benefit	:	Rs.5,000
• Family Planning incentive:	:	Rs.2,000
• Scholarships	:	Rs.1,000 to Rs.2,000
• Scholarships for physically challenged	:	Rs.4,000

Board or fund, if any, set up by the State Government for the rehabilitation and insurance of all workers affected by Silicosis. Also, details of any welfare schemes in place dedicated for workers affected by Silicosis.

➤ No special Board/ fund is set up by the State Government for the rehabilitation and insurance of workers affected by Silicosis as on date.

➤ However, the workers employed in Stone Crushers, Stone Quarries and such other categories of workers covered under Building & Other Construction Workers Act are extended benefits/relief under schemes implemented by the A.P Building & Other Construction Workers Welfare Board.

➤ Workers covered under Factories Act 1948 and A.P.Shops & Establishments Act 1988 are also extended benefits / relief under schemes implemented by A.P.Labour Welfare Board.

• Since silicosis is covered under the Employees Compensation Act, 1923, workers / dependents may claim for compensation. It is proposed in the Action Plan to take-up wide publicity of the relief available under the Act since very few claims are made.

• Rules have been framed under Un Organised Workers Social Security Act, 2008 and State Social Security Board is being reconstituted. State Schemes are being formulated.

• A proposal for establishment of a separate silicosis board as part of State Action Plan for Elimination of Silicosis is being examined.

Steps taken by the Government to prevent and eliminate the problem of Silicosis. If the problem still exists, the time-frame within which it will be eliminated

➤ Wet grinding is implemented wherever necessary. Provision for damping, providing local exhaust arrangement, enclosing, isolation of the process etc is made mandatory in para 3 of Schedule XVII under Rule 95 of A.P. Factories Rules, 1950 for stone crushers.

➤ Managements of Silicosis prone industries are encouraged to use cost effective engineering control measures to manage Silica dust by controlling them at source and shifting to wet process wherever possible.

➤ it is mandatory for the occupiers of said factories to provide personal protective equipment to the workers and ensure their usage as per the provisions under Rule 61E and Schedules framed for dangerous operations under Rule 95 of A.P Factories Rules, 1950 (Schedule XVII for Stone Crushers, Schedule IV for Glass manufacture, Schedule VIII for sand blasting operations, Schedule XXX etc.,

➤ Pre-employment and periodical medical examination of workers working in suspected hazardous industries is mandatory under the respective schedules framed under Rule 95 of AP Factories Rules, 1950 (Para 7 of Schedule XVII for Stone Crushers, Para 12 of Schedule IV for Glass manufacture, Para 7 of Schedule VIII for sand blasting operations, Para 18 of Schedule XXX for foundries). Periodical examination of workers includes chest X Ray and Pulmonary function Test.

➤ State Action Plan for Elimination of Silicosis to address all aspects of silicosis is being prepared

➤ It is planned to take up a detailed survey to ascertain the magnitude of the problem including mapping of the areas of activity and incidence of silicosis

➤ State Action Plan for Elimination of Silicosis envisages convergence of all departments and agencies and also civil society organisations and leverages Welfare Boards and other resources

Efforts made by State Government to create awareness among workers, employers and medical practitioners about Silicosis being a health hazard

➤ The Factories Department has brought out a video film on Silicosis in 2009 to sensitize the employers and employees of factories which have potential to cause Silicosis.

➤ Wide publicity by all means including electronic media has been proposed in the State Action Plan

➤ The efforts of all stake holders including Trade Unions, NGOs, Civil Society organisations would be involved to create awareness about all aspects of silicosis including preventive and remedial measures, relief, rehabilitation and compensation available to the victims

THANK YOU

ACTION TAKEN BY STATE OF CHHATTISGARH

ON NHRC RECOMMENDATIONS FOR SILICOSIS

Preventive Measures:

NHRC RECOMMENDATION 1-

- The occupational health survey and dust survey on half yearly basis may be made mandatory in suspected hazardous industries. All the enrolled workers must be medically examined before entering into the employment. The workers should be clinically examined with Chest radiography and pulmonary function test to rule out any respiratory disorder.

- Occupational health survey in suspected hazardous industries is carried out by two doctors/medical inspector of factories posted as assistant director (medical) under directorate of industrial health and safety.
- These medical inspector of factories carry out inspection of hazardous industries to check the status of health related facilities as per The Factories Act 1948 and CG Factories Rules 1962.
- These doctors also screen the x-ray and lung function test reports of workers for detection of any occupational lung disease including silicosis.

- Exercising the power conferred to the state government by section 112 of The Factories Act 1948, the state government has amended the form -21 (health register) prescribed under rule 19 of CG Factories Rules 1962, by addition of the proforma for pre employment medical examination and periodic medical examination for workers working in hazardous factories (under sec 2cb & schedule 1 of the factories act 1948) and dangerous operations (under rule 107 of CG factories rules 1962).
- Under pre- employment examination and periodic medical examinations, x-ray(once in 3 yrs) and yearly lung function test is made mandatory for every worker working in suspected hazardous industries by the state government

- In Chhattisgarh some Stone crushers are notified as factories under section 85 of the factories act 1948. Section 85 of the factories act gives the power to state government to apply the act to certain premises, which are otherwise not covered in the factories act. After a place is so declared, it shall be deemed as a factory for the purposes of this act.
- Its main advantage is that we can regulate the working conditions and can apply the provisions of the factories act 1948 regarding health to silicosis prone premises like stone crushers.

- The state industrial hygiene laboratory is currently working under the guidance of experts from REGIONAL LABOUR INSTITUTE, KANPUR for procuring the necessary equipments and training for conducting occupational dust surveys.
- By the end of 2014 the state industrial hygiene laboratory shall commence conducting occupational dust surveys in suspected hazardous industries.

Preventive Measures:

NHRC RECOMMENDATION 2-

- State/UT government should encourage development and promotion of various cost-effective engineering control measures to manage silica dust through surveillance of processes or operations where silica is involved.
- State is committed to promote cost effective engineering control measures to manage silica dust if developed or suggested by appropriate authorities.(central government , DGFAI etc.)

Preventive Measures:

NHRC RECOMMENDATION 3-

Implementation of precautionary measures including the protective gears for the workers of silicosis prone industries may make mandatory by the concerned enforcement authorities.

- Use of personal protective equipments by workers working in silicosis prone industries is mandatory under rule 73 and schedule 27(point 12) in rule 107 of CG factories rules 1962, and is continuously monitored by inspectors of factories in their respective areas.

Preventive Measures:

NHRC RECOMMENDATION 4-

Dust control devices should be installed to reduce the dust generation at the workplace. National Institute of Occupational Health (NIOH) has developed control devices for agate, grinding and quarts crushing industries based on the principle of local exhaust ventilation. The use of wet drilling and dust extractors may be enforced by respective regulatory authorities.

- This will be enforced by the state government in near future.

Preventive Measures:

NHRC RECOMMENDATION 5-

The workers vulnerable to silicosis need to be made aware of the disease through wide publicity campaigns with the use of electronic and print media. This will also improve self responding of cases and facilitate early detection.

The state government is planning for publicity campaigns for the workers vulnerable to silicosis for creating awareness of the disease among them. It will be done in near future.

Preventive Measures:

NHRC RECOMMENDATION 6-

Silicosis is a notified disease under Mine Act 1952 and the factories Act 1948. Silicosis may also be made a notifiable disease under the Public health Act. As such all district/primary health centers /hospitals in the country will have to report the cases/suspected cases of silicosis to the Government.

Central government can add silicosis as notifiable disease in model public health act and accordingly states can follow.

Preventive Measures:

NHRC RECOMMENDATION 7-

There is a necessity to develop Master Trainers to impart training to all public health doctors/paramedics for early diagnosis and detection of silicosis.

The medical inspector of factories are giving training to factory medical officers (in ILO radiographs , lung function tests) for early diagnosis and detection of silicosis. We are also planning a training programme regarding silicosis for all public health doctors.

Government is sending ESI services doctors for AFIH course to develop them as master trainers for training public health doctors regarding early diagnosis and detection of silicosis.

Preventive Measures:

NHRC RECOMMENDATION 8-

Less hazardous substitutes to silica should be found out for use in place of silica.

- State is committed to encourage less hazardous substitutes to silica if suggested by appropriate authority (central government , DGFASLI)

Preventive Measures:

NHRC RECOMMENDATION 9-

Industrial units which are silica prone should have an Occupational Health and Safety Committees (OHSC) with the representation from workers and Health Care Providers.

- Silica prone industrial units with more than 250 workers have Occupational Health and Safety Committees (OHSC) with the representation from workers and Health Care Providers under rule 73(i) of CG factories rule 1962.

Preventive Measures:

NHRC RECOMMENDATION 10-

Silicosis control programme should be integrated with already existing Revised National Tuberculosis Control Programme (RNTCP).

- Action to be taken by central government.

Preventive Measures:

NHRC RECOMMENDATION 11-

A mechanism to have inter sectoral coordination among departments such as Ministry of Health & Family Welfare, Ministry of Labour Employment, Directorate General of Factory Advice Services Labour Institute, National Institute of Occupational Health, Tuberculosis Association of India and civil society organizations to evolve an appropriate strategy to deal with the dual problems of silicosis and tuberculosis may be set up at the center and state level.

- Action to be taken by central government.

Remedial Measures

NHRC RECOMMENDATION 1-

In each of the district where silicosis prone industry, quarrying or a big construction projects are on, there is a need to identify a facility for diagnosis of silicosis.

- In exercise of the powers conferred by sub section 1 of section 90 of the Factories Act., 1948 the state Government, declared chest & TB (pulmonary medicine) specialist & radiologist medical officers of the district hospitals and medical colleges as competent person for the purpose of conformation of suspected cases of silicosis.
- Therefore district hospitals and medical colleges in Chhattisgarh are identified as center for diagnosis of silicosis.

Remedial Measures

NHRC RECOMMENDATION 2-

The District Tuberculosis Officer must collect and maintain accurate information and documentation on number of workplaces and workers at risk from silica exposure.

- This will be done by the state government in near future.

Remedial Measures

NHRC RECOMMENDATION 3-

The accountability for the implementation and control over the rules & regulation of Laws must be reviewed time to time.

- State government is committed to the accountability for the implementation and control over the rules .For this periodic review meetings of inspector of factories is being carried out by Labour department.

Remedial Measures

NHRC RECOMMENDATION 4-

The National/State Social Security Board set up under The Unorganized Worker's Social Security Act, 2008 should recommend welfare schemes to be formulated for the welfare of the unorganized workers who are at the risk of contracting silicosis as well as those already affected and their families.

- Chhattisgarh State Social Security Board and CG BOCW Board already have "gambheer beemari sahayata yojna". The process of including silicosis in above scheme has been initiated.

Remedial Measures

NHRC RECOMMENDATION 5-

The Central Government may consider extending the Rashtriya Swasthya Bima Yojna, a health insurance scheme for BPL families and extended subsequently to some other vulnerable groups, to workers at risk of contracting silicosis and their families.

Action to be taken by central government.

Rehabilitative Measures

NHRC RECOMMENDATION 1-

The treatment cost of the silica affected person including permanent, temporary or contractual worker should be borne by the employer. The district administrative should ensure its implementation and treatment.

- Currently the treatment is free of cost for workers covered under ESI scheme. For silicosis affected persons not covered under ESI scheme state government will issue the guidelines in near future.

Rehabilitative Measures

NHRC RECOMMENDATION 2-

The victims of silicosis should be rehabilitated by offering an alternative job or a sustenance pension if they are unable to work.

- Currently no worker with silicosis disease is found in Chhattisgarh state. Government will issue guidelines regarding rehabilitation of silicosis affected persons by offering an alternative job or a sustenance pension if they are unable to work in near future.

Rehabilitative Measures

NHRC RECOMMENDATION 3-

NGOs should be involved in monitoring and implementation of the programmes initiated for the benefit of silica exposed workers.

- State government is ready to involve interested NGOs for monitoring and implementation of the programmes initiated for the benefit of silica exposed workers.

Rehabilitative Measures

NHRC RECOMMENDATION 4-

Appropriate Counseling should be provided to the person affected by silicosis.

- Currently no worker with silicosis disease is found in Chhattisgarh state. State government is ready to provide appropriate Counseling to the person affected by silicosis.

Compensation

NHRC RECOMMENDATION 1-

The silica affected person should be adequately compensated.

- State government is ready to adopt compensation process decided by appropriate authority.

Compensation

NHRC RECOMMENDATION 2-

Silicosis is a compensable injury enlisted under the ESI Act and the Workmen's' Compensation Act. Therefore a separate Silicosis Board similar to the one set up by the Government of Orissa may be formed in every State. The guidelines and model calculation of compensation may be framed under the ESI Act and the Workmen's Compensation Act.

- The state government will form a separate silicosis board in near future.

Compensation

NHRC RECOMMENDATION 3-

- The Board can carry out surveillance of silicosis cases and assessment of disability/loss of earning capacity resulting from the diseases for the purpose of compensation and rehabilitation.
- The state government will form a separate silicosis board and include surveillance of silicosis cases and assessment of disability/loss of earning capacity resulting from the diseases for the purpose of compensation and rehabilitation as its function in near future.

Compensation

NHRC RECOMMENDATION 4-

The compensation could be calculated based on Disability Adjusted Life Year (DALY) developed by World Health Organisation.

- State government is ready to adopt compensation process decided by appropriate authority (central government & DGFASLI).



**Labour & Employment
Department
Health & Family Welfare
Department**

**Existing Status of Silicosis and
Implementation of NHRC
Recommendations on Preventive,
Remedial, Rehabilitative and
Compensation Aspects of silicosis
in the State of Gujarat**

25th July, 2014

D. C. Chaudhari
Director
Industrial
Safety &
Health

Dr. Prakash
Vaghela
Deputy
Director
Rural Health

Point (i): Efforts by GoG to Identify the Industries prone to silicosis

No. of Silicosis dust generating factories and the workers under risk

Sr. No	Type of Industry	No of Registered Factories	Total Workers	Exposed Workers
1	Glass Manufacturing	15	5411	322
2	Manipulation of Stone or Any other Material Containing Free Silica.	40	600	200
3	Manufacture of pottery	56	2148	208
4	Operations in foundry	2338	77686	15536
5	Agate Factories (In the vicinity of residential area)	13 (working - 3)	13	13 (wet process)
	Total	2462	85896	16279

Operations / Processes having potentials to cause silicosis

Contd.

No.	Type of Industry	Operation/Process Location of Free Silica Exposure
1	Stone crushing quartz grinding	1. Crushing/Breaking of Lumps in Jaw crusher. 2. Material Handling in Belt Conveyor 3. Screening in Magnetic separator to separate Iron Contents 4. Bag filling 5. Waste filling 6.
2	Mfg. of Glass	1. Mixing Process 2. Material Handling in Conveyor System 3. Churning of Sand 4. Sand Storage & Handling
3	Mfg. of Refractory Bricks	1. Grinding 2. Mixing 3. Loading/unloading of Ball Mill 4. Handling (Belt conveyers)

Operations / Processes having potentials to cause silicosis

Contd.

4	Potteries & Ceramics	1. Grinding 2. Pulverizing 3. Fine crushing in Decentigrator 4. Handling 5. Finishing of raw product 6. Glazing 7. Ball milling 8. Loading/unloading of Ball mill
5	Foundry Metal casting Investment Die casting	1. Sand preparation / mixing 2. Removal of mould from casting 3. Shot blasting 4. Fetting 5. Tumbling 6. Preparation of Investment casting mould.

Schedules of Gujarat Factories Rules, 1963 under Rule 102 concerning silica dust

Contd.

1	Schedule - 4	Glass Manufacturing
2	Schedule - 8	Cleaning, smoothing, roughening or removing of any part of the surface of articles, by a jet of sand, metal shot or grit or other abrasive propelled by a blast of compressed air or steam. (Blasting Regulations)
3	Schedule - 18	Manipulation of Stone or Any other Material Containing Free Silica.
4	Schedule - 25	Manufacture of pottery
5	Schedule - 26	Operations in foundries.

Point (ii): Survey regarding the prevalence of silicosis only in agate industries in Bhambhat

- Government of Gujarat has given Rs. 30 lakh for this survey project of asbestosis, byssinosis and silicosis on 03/10/2008 to NIOH, Ahmedabad.
- Accordingly NIOH, Ahmedabad has carried out survey for silicosis and recommended:
 - Improvement of education level among workers
 - Larger sample size required for investigation
 - Worker must wear a comfortable protective mask
 - Use of wet grinding
 - Regular lung examination
 - Availability of alternate employment

Cases reported and deaths due to silicosis in registered factories

Contd.

Sr. No.	Year	No. of Victims of Silicosis Reported	No. of Deaths due to Silicosis
1	2005	9	3
2	2007	2	1
3	2008	12	6
4	2010	4	2
5	2011	4	0
6	2012	13	3
7	2013	1	1
	Total	45	16

Sr. No.	Year	No. of Deaths due to Silicosis
1	2006	3
2	2007	9
3	2008	16
4	2009	17
5	2010	11
6	2011	8
7	2012	9
8	2013	7
9	2014	1
Total		81

Deaths due to silicosis in (unorganized) Agate industries at Dist Khambhat (NHRC cases)		Contd.
NHRC case	Year	No. of cases of silicosis death
351	2006	3
	2007	9
	2008	16
	2009	16
	2010	1
1365	2009	1
	2010	2
511	2010	5
	2010	3
739	2011	6
	2011	1
	2011	5
	2013	5
	2011	3
592	2011	4
	2013	2
	2014	1 (date of death 5/1/14)
	Total	

Point (iii): Hospitals / Treatment Centers for diagnosis and treatment of silicosis

- PHCs, CHCs, Sub-district hospital & General Hospitals are providing diagnostic and treatment services to workers who are working in Silicosis prone industries at **free of cost** & if required expenditure are done from Rogi Kalyan Samitee(RKS)
- Silicosis Units are established in the districts where silicosis prone industries exists
- X-ray chest & pulmonary Function Test facilities are provided at these units free of costs.
- All silicosis suspects are examined & counselled by Medical Officer regarding prevention of silicosis and non progression of the disease at the time of examination.

Countd...

Silicosis Unit at Godhra: Following Facilities are available for Diagnosis of Silicosis

- X-Ray Chest
- Pulmonary Function Test
(Spiral meter (Pulmonary Function Test machine).
- Sputum Microscopy.

Silicosis suspect are examined, separate suspect register were maintain & Health Check up Card are Issued to Workers.

Point (iv): Compensation paid to the victims of silicosis by the State Government

- State Government has not paid any compensation to the victims of silicosis but the details of the compensation under the provisions of ESIC Act and WC Act are as under:
 - 8 victims are paid compensation by ESIC
 - Claims of 33 victims are pending with ESIC
 - 4 victims are falling under WC Act
- One victim has filed claim for compensation before WC Commissioner, Godhra

Sr. No.	Name of Employee	Payment
1	Late. Shri Kallu B. Bhagora	Rs. 24,090/- by ESIC
2	Late Shri Dharu Sadiya	Rs. 46,676/- by ESIC
3	Shri Kanu Baldev Rajput	Rs. 33,819/- by ESIC
4	Late Shri Tansing Jetha	50% awarded by Special Medical Board. Case referred to ESI H.Q.
5	Late Shri Mansing Jetha	10% awarded by Special Medical Board. Case referred to ESI H.Q.
6	Shri Javahar S. Chauhan	Rs. 1,50,000/- pay + Rs.1000/- p.m. by ESIC
7	Shri Natvarlal K. Ravaiyaa	Rs. 70,000/- pay + Rs.1200/- p.m. by ESIC
8	Shri Laaman Visamber Sahani	Rs.1530/- p.m. by ESIC
9	Cases of 33 employees	Pending with ESIC
10	Total 4 employees	Eligible under WC Act

Point (vi): Steps taken / Policy for prevention of Silicosis

Rigorous Inspections

- By Inspectors
 - All the factories having potential to cause silicosis have been inspected from time to time by local inspector and directions are issued to the managements to control dust or to prevent silicosis effectively in such factories
 - There already a system exists for regular and surprise inspection in quartz crushing factories by the officers of Labour & Employment Department
 - A circular with checklist was issued on date 03/09/2007 for inspecting silicosis prone factories by Director Industrial Safety & Health
- Industrial Hygiene Laboratory
 - A team of officers of IHL consisting of Medical Inspector of Factories, Certifying Surgeon and Laboratory Technician is frequently conducting inspections and air monitoring studies in factories involving free silica

Contd...

Notification u/s 85 of the Factories Act 1948

- The Government of Gujarat has issued notification under Section-85 of the Factories Act 1948 to apply all the provisions of the Factories Act 1948 to all classes of places and wherein dangerous operations under Section-87 of the Factories Act 1948 are carried out which includes operations having potential to cause silicosis

Prohibition of Sand Blasting

- Sand or any other substance containing free silica not to be introduced as an abrasive into any blasting apparatus and shall not be used for blasting (Sub Rule 2 of Schedule VIII of Rule 102)

Point (vi): Steps taken for payment of compensation to the persons working in unorganized sector

- The Government has framed a scheme to pay Rs.1 lac to the next of kin of deceased Agate worker working in unorganized sector vide resolution dated 4/1/2014.
- A Scheme of Rs. 5 Crore to provide Medical Assistance for occupational disease to construction Workers in the year 2014-15.

Point (vii): Rehabilitation of workers affected by silicosis

- Patients seeking care at PHCs, CHCs, Sub-district hospital & General Hospitals or captured through surveys are provided diagnostic and treatment services at **free of cost**.
- All silicosis suspects are examined & counselled by Medical Officer regarding prevention of silicosis and non progression of the disease at the time of examination.

Point (viii): Steps taken to prevent Silicosis

Engineering Control Measures

- Thermo max dust collecting system installed at every quartz crushing factory.
- Dust collected beneath the dust collector is made wet with water and then it is disposed for land filling.
- Proper ventilation
- Effective exhaust system
- Substitution
- Wet process
- Cyclone separator with filter bag

Contd...

Administrative Control Measures

- Use of PPEs is ensured
- Pre employment and periodical medical examination of workers
- No worker is employed in the crushing area
- Working environment monitoring is carried out
- Safety Committee is constituted in every factory
- Affected worker is placed at a safer workplace

Precautionary Measures

- Booklet regarding "Silicosis and its preventive measures" prepared in Gujarati and distributed to workers.
- Dust masks given to all workers.

Contd.

Dust Control Devices

- Dust control devices have been installed to reduce the dust generation at the work place in stone crushing factories situated in Godhara and Balasinor.
- In Godhara district there are 25 and in Kheda District there are 15 quartz crushing factories. All of them have installed dust collecting system. Either they have installed Thermax dust collecting system or similar to Thermax make dust collecting system.
- All registered working agate factories are using wet process for the grinding of agates.

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Prevention and Elimination of silicosis

- Silica dust collecting system - Closed covers are installed on jaw crusher, conveyor belt, disintegrator, elevator to prevent silica dust exposure in work environment.
- Use of waste disposal method suggested by GPCB
- Use of dust masks
- Cautionary notice about silicosis is displayed
- Pre employment medical examination of new worker and periodical examination at every six months by FMO and Certifying Surgeon
- Regular awareness programmes
- Regular meeting of silicosis monitoring committee in presence of D.M.

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Silicosis cell unit at Civil Hospital, Godhra & Nadiad are running OPD on every Wednesday for medical checkup

A system exists for regular and surprise inspection in quartz crushing factories by the officers of L & E D with the officers of District Magistrate. A circular with checklist issued for inspecting silicosis prone factories by DISH.

- One more circular was issued for sending records to D.C. office on quarterly basis.
- Work place monitoring is carried out and record is maintained in Form No. 37 as per GFR, 1963 by third party approved by GPCB.

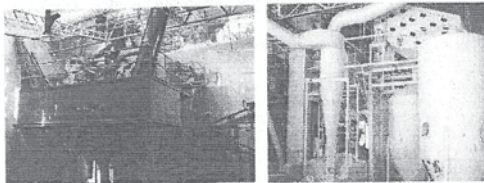
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- Personal protective equipment like dust mask, hand gloves etc. are provided to all worker by factory owner.
- A booklet in regional language issued to workers for prevention of silicosis.
- District Magistrate is reviewing the details of inspection and medical records of workers working in silicosis prone factories.

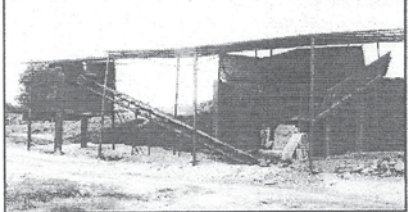
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Operating with dust collecting system

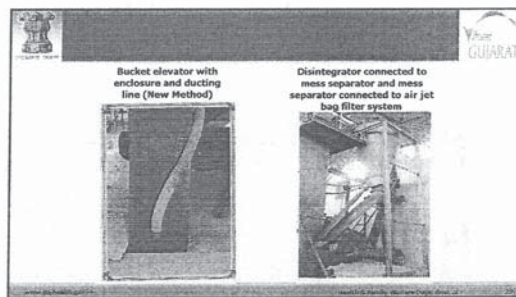
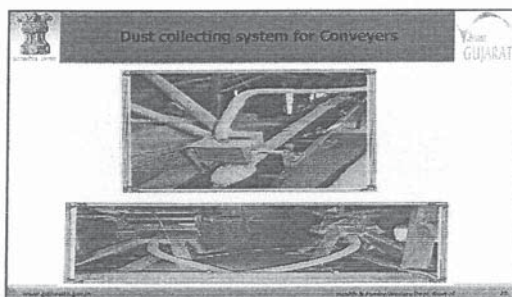
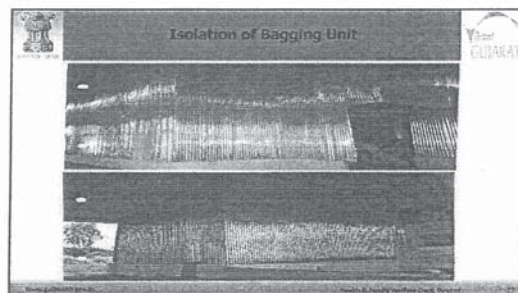
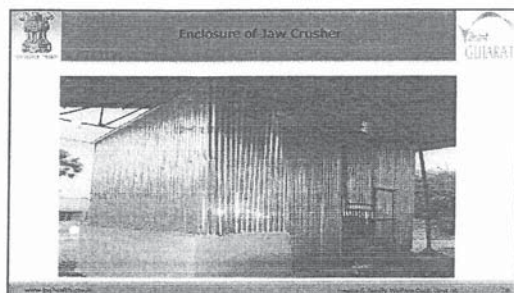


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System for Jaw Crusher with Hopper and Ramp (Automatic Feeding)



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Point (b) - Awareness Programmes

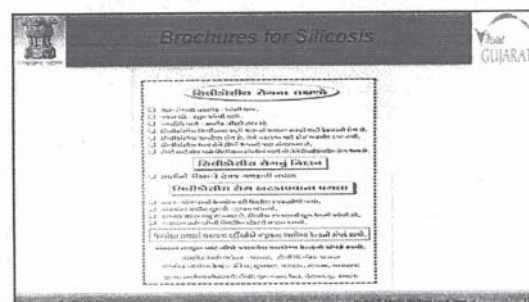
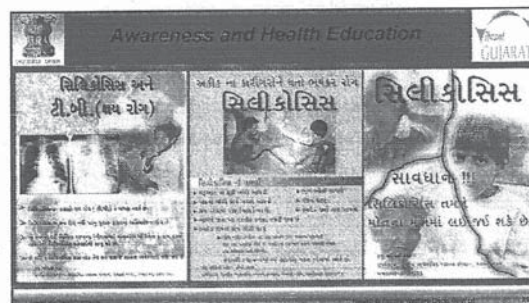
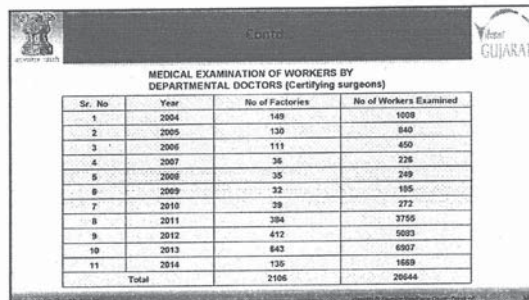
NGOs are involved in monitoring and implementation of the Awareness programs for the benefit of silica exposed workers. Details are as under

Sr. No.	Name of NGOs	Date	Place	No. of participant
1	Rural Development Society, Panslav	28/12/2009	Godhra	79
2	PIRTO, Vadodara	7-8/1/2010	Kumbhat	57
3	PIRTO, Vadodara	29/1/2010	Balesinor	53
4	PIRTO, Vadodara	20/1/2010	Balesinor	48
5	SHE Association, Bharuch	18/12/2010	Zaghadiya	60
6	SHE Association, Bharuch	11/12/2010	Zaghadiya	36
7	Rural Development Society, Panslav	23/9/2011	Panslav	35
8	Aashva, Godhra	18/11/2011	Godhra	32
9	Aashva, Godhra	18/11/2012	Godhra	39
10	Rural Development Society, Panslav	5/12/2013	Godhra	39

Contd.

Publicity Campaigns

Sr. No	Year	No. of program	No. of Participants
1	2000	2	77
2	2004	1	25
3	2005	2	65
4	2006	3	182
5	2007	5	171
6	2008	2	115
7	2009	2	129
8	2010	5	170
9	2011	2	67
10	2012	1	39
11	2013	6	84
12	Till June 2014	5	74
	Total	36	1198



Silicosis suspect - Register

www.guharati.gov.in

Sl. No.	Name of the worker	Age	Sex	Occupation	Address	Signature of the worker	Signature of the Medical Officer	Date
1	Mr. J. K. Patel	45	M	Miner
2	Mr. S. K. Patel	50	M	Miner
3	Mr. R. K. Patel	40	M	Miner
4	Mr. P. K. Patel	35	M	Miner
5	Mr. Q. K. Patel	42	M	Miner

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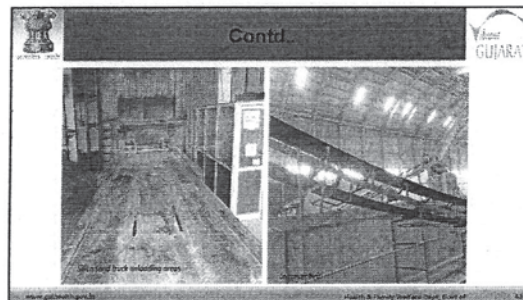
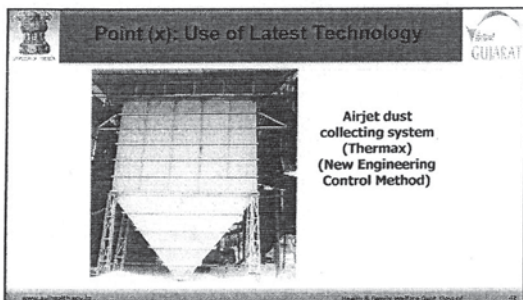
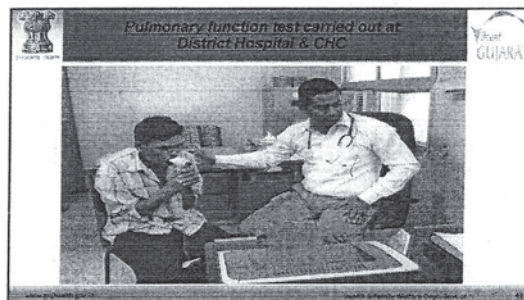
Health Card

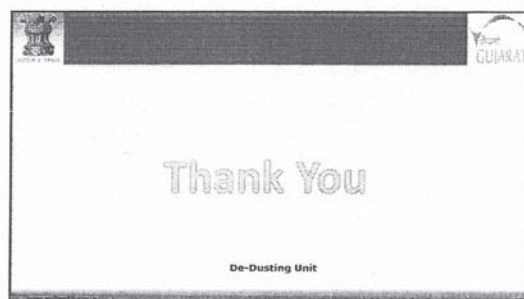
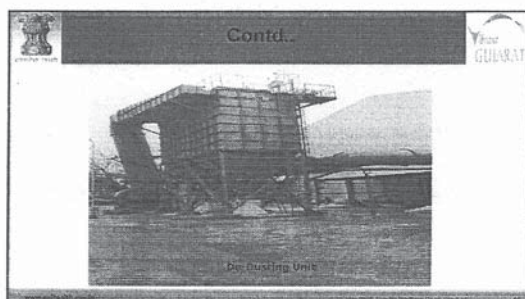
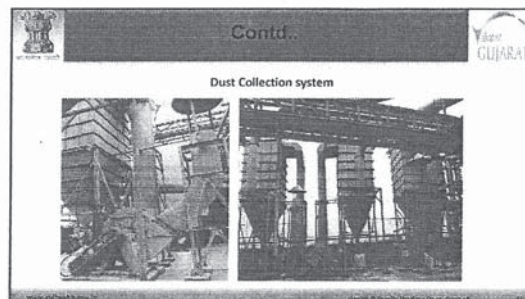
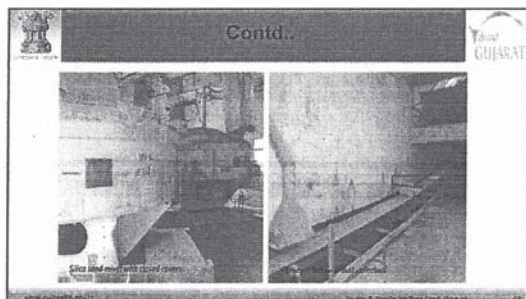
www.guharati.gov.in

NAME: Mr. J. K. Patel, AGE: 45, SEX: M, OCCUPATION: Miner, ADDRESS: ...

DATE OF ISSUE: ...

HEALTH & FAMILY WELFARE DEPT., GUJARAT





NATIONAL CONFERENCE ON SILICOSIS

Organized by NHRC
25-July-2014

STATUS REPORT ON SILICOSIS & REMEDIAL ACTION TAKEN BY THE GOVT. OF JHARKHAND

By—
Arun Kumar Mishra
Chief Inspector Of Factories
Jharkhand

Set-up of Inspectorate in Jharkhand

- Chief Inspector Of Factories
- ↑
- Dy. Chief Inspector Of Factories
- ↑
- Inspector Of Factories

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- Chief Inspector Of Factories, Jharkhand, Ranchi
- Dy. Chief Inspector Of Factories (4 Posts)
 1. Dy. Chief Inspector Of Factories, Ranchi
 2. Dy. Chief Inspector Of Factories, Jamshedpur
 3. Dy. Chief Inspector Of Factories, Bokaro
 4. Dy. Chief Inspector Of Factories, Dumka
- Inspector Of Factories (20 Posts)
 1. Inspector Of Factories, Circle-1, Ranchi
 2. Inspector Of Factories, Circle-2, Ranchi

Contd...

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3. Inspector Of Factories, Circle-3, Ranchi
4. Inspector Of Factories, Circle-1, Jamshedpur
5. Inspector Of Factories, Circle-2, Jamshedpur
6. Inspector Of Factories, Circle-1, Saraikela
7. Inspector Of Factories, Circle-2, Saraikela
8. Inspector Of Factories, Circle-1, Dhanbad
9. Inspector Of Factories, Circle-2, Dhanbad
10. Inspector Of Factories, Circle-3, Dhanbad
11. Inspector Of Factories, Circle-1, Hazaribag
12. Inspector Of Factories, Circle-2, Hazaribag
13. Inspector Of Factories, Giridih

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14. Inspector Of Factories, Jamtara
15. Inspector Of Factories, Sahebganj
16. Inspector Of Factories, Daltonganj
17. Inspector Of Factories, Chaibasa
18. Inspector Of Factories, Circle-1, Bokaro
19. Inspector Of Factories, Circle-2, Bokaro
20. Inspector Of Factories, Deoghar.

Silicosis - Definition

- Silicosis is a occupational lung disease caused by inhalation, retention and pulmonary reaction to crystalline silica, as a result of exposure to silica dust during mining, stone crushing and quarrying activities.

Silicosis Prone Areas In Jharkhand

► Based on the number of free silica dust generating industries, the following areas are more prone to silicosis among the workers:

1. East Singhbhum
2. Saraikela Kharsawan
3. Koderma
4. Jamtara
5. Sahebganj

East Singhbhum

- No. of running quartz grinding Units -4
- No. of running mines-4,
- No. of running stone crushers-12
- No. of running foundries-3

Saraikela Kharsawan

- No. of running quartz grinding Units -7
- No. of running mines-7,
- No. of running stone crushers-48
- No. of running foundries-15

Koderma

- No. of running quartz grinding Units -03
- No. of running mines-66,
- No. of running stone crushers-75
- No. of running foundries-04

JAMTARA

- No. of running quartz grinding Units -03
- No. of running mines-7,
- No. of running stone crushers-60
- No. of running foundries-NIL

SAHEBGANJ

- No. of running quartz grinding Units -NIL
- No. of running mines---
- No. of running stone crushers-225
- No. of running foundries-NIL

STEPS TAKEN BY THE STATE GOVERNMENT FOR THE PREVENTION AND MITIGATION OF SILICOSIS.

- The meeting of high level task force, State level task force and district level task force are being held time to time for the prevention & mitigation of silicosis.
- A survey team in every district has also been constituted to identify the silicosis prone industries, mines and establishment.

Formation Of Committees & Task Force

- High level committee has been constituted under the chairmanship of Chief Secretary, Jharkhand
- State level task force has also been constituted under the chairmanship of Principal Secretary, Labour, Employment & Training Department, Jharkhand
- To execute the decision of high level Task Force and State Level Task Force, a District Level Task Force has been constituted in all the districts of Jharkhand under the chairmanship of Deputy Commissioner of the respective districts. Senior most Inspector of Factories is the Member secretary of this task force.

State Action Plan - Objectives

Objectives of the State Action Plan-

- I. To identify silicosis prone industries, mines, factories and establishment.
- II. To identify workers working in these establishments and get them medically diagnosed.
- III. Awareness generation amongst the employers, workmen and other stake-holders on various aspects of silicosis.
- IV. To encourage industries to install modern de-dusting system.

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- V. To encourage the employees and employers to use protective equipments.
- VI. To train and sensitize medical officers and paramedics on the issue.
- VII. To foster intra departmental coordination between different departments.
- VIII. To take every possible steps to prevent and control the silicosis and occupational disease.

Members of High Level Committee

1. Chief Secretary, Jharkhand -Chairman
2. Principal Secretary, Dept. Of Labour, Employment & Training- Member Secretary
3. Principal Secretary, Dept. Of Health, Medical Education & Family Planning, Jharkhand, Ranchi- Member
4. Principal Secretary, Dept. Of Mines & Geology, Jharkhand, Ranchi- Member
5. Principal Secretary, Dept. Of Industries, Jharkhand- Member
6. Chairman/Secretary, State Pollution Control Board, Jharkhand- Member

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7. Principal Chief Conservator Of Forest, Jharkhand, Ranchi-Member
8. Director General, Mines Safety, Dhanbad Or Member nominated by him- Member
9. Labour Commissioner, Jharkhand, Ranchi- Member
10. Chief Inspector Of Factories, Jharkhand, Ranchi- Member
11. Regional Director, E.S.I., Ranchi- Member
12. Director, E.S.I., Dept. Of Labour, Employment & Training, Jharkhand- Member

Contd...

Members Of State Level Task Force

1. Principal Secretary, Dept. Of Labour, Employment & Training- Chairman
2. Labour Commissioner, Jharkhand, Ranchi- Member Secretary
3. Director, Industries, Jharkhand, Ranchi- Member
4. Director, Mines & Geology, Jharkhand, Ranchi- Member
5. Director, E.S.I., Jharkhand, Ranchi- Member
6. Director in Chief, Health Services, Jharkhand, Ranchi- Member
7. Director, NRHM, Jharkhand, Ranchi- Member
8. Representative Of DGMS, Dhanbad- Member

Contd...

Cont...

9. Regional Director, E.S.I., Namkom, Ranchi- Member
10. Secretary, State Pollution Control Board, Jharkhand, Ranchi- Member
11. Chief Inspector Of Factories, Jharkhand, Ranchi- Member
12. Dy. Chief Inspector Of Factories, Jamshedpur- Member
13. Dy. Chief Inspector Of Factories, Bokaro- Member
14. Dy. Chief Inspector Of Factories, Dumka- Member

Members Of District Level Task Force

1. Deputy Commissioner- Chairman
2. Civil Surgeon- Member
3. District T.B. Officer- Member
4. District Mining Officer- Member
5. G.M., District Industries Centre- Member
6. Sr. most Inspector Of Factories- Member Secretary
7. Regional Officer Of State Pollution Control Board- Member
8. Representative of DGMS, Dhanbad- Member
9. Medical Officer In charge/Superintendent E.S.I. in the District- Member

Members Of Survey Team

- In every district of Jharkhand, a survey team has been constituted. Members are—
1. Nominated Officer Of State Pollution Control Board- Chairman
 2. District Mining Officer- Member
 3. Inspector Of Factories- Co-Ordinator
 4. Nominated Officer Of Health Or Industries Department by D.C.- Member

ROLE OF DIFFERENT DEPARTMENTS

Dept. Of Labour, Employment & Training

- a. Pre-Employment and periodic medical examination of workers working in silicosis prone areas.
- b. Equipping the industrial hygiene laboratory with latest equipment.
- c. Encouragement, promotion and propagation of the use of various engineering control measures to manage silica dust.
- d. Implementation of precautionary measures by workers in silica prone factories.
- e. Installation of dust control devices developed by NIOH.
- f. Constitution of OHSC with the representation from workers and healthcare providers.
- g. Constitution of Silicosis Board.
- h. Wide publicity campaigns.
- i. To co-ordinate with the concerned government departments to prevent silicosis.

Department of Health, Medical, Education & Family Welfare

- a. Identify and establish High resolution digital X-ray machines and Pathological labs in each district where silicosis prone industries, factory or quarrying project is going on.
- b. Notification of ODDC in at least one ESI/Govt. Hospital
- c. Post mortem of every person who dies suffering from occupational disease.
- d. Recruitment and training of certified surgeons, radiologist and chest specialist as per WHO and ILO standards.
- e. Constitution of separate cell under NRHM.
- f. Training of district T.B. officer.
- g. Collection and maintenance of the accurate information and documentation on the number of workers at risk from silica exposure by district T.B. officer.
- h. Counseling of silicosis patients.
- i. Co-ordinate with concerned government departments to prevent silicosis.

Department Of Mines & Geology

- a. Identification Of silica based minerals
- b. Update list periodically
- c. Suitable action against illegal crushes and small quarries.
- d. Co-ordinate with concerned government departments to prevent silicosis.

Department Of Industry

- a. To produce the list of silicosis prone industry & convince the investors/ Industrialist to install dust preventive equipments.
- b. Co-ordination with various departments and stake holders & share the database with all stake holders.
- c. Co-ordinate with concerned government departments to prevent silicosis.

Department Of Forest & Pollution Control Board.

- a. Nomination of officer in each district for the inspection team.
- b. NOC to be provided to those establishments who uses updated technology only.
- c. Regular and periodical inspections and appropriate action as per law.
- d. Closure of illegal crushers in the forest areas.
- e. Co-ordinate with concerned government departments to prevent silicosis.

Director General Mines Safety

- a. Preparation of data base for silica dust generating mines and quarries.
- b. Periodical inspections and appropriate safety measures from silica dust as per law.
- c. Action against illegal quarries and mines.
- d. Co-ordinate with concerned government departments to prevent silicosis.

DETAILS OF SURVEYS, VICTIMS IDENTIFIED THEIR TREATMENT AND NUMBER OF DEATHS.

EAST SINGHBHUM

- › DISTRICT LEVEL TASK FORCE HAS BEEN CONSTITUTED UNDER THE CHAIRMANSHIP OF DYPUTY COMMISSIONER
- › A SURVEY TEAM HAS ALSO BEEN CONSTITUTED
- › APART FROM THAT A SPECIAL TEAM CONSISTING OF OFFICERS FROM LOCAL ADMINISYRATION, MEDICAL AUTHORITIES AND FACTORY INSPECTORATE WAS ALSO CONSTITUTED.
- › LIST OF MINES AND FACTORIES HAS BEEN PREPARED

- › NOTICES WERE SURVED THROUGH SPECIAL MESSENGERS TO APPEAR BEFORE THE MEDICAL AUTHORITIES
- › ARRANGEMENTS WERE MADE TO BRING ALL THE PERSONS FROM THEIR RESIDENCE TO HOSPITAL, FREE OF COST
- › ALL THE PERSONS WERE PAID ONE DAY SALARY

- › NOTICES WERE SURVED TO 113 PERSONS
- › 74 PERSONS APPEARED BEFORE THE MEDICAL AUTHORITY.
- › OUT OF 74 PERSONS 27 PERSONS WERE SUFFERING EITHER FROM RESTRICTIVE LUNGS DISEASE OR TUBERCULOSIS
- › THERE WAS NO EVIDENCE OF ANY DESEASE IN CASE OF 47 PERSONS
- › OUT OF 27 AFFECTED PERSONS 12 PERSONS WERE UNEMPLOYED.

- › It was informed that 14 persons have died.
- › As the factory in which these persons were working, is closed for last two years and the Occupier/Owner of the factory is absconding the local district administration has been advised to provide free medical treatment to all dust affected persons.
- › The local district administration has also been asked to provide employment to the affected unemployed persons through different schemes of the Government based on their skill and educational qualification.

DETAILS OF MEDICALEXAMINATION

- › Blood examination
- › Sputum examination
- › Lung Function Test
- › Chest X-Ray

- › In addition to that 37 persons were examined by the Survey. As reported by the District Tuberculosis Officer none of them is suffering from any disease.

Saraikela kharsawan

- › Survey has been conducted
- › Medical examination of 60 workers have been done.
- › No evidence of any occupational disease has been found.
- › All the medical examination were arranged by the occupier of the respective quartz grinding industries.

Koderma

- › Survey has been conducted
- › Medical examination of 45 workers have been done.
- › No evidence of any occupational disease has been found.
- › All the medical examination were arranged by the occupier of the respective quartz grinding industries.

Jamtara

- › Survey and medical examinations are in progress.

Sahebganj

- › Survey and medical examinations are in progress.

COMPENSATION

- › The State Government has constituted a committee under the chairmanship of Presiding officer, Industrial Tribunal, a retired Hon'ble High Court Judge.
- › This committee has been constituted to formulation of guidelines and to recommend model calculation for compensation.
- › The members of the committee are
 - Presiding officer, Industrial Tribunal, Ranchi-Chairman
 - Presiding officer, Labour Court, Ranchi-Member,
 - Presiding officer, Labour Court, Jamshepur-Member,
 - Presiding officer, Labour court, Dhanbad-Member.

SILICOSIS BOARD

- ▶ THE PROCESS OF FORMULATING AND SETTING-UP OF SEPARATE SILICOSIS BOARD SIMILAR TO THE ONE SET-UP BY THE GOVERNMENT OF ORISSA IS IN PROGRESS.

- ▶ PREVENTIVE MEASURES TAKEN BY THE LAW ENFORCING AGENCIES TO ENSURE HEALTH OF THE WORKERS AND AWARENESS AMONG WORKERS

Engineering Control Measures

- ▶ Wet methods
- ▶ Ventilation
- ▶ Isolation
- ▶ Dust control

Medical control measures

- ▶ Pre-placement and periodical medical examination of the employees.
- ▶ Health education
- ▶ Maintenance of health records

Administrative control measures

- ▶ Air Monitoring
- ▶ Training to the workers
- ▶ House keeping
- ▶ Personal Hygiene
- ▶ Restrictions

- ▶ USE OF PERSONAL PROTECTIVE EQUIPMENTS

- The department of Health, Education & Family Welfare has been asked to identify and established high level resolution digital X-ray machines and pathological labs in each district were silicosis prone industries, factories or quarrying project is going on.
- The department of Health, Medical, Education & Family Welfare has been asked to conduct postmortem report of every person who dies suffering from occupational diseases.

- The training of all district T.B. officer, identified doctors and paramedics for early diagnosis and detection of silicosis is in progress.
- Collection and maintenance of accurate information regarding number of work places and workers who are at risk from silica exposure is been done by the district T.B. officers.

- The department of Mines & Geology has been directed to take suitable action against the illegal crushers and queries. The work is in progress.
- The department of Industries has been asked to convince the investors/industrialists of silicosis prone industries to install dust preventive approved equipments during project clearance stage itself.

- The department of Forest and Pollution Control Board has been advised to make sure that NOC is provided to the users of updated technology and to conduct periodical inspections and take appropriate action as per law.

- Proposal for the amendment of J.F.R. 1950 for the inclusion of free silica generating factories in the schedule of 'Dangerous operation' (Section 87 of F.A.1948 read with rule 95 of J.F.R.1950) so as to make the medical examination of the workers legally compulsory has already been sent by the inspectorate.
- All the Civil Surgeon and medical officers of E.S.I. Hospitals are declared as Certifying Surgeons for their areas.
- Establishment of ODDC in district level hospitals and installation of high resolution X-ray machine in every district to diagnose silicosis.

- Setting up of high level industrial hygiene laboratory under Inspectorate Of Factories

- › WE HAVE DONE
- › WE ARE DOING
- › BUT STILL WE HAVE TO DO A LOT
- › BECAUSE IT IS A CONTINUOUS PROCESS

Hurdles

- › Quartz Grinding, Stone crushing and other mineral grinding industries are not covered under Hazardous process industries or under Dangerous operations or under section 85 of the Jharkhand Factories Rules, 1950. Therefore it Medical examination is not mandatory.
- › Large number of posts are lying vacant
- › Lack of infrastructures like ODDC, Industrial Hygiene Lab. In the State,
- › Lack of awareness among Occupiers and Workers.

- › UNEEMPLOYMENT

Thank You

*MEDICAL
SURVEILLANCE FOR
SILICOSIS - FOUNDRY
& STONE CRUSHING
UNITS IN ENTIRE STATE
OF KARNATAKAAS PER
NHRC*

RECOMMENDATION

**DR. SURENDRA. V.H.H, MBBS,
MD, AFIH**

**JOINT DIRECTOR (M),
DEPT OF FACTORIES,
BOILERS, INDUSTRIAL
SAFETY & HEALTH
GOVT OF KARNATAKA**

AIM & OBJECTIVE

- To Conduct Medical Surveillance For Silicosis
- Industrial Workers Of Ore Beneficiation Plants Of Belgaum, Shimoga, Koppal, Bellary, Chitradurga, Bangalore Urban & Rural
- Core Committee Consisting Of ESI Medical Officer, District TB Officer, District Labour Officer & Directorate Of Factories.

METHODOLOGY OF THE SURVEY

- Additional Staff of 10 Qualified Doctors & 15 Paramedics From Dept. of Health In Each District.
- ESI To Provide 10 Members of Qualified Doctors & 5 Members of Paramedics In Each District.
- The Dept. of Factories & Boilers Will Assign The Nodal Officers In Each of These District Who Will Effectively Co-ordinate The Survey

PRIOR TO THIS

One Day Silicosis Orientation Programme Conducted For Medical Officers Of ESI & Health Department On 19.11.2011. During Which 37 Participants Attended.

TIME LINE FOR SURVEY DEC 2011 TO JANUARY 2012

Sl No	District	Date
01	Belgaum	27 th , 28 th & 29 th Of January, 2012
02	Bellary	27 th , 28 th & 29 th Of December, 2011
03	Koppal	05 th & 06 th Of January, 2012
04	Chitradurga	10 th Of January, 2012
05	Shimoga	18 th , 19 th , 20 th & 21 st Of January, 2012
06	Bengaluru	27 th , 28 th & 29 th Of January, 2012
07	Bengaluru	27 th , 28 th & 29 th Of January, 2012

SURVEY METHODOLOGY

- ICMR Recognized Medical Surveillance Proforma With Relevant History For Silicosis
- Pulmonary Function Test
- Chest X – Ray For Referred Cases

RESULTS OF THE SURVEY

Sl No	District Name	Category Of Industries	Workers Screened	Referred For Special Investigation
01	Belgaum	Foundry	4046	342
02	Shimoga	Foundry	2943	127
03	Bellary	Ore Beneficiation Plants	3883	55
04	Koppal	Ore Beneficiation Plants	1148	79
05	Chitradurga	Ore Beneficiation Plants	135	9
06	Bangalore Urban	Stone Crushers	936	27
	Bangalore Rural	Stone Crushers	209	16
Total			13300	655

In Total 655 Employees Were Referred For Special Investigation Like Chest X-ray & Relevant Specialist Opinion

MOBILITY PATTERN [RESPIRATORY]

SL NO	DISTRICT NAME	NO. OF WORKERS IDENTIFIED
01	Belgaum	64
02	Bellary	NIL
03	Koppal	34
04	Chitradurga	NIL
05	Shimoga	43
06	Bangalore Urban	6
	Bangalore Rural	11
TOTAL		158

In All 158 Workers With Specific Lung Illness Were Screened At Rajiv Gandhi Institute Of Chest Diseases, Bangalore For Silicosis

DISTRICT WISE NO. OF CASES OF SILICOSIS REPORTED

SL NO	DISTRICT NAME	NO. OF WORKERS IDENTIFIED
01	Belgaum	NIL
02	Bellary	NIL
03	Koppal	NIL
04	Chitradurga	NIL
05	Shimoga	NIL
06	Bangalore Urban	NIL
07	Bangalore Rural	NIL

FURTHER ACTION PLAN FOR SILICOSIS PREVENTION

- ENGINEERING MEASURES
- MEDICAL MEASURES
- MEASURES WITH THE GOVERNMENT

ENGINEERING MEASURES

- Strict Use Of Personnel Protective Equipments Approved By NIOH
- Engineering Control Measures Like Isolation Of The Process, Dust Extraction, Dust Disposal System & Automation To Reduce The Exposure

MEDICAL MEASURES

- Strict Enforcement Of Factory Act With Respect To Medical Examination By Certifying Surgeon
- Periodic Follow up Of Borderline Cases By Company Medical Officers & ESI Medical Officers

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- Periodic Follow up Of Borderline Cases By Company Medical Officers & ESI Medical Officers



MEASURES BY THE GOVERNMENT

- Strict Enforcement Of Factory Act By Directorate Of Factories In The Following Industries:
 - a). Glass Manufacturing Industries
 - b). Grinding & Glazing Of Metals & Processors
 - c). Cleaning, Smoothening, Roughing Of Article By Jet Of Sand, Metal Shot Or Grit Propelled By Compressed Air.
 - d). Manufacturing Of Pottery

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FOLLOW UP OF BORDERLINE CASES

- Regularly Done Once In 6 Months By Company Medical Officer & ESI Medical Officer
- Supervised By Joint Director Of Factories (Medical) & Occupational Health Specialists
- Report Is Submitted To Directorate Of Factories

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Sl No	Worker Name	Name Of The Company	Action Taken By The Department
01	Sri Siddalingaswamy	Global Garments - 3, No.44, Yashwanthapur, Bengaluru - 560 022	Prosecution Lunched At 9 th ACCM Court Bengaluru Wide CC No.8408/2012
02	Sri Renukappa	Balaji Safety Glass, Chandspur, Anekal(T)	In The Process Of Launching

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Thank you

REPORT ON SILICOSIS IN THE STATE OF M.P.

Mandsaur is the only District in Madhya Pradesh which has slate pencil manufacturing industries, responsible for silicosis Disease. At present there are 89 working Slate Pencil Industries in which 935 workers are being employed.

Preventive steps taken by the Govt. to control silicosis

The problem of silicosis affliction is endemic to the Mandsaur District. It is worth mentioning here that due to various stern measures taken by Govt. of M.P. significant reduction has been noticed in the silicosis exposed workmen. Some of the important steps taken by the state Govt. to tackle this menace are enlisted below:-

- 1) To implement safety measures, the Govt. of M.P. has notified the slate pencil industries under Section 85 of the Factories Act.
- 2) This industry has further been added in the Schedule XXII under Rule 107 of M.P. Factories Rules, 1962 which provide the statutory cover of safety & health to the workers. In addition to above schedule no. XVII is also added under Rule 107 regarding "free silica" which provides the statutory cover of Safety & Health to the workers.

3) A separate office of the Asstt. Director Industrial Health & Safety was established in the year 1982 at Mandsaur to ensure safety and Health provisions provided in the Factories Act 1948 and rules made there under

4) Every cutter machine in the Factory has been provided with efficient dust extraction system. Collection and Removal of dust at the point of generation by employing engineering control devices such as suction pipe-blower arrangement had been ensured. The dust so collected is being carried to underground collection pit through common conduits. Presently every cutter machine has been fitted with this local exhaust ventilation system.

- 5) Relocation these polluting units from residential areas to industrial estate, thereby reducing the number of exposed population in Mandsaur town & Village Multanpura. The District Industry Centre (D.I.C.) Department of Industry, M.P. Govt. developed a special Complex in the industrial area of Mandsaur for slate pencil units.
- 6) Ensuring provision of suitable personal protective equipment viz. appropriate dust mask to each workmen.
- 7) Registration of new Slate Pencil Industries are not being done since last 4 years under Factories Act 1948.

SURVEY

As per the recommendations of National conference on silicosis held on 1st March 2011 the State Govt. has conducted a detailed survey in the year 2011 (June-July) of Silica Prone Industries (stone crushers, sand blasting, cement factories, foundries, slate pencil factories etc.) registered under Factories Act 1948.

In this survey 6484 workers of 137 factories situated in all 50 Districts were examined by the registered medical practitioners. No silicosis affected worker were found in any district except Mandsaur.

COMPENSATION AND MEDICAL FACILITIES PROVIDED

- 1) The Slate Pencil industry is being governed by ESI Act to ensure health services to the workers. ESI Health Services is running 25 bedded hospital for regular treatment of workers suffering from silicosis. Four specialist ESI doctors are posted in this health centre at Mandsaur District. In addition to this ESI is running two dispensary; one at labour colony. Mandsaur & another a mobile dispensary in village Multanpura.

In addition to E.S.I. medical facility, District Hospital, Mandsaur has full fledged Silicosis ward.

For Medico legal purposes a medical board for silicosis has been constituted under the chairmanship of C.M.H.O. Apart from this board, incharge E.S.I. hospital has been designated as Certifying Surgeon under the Factory Act.

- 2) The provisions of ESI Act has been extended to workmen employed in the slate pencil units therefore issues of compensation for silicosis affliction is being dealt with as per the provisions of the said Act.

- 3) The Workmen's Compensation Act, 1923 is applicable on the factories which are not covered under jurisdiction of ESI Act.

CONSTITUTION OF WELFARE BOARD AND IT'S ACTIVITY

The Government of M.P. has established "M.P. Slate Pencil Workers Welfare Board" in November 1985. The Board by its various resources provides levies cess @ Rs.04/- per 1000 units of pencils on the production of slate pencils. The fund so collected is being utilised to provide social security to workers & their dependants.

MEDICAL AID & OTHER BENEFITS PROVIDED BY BOARD

S.No.	Year	No. of Workers died due to Silicosis	Grant Paid after death	No. of workers given medical treatment	Amount Paid for medical treatment
1	2010	11	3,52,765	171	16,88,000
2	2011	15	3,12,555	162	16,00,000
3	2012	15	3,56,001	149	16,23,000
4	2013	16	6,20,200	153	24,56,400
5	2014	09	1,56,600	160	12,97,500
	Total	66	17,98,121	795	86,64,900

MONITORING THE WELFARE AND HELTH AID FOR SILICOSIS AFFECTED WORKERS

1) The Govt. of M.P. constituted a high power committee in the year 2011 under the Chairmanship of Additional Chief Secretary, Govt. of M.P. and Senior Officers of various Department who are the member of this Committee. The committee is monitoring the welfare and health aid provided to the Silicosis affected workers

Silicosis Policy

A "Silicosis Policy" is also formulated by the committee to provide help to the workers under various Schemes implemented by the different Departments. Some of Schemes under which help is being provided are given below :-

1. Dindayal Yojna (To identify affected workers and provide them cards to obtain benefits of various schemes)
2. Free medical aid and treatment under Antodaya Yojna.
3. To provide employment under Manrega Yojna.
4. To provide Nutritional Diet under scheme of Child & Women Welfare Department.
5. Rehabilitation Packages under- Kapil Dhara Koop, Indra Awas, Diesel Pume Set, Kitchen Garden Yojna, Electric Pump, Family Pension, Grocery Store, Husbandry etc.

INFORMATION REGARDING WORKERS OF JHABUA, ALIRAJPUR DISTRICT, WORKING IN QUARTZ CUTTING UNITS IN GODHRA (GUJARAT) :-

Complaint regarding adverse effect on the health of workers working in the quartz cutting units in District Godhra Gujarat State was received through "Khedut Mazdoor Chetna Sangathan" Alirajpur, Jhabua as the occupational disease developed due to working in the industries at Godhra (Gujarat).

The jurisdiction for action was lies with authorities of Gujarat Government, therefore N.H.R.C. recommended that sum of Rs. 3,00,000/- (Rs. Three Lakhs Only) each be given to the next of kins of the 238 deceased by the State Govt. of Gujrat. However all possible help have been provided by the District Administration of Jhabua, Alirajpur and Dhar District of M.P. since the workers were belongs to their district.

In addition to above, complaints from Shri Mohit Gupta & Others were also received regarding workers working in mines of Panna & Chhatarpur Districts of M.P. which are suffering from silicosis. Although the mines area falls under the Jurisdiction of Central Government however District administration has provided medical aid and other benefits to the workers as per silicosis policy

THANKS.....

**DR. ATUL B. BAND
CERTIFYING SURGEON
DIRECTORATE OF INDUSTRIAL
SAFETY AND HEALTH
MUMBAI**

**EXISTING STATUS OF
SILICOSIS IN
MAHARASHTRA**

- Silicosis prone factories- Approx. **700**
- Approx. **35,000** employees
- Staff with DISH Maharashtra Health Wing as on 24/7/2014:
 - 1 Certifying Surgeon
 - 1 Scientific Officer
 - 1 Lab Technician
 - 2 Lab Attendants
 - 2 Dy. Director (Medical), 1 Senior Scientific Officer.
 - Other Inspectors- 86
 - Vacant posts- 47

- The Govt. of Maharashtra has already classified the silicosis prone industries under-
 - ❖ Schedule IV (glass manufacturers)
 - ❖ Schedule VIII (cleaning or smoothening/ roughening etc. of articles by a jet of sand metal shot or grit or other abrasive propelled by a blast of compressed air or steam)
- The Inspectors are stringently ensuring the implementation of the health and safety provisions mentioned in the Schedule.

- The Govt. of Maharashtra for more effective control of Silicosis has issued a Notification under Section 85 on 22/1/2013 covering the following factories:
 1. Any of the manufacturing process which involves use, handling and storage of any material involving any form of Silica or dust containing any form of form of Silica is used, generated or formed in a process;
 2. Any of the process mentioned below are carried on, namely:
 - i. Cutting or manipulation of stone, granite or marble;
 - ii. Stone crushing;
 - iii. Glass manufacturing;
 - iv. Cement manufacturing;
 - v. Tiles manufacturing;
 - vi. Moulding or casting manufacturing;
 - vii. Cleaning of casting;
 - viii. Murre, popcorn, etc making;
 - ix. Sand paper, Grind wheel, Electrical insulator, Pottery Manufacturing.

- The Medical Checkup of the workers engaged in the operation which could lead to Silicosis eg. Foundry, Ceramics, Glass Industries, Cement Industries is carried out regularly. Details of the same from 2011 to 2014:

SR. NO.	YEAR	NO. OF FACTORIES	NO. OF CHECKUPS	NO. OF SILICOSIS DETECTED
1	2011	21	570	NIL
2	2012	21	1218	NIL
3	2013	47	3860	NIL
4	2014	11	1650	4

- The monthly Medical Checkup report of Silicosis prone factories are called from the ACS in a specific format.

Name & Address of factory	Date	Name of worker	Checkup for Silicosis	Tests Carried out- LFT, X-ray, Sputum test, CBC, ECG	Results

- The staff of the Medical wing is trained for counting free silica in dust sample.
- The industrial hygiene lab has purchased Air Samplers in 2014 for the same and also the Platinum crucible, Muffle furnace and Sartorius sensitive weighing scale.
- There is a proposal of purchasing X-ray defraction instrument which is very useful for free silica measurement.

- **Implementation of NHRC recommendations on Preventive, Remedial, Rehabilitative and Compensation aspects of Silicosis is as follows:**

➤ **Preventive Recommendations:**

1. Guidelines prepared by DG FASLI to curtail the menace of silicosis pertaining to engineering and medical measures to be taken are circulated to the Inspectors and also to the concerned personnel for its implementation in the silicosis prone factories.
2. Workshop on Silicosis is arranged in November 2013 at SEEPZ Mumbai for the workers, Safety Officers of the silicosis prone factories to educate them on prevention of silicosis. Approximately 110 participated.

3. Occupational Health Survey and Dust Survey on half yearly basis will be made Mandatory in suspected Silicosis Prone Industries. All the enrolled workers pre employment medical checkup which will include chest x-ray, pulmonary function test will be incorporated in the scheduled being framed in Factories Act/ Factories Rules. The procurement of X-ray defraction instrument for measurement of free silica is being worked out.

4. Dust control devices installations is advised to reduce the dust generation at the work place by the officers of DISH. The control devices to reduce dust developed by NIOH or similar devices for various industries will be recommended to the Silicosis prone industries. The use of wet drilling and dust extractors is already enforced by the officers in Silicosis prone Industries.

5. The Factory Medical officers, Authorized Certifying Surgeon are trained by conducting the workshop by DISH and CLI (In collaboration) so as to enable them to Diagnose and Detection of Silicosis. They are as follows-

YEAR	PARTICIPANTS
24/11/11	63 DOCTORS + 23 FMO + SAFETY OFFICERS
25 & 27 SEPTEMBER 2013	20 ACS

- More such programs will be organized in the future.

6. The use of less Hazardous substitutes to Silica is recommended to the Silicosis prone Industries by DISH officers. The sandblasting operation has been ban by Government of Maharashtra and sand is replaced by shot blast (metal shots).

7. Formation of the occupational Health and Safety committees with the representation from workers and Health care providers will be under taken.

• **REMEDIAL & REHABILITATIVE MEASURES:**

1. The workers covered under ESIC Act are referred to the hospitals for the treatment and others not covered under ESIC are treated by a private chest Physician, the expenses of which are borne by the Occupier.
2. The victims of Silicosis are rehabilitated by offering to them an alternative job or, a sustenance pension if they are unable to work (Procedure for deciding they pension amount needs to be work out in consultation with CLI/ ESIC experts).
3. Appropriate counseling will be provided in the person affected by Silicosis.

4. The involvement of NGOS in monitoring and implementation of the programs initiated for the benefit of Silica expose workers will be taken into consideration in the future.

• **COMPENSATION:**

1. The silica affected person will be adequately compensated. For this purpose the employees will be referred to ESIC or WC commissioner.
2. Formation of Silicosis board to decide compensation for the victim of Silicosis need to be formed by the state government.
3. Disability and loss of earning capacity resulting from disease will be calculated by such constituted board.
4. The compensation could be calculated based on disability adjusted life year developed by WHO.

SILICOSIS

Presented By

P. C. Das

**Director of Factories &
Boilers, Odisha**



Statistics of the Directorate

01	Total no. of Registered Factories (as on 30.06.2014)	: 3756
02	No. of Factories prone to Silicosis	: 390
03	No. of Factories where workers have been affected by Silicosis	: 02
04	Total no. of workers affected by Silicosis	: 24
05	Total no. of sanctioned posts of zonal Asst. Director of Factories	: 22
06	No. of officers in position	: 18
07	Average no. of factories each officer to inspect at present with additional average no. of boilers	: 209 + 110

Legislative development in Odisha

Sl. No.	Schedule	Manufacturing Process
01	Schedule-IV	Glass manufacture.
02	Schedule-V	Grinding or glazing of metal
03	Schedule-VIII	Cleaning or smoothing, roughening etc., of articles by a jet of sand, metal shot or grit or other abrasive propelled by a blast of compressed air or steam (Blasting Regulations)
04	Schedule-XI	Manufacture of Pottery
05	Schedule - XV	<ul style="list-style-type: none"> Manipulation of stone or any other material containing free silica. Manufacture of articles from refractory materials including manufacture of refractory bricks
06	First schedule	Cement Industries

Silicosis prone factories in the State of Odisha

Type of Factories	No. of Factories	Working Factories	Closed Factories
Stone Crushers	289	189	91
Quartz milling	Nil	-	-
Refractories	23	16	01
Sand blasting	Nil	-	-
Ceramics Industries	07	03	04
Gems cutting & polishing industries	Nil	-	-
Stave & Pencil Industries	23	15	07
Glass Manufacturing Industries	Nil	-	-
Granite cutting & polishing industries	40	25	15
Cement industries	13	11	02
TOTAL	390	260	130

Status on Silicosis in Odisha

Sl. No.	Status of Workers	Nos. of workers	Remark
01	Diagnosed cases of Silicosis (as on 12/01)	24	
02	Expired during Employment	01	Total death as on date - 12
02	Left under VRS Scheme & died afterwards	07	
03	Resigned from Service & died afterwards	04	
03	Retired from Service	03	Getting compensation under ESI Act, 1948
04	Left under Silicosis Rehabilitation Scheme	06	
05	Continuing in Service	03	

Factories where Silicosis diagnosed

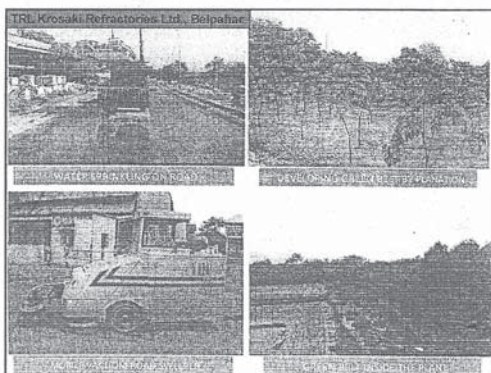
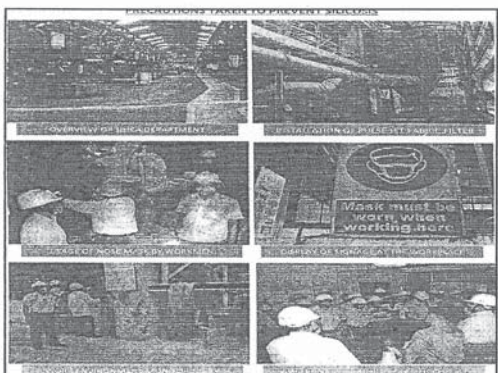
Sl. No.	Name & address of the factory	No. of cases diagnosed
01	Tata Iron & Steel Ltd. Refractory Division, Bargarh, Dist-Jharsuguda, Odisha	05
02	CC Limited, Refractory Division, Bargarh, Dist-Jharsuguda, Odisha	16

TRL Krosaki Refractories Ltd., Belpahar		
1. Manufacturing process	Refractory Bricks, Refractory Mortars and Refractory Materials	
2. Manpower as per licence	2400	
3. No. of workers ordinarily employed	2152	
4. Power installed	18471.50KW	
5. No. of silicosis cases detected	2002 - 02 2003 - 02 2007 - 01 2008 - 01 (All above affected persons resigned from service)	
6. Steps taken by the management	<ul style="list-style-type: none"> Installed ESP, Bag Filter, Localised Exhaust system etc., to reduce dust emission from the sources. Provide water sprinkler system to suppress dust. Ensured use of Personal Protective Equipments like nose mask, apron, hand gloves etc. by the workers while working. Established Occupational Health Centre for Periodical health check-up of workers. 	

Work Environment Monitoring-SPM											
T.R.C Krosaki Refractories Ltd., Belpahar											
Location : Silica Department											
Norm: 7.5 mg/m ³ CaM											
Month	SPM in mg/CuM	Month	SPM in mg/CuM	Month	SPM in mg/CuM	Month	SPM in mg/CuM	Month	SPM in mg/CuM	Month	SPM in mg/CuM
Apr-09	2.5	Apr-10	2.0	Apr-11	1.4	Apr-12	2.4	Apr-13	2.0	Apr-14	1.5
May-09	1.9	May-10	1.7	May-11	1.2	May-12	2.1	May-13	2.2	May-14	1.6
Jun-09	2.1	Jun-10	1.9	Jun-11	1.2	Jun-12	2.1	Jun-13	2.3	Jun-14	2.0
Jul-09	1.9	Jul-10	1.4	Jul-11	1.3	Jul-12	3.3	Jul-13	1.9		
Aug-09	1.7	Aug-10	1.4	Aug-11	1.1	Aug-12	2.6	Aug-13	2.0		
Sep-09	1.7	Sep-10	1.5	Sep-11	1.3	Sep-12	3.1	Sep-13	2.0		
Oct-09	1.7	Oct-10	1.3	Oct-11	3.7	Oct-12	2.0	Oct-13	1.8		
Nov-09	1.6	Nov-10	1.3	Nov-11	5.2	Nov-12	1.7	Nov-13	1.9		
Dec-09	1.6	Dec-10	1.5	Dec-11	2.6	Dec-12	2.2	Dec-13	1.9		
Jan-10	1.6	Jan-11	1.5	Jan-12	2.2	Jan-13	1.5	Jan-14	1.9		
Feb-10	1.6	Feb-11	1.6	Feb-12	2.1	Feb-13	1.7	Feb-14	1.7		
Mar-10	2.0	Mar-11	1.8	Mar-12	2.3	Mar-13	1.8	Mar-14	1.9		

TRL Krosaki Refractories Ltd., Belpahar			
AWARENESS TRAINING PROGRAM ON SILICOSIS / OCCUPATIONAL DISEASE			
Year	Date	Mode of training	No. of participants
2009	23.24.04.2009	Class room training	4
2010	04.05.2010	Class room training	16
	20.11.2010	Class room training	19
	15.12.2010	Class room training	14
2011	15.01.2011	Class room training	20
	03.05.2011	Class room training	16
	16.07.2011	Class room training	19
	14.09.2011	Class room training	11
	18.10.2011	Class room training	14
	26.11.2011	Class room training	15
	17.12.2011	Class room training	16
2012	18.02.2012	Class room training	21
	12.05.2012	Class room training	4
	03.11.2012	Class room training	15
2013	09.08.2013	Class room training	27
	11.08.2013	Shop floor training	19
	15.07.2013	Shop floor training	35
	15.07.2013	Shop floor training	22
	08.02.2013	Shop floor training	17
	22.02.2013	Shop floor training	8
2014	08.03.2014	Shop floor training	26
	19.07.2014	Shop floor training	13
	19.07.2014	Shop floor training	5
	19.07.2014	Shop floor training	10
	19.07.2014	Shop floor training	14

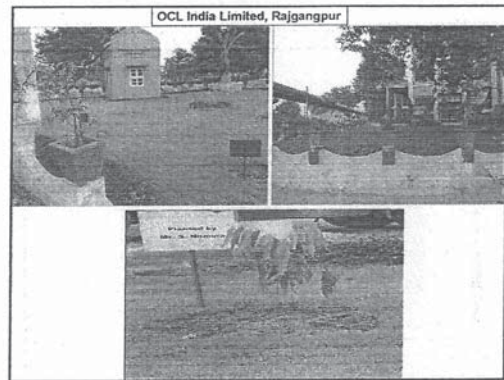
TRL Krosaki Refractories Ltd., Belpahar	
STEPS TAKEN TO PREVENT SILICOSIS	
<input type="checkbox"/> Pulsejet type fabricator, bag filter have been installed.	
<input type="checkbox"/> Water sprinkling on the road, mobile Vacuum Sweeper and Mobile Vacuum Cleaners.	
<input type="checkbox"/> Provision of nose masks.	
<input type="checkbox"/> Monitoring of suspended particulate matter in the work area.	
<input type="checkbox"/> Facility of full fledged hospital with specialized doctors, technicians and testing facilities.	
<input type="checkbox"/> Facilities of full fledged training center.	



OCL India Limited, Rajgangpur		
1. Manufacturing process	> Refractory Bricks, Refractory Mortars, Refractory Materials & Cement.	
2. Licensed manpower	> 6000	
3. ordinarily employed	> 4893	
4. Power installed	> 1,29,210.05kW	
5. No. of illnesses cases detected	> 1996 - 01 (Expired) 2000 - 02 (Expired) 2001 - 03 (Expired) 2002 - 03 (Expired - 2) 2005 - 05 (Expired - 3) 2005 - 02 (Expired - 1) 2007 - 01 2003 - 01 (Expired)	
6. Steps taken by the management	<ul style="list-style-type: none"> Installed ESP, Bag Filter, Localised Exhaust system etc. to reduce dust emission from the sources Provide water sprinkler system to suppress dust. Ensured use of Personal Protective Equipments like nose mask, apron, hand gloves etc. by the workers while working. Periodical health check-ups of workers is being done. 	

OCL India Limited, Rajgangpur			Filtering	Area sqz	Qty. (piece)
A. BASIC PLANT					
1	Pulse jet type dust collector for Magnetite circuits	25,300	222.5	1	1
2	-Do- for Magnetite circuits	15,500	179	1	1
3	-Do- for Chromite Section	25,300	222.5	1	1
4	-Do- for Mining & Batching Section	25,100	248.7	1	1
5	-Do- for Ball Mill Circuit	6,000	66.9	1	1
6	-Do- for Misc. Circuit	9,100	78.4	1	1
7	-Do- for Near finished refractory mixers	4,500	43.05	1	1
8	-Do- for Grinding Section	11,000	112.2	1	1
9	-Do- for Corundum Ball Mill	4,500	43.05	1	1
10	-Do- for Area Grinding machines at SGP	4,500	70.4	1	1
11	Cyclone Collector for Grinding Machine	6,000	-	3	3
12	Cyclone Collector for Area Grinding Machine	6,000	-	2	2
13	Pulse jet type dust collector for SGP Induced Motor	1,200	8	1	1
B. FIREBRICK PLANT					
1	Pulse jet type Bag Filter for gray gravel in Mill House	47,500	478.52	1	1
2	-Do- for misfurnaces gravel in mill house	47,500	478.52	1	1
3	-Do- for Clay gravel in mill house	17,500	179.52	1	1
4	-Do- for mixers	4,500	43.05	1	1
5	Cyclone Separator for Grinding Machine	6,000	-	2	2
6	Cartridge type Dust filter in Rice husk ash screening sec.	1,200	9.0	1	1
C. CONCAST PLANT					
1	Pulse jet type Bag Filter for gray gravel in Mill House	47,500	478.52	1	1
2	-Do- for misfurnaces gravel in mill house	47,500	478.52	1	1
3	-Do- for Clay gravel in mill house	17,500	179.52	1	1
4	-Do- for mixers	4,500	43.05	1	1
5	Cyclone Separator for Grinding Machine	6,000	-	2	2
6	Cartridge type Dust filter in Rice husk ash screening sec.	1,200	9.0	1	1
D. CONCAST PLANT					
1	-Do- for Concast Mill House	11,000	112.20	1	1
2	-Do- for CHC Lifter machine in Concast	4,500	43.05	1	1
3	-Do-	2,500	28	2	2
4	-Do-	6,000	67.2	1	1
5	Pulse jet type dust collector for Concast New Technology	6,000	81.6	1	1

OCL India Limited, Rajgangpur		
1	Pulse jet type dust collector for Castable Section	1,800 20.20 1
2	-Do- for VRC Plant	6,000 52.6 2
E. SILICA PLANT - I		
1	Pulse jet type bag filter for Mill House	41,300 433.6 1
2	-Do- for Mining & Batching Section	13,600 151.30 1
F. SILICA PLANT - II		
1	Pulse jet type Bag Filter for mill house	51,000 577.40 1
2	-Do- for Mining & Batching Section	8,350 104.64 1
3	Centralised Iron Oxide Plant	4,500 43.05 2
G. SILICA PLANT III		
1	Pulse jet type dust collector for Mill House	8,000 28.17 2
2	-Do-	7,500 38.50 2
3	-Do-	7,200 79.30 2
4	-Do-	5,000 55.00 1
5	-Do-	2,500 27.50 1
6	-Do-	3,000 33.00 1
7	-Do-	5,500 60.55 1
8	-Do-	400 43.05 2
9	-Do- for Mining Section	2,500 27.50 4
10	-Do-	1,300 14.90 1
11	-Do-	1,000 11.00 2
12	-Do-	400 43.05 1
H. CONE SCREENING PLANT :		
1	Pulse jet type dust collector for elevator top	6,000 67.2 1
2	Pulse jet type dust collector for crushers, elevators etc	12,000 134.4 1
I. WOODEN MOULD SHOP :		
1	Saw Dust Collector	1,800 56.08 1

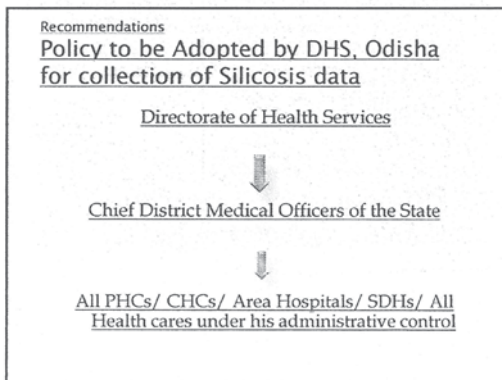
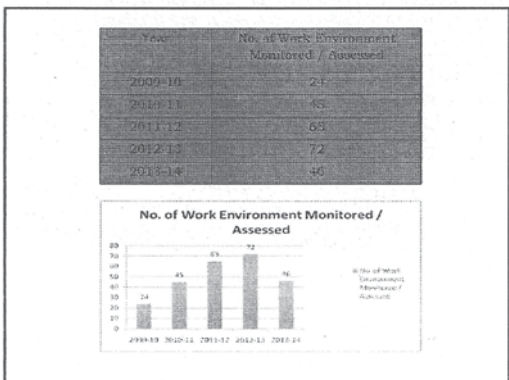
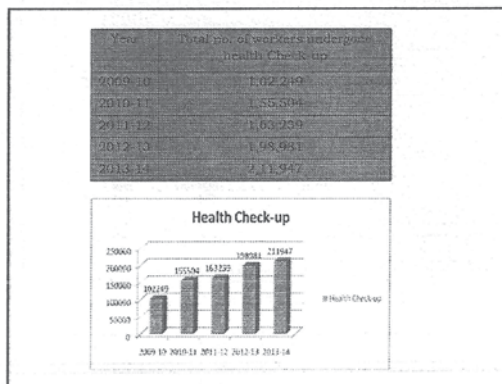
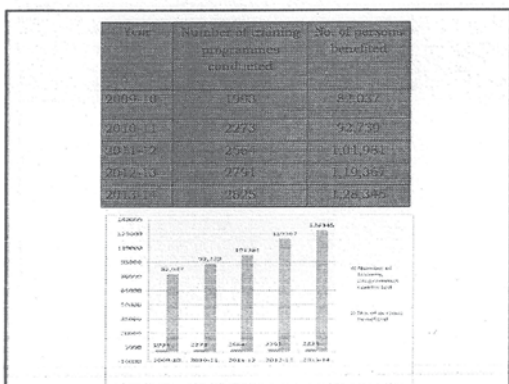


CASES OF OCCUPATIONAL DISEASE "SILICOSIS" DETECTED IN THE STATE OF ODISHA				
Sr. No.	Name of the Worker	Address of the Worker	Occupational Disease	Remarks
1	Mr. A. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
2	Mr. B. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
3	Mr. C. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
4	Mr. D. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
5	Mr. E. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
6	Mr. F. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
7	Mr. G. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
8	Mr. H. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
9	Mr. I. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
10	Mr. J. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
11	Mr. K. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
12	Mr. L. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
13	Mr. M. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
14	Mr. N. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
15	Mr. O. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
16	Mr. P. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
17	Mr. Q. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
18	Mr. R. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
19	Mr. S. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
20	Mr. T. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
21	Mr. U. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
22	Mr. V. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
23	Mr. W. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
24	Mr. X. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
25	Mr. Y. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008

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22	Mr. V. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
23	Mr. W. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
24	Mr. X. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008
25	Mr. Y. K. Mishra	Chandrapur, Bargarh Dist.	Silicosis	Detected on 10.10.2008

Sr. No.	District	No. of Silicosis prone factories	No. of workers engaged
1	Angul	09	210
2	Balasore	27	344
3	Bargarh	11	1800
4	Bhadrak	01	20
5	Bolangir	18	565
6	Boudh	01	20
7	Cuttack	23	1278
8	Dhenkanal	24	795
9	Gajapati	17	540
10	Ganjam	01	20
11	Jajpur	13	234
12	Jharsuguda	12	1595
13	Kendrapar	20	640
14	Kalahandi	02	68
15	Kandhamal	01	01

Sr. No.	District	No. of Silicosis prone factories	No. of workers engaged
16	Khorda	12	3543
17	Koraput	03	22
18	Malkangiri	01	20
19	Mayurbhanj	15	524
20	Nusapada	02	120
21	Nayagarh	11	248
22	Puri	01	20
23	Raipur	06	330
24	Sambalpur	15	335
25	Sundergarh	30	6392
26	Sundargarh	01	00
27	Talcher	00	50
28	Phulbani	02	00
29	Nowrangpur	00	00
30	Singpur	01	20
TOTAL		301	18,870



Recommendations

Policy to be Adopted by DMET, Odisha for collection of Silicosis data

Directorate of Medical Education & Training Odisha

Should pass Direction



All the Principals/ Superintendents/
Professor & H.O.D. of Pulmonary Medicine
Department of all Medical Colleges &
Hospitals of the State

Recommendations

Policy to be Adopted by DESIS, Odisha for collection of Silicosis data

Directorate of ESI Scheme

Should pass Direction



All the Regional Joint Directors & superintendents

Should pass Direction



Insurance Medical officer I/C of all ESI
Dispensaries and Hospitals

Recommendations

Policy to be Adopted by DFB, Odisha for collection of Silicosis data

Director of Factories & Boilers

Should pass Direction



All the occupiers and factory managers of the State to
give the data in Form-19 of Odisha Factories Rules under
Rule-98 of Odisha Factories Rules 1950 and Section-89 of
Factories Act, 1948 and also for all zonal field officers,
Medical Cell of the Directorate.

Recommendations

Policy to be Adopted by ESIC, Odisha for collection of Silicosis data

ESIC

Should pass Direction



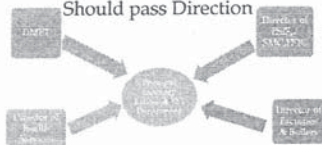
All the managers & officers under its
control

Recommendations

Centralised Data Base to be submitted to

Principal secretary of Labour & ESI Department

Should pass Direction



Methods of Compensation

Principal secretary of Labour & ESI Department

Should pass Direction



ACTION INITIATED BY
DIRECTORATE OF FACTORIES &
BOILERS FOR AMENDMENTS OF
ODISHA FACTORIES RULES 1950
TO STRENGTHEN OCCUPATIONAL
HEALTH & SAFETY IN THE STATE

PROPOSAL FOR AMENDMENT OF ODISHA FACTORIES RULES 1950 (UNDER PROCESS)

Implement schedule No. XIII prepared by the
Director General Factory Advice Service and
Labour Institute under model Rule 120 framed
u/s 87 of the Factories Act 1948

STEPS TAKEN TO STRENGTHEN OCCUPATIONAL HEALTH RULES OF THE STATE (UNDER PROCESS)

In the said Rule in Rule 62-J a new sub-rule namely 62-J (a) shall be
inserted.

62-J (a) Empanelment of specialized occupational health labs/ hospitals.

Provided that to facilitate periodical/pre-employment health check-
up and maintain health record of all workers of the factory involving
hazardous process, it is required to identify and empanel standard
laboratories/ hospitals equipped with the experienced staffing
pattern, infrastructure and clinical facilities available mentioned
below. Broadly, the empanelled hospitals/lab's should contain the
facilities for occupational health delivery system & should be
independent & separate from hospital services (curative service) but
should function liaison with the curative service. Besides above
facilities they should have trained manpower & infrastructure for
environmental assessment & first aid training facilities.

AMENDMENT OF SUB-RULE(3) OF RULE 65 OF ODISHA FACTORIES RULES 1950 INCREASE NUMBER OF FACTORY MEDICAL OFFICER & PARAMEDICAL STAFFS AS PER THE NUMBER OF WORKERS ORDINARY DEPLOYED

For Factories employing up to 50 workers.

□The services of a Factory Medical Officer on retainer-
ship basis, in his clinic to be notified by the occupier. He
will carry out the pre-employment and periodical
medical examination and render medical assistance
during any emergency;

□ A minimum of 5 persons trained in first-aid procedures
amongst whom at least one shall always be available
during the working period;

□A fully equipped first-aid box as per Rule64.

FOR FACTORIES EMPLOYING 51 TO 200 WORKERS.

□An Occupational Health Centre having a room with a minimum
floor area of 15 sq. m with and walls made of smooth and
impervious surface and with adequate illumination and ventilation
as well as equipments laid down in sub-rule(3) of Rule 65.

□A part time Factory Medical Officer shall be in overall charge of the
Centre who shall visit the factory at least twice in a week and whose
services shall be readily available during medical emergencies.

□One qualified and trained dresser-cum-compounder on duty
throughout the working period.

□A fully equipped first aid box in all the departments as per Rule 64.

FOR FACTORIES EMPLOYING ABOVE 200 WORKERS.

□One full-time Factory Medical Officer for factories
employing up to 500 workers and one more Medical Officer
for every additional 1000 workers or part thereof.

□An Occupational Health Centre having at least 2 rooms each
with a minimum floor area of 15 sq. meter with floors and
walls made of smooth and impervious surface and adequate
illumination and ventilation as well as equipments laid down
in sub-rule (3) of Rule 65.

□There shall be one nurse, one dresser-cum-compounder and
one sweeper-cum-ward boy throughout the working period.

□The Occupational Health centre shall be suitably equipped
to manage medical emergencies.

**Action taken by Deptt. Of Health & Family Welfare
for Silicosis in Odisha**

1. Silicosis cell formed at the Directorate of Health Services under the leadership of Addl. Director (PD) and Joint Director (TB).
2. All CDMCs / MCHs/CH, BBSR were communicated with the guidelines of Silicosis about case detection, diagnosis & management
3. Special emphasis given to Med. Spl. & Pulmologist for early detection & case management of silicosis cases across all districts.
4. Interdepartmental meeting with Deptt of Home, Deptt of Labour, Factories & boilers, Forest & Env, ESIC, SPCB, representatives from Medical College & hospitals was convened and specific roles & responsibilities were defined.
5. Workers of crushers units of two districts (Jajpur (9) & Khurda (115)) are being screened for silicosis based on the list provided by Dir of Factory & Boilers. No cases has been detected.
6. The three Medical College & Hospitals, Chest & TB Deptt. OPDs are continuously screening for silicosis cases.
7. A suitable referral mechanism is being proposed so that the cases in the unorganised sector can be detected early and the information will be passed to the appropriate authority for suitable compensation.
8. Regular stake holders meeting needs be conducted to follow up the action points.
9. The Cases in the unorganised sector are covered under OSTF, JSBY scheme in the state
10. Awareness among different stakeholders & in the community needs to be done

THANK YOU

**STATUS OF
IMPLEMENTATION OF THE
PROVISIONS RELATING TO
SILICOSIS
IN THE STATE OF PUNJAB**

● Silicosis :-

Among the occupational diseases, silicosis is the major cause of permanent disability and mortality. There is no effective treatment for silicosis that is why it is a notifiable disease under the Factories Act, 1948.

In the State of Punjab list of processes/operations having potential to cause silicosis is as under:-

- Foundry Operations
- Ceramic & Glass Industries
- Cement Industries
- Stone Crushing Industries
- Construction

- Out of above mentioned operations/processes in our state the process of breaking of stones (Stone Crushing) is identified as dangerous operation under section 87 of the Factories Act, 1948.
- The State Government has issued a notification under section 85 of the Factories Act, 1948 to cover the un-organized sector (not registered as factories due to employment of less number of workers i.e. less than 10 with power or less than 20 without power) carrying out manufacturing operations in stone crushers which are having potential to cause silicosis.

contd.

- Schedule IV regarding Glass manufacture, Schedule XIV regarding Manipulation of stone or any other material containing free silica, Schedule XXII regarding Manufacture of pottery and ceramics and Schedule XXVII regarding operation in Foundries under Rule 102 of Punjab Factory Rules, 1952 are in existence to enforce safety, health and welfare aspects for workers.

- The department has undertaken a special drive from 1-4-2011 to 31-12-2011 regarding the prevalence of silicosis. 232 factories were inspected regarding safety and health of workers. 39 managements have been prosecuted for failure to improve work environment.
- 7182 workers employed in 604 factories were medically examined to detect the occupational disease. No case of silicosis has been detected during medical examination of the workers.

The total number of registered factories having potential to cause silicosis, total number of workers employed and number of workers exposed to airborne dust is as follows:-

FOR THE YEAR 2012 AND 2013						
s.no	Name of the Dangerous Operation	Total No. of registered factories	Total No. of workers employed	No. of workers exposed to airborne dust	Number of inspections conducted	Total No. of worker medically examined
1	Stone Crushing	144	1279	189	133	152
2	Foundries	576	20540	6522	175	5641
3	Ceramic industry	21	536	260	2	198
4	Cement industry	4	752	306	4	288
TOTAL		745	23107	7279	314	6279

- 3842 establishments are registered under the BOCW Act, 1996.
- 2,25,623 workers working in the below given construction activity in unorganised sector are registered with Punjab Building and Other Construction Workers Welfare Board. These workers are entitled to claim benefits of various welfare schemes framed by the Board.
- a) Making and transportation of raw bricks.
- b) Stone breaking work except stone breaking by power Crushers.

Contd..

- c) Tiles or block making from fly ash, cement and other material .
- d) Cutting and fitting of glass.
- e) Cutting , breaking and crushing of stone.
- f) Cutting, and polishing of slabs/tiles.
- g) Making of Bricks, roofing tiles not covered under Factories, Act, 1948.

- The State of Punjab is divided into 21 Circles and one Deputy Director of Factories/Assistant Director of Factories is employed in each circle.
- Time to time inspections are conducted by the field officers to ensure the implementation of labour laws and safety norms.

Contd..

- In the stone crushers all the dust emitting points are covered and regular sprinkling of water at the dust emitting sources is ensured.
- It is ensured that workers are wearing protective respiratory devices and are provided with adequate training and information on safety and health aspects.

- Managements are advised by field officers to rectify any violation of provisions of Factories Act and rules framed thereunder for ensuring safety, health and welfare of the workers.
- In case any management does not take appropriate action to ensure safety , health and welfare of the workers such employers are prosecuted as per provisions of the law.

- There are also 3 Assistant Director of Factories (Medical). The workers employed in the factories are also medically examined by the Assistant Director of Factories (Medical).
- These field officers make visits in the above mentioned factories and advise the managements to monitor the workroom environment having potential for silicosis and to ensure healthy working conditions.

contd.

- They medically examine the industrial workers where occupational disease is suspected.

- There is a proposal to set up one Mobile Laboratory Van equipped with necessary instruments to check the monitoring of the work place and for medical surveillance of the workers.

Contd.

- In next six months a survey of all silicosis factories will be undertaken and the samples will be collected from the work environment and after analyzing these samples in the departmental laboratory managements will be advised to take corrective measures.

- Similarly workers exposed to dust or fumes will be medically examined and as per requirement different types of medical tests will be advised by the Doctors.

- Directorate of Factories imparts training to workers/ supervisors to make them aware about occupational diseases by conducting training programmes in various factories on regular basis

- Equipments to check dust in working environment are provided to field officers.

**PROPOSED ACTION ON RECOMMENDATIONS OF
NATIONAL HUMAN RIGHTS COMMISSION ON
PREVENTIVE, REHABILITATIVE AND COMPENSATION
ASPECT OF SILICOSIS**

PREVENTIVE MEASURES:

- The information regarding suspected hazardous industries will be updated by 31-08-2014 and their occupational health survey and dust survey on half yearly basis will be done.
- All the enrolled workers will be medically examined for chest radiography and pulmonary function test to rule out any respiratory disorder.

Contd.

- It is ensured that managements are providing protective gears for the workers .
- Promotion of various engineering control measures to control silica dust is also done.
- Less hazardous substitutes to silica will be promoted.

- More publicity material will be prepared to make aware of the disease through wide publicity during training programmes .
- Occupational health and safety committees with the representation from workers and health care providers is ensured in the factories.

REMEDIAL MEASURES:

- Efforts should be made to provide facilities for diagnosis of silicosis in each of the District. Action would be taken by Director Health & Family Welfare, Punjab .
- The accountability for the implementation and control over the rules and regulation of laws are reviewed in the monthly meetings.
- The State Govt. is keen to setup State Social Security Board under Unorganized Worker's Social Security Act, 2008 which is in process.

COMPENSATION MEASURES:

- Silicosis disease has been enlisted in part-c of the schedule under section-3 of the Workmen's Compensation Act, 1923 to provide compensation to the silica affected person.
- Silicosis board will be setup after the survey of silicosis prone factories, till then efforts will be made to provide compensation through existing welfare boards of the department.

Contd....

- Officers of the Labour Department have been vested with the powers of commissioners to facilitate filing of claims and justice at the door step for employees compensation.
- Punjab Building Construction Workers Welfare Board has framed a scheme for giving financial assistance of upto Rs. One Lac for treatment of silicosis among construction workers, who are from the unorganised sector. The amount is reimbursed after the treatment on the verification of CMO.

contd...

- The Board has approved in principle Health Insurance scheme for construction workers to be implemented through Punjab Health System corporation under which Health Insurance cover of Rs. 1.5 lac per annum will be provided to family of six on family floater basis.
- The Board has framed scheme of General Surgery for construction workers and their families under which financial assistance of upto Rs 20,000 is given .

- Rs. One Lac ex-gratia is given to construction workers in case of death or permanent disability.
- In case of partial disability ,Compensation is calculated @ Rs 1000 /- per 1% disability .

- We are thankful to National Human Rights Commission for organizing this National conference to discuss important issues relating to occupational hazard of silicosis in Indian industry. I hope that the deliberations here, in this workshop, would indeed be innovative and fruitful.

THANK YOU

Directorate of Factories,
Punjab

SILICOSIS PROBLEM IN RAJASTHAN

**Dr. M K Devarajan,
Member, RSHRC**

Initial Detection

- MLPC complaint to NHRC in 2010
- Visit of NHRC team to Jodhpur
- 22 deaths detected
- Rs. 3 lakhs each given to 21 affected families
(Total Rs. 63 lakhs)
- 48 affected persons detected – no compensation to them.
- 1099 affected to be detected as per MLPC

Involvement of RSHRC

- Suo moto cognizance on newspaper report
- Several meetings with various stakeholders
- SHRC support to MLPC & DVS results in drastic rise in detections
- Two meetings with the CS/PSs
- NHRC briefed about progress/good practices in the workshop organized on 23-05-2014

Outcome of Meeting with CS/PSs

- Collectors authorized to grant Rs. 1 lakh to affected persons & Rs. 3 lakhs to dependents of deceased out of REHAB (Raj. Environment & Health Administrative Board) Fund (2008)
- 6 Pneumoconiosis Boards set up.
- Registration of mines with DGMS & other provisions for safety & health being enforced.
- Monitoring by DMs/CS
- Detection of affected through NRHM

Decisions to be implemented

- Since mine labor covered under National Health Insurance Program, Mining Dept. to make proposal to insure mine workers by giving 25% State's contribution from REHAB. Beneficiaries to get biometric cards.
- Trg. of doctors by NIMH/NIOH (Rs. 19 lakhs sanctioned)
- Strengthening of medical infrastructure (Rs. 31 Cr. 45.63 lakhs sanctioned)

Decisions to be implemented

- Organizing medical camps at site
- 7 DMs to organize workshops of all stakeholders
- Study by NIOH/NIMH about problems of mine workers, esp. health – committee set up.
- Mine Dept. to make proposal for formation of SHGs, self employment, skill development through Raj. Skill Development Council

Detections - Deaths

Karauli	20
Dholpur	2
Jodhpur	8
Nagaur	2
<u>Bundi</u>	<u>2</u>
TOTAL	34
Udaipur	1 (Asbestosis)

Detections - Affected

Karauli	342
Jodhpur	125
Dholpur	53
Nagaur	4
Bundi	14
TOTAL	538
Udaipur	34 (asbestosis)

Financial Assistance

Sanctioned Rs. 3.5 crores

Disbursed Rs. 2.36 crores

Problems

- Mine workers unorganized, shifting, contractual
- Lack of will to enforce provisions of law
- Attitude of mine owners
- Size of Mines
- Problem in establishing identity – Workmen Compensation Act ineffective
- Detection of silicosis in other jobs yet to begin

Suggestions

- Amendment of mining and labor laws to give adequate powers/responsibility to State Govt. in mine security and labor welfare – may be concurrent jurisdiction
- Strict compliance of Mines Act & Rules
- Identity Document
- Strengthening of enforcement agencies
- Sample studies

Suggestions

- Mine Workers Welfare Boards
- Mandatory Insurance
- 6-monthly joint review by Central/State agencies concerned
- Involving NGOs for IEC (Rights, lifestyle, rehabilitation, alternate employment)
- Study the effect of Chinese powder
- National helpline with DGMS for accidents

Thanks



NATIONAL PREVENTION AND CONTROL OF SILICOSIS PROGRAMME IN TAMIL NADU

Outline of the presentation

- What is Silicosis
- Classification of silicosis
- Silicosis prone industries
- Action Taken
 - Committee Formation
 - One day Sensitization workshop.
 - Identification of Un Organized Sector
 - Module Preparation
 - Modular Training
 - Screening/ IEC Activities
 - Hospital/ Treatment Facilities
 - Policy in Place
 - Board / Fund for the Rehabilitation
 - Insurance / Welfare Scheme
 - Steps taken for prevention

2

What is Silicosis?

Silicosis

- Silicosis is one of the occupational Health Hazard called as Pneumoconiosis.
- Inhalation of dust containing free silica or silicon dioxide - <10 Micron inhaled by the workers are deposited in the alveoli of the lungs leading to pathological changes (Decreases Elasticity, Prevents Oxygen/CO2 Exchange) resulting in Chronic Obstructive Pulmonary Diseases (COPD)

Classification of Silicosis

Disease Classes of Silicosis

1. Simple Chronic Silicosis (Moderate Exposure)
 - Latency >15 years
2. Accelerated Silicosis (High Exposure)
 - Latency of 5 to 15 years
3. Acute Silicosis (Highest Exposure)
 - Latency of weeks to 5 years

6

Silicosis prone Industries

Silicosis Prone Industries

- Iron and steel industry
- Pottery and ceramic industry
- Rock mining
- Blue metal grinding
- Granite industry
- Glass manufacturing
- Construction sector

Potential Silica Exposures

- Foundries
- Ceramics Industry
- Abrasive Blasting
- Construction
- Manufacturing of cleaning agents
- Mining Operations
- Use of Coal (e.g., electric power generation)

Georgia Tech Safety and Health
Consultation Program

9

BUDGET

- A sum of Rs. 23,83,000 was sanctioned by the Govt. of Tamil Nadu and the fund has been released through the State Health Society, Tamil Nadu for carrying out the following activities.

ACTIVITIES INITIATED

Co ordination Committee

The following committees were formed for the Prevention and Control of Silicosis in Tamil Nadu.

- State Level Co-ordination Committee (Annexure – I)
- State Level Technical Committee (Annexure – II)
- District Level Co-ordination Committee (Annexure – III) committee

Training

- Conducted One day sensitization workshop on State and District Level officials.

PARTICIPANTS :

- All Programme officers of DPH & PM and DDHS
- Deans of all Medical college and Hospital
- Joint Director Medical and Rural Health Services of all Districts
- DD (TB) and DTTMO of all Districts
- Technical PAs to DDHS of all Districts.

Identification of Silicosis Prone Industries

Organized sector

- Total No Industries - 714
- Total No of workers - 13,752

Unorganized Sector

- Total No Industries - 2,570
- Total No of workers - 97,437

Training Module Preparation

- Training Module for Medical Officer
- Training Module for Field Staff
- Above training Modules were prepared by the State Technical Committee.
- The Modules were finalized
- Module Printing under process, will be completed with in middle of August, 2014.

Modular Training

- DD TB, DTTMOs, TPA to DDHS already trained as Master trainer in the District level.
- Silicosis control programme is already integrated with existing Revised National Tuberculosis Control Programme
 - DD TB will act as a technical expertise in this programme.
- Training to the Medical Officers and Paramedical Staff will be commenced and completed from 15th August to 15th September, 2014.

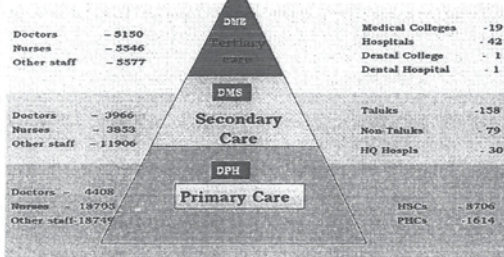
IEC

- Pamphlets
- Posters
- Flex Board
- Banners
- Under preparation process it will completed the end of August, 2014.

Screening Campaign

- Screening Campaign for prevention and control of silicosis is on going in all Districts in unorganized sectors based on the state level one day sensitization workshop for Health Officials.
- Screening will be done twice a year.
- During Campaign Health Education will be imparted by the Paramedical Staff.
- 16 Districts Conducted Silicosis Screening Campaign
- Total No. of workers screened - 38350
- Clinically they are symptom free.
- Minor Ailment treated Patients - 23
- No referral.

Health Care Delivery System in Tamil Nadu



Health Facilities Functions

Primary Care:

- Conducting Screening Campaign at site.
- Minor Ailment Treatment at the site itself.
- Referral (so far no referral)

Secondary / Tertiary Care

The District Head Quarter Hospitals and Medical College Hospitals are identified as referral unit for terminally ill patients.

- X-ray, PFT will be available at District Head Quarter Hospitals and Medical College Hospitals.
- Separate Ventilators for silicosis affected patients also available in Secondary / Tertiary Care Hospitals.

Proposed Policy

- In Tamil Nadu Public Health Act, 1939 a draft amendment was submitted to the Government of Tamil Nadu on the 5th month of 2014 to include occupational pneumoconiosis as a new provision in the section 62 A non communicable notified Diseases , in Chapter VII, Part II.

Board / Fund for Rehabilitation

Instead of Board various level of Committees formed.

- State Level Co-ordination Committee
- State Level Technical Committee
- District Level Co-ordination Committee

This Committee review the Health Hazards in Silicotic Industries Workers Periodically.

Insurance / Welfare Schemes

Un organised Sector :

- General Welfare Scheme

- Chief Minister Comprehensive Health Insurance Scheme.
- Dr.Muthulakshi Reddy Maternity Beneficiary Scheme for Pregnant Women (Rs.12,000 for Two Children's)

Organised Sector :

- Employee's State Insurance Scheme.

STEPS TAKEN FOR PREVENTION

- Awareness Creation among workers
- Providing Personal Protective Equipments by the owners of the industries.
- Periodical Medical Examination in the Field.
- Clinical suspected COPD workers will be removed from the work place and he should find out alternative job.
- In this regard counselling will be done by the paramedical staff.
- Terminally ill patients will be admitted to the near by District Head Quarter Hospitals/ Medical College Hospitals.



National Conference on Silicosis

DIRECTORATE OF INDUSTRIAL SAFETY
AND HEALTH,
GOVERNMENT OF TAMILNADU

IDENTIFICATION OF INDUSTRIES

In the state of Tamilnadu, 13752 Workers are employed in 714 factories carrying on the following five Categories of manufacturing processes that are prone to Silicosis.

Glass Manufacturing
Sand & shot blasting
Pottery
Manipulation of stone
Foundries

Sl. No	Process	No. of factory	No. of workers
1.	Glass Manufacturing	4	93
2.	Sand & shot blasting	118	1177
3.	Pottery	56	2279
4.	Manipulation of stone	215	3056
5.	Foundries	32	7147
	Total	714	13752

DISTRICT WISE DISTRIBUTION OF FACTORIES													
Sl. No	District	No. of Factories	No. of Workers	No. of Factories	No. of Workers	No. of Factories	No. of Workers	No. of Factories	No. of Workers	No. of Factories	No. of Workers	Total Factories	Total Workers
1	Chennai			1	15	1	21	4	103	6	144		
2	Tiruvallur			14	117	1	289	3	386	19	222	47	1114
3	Vannaripuram	3	20	74		38	750	34	186	101	604		
4	Valluvar			12	502	6	404	12	197	9	222	39	2167
5	Cuddalore			41	882							41	882
6	Villupuram			2	15	2	21					4	36
7	Salem					26	533					26	533
8	Madurai					2	27					2	27
9	Tiruchirappalli			4	491			5	452			9	943
10	Perambalur					2	63					2	63
11	Thandavarur					2	6					2	6
12	Pudukottai					2	10	3	1664			5	1677
13	Dindigul	1	13	6	16			6	52	6	325	19	472
14	Thiruvannamalai					3	23					3	23
15	Madurai			1	20			4	20			5	40
16	Sivagangai					2	5					2	5
17	Vinayakavil							1	10			1	10
18	Tiruchirappalli							4	20			4	20
19	Rupasingam					9	106					9	106
20	Chidambaram			56	148			222	2464			278	2616
21	Tirupur					1	4					1	4
22	Erode					2	24					2	24
23	Krishnagiri			1	101			7	24			8	125
24	Dharmapuri					2	20					2	20
	TOTAL	4	93	118	1177	56	2279	215	3056	32	7147	714	13752

PREVALENCE OF SILICOSIS

Eight Certifying surgeons and one Chief Medical Officer under the control of Director of Industrial Safety and Health conduct Medical surveys and examination of workers employed in the above factories. During such medical examination, the analysis of work place exposure, pulmonary function test, CT scan for confirmation and biopsy (in rare cases) are carried out by the medical officers.

In Sri Nataraj Ceramics & Chemicals Ltd., Dalmiapuram, Tiruchirappalli District, Tamilnadu-621 651, three workers were found affected by silicosis during the Medical examination of certifying surgeon in January 2013 and the Occupational disease was confirmed by ESI Hospital, KK Nagar, Chennai, where the facilities for diagnosis and treatment is available in Tamilnadu.

Sl.No.	Name and Full Address	Present Status
1.	A.Vincent, 52, G-115, SJ Colony, Dalmiapuram -621 651	He has been transferred to another safe work place in the factory and medical monitoring done by ESI utilization Dispensary, Dalmiapuram, Trichy.
2.	C.Panneer Selvam, 57, E-176, SJ Colony Dalmiapuram	Retired from service and applied for ESI Compensation and in process.
3.	S.Pitchai, 60 S/o.Savari Muthu, Mela Street, Alambakkam ,po Lalgudi Thaluk, Trichy District	Died in December 2013. ESI Medical Board for occupational diseases awarded 70% permanent disablement benefit.

PREVENTION OF SILICOSIS

During the periodical inspection, the officials of Directorate of Industrial Safety and Health, monitor the implementation of Occupational safety and health provisions of Factories Act and Tamilnadu Factories Rules applicable to silicosis prone factories. Apart from enforcement, Safety training programs are conducted by the officials and the workers are imparted with safe and healthy operating procedures at work place. The importance of selection and usage of proper personal protective equipments are also highlighted to the management and workers.

In order to ensure hazard free work place, the provision and maintenance of ventilation systems and exhaust arrangements are strictly monitored during inspection. The efficiency of the above equipments is also verified through the periodical examination and certification of competent persons notified under the Factories Act 1948.

The Director of Medical and Rural health services, Director of Public health and preventive medicine and Director of medical Education, Government of Tamilnadu, have been addressed to inform all their medical officers to intimate the diagnosis of Silicosis to the Director of Industrial Safety and Health, Chennai-14, as per section 89 (2) of the Factories Act 1948 for further follow up action by our directorate.

THANK YOU



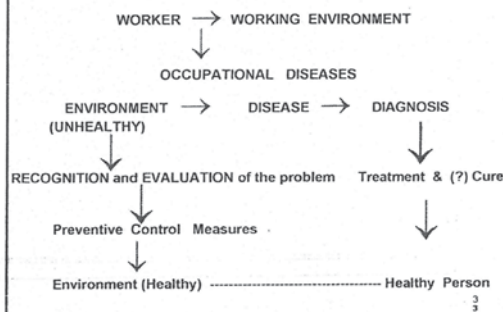
25th July 2014
National Conference on Silicosis
 India International Centre, New Delhi – 110 003.

**Existing Status of Silicosis
 and Implementation of
 NHRC Recommendations**
 or
**Preventive, Remedial, Rehabilitative
 and
 Compensation Aspects of Silicosis.**

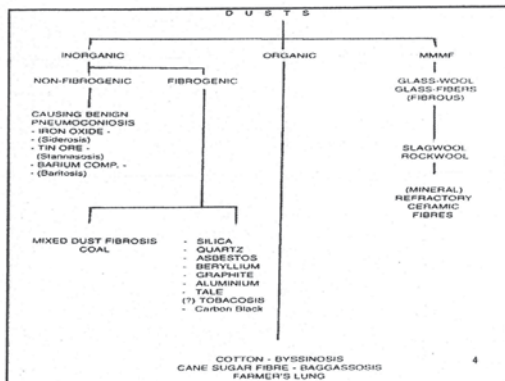
Represented by:
 Sri R C Dutta,
 Director / Chief Inspector of Factories,
 &
 Dr B K Sikdar, Dy. Director (Medical),
 Directorate of Factories, Government of West Bengal.

2

Causation of Occupational Disease



3



4

**GENERAL CONSIDERATIONS ABOUT
 "PNEUMOCONIOSIS:**

In the stone crushing/quarrying units the most important possible occupational disease may be any of dust diseases of lungs i.e. "Pneumoconiosis". ILO defines, that "Pneumoconiosis is the accumulation of dust in the lungs and the tissue reactions to its presence."

Inorganic dust which do not disturb alveolar architecture or give rise to collagenous fibrosis when retained in the lungs are classified as "inert dust" or nuisance particulates, provided they are free of toxic impurities and contain less than 1% of quartz (i.e. 90 – 95% of silica).

These dusts usually do not cause respiratory symptoms or functional abnormalities and may be cleared from the lungs over a period of time with avoidance of exposure. The term benign pneumoconiosis is applied to this condition.

It must be borne in mind that in typical industrial work-environment it is highly improbable to get so called pure 'nuisance particulates'.

5

General Consideration – Pneumoconiosis (contd)

- Inhalation of inorganic dusts that stimulate a response in the lungs eventually leads to irreversible fibrosis and structural alterations, causing collagenous pneumoconioses. The dust may be inhaled as a solid, fume or mixture.
- The aforesaid list of raw-materials, being used in different factories for their desired finished products, clearly shows that there will be a lot of dust generation in and around the production processes. Hence variety of dust diseases of lungs is very much predictable.
- Occupational exposure to Dust ⇒ changes the lung structure and function ⇒ reversible or irreversible ⇒ acute or chronic ⇒ depending on the type of pollutants, dose or quantum of exposure, the duration of exposure, the toxicity of the substance, the body defense, sensitivity & susceptibility etc.

6

Silicosis

"It is the non-neoplastic reaction of the lungs to inhaled mineral or organic dust and the resultant alteration in their structure excluding asthma, bronchitis and emphysema"

→ Zenker, 1866 → Pneumonokoniosis

→ Proust, 1874 → Pneumoconiosis

- The pleura should not be included while diagnosing pneumoconiosis.

7

- Agricola observed in the mid-16th century that women living in the Carpathian mountains might each have as many as seven husbands since the men working in the local mines died of pulmonary disease at a young age.

("The Valley of Widows"...Freidrick Engels)

- Committee on Silicosis of the American Public Health Association (1932) defined this illness as "a disease due to breathing air containing silica (SiO₂), characterized anatomically by generalized fibrotic changes and the development of milary nodulations in both lungs, and clinically by shortness of breath, decreased chest expansion, lessened capacity for work, absence of fever, increased susceptibility to tuberculosis (some or all of which symptoms may be present) and characteristic X-ray findings". (Lanza 1963).

8

Short account of probable specific lung diseases due to respirable dust within the work-environment of this industrial belt

- **Silicosis:** is a chronic fibrotic disease of the lungs resulting from prolonged and intense exposure to free crystalline silica or silicon-dioxide (SiO₂). Several different clinical forms of silicosis exists.
- **Chronic or classical Silicosis** occurs with moderate exposure over a period of 15 to 20 years, usually involving respirable dust with less than 30% quartz.
- **Accelerated Silicosis** occurs with moderately high exposure to dust containing 40% to 80% of quartz for 5 to 15 years.
- **Acute Silicosis** is a rare form of silicosis occurring with heavy exposure to dusts with very high concentrations of silica, is usually develops over a period of 1 to 3 years and progress rapidly to death from respiratory failure.

9

DUST DISEASES other than Pneumoconiosis

- **Coal Workers Pneumoconiosis:** It is caused by prolonged retention in the lung of abnormal amount of dust derived from either coalmining operations or operations involving handling of coal and coal dusts. It exists in two forms, simple and complicated. Complicated **pneumoconiosis** is often referred to as progressive massive fibrosis. Complicated pneumoconiosis develops in lungs already affected by simple pneumoconiosis.
- **Pure or Nodular silicosis** → High silica content small discrete / large nodular opacities, egg shell calcification of hilar lymph node → PMF
- **Mixed dust fibrosis** → Less free silica & inert mineral content (Iron), discrete small nodular or irregular opacities
- **Lung cancer** does occur in individuals with silicosis.
- **Fly Ash, the solid residue remaining after coal combustion, has a high concentration of aluminium silicate (and silica) has been implicated in the development of pulmonary interstitial fibrosis leading to distressing symptoms of respiratory system.**
- **Dust induced bronchitis / Industrial Bronchitis.**

10

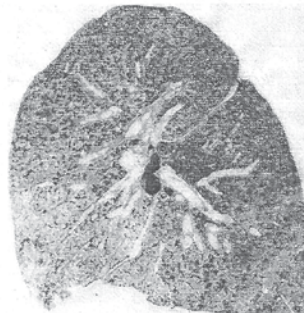
Presenting Signs and Symptoms

- Gradually increasing **dyspnoea** (difficulty in breathing) and **non-productive cough** are the usual complaints. In the absence of any infection, there is slow deterioration of capacity for physical effort. If respiratory infection occurs, dyspnoea and cough are often increased and become established at more severe levels after the infection has subsided.
- Complaints of vague tightness of the chest may develop. Haemoptysis (blood stained sputum or frothy blood coming from respiratory system) is not found unless tuberculosis complicates the silicosis (Silicotuberculosis).
- Asthmatic bronchitis characterized by wheezing and difficulty in expiring air often occurs.
- **Physical signs** are of little help in the diagnosis of silicosis. Diminution of breath sounds with dullness to percussion, prolonged expiration, inconstant rales, and ronchi have reported. Cyanosis, clubbing, orthopnea, evening rise of body temperature or serious weight loss are not usually evident until the disease is advanced. 11

Diagnosis of Pneumoconiosis

- Detailed occupational history (accurate assessment of work-exposure)
- Detailed medical history.
- Chest-x-ray, PA view, done in a 300mA machine or 'Digital X-Rays' (?)
- Result of Computerised Pulmonary Function Test without drugs.
- The Chest-X-Ray, so taken, must have to be studied or made comparison with the standard ILO Chest Radiograph for Pneumoconiosis along with an Occupational Health Specialist.
- PLEASE REMEMBER THAT CHEST-X-RAY IS THE MAIN AID IN THE DIAGNOSIS OF PNEUMOCONIOSIS.

12



13

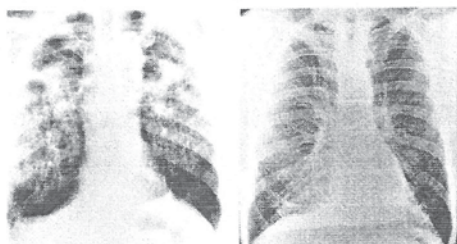
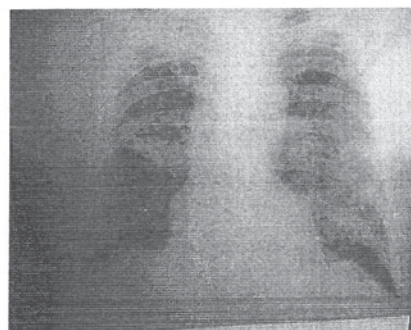


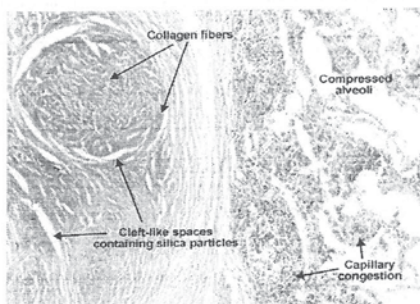
Figure 2. Chest radiograph of patient with advanced, complicated silicosis showing bilateral hilar lymphadenopathy, apical bullae, and biapical emphysema. Left apical pneumothorax is visible.

Figure 3. Chest radiograph of 42-year-old coal miner with coal worker's pneumoconiosis showing multiple nodular opacities penetrating both lungs.

14



15



16



17

Brief Report on Silicosis Control in West Bengal

- The problem of Silicosis in West Bengal is primarily in stone crushing/quarrying units of Birbhum district.
- It would be pertinent to mention here that a sizeable section of these workers are from the unorganized sector which makes regulation and monitoring even more challenging task.
- A programme named the **"West Bengal Silicosis Control Programme"** was conceived (July 2012) as a state initiative and piloted in Birbhum.
- It was proposed that concurrently a state wide survey was to be taken up as per the guideline of NHRC and based on findings of this endeavour, it could be extended to the other vulnerable districts if so required.

18

West Bengal Silicosis Control Programme

- A programme named the **"West Bengal Silicosis Control Programme"** was conceived (July 2012) as state initiative and piloted in Birbhum district by the Health & Family Welfare Department, Government of West Bengal.
- The objectives are to focus on early identification of silicosis patients from among quarry and stone crusher workers in the district, attending to the issues of treatment, relief and rehabilitation in a time bound manner.
- The said programme has been included in the NRHM (National Rural Health Mission) PIP 2012 – 13 with an annual budget of 45 lakhs.
- District hospital, Burdwan Medical College & Hospital, has been selected as Head-Quarter for this programme.
- Medical officers of Health department is entrusted to diagnose persons suspected of silicosis and also suggest the required supplementary nutrition, to be made available by the District administration.

19

West Bengal Silicosis Control Programme.....contd

- A 'Task Force' be formed comprising representatives of various relevant departments and elected persons.
- Special squads may also be formed to carry out periodic checks in the quarries to enforce preventive measures.
- Training & capacity building of NGO staff on technical issues related to silicosis control.
- "Birbhum Manab Kalyan Samiti" a local NGO had submitted a proposal for welfare of stone crushers which was endorsed by Smt. Satabdi Roy, Member of Parliament, has been forwarded to the Government of India.
- A sum of Rs. 2 lakh may be provided by way of compensation to the victims of silicosis, in consultation with the Finance department.

20

West Bengal Silicosis Control Programme.....contd

- On 03.03.2012 random samples from 25 labourers were collected and examined and found that 22 of them were suffering from "Tuberculosis" and advised to continue medication under DOTS. One Sri. Sukul Tudu was suspected to have been suffering from Silicosis was referred for CT Scan.
- A camp was held for re-examination on (of 17 workers) 07.05.2014 by the Labour Department at Belur ESI Hospital. Out of them 6 were suggestive of TB and rest showed observations other silicosis.

21

West Bengal Silicosis Control Programme.....contd

Activities done in Birbhum District

- Associate Professor, Chest Medicine, Burdwan Medical College & Hospital has been deputed at the Silicosis prone areas of the district to gather firsthand knowledge about the problem.
- 10 medical camps have already been held.
- 12 sessions of awareness and related activities have been conducted through various meetings.
- Indoor medical treatment facilities have already been started through Md. Bazar BPHC and Suri District Hospital.
- Supplementary nutrition is also being provided through distribution of IFA tablets and Vitamin A through VHND & Anganwadi centres.
- Regular Medical Check up & investigation facilities i.e. Chest-X-Ray, routine blood examination are being done at Suri hospital.
- The enumeration work regarding health status of the workers in the affected area has already been started by the Health Department.

22

Action taken by the Labour Department

- There have been no factory in the list of registered factories under the classification No: 26960 (National Industrial Classification Code 2004) i.e. **cutting, shaping and finishing stone for use in construction, in cemeteries, on roads, as roofing and in other application.**
- The workers of stone crusher units have been declared as 'construction workers' by the Labour Department under the 'West Bengal Building & Other Construction Workers Act, 1996'. This has entitled them for medical treatment, accident, death and educational facilities as stipulated in the said Act.
- In our state the factories, which are under hazardous category, almost all have already submitted the 'Health & Safety Policy' as required under rule 63B of the West Bengal Factories rules 1958. There were two prosecution cases filed for contravention (non-submission of the HSP) of this rule.

23

Action taken by the Labour Department.....contd.

- State (through Labour Department) has taken appropriate action to fill up the vacancies of 'Inspector of Factories' of all three categories: General, Chemical & Medical.
- The Directorate of Factories, Labour Department, Government of West Bengal have initiated process so that it can start AFIH, course of three months duration, in association with the Indian Association of Occupational Health (West Bengal).
- In our state, all the Inspectors of Factories having requisite medical qualifications are declared as Certifying Surgeons. At present, there are four such 'Certifying surgeons' and five more will be there after the appointments are done by the PSC, WB within next three months.
- There have been a total of 15 different prosecution cases for violation of the provisions of the Section 41B (u/r 63J & 63K of the West Bengal Factories rules, 1958) during the year 2011 to 2012.

24

Action taken by the Labour Department.....contd.

- The provisions regarding 'Pre-employment Medical Examination' of all workers along with 'Periodical Medical examination' are regularly done in the factories having either or both 'Hazardous Process' and/or 'Dangerous Operations' under the supervision of the Medical Inspectors of Factories, West Bengal.
- Industrial hygiene labs of the factory inspectorate have been functioning in West Bengal since long. It is adequately equipped with qualified industrial hygienist and required instruments.
- In our State, since November 1991, Glass manufacture (Schedule IV) and Manufacture of Pottery (Schedule XVI) were declared as dangerous operations under Section 87 / rule 94 of the West Bengal Factories rules, 1958.
- And, all operations containing manipulation of silica or siliceous material (containing more than 5% of silica) were also declared as dangerous operations under Schedule XXVI.

25

Action taken by the Labour Department.....contd.

Status of the major Silicosis prone industries in West Bengal
(i to x list from the 'Background note')

- (i) All stone quarries and crushers: As per our records, there were no such 'factories' listed/registered under the Directorate of Factories, West Bengal.
- (ii) Quartz mining: Not under the purview of the State Government.
- (iii) All mining industries: Not under the purview of the State Government.
- (iv) Sand blasting: declared as "Prohibited Operation" since Nov 1993 in West Bengal, under dangerous Operation, Schedule VIII to rule 94 of the WB FR 1958, u/s.87.
- (v) Construction: workers engaged were looked after under the 'West Bengal Building & Other Construction Workers Act, 1996'. Same provisions of 'Pre-employment' and 'Periodical Medical Examination' were already in force.

Action taken by the Labour Department.....contd.

- (vi) Glass manufacture industries: provisions of medical examination being continued.
- (vii) Foundries: provisions of medical examination being continued.
- (viii) Ceramics industries: provisions of medical examination being continued.
- (ix) Gem cutting and polishing units/factories: As per our records, there were no such 'factories' listed/registered under the Directorate of Factories, West Bengal.
- (x) Slate/Pencil industries: As per our records, there were no such 'factories' listed/registered under the DOF, West Bengal.

*All Thermal Power Stations (23): using Coal as fuel. A project have been started by the 'Directorate of Factories', Labour Department, West Bengal to assess the health hazards of the workers (18754) with particular emphasis to silicosis as 'coal' and 'coal ash' contains silica ranging from 18% to 30% approximately.

27

Let us join hands and take an oath as
conceptualized by the poet laureate
Rabindranath Tagore:

..... food, light, fresh air, and strength are
our demands.

These are the main objectives to maintain a
HAPPY and HEALTHY Long Life

Let NHRC guide us to the desired goal.

Thank You



Addressing issue of Silicosis in Gujarat

Jagdish Patel
Peoples Training &
Research Centre
VADODARA

01/02/2014

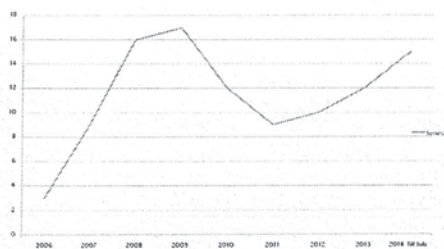
PTRC intervention: Agate workers



Silicosis confirmed Deaths

Period	Confirmed deaths	Male	Female	Average age	Youngest	Eldes
2006	03	03	00	34.3	32	36
2007	09	06	03	42.7	25	65
2008	16	10	06	41.8	31	55
2009	17	16	01	39.23	25	56
2010	12	10	02	49.8	39	72
2011	09	07	02	56.44	35	71
2012	10	05	05	49.5	33	64
2013	12	11	01	42.5	24	58
2014 Till July	15	11	04	51.6	29	65
Total	105	79	24	45.31	24	72

Confirmed silicosis deaths



Clinic

- Clinic started in June, 2007
- Weekly clinic- each Wednesday
- Experts from TB & Chest deptt., Sri Krishna Hospital & P. S. Medical College, Karamsad
- X-rays provided free by Cardiac Care Centre, Khambhat.
- Medicines given at token amt of Rs.5/- by SKH
- PTRC staff keep visiting workers to identify exposed workers to inform and motivate to visit clinic.
- PTRC maintains records and generate data.
- Necessary follow up for getting X-ray done.
- Health education and counseling.

Male	Female	Total	X-ray referred	X-ray Recd	Confirmed
511	381	892	832	696	229

32.9% confirmed of X-ray received
25.67% confirmed of the total patients
57.28% male, 42.71% female patients



Clinic



Prevention

- Vertical wheel, drum and dry cutting are dusty processes.
- Experimentation for low cost dust reduction technology.
- Demonstration of Chinese technology in process



Legal Action

- Complaints filed before NHRC. For Agate workers (unorganized sector), from 2010, we have filed 7 complaints involving 90 confirmed cases of deaths. Recommendation yet to come in any.
- For silicosis deaths in Stone crushing industry (Organized sector) of Godhra we have filed 3 complaints involving 17 deaths. NHRC passed recommendation in one of them. Govt. refused to enforce.
- For silicosis deaths among migrant workers (From Guj to Rajasthan) we have filed 1 complaint involving 4 deaths. Waiting for recommendation.
- Have helped 4 families claim compensation from ESIC
- Have filed claim in Anand labor court for one confirmed case of silicosis. First ever claim among Agate workers.

Advocacy

- Media advocacy.
- Documentary film 'Way to dusty death' made by with the help of PSBT in 2006-won President Award.
- Advocacy with Gems & Jewelry Export Promotion Council.
- Advocacy with State Govt. & Central Govt. Representations to the elected reps and executives.
- International Advocacy with ILO, WHO and other Labor NGOs.
- National Labor Committee, USA published report- Heart of darkness in 2010.



Care & Support

- Schemes for widows.
- Schemes for BPL – housing, PDS
- Antyoday cards
- Information on PDS rights
- Health card issuance
- Crèche
- Notebook, books distribution
- Getting admitted to hostels and schools
- Promoting sports
- Science fair for children
- Cash support
- Linking with other organizations for help.
- Group insurance like Janashri.
- Tiffin service
- Cultural and emotional support by celebrating festivals together.
- Campaigns and victim organizing



We shall over come.....



National Conference on Silicosis
25th July 2014

MANAGEMENT OF SILICOSIS: BEST PRACTICES

**Samit Kumar Carr, Secretary General
Occupational Safety & Health Association of
Jharkhand (OSHAJ)**

&

**National Convener (Jharkhand Chapter)
Rising Occupational Safety & Health
Network of India (ROSHNI)**

Sincere thanks to
NATIONAL HUMAN RIGHTS
COMMISSION OF INDIA
For awarding compensation to
the kin of dead SILICOSIS VICTIMS of
MUSABONI, EAST SINGHBHUM

Silicosis affected Families of Musaboni
&
Occupational Safety & Health Association of Jharkhand
25-07-2014

MINERAL DEPOSITS IN JHARKHAND



Jharkhand possesses a large reserve of mineral wealth: hematite, coal, uranium, copper ore, bauxite, mica, graphite, kainite, sillimanite, limestone, asbestos, quartz, granite, vanadium, dolomite, china clay, etc.

Large mining and mineral processing industry in Jharkhand.

MINERAL BASED INDUSTRIES IN JHARKHAND

- 16000 mines, coal washeries, power plants, iron & steel plants, cement plants, alumina, copper smelters and uranium processing units, refractory and factories, including:
- 14000 /15000 stone quarries & crushers,
- 60 ramming mass (quartz grinding) units,
- 192 iron ore crushers,
- 40 sponge iron units,
- Several thousands building and road construction sites are also active.

IMPACTS OF UNSAFE MINING & MINERAL PROCESSING

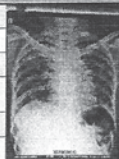
THE IMPACTS ARE INTERRELATED TO:

- Governance: Non-functioning of govt. regulatory agencies and administration allows dust /environmental pollution at work place
- Environment: Dust /environmental pollution at work place causes silicosis /pneumoconiosis
- Health & Life: Silicosis impacts health of the workers leading to
 - Early separation from job
 - Death at premature age
 - Children and families socially and economically unsecured
- Socio-economic issues: Children and women most vulnerable
 - Children stop education, become child labour, get married during childhood
 - Women become domestic aid and construction workers and in some cases they have to leave in-law's house

SILICOSIS /PNEUMOCONIOSIS

- Silicosis is the oldest occupational lung disease caused by the long-term inhaling of silica dust. The father of medicine, Hippocrates, diagnosed silicosis in 430 BC. The symptoms of silicosis and other dust related diseases are quite similar. Pneumoconiosis includes other dust-related diseases that have widespread incidence in mining areas.

Source /Dust	Pneumoconiosis /Occupational Lung Diseases
Silica	Silicosis
Iron Dust	Siderosis
Asbestos	Asbestosis
Coal	Coal Worker Pneumoconiosis
Beryllium	Berylliosis
Strontium	Strontiosis



BEST PRACTICES

TOWARDS SILICOSIS IDENTIFICATION & CONTROL

- Community & RTI Initiatives
- Knowledge Sharing Programmes
- OSH Victims Services Identification Counseling Relief and Children Support Programme
- Stakeholders Sensitization
- Formation of JOSH Cell by the Govt. of Jharkhand
- Formulation of State Rule
- Developing of 'Jharkhand State Action Plan For Prevention & Mitigation of Silicosis' by the Govt.
- Advocacy Initiatives
- Networking

COMMUNITY & RTI INITIATIVES

COMMUNITY INITIATIVES

- Village /Panchayat /Block level consultations
- Silicosis affected workers & families' gathering mass deputations, public seminar
- Filing petitions to the concerned departments for compensation & rehabilitation
- Linking with the govt. offices for access to social security through govt. schemes

RTI INITIATIVES

- Eight RTI petitions were filed regarding:
 - Whether health survey on silicosis conducted by govt. of Jharkhand
 - No. of factories and level of dust concentration at different stone, iron ore and quartz crushers, etc.
 - Policy and legal definition of org. and unorganised sectors
 - No. of certifying surgeons and factory inspectors are posted
 - No. of units registered under Factories Act 1948 and ESI Act 1948 in Jharkhand.

AWARENESS RAISING PROGRAMME

OSH/SILICOSIS CAMPAIGN IN JHARKHAND, WB & ORISSA

- How silicosis occurs
- Workplaces /occupations where silicosis occurs
- Preventive measures & work place safety
- Related Acts and Rules
- Legal Provisions of Social Security
- Role of Govt. Regulatory Agencies & District Administration
- Role of NGOs & Trade Unions

The diagram illustrates the human respiratory system, specifically the lungs. It shows dust particles entering through the trachea and settling in the alveoli, leading to inflammation and scarring of lung tissue, which is characteristic of silicosis. Text in Hindi and English explains the process and the resulting health issues.

OSH VICTIMS SERVICES IDENTIFICATION COUNSELING & RELIEF PROGRAMME

- Documentation of Occupational & Clinical Histories of the Workers
- Counseling of dust affected workers not to work in hazardous sites
- Books, clothes, exam & tuition fees provided to selected children
- An aspirant of BSc Nursing training is facilitated to pass ISC and to join the training course this year

Silicosis Identification by Dr. Kunal Kr. Datta and Dr. Tapan Kr. Mohanty at medical camp organised by OSHAJ

STAKEHOLDERS SENSITIZATION

Ex-Chief Minister Jharkhand Hon'ble Mr Arjun Munda approved and issued order on 24.11.2010 to implement Silicosis Identification & Elimination Plan as developed by OSHAJ

SENSITIZATION MEETINGS/WORKSHOPS

Representatives of WHO, UNICEF, OSHAJ and officers of mines, labour, health departments and SPCB were the part of the process

Sl. No.	Name	Designation	Organization
1	Dr. Kunal Kr. Datta	Senior Consultant	OSHAJ
2	Dr. Tapan Kr. Mohanty	Senior Consultant	OSHAJ
3	Dr. Arjun Munda	Ex-Chief Minister	Government of Jharkhand
4	Dr. Arjun Munda	Minister	Government of Jharkhand
5	Dr. Arjun Munda	Minister	Government of Jharkhand
6	Dr. Arjun Munda	Minister	Government of Jharkhand
7	Dr. Arjun Munda	Minister	Government of Jharkhand
8	Dr. Arjun Munda	Minister	Government of Jharkhand
9	Dr. Arjun Munda	Minister	Government of Jharkhand
10	Dr. Arjun Munda	Minister	Government of Jharkhand

OSH INITIATIVE BY GOVT. OF JHARKHAND

JOSH CELL was formed by the Govt. of Jharkhand on 18.06.2011 headed by the EX-MD NRHM Jharkhand & Labour Commissioner.

WHO UNICEF & OSHAJ are also part of the cell.

Cell is defunct at present

GOVERNMENT'S INITIATIVES

- Govt. of Jharkhand formulated State Rule as per Factories Act 1948 on 10.07.2012 to bring quartz and other silica dust generating units under hazardous process.
- Govt. of Jharkhand developed State Action Plan for Prevention and Mitigation of Silicosis on 27.07.2012. But postmortem clause was added in the state action plan that goes against the labour related rules and regulations.
- Govt. of Jharkhand had conducted improper way of medical investigation till May 2014 but finally started medical investigation of workers properly in June 2014.
- Govt. of West Bengal also developed silicosis control programme after OSHAJ & NHRC's intervention

BEST PRACTICES

IDENTIFYING INCORRECT RECOMMENDATIONS

Silicosis Control Programme through Revised National Tuberculosis Control Programme (RNTCP) is incorrect:

- RNTCP is a project based government programme.
- TB is **communicable** and **curable** disease while silicosis is **non communicable** and **incurable** disease.
- Most of the RNTCP centers do not have chest X-Ray and lung function test arrangements.
- Most of the RNTCP centers do not have experienced doctors on dust diseases.
- RNTCP centers (DOT) failed to detect silicosis cases in Jharkhand, West Bengal, Orissa.
- Occupational disease detection centers (ODDC) at government and ESI hospital may serve the purposes very well.
- We could raise demand of silicosis control programme that will not appear as constraint before RNTCP.

BEST PRACTICES

IDENTIFYING INCORRECT & CONTRADICTION NOTIONS

RAJYA SWASTH BIMA YOJNA

- Amount fixed under RSBY can not serve the purpose of treatment of silicosis affected workers

SILICOSIS DETECTION METHOD DEVELOPED BY GOVT. OF JKD

- Postmortem
- Lung Biopsy
- High Resolution Computerized Tomography (Scanning)
- For denying to pay compensation
- Irrational mindset constraints to identify silicosis cases.
- Access to medical report is still difficult for affected workers.

UNORGANISED SECTORS

- There is no legal definition of Unorganised Sectors as per RTI Information of Directorate General Mines Safety, Govt. of Jharkhand.
- Labour related Acts & rules are not applicable for unorg. Sectors
- CONTRADICTION POSITIONS:**
 - Ministry of Labour & Employment Govt. considers quartz grinding, stone crushers and slate pencil units belong to unorganised sectors
 - DGASLI considers these as organised sectors

BEST PRACTICES

RAISING CORRECT DEMANDS

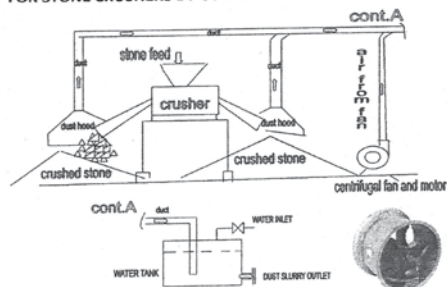
Compensation to the workers who do not have medical records

- This group belonged to same epidemiological cohort out of which some do not have medical records.
- Government regulatory agencies and district admin did not ensure work place safety by checking environmental pollution and routine medical check up as per law.
- As the govt. departments failed to protect the lives and to keep medical records of the workers, therefore, same amount of compensation to be paid to the kin of the workers who do not have medical records.

Recommendation to implement The Workmen Compensation Act 1923 / ESI ACT 1948

- Vienna Declaration 1993 consider s Work Place Safety & Social Security as issues of HR as right to life is one of its important aspects.
- But recommendations for compensation may be made according to WC & ESI Acts.
- Supreme court ordered on 26.11.1996 to implement WC Act 1923 while the unit was not even registered under Directorate of Factories.

DESIGNING OF LOW COST DUST COLLECTORS FOR STONE CRUSHERS BY OSHAJ

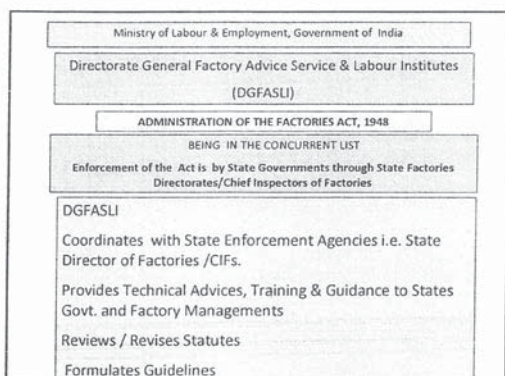


CONCLUSION & RECOMMENDATIONS

- Pneumoconiosis board should be formed or reactivated in all states of India.
- A national policy and programme should be designed for identification, control and elimination of silicosis & other occupational lung diseases with ILO & WHO.
- OSH should be viewed as a fundamental right in the Constitution of India.
- Government of India should ratify recommendations of ILO's Conventions on Occupational Safety & Health (nos. 139, 155, 161, 162, 176, 184 and 187).
- Decision of Ministry of Labour & Employment on August 2011 that changed status of some factories from organized to unorganized sectors should be amended.
- Government should formulate policy and definition that differentiate between organized and undefined sectors and lists of industries/units to be prepared accordingly. Also a status list of the specific units and mines under the purview of Factories Act 1948/ESI Act 1948/ Mining Act 1952.
- NHRC should award compensation to the kin of the workers who do not have medical records or may think for a legal step to implement Supreme Court orders if necessary.
- Experts from Eastern Region to be included in experts committee from Jharkhand, Orissa, West Bengal, Bihar, Chattisgarh Assam and North Eastern States.

NATIONAL CONFERENCE ON SILICOSIS

SAFETY HEALTH AND WELFARE LEGISLATIONS MANUFACTURING SECTOR



THE FACTORIES ACT, 1948

STATE FACTORIES RULES

MODEL FACTORIES RULES (MFR)

DEFINITION OF A FACTORY

MANUFACTURING PROCESS

10 OR MORE WORKERS WITH POWER

20 WORKERS WITHOUT POWER

SECTION 85 : AUTHORISES STATES TO
APPLY ANY OR ALL PROVISIONS
REGARDLESS OF ABOVE NUMBER OF
WORKERS

k) "manufacturing process" means any process for-



making, altering, repairing, ornamenting, finishing, packing, oiling, washing, cleaning, breaking up, demolishing or otherwise treating or adapting any article or substance with a view to its use, sale, transport, delivery or disposal; or

- ii) pumping oil, water, sewage, or any other substance; or
- iii) generating, transforming or transmitting power; or
- (iv) composing types for printing, printing by letter press, lithography, photogravure or other similar process or book-binding; or
- (v) constructing, reconstructing,, repairing, refitting, finishing or breaking up ships or vessels; or
- (vi) preserving or storing any article in cold storage ;

Sec. 87. Dangerous operations. –

If any manufacturing process or operation carried on in a factory exposes any persons employed in it to a serious risk of bodily injury, poisoning or disease,
State Govt. may make rules

(a) specifying the manufacturing process or operation and declaring it to be dangerous;

(b) prohibiting or restricting the employment of women, adolescents or children ;

(c) providing for the periodical medical examination, and prohibiting the employment of persons not certified as fit and requiring the payment by the occupier of the factory of fees for such medical examination;

Sec. 87. Dangerous operations. –

(d) providing for the protection of all persons employed in the manufacturing process or operation or in the vicinity of the places where it is carried on;

(e) prohibiting, restricting or controlling the use of any specified materials or processes in connection with the manufacturing process or operation;

(f) requiring the provision of additional welfare amenities and sanitary facilities and the supply of protective equipment and clothing, and laying down the standards thereof,

**MINISTRY OF LABOUR &
EMPLOYMENT**

**THROUGH DGFASLI HAS FRAMED
MODEL FACTORIES RULES (MFR 120)
ON**

**27 DANGEROUS OPERATIONS AND
PROCESSES UNDER SECTION 87 OF
THE FACTORIES ACT, 1948. including
on**

**MANIPULATION OF STONE OR ANY OTHER
MATERIAL CONTAINING FREE SILICA**

What is silicosis ?

Silicosis is a fibrotic disease of the lung caused by the inhalation of, retention of and pulmonary reaction to crystalline silica.

Type of Silicosis

- Acute silicosis
- Accelerated silicosis
- Chronic silicosis
- Progressive Massive Fibrosis (PMF)

Acute silicosis

- Develops after exposure to extremely high concentrations
- Symptom onset from within weeks to a few years
- Cough, weight loss, fatigue may precede radiologic findings
- TB or fungal infection frequent
- Prediction is difficult

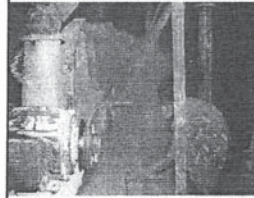
Chronic silicosis

- Develops slowly—10-30 years from first exposure
- May first appear when exposure is no longer present or after retirement
- Harmful onset of symptoms, frequently confused with "aging"
- Imaging: classically rounded opacities often first seen in the upper or mid lung zones. Irregular opacities often present as well.
- Nodules may coalesce to form PMF
- Pulmonary function deficits vary widely

Progressive Massive Fibrosis (PMF)

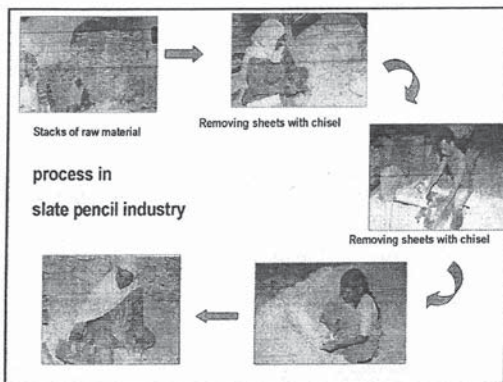
- Industries and occupations with highest exposures confer greatest risk
- Nodules mix together to form masses
- Super-infection is common
- Increases risk for substantially reduced lung function and shortened life

Silica exposure in the agate & quartz grinding industries, India

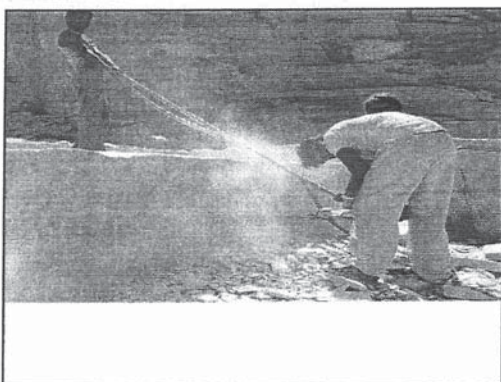


- Heavy exposure to air borne silica dust (about 95% crystalline silica) in young workers results in silicosis within 1-2 years exposure leading to death.

Slide courtesy of Dr. H.N.Saiyed
National Institute of Occupational Health
(ICMR) Ahmedabad, India



Family Exposed to Dust



BACK GROUND

The following type of industries have been identified as silicosis prone industries

- 1.Stone Crushers,
- 2.Gem and Jewellery,
- 3.Slate Pencil Making,
- 4.Agate Industry,
- 5.Cement Industry,
- 6.Pottery
- 7.Glass Manufacturing

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SCHEDULE XIII

MANIPULATION OF STONE OR ANY OTHER MATERIAL CONTAINING
FREE SILICA

REVISED BY MOLE AS PER THE
RECOMMENDATIONS OF NHRC

THESE RULES SHALL APPLY TO STONE
OR OTHER MATERIAL THAT CONTAIN
NOT LESS THAN 5% FREE SILICA , BY
WEIGHT.

STONE CRUSHERS, GEM AND JEWELLERY, SLATE
PENCIL MAKING , AGATE INDUSTRY, POTTERY,
GLASS MANUFACTURING

PREVENTIVE CONTROL MEASURES SPECIFIED IN THE RULES

1. ENGINEERING CONTROLS
2. MEDICAL CONTROLS
3. ADMINISTRATIVE CONTROLS

ENGINEERING CONTROL MEASURES

Wet Methods: Airborne Silica Dust should be minimized or suppressed by applying water to the process or clean up;
Water should be provided to drilling or sawing of concrete or masonry;

Ventilation: Local exhaust systems should be used to remove silica dust from industrial processes.
Dilution ventilation may be used to reduce silica dust concentration to below the permissible limits in large areas.

Dust collectors /HEPA filter should be set up so that dust shall be removed from the source and all transfer points to prevent contaminating work areas.

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Ventilation systems should be kept in good working conditions.

Isolation:

Containment methods should be used while carrying out sand blasting.

Cabins of vehicles or machinery cutting & drilling that might contain silica should be enclosed and sealed.

DUST CONTROL:

Vacuum System with High Efficiency Particle Air (HEPA) filter shall be used to remove dust from work areas and at all transfer points.

The belt conveyors transferring crushed material shall be **totally enclosed throughout the length**

23

MEDICAL CONTROL MEASURES

Every worker employed in the processes shall be examined by a Certifying Surgeon within 15 days of his first employment. The medical examination shall include tests for lead in urine and blood. Alpha lipoic acid (ALA) in urine, hemoglobin content, stippling of cells and steadiness test. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every twelve months. Such re-examination shall, wherever the Certifying Surgeon considers appropriate, include all the tests as specified in sub-paragraph (1) except chest X-ray shall be read by a radiologist specialized/ trained in the field of reading ILO Radiographs on Pneumoconiosis and which will at least once in 3 years..

24

ADMINISTRATIVE CONTROL MEASURES WORK PLACE/ENVIRONMENT MONITORING:

The occupier to ensure work place/environment monitoring to be performed to determine magnitude of exposure/ concentration to evaluate engineering controls, selecting respiratory protection, work practices and the need for medical surveillance.

Work place/Environment Monitoring shall be repeated quarterly.

The report of dust sampling by occupier shall be made available to the public.

The Factory Inspectorate to set up Industrial Hygiene Labs and to be equipped with all testing and monitoring equipments and employing qualified Industrial Hygienists. The concerned inspectors to be equipped with relevant equipments to enable dust-measuring and monitoring as provisions of the Act.

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ADMINISTRATIVE CONTROL MEASURES TRAINING/ AWARENESS

Workers shall be trained in the following:-

Health effects of silica dust exposure.
Operations and material that produce silica dust hazards.
Engineering controls and work practice controls that reduce dust concentration.
The importance of good house keeping and cleanliness.
Proper use of personal protective equipment such as respirators etc.
Personal hygiene practices to reduce exposure.

26

ADMINISTRATIVE CONTROL MEASURES HOUSE KEEPING: MAINTENANCE OF FLOORS-

All floors or places where fine dust is likely to settle on and whereon any person has to work or pass shall be of impervious material and maintained in such condition that they can be thoroughly cleaned by a moist method or any other method which would prevent dust being airborne in the process of cleaning once at least during each shift.
For this purpose wet methods or vacuum system with a HEPA filter shall be used.
Dust on over head edges and equipment should be removed before it becomes air borne due to vibration, traffic and random air current.

27

ADMINISTRATIVE CONTROL MEASURES CHANGE ROOM AND WASHING FACILITIES

Washing and bathing facilities shall be conveniently located at a place easily accessible to the workers..
Cloak room with individual lockers shall be provided for employees to store uncontaminated clothing.
Workers shall take bath and change the work clothes before they leave the work site.
Work clothes shall not be cleaned by blowing or shaking. .
Eating/lunch areas shall be located away from exposed areas.

DISPLAY OF NOTICES:

Warning signs / Posters shall be displayed conspicuously in a prominent place.
The warning signs/poster shall contain the Hazards, precautions.
The display of notice shall be in the local language and also in the language understood by the majority of the workers.

28

ADMINISTRATIVE CONTROL MEASURES Personal Protective Equipment

The following PPEs shall be used as applicable to a given work place.

Dust respirator.
HEPA filter respirator or fume respirator.
HEPA filter respirator with full face piece.
Self contained breathing apparatus (SCBA)
Supplied air respirator with a full face piece, helmet or hood.
SCBA with full face piece.
Powered air purifying respirator with a HEPA filter.

Prohibition relating young person's-

No young person shall be employed or permitted to work in any of the operations involving manipulation or at any place where such operations are carried out.

29

- Exposure to silica dust does not leads to immediate consequences.
- The workers as well as the employers remain unconcerned about the exposures till the chronic effects start manifesting..
- The exposure to silica dust weakens the defence mechanism of the body and renders the exposed person vulnerable to microbial infections.
- These may lead to false diagnosis of the case as that of microbial infection like tuberculosis or chronic bronchitis.
- Most medical practitioners are not made aware of the cause and start treatment as if it is TB.
- Health awareness in the industrial workers in the country is generally poor.
- Even if a worker believes that he suffers from silicosis, he may not report to the statutory authorities due to fear of loosing his employment.

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Thank You

- The Hon'ble Supreme Court in its judgment in the Peoples Rights and Social Research Center (PRASAR) verses Union of India in W.P. Civil No. 110 of 2006 had directed that all the State Governments should declare the manipulation of stone or material free silica as a dangerous operation under section 87 and bring these industries under the purview of the Factories Acts.
- The National Human Rights Commission (NHRC) had also recommended preventive, remedial, rehabilitative and compensation aspects of silicosis should be implemented by including these aspects in the Statutes.
- Recommendations made by NHRC includes the need for Occupational Health and Dust Survey, development of cost effective engineering control measures, implementation of precautionary measures including protective gears to the workers, installation of dust control devices at work place etc.

ACTIONS INITIATED BY DGFASLI

- A Cell for Monitoring Silicosis has been created at the CLI, Mumbai under DGFASLI.
- A Checklist for prevention of Silicosis has been prepared for circulation to all the States/UTs
- DGFASLI and CLI/RLI under its control and the State Factories Inspectorates/Directorates undertake educational training programs, awareness and promotional activities in the field of OSH.
- DGFASLI has issued directives State Governments/ Union Territories to notify Silicosis prone industries as dangerous operations and enforce the provisions contained in Section 85 of Factories Act, 1948 to such units.

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- Modified Schedule-XIII : *Manipulation of Stone or any other material containing free silica*, in the Model Factories Rules 120, (MFR120), framed under Section 87 of the Factories Act, 1948 has been modified
- As per the information received from the Chief Inspector of Factories (CIFs), 22 States/UTs have notified the Schedule: "*Manipulation of Stone or any other Material containing Free Silica*" in their State Factories Rules as dangerous operation under Section 87 of the Factories Act, 1948.
- The CIFs of 8 States/UTs have informed that they do not have factories, prone to Silicosis as occupational disease.

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- DGFASLI has made a documentary film on Silicosis titled "Silicosis – A Killer Disease" and printed number of posters on the same for spreading mass awareness among the public
- In order to create safety and health awareness on "Silicosis", a nation-wide awareness campaign has been launched by Ministry of Labour & Employment through advertisement in Doordarshan at prime time.
- A National Workshop on Occupational health with special reference to silicosis was organized for ESIC Medical officers and Medical Officers from Primary Health Centres for diagnosing cases of silicosis by comparative study through ILO Radiographs on pneumoconiosis.
- DGFASLI has conducted training programmes for nurses, health/medical assistants in which ILO Radiographs on Pneumoconiosis with special reference to diagnosis of silicosis has been taught.

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- A National Seminar on "Identification, Elimination and Control of Silicosis" was held at the DGFASLI in association with Directorate of Industrial Safety and Health, Maharashtra for certifying surgeons.
- DGFASLI has conducted two national workshops; "Status of implementation of provisions relating to silicosis" and, "Development of strategies for National level survey on identification and prevention of silicosis"
- In order to create safety and health awareness on "Silicosis", a nation-wide awareness campaign has been launched by Ministry of Labour & Employment through advertisement in Doordarshan at prime time.
- Awareness programmes on "Prevention of Silicosis" were organized at Godhra, Balasinor and Vadodara districts of Gujarat for workers as well as management personnel working in glass manufacturing industry.

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SOME IMPORTANT STUDIES CONDUCTED BY DGFASLI

- Study of dust in quartz grinding units in Beawar, Rajasthan:
- Stone Crushing Industries in UP & Rajasthan
- Control of Silica dust in Quartz Grinding Units in Rajasthan:
- Silicosis in manufacturing refractory products:
- Silica Dust and Silicosis in a Foundries:
- Slate Pencil Industries in Madhya Pradesh

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Silicosis: Occupational Safety, Health, Welfare and Other Legislations and Regulations

Dr. HG Sadhu

Scientist E

NIOH, Ahmedabad

National Conference on Silicosis, 25 July 2014, New Delhi

National Institute of Occupational Health
Meghainagar
Ahmedabad 380 016



OBJECTIVE

Prevention – Preservation – Promotion

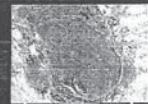
- Workers / Community Health
- Work / Community Environment

Activities

- Research
- Education and Training
- Service

Silicosis

Diffuse nodular pulmonary fibrosis, caused by inhalation and deposition of respirable crystalline silica particles (i.e. particles < 10 µm in diameter)



Occupational exposure

- | | |
|---|--|
| <ul style="list-style-type: none"> • Agriculture • Mining and related milling operations • Quarrying and related mining operations • Cement, Construction • Glass including fiberglass • Abrasives • Ceramics including bricks, tiles, sanitary ware, porcelain, pottery, refractories, vitreous enamels • Iron and steel mills • Silicon & ferro-silicon foundries (ferrous and nonferrous) | <ul style="list-style-type: none"> • Metal products including structural metal, machinery, transportation equipment • Shipbuilding and repair • Rubber and plastics • Paint • Soaps and cosmetics • Roofing asphalt felt • Agricultural chemicals • Jewelry • Arts, crafts, sculpture • Dental material • Boiler scaling • Automobile repair |
|---|--|

Clinical presentations

- Chronic silicosis: after ≥ 10 years of exposure to low concentrations of dust; 30% SiO₂
- Accelerated silicosis: 5 – 10 years after initial exposure; > 30% SiO₂
- Acute silicosis: Few weeks – 5 years, high concentrations of silica dust; ~100% SiO₂

Clinical Features

Symptoms

- ✧ Dry cough
- ✧ Productive cough
- ✧ Breathlessness
- ✧ Anorexia
- ✧ Weight loss
- ✧ Low fever
- ✧ Chest pain and hemoptysis

Signs

- ✧ Harsh breathing
- ✧ Rales, persistent rales

Differential diagnosis

- Pulmonary tuberculosis
- Sarcoidosis

Diagnosis

- Detailed occupational history
- Chest radiography
- CT.
- Lung biopsy

Occupational History

- Ascertainment of exposure
 - Present and past occupational history
- Duration of exposure
- Dose of exposure
- Work place assessment
- Work practices

Pulmonary Function Tests

Not helpful in diagnosis

- Restrictive impairment
- Later, obstructive impairment

For surveys and monitoring: FVC and FEV₁

For individual cases: Reduction in gas transfer

Treatment

- No curative treatment
- Symptomatic treatment only
 - Bronchodilators
 - Treatment for associated symptoms – cough
 - Steroids (Contraindicated?) – Judicious use
- Prevention is the only remedy

Prevention

- Removal from further exposure
- Preplacement and periodic examinations
- Control technology
- Education

Legal aspects

Notifiable disease

Section 89, Factories Act, 1948

Compensable disease

Schedule III, Part C, Workmen's Compensation Act, 1923

Section 89. Notice of certain diseases

- (1) Where any worker in a factory contracts any disease specified in 3*[the third Schedule], the manager of the factory shall send notice thereof to such authorities, and in such form and within such time, as may be prescribed.
- (2) If any medical practitioner attends on a person who is or has been employed in a factory, and who is or is believed by the medical practitioner to be, suffering from any disease specified in 3*[the third Schedule], the medical practitioner shall without delay send a report in writing to the office of the Chief Inspector stating—
 - (a) the name and full postal address of the patient,
 - (b) the disease from which he believes the patient to be suffering, and
 - (c) the name and address of the factory in which the patient is, or was last, employed.

Section 89. Notice of certain diseases

(3) Where the report under sub-section (2) is confirmed to the satisfaction of the Chief Inspector, by the certificate of a certifying surgeon or otherwise, that the person is suffering from a disease specified in 3* [the Third Schedule], he shall pay to the medical practitioner such fee as may be prescribed, and the fee so paid shall be recoverable as an arrear of land-revenue from the occupier of the factory in which the person contracted the disease.

(4) If any medical practitioner fails to comply with the provisions of sub-section (2), he shall be punishable with fine which may extend to 1* [one thousand-rupees].

Prevalence of silicosis and tuberculosis in cottage industries

Industry	Silicosis	Tuberculosis
Slate pencil (N = 593)	54.7	15.0
Stone crushing (N = 218)	44.9	36.6
Agate (N = 468)	29.1	30.1
Stone cutting (N = 89)	19.1	34.8
Ceramic (N = 292)	15.1	15.1

N = Total number of subjects included in the study

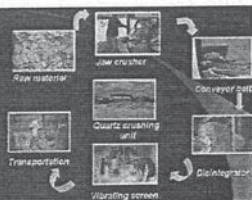
National Silicosis Elimination Programme

- Definition of magnitude of problem
 - Population at risk
 - Number of people affected
 - Comprehensive industrial hygiene and epidemiological surveys
- Implementation of the control measures
 - Dust control measures
 - Medical surveillance

Industries

- Agate
- Stone crushing
- Stone quarrying
- Slate pencil
- Pottery and ceramics

Stone crushing Industry



Characteristics	Ex-workers (n = 218)	Present workers (n = 182)
Mean age (total) - yr	31.4 ± 9.84	26.7 ± 7.12
Mean age (men) - yr	33.0 ± 9.83	27.4 ± 6.70
Mean age (women) - yr	29.7 ± 9.56	23.4 ± 6.93
Mean duration of exposure - yr	3.2 ± 2.64	1.4 ± 2.68
Respiratory disorders	55.5 %	6.0 %
Silicosis	18.8 %	0.5 %
Silico-tuberculosis	26.1 %	-
Tuberculosis	10.6 %	5.5 %

Agate industry



Exposure

- During grinding dust containing free silica is generated
- Quartz content is 34.19 ± 14.54%
- Workers, women and children are exposed in work environment
- People living in the vicinity are also exposed (including elderly and sick)

Prevalence of silicosis, tuberculosis and silico-tuberculosis among the study subjects according to the category

Category	N	Tb	Silicosis	SilicoTb
		n (%)	n (%)	n (%)
Controls	841	31 (3.7)	0 (0.0)	0 (0.0)
Neighbours	748	150 (20.1)***	51 (6.8)	21 (2.8)
New grinders	314	59 (18.8)**	28 (8.9)	12 (3.8)
Households	127	25 (19.7)**	14 (11.0)	8 (6.3)
Front grinders	397	107 (27.0)***	116 (29.2)***	59 (14.9)***
Past grinders	341	183 (53.7)***	130 (38.1)***	93 (27.3)***

N = Total number of subjects in the category
n = Number of subjects in the subgroup having silicosis, tuberculosis or silico-tuberculosis

*** p < 0.001
** p < 0.01
* p < 0.05

Prevalence of silicosis among the grinders according to duration of grinding

Grinding (Years)	Present grinders	Past grinders
	N	Prevalence
04 & less	90	5.6
05-08	110	14.5 *
09-12	64	34.4 ***
13-16	42	40.5 ***
17 & more	91	61.5 ***

Prevalence of silicosis and silico-tuberculosis among subjects having past history of tb

Past Hx of Tb	N	Silicosis	SilicoTb
		n (%)	n (%)
No	1000	107 (11.7)	81 (8.1)
Yes	327	152 (46.5)	112 (34.3)

Odds ratio: 6.8 (5.0 - 8.7)*** 8.8 (6.2 - 12.0)***

New agate grinding machine



Acceptability by workers

Most of the workers did not accept the machine

REASONS

1. Traditional habits
2. Fear of electric shock
3. Electrical consumption
4. Speed variation

THEIR DEMAND

Exhaust system to be fitted on traditional machines

Modified dust control system on traditional grinding machines



AVERAGE EFFICACY

Vertical machine
Total dust: 93.55 %
Respirable dust: 93.30 %

Horizontal machine
Total dust: 93.73 %
Respirable dust: 90.21 %

Workers' and employers' response: Positive

Awareness and education

- WHO-NIOH workshop on Occupational Health Problems of Agate Workers at Khambhat - 24 Apr 1999
- Dust control system exhibited at Vigyan mela at IIT, New Delhi (2 - 6 Feb, 2000)
- Films Division in co-ordination with NIOH produced a documentary film "Anmol Patthar, Bemol Zindagi"
- Booklets in Gujarati and Hindi
- Workshop on Dust diseases - Silicosis for factory inspectors at NIOH, 7 - 8 Mar, 2000
- Training of PHC doctors for silicosis at Khambhat, August 2002

23

Awareness and education (Contd.)



Agate workers



Doctors



General public

Thanks

"Occupational Health Legislation : need for innovative approach"

Dr. P. K. Sishodiya
Former Director
National Institute of Miners' Health
JNARDDC Campus, Wadi
Nagpur 440 023

Occupational Health Legislation

"It is a matter for concern that.....the words "safety and health" or "health and safety" are coupled in an apparently random fashion. It is frequently the case that whereas the two words are used together initially, the subsequent discussion.... refers only to safety. This suggests a preoccupation with safety, and implies an inevitable neglect of health. More importantly, it suggests pervasive loose thinking..... among those responsible for drafting and promulgating the legislation. There is no doubt... that this neglect of health is reflected in the activities, training and skills of the mines inspectorate, and in the attitude of management and management organisations."

The Honourable Justice R. N. Leon, Chair Person
Commission of Inquiry into Safety and Health in the Mining Industry,
Republic of South Africa
(4.2.1 Chapter IV)

Has Occupational Health Legislation Succeeded in India ?

Yes
&
No

Legislation has succeeded : Yes

has provided the basic framework for occupational health services

- ✦ Reporting of Notified Diseases
- ✦ Medical Examination of Workers
- ✦ Permissible Limits for Occupational Hazards
- ✦ Prescribed control measure for some of the hazards
- ✦ Created awareness about pneumoconiosis and NIHL
- ✦ Prohibited hazardous practices at work
- ✦ May have reduced incidence of dust diseases

Legislation has succeeded : No

- ✦ Poor enforcement mechanism for occupational health legislation
- ✦ Deficient compliance with provisions of medical examinations
- ✦ Poor quality of health surveillance
- ✦ Failure to diagnose and detect cases of occupational diseases
- ✦ Failure to report cases of notified diseases
- ✦ Failure to carry out workplace monitoring of occupational hazards
- ✦ Absence of legal provision for detection of occupational diseases
- ✦ Over emphasis on dust related diseases
- ✦ Many occupational diseases not included in list of notified diseases

Why Legislation has not Succeeded

Suits everybody not to detect Occupational Diseases

- ✦ Worker
- ✦ Employer
- ✦ Medical Professionals
- ✦ Academic Institutions
- ✦ Unions
- ✦ Enforcement Agency
- ✦ The Government

Everybody is responsible for health of the Worker
(Nobody is Responsible)

Is silicosis a Problem in India - Factories

Industry	No. of persons Examined	Cases of Silicosis	% of Silicosis
Slate Pencil	593	354	54.7
Ceramic	292	44	15.1
Agate Grinding	468	136	29.1
Stone Cutting	89	17	19.1
Quartz Grinding	218	91	41.7

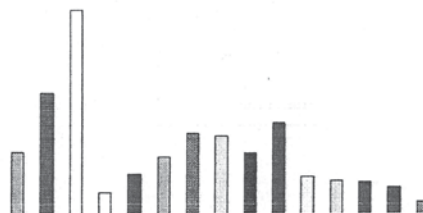
Source : NIOH

Is silicosis a Problem in India - Mines

Sl. No.	Mines	Organisation	Year	No of persons Examined	Cases of silicosis	% of silicosis
1.	Kolar Gold Fields	Chief Advisor of Factories	1940-1946	7643	3402	43.7
2.	Mica	Chief Advisor of Factories	1953	329	112	34.1
3.	Manganese	Directorate General of Mines Safety	1960	243	10	4.1
4.	Lead & Zinc	Chief Advisor of Factories	1961	171	52	30.4
5.	Lead & Zinc	Chief Advisor of Factories	1962	223	71	26.0
6.	Iron Ore	CHRS & Directorate General of Mines Safety	1968	177	42	23.7
7.	Mica	Directorate General of Mines Safety	1976	110	19	17.2
8.	Stone	National Institute of Occupational Health	1995	416	41	9.9
9.	Gold	Directorate General of Mines Safety	2001	4083	313	6.4
10.	Zinc	Directorate General of Mines Safety	2002	442	131	29.6
11.	Uranium	Directorate General of Mines Safety	2002	91	9	9.9

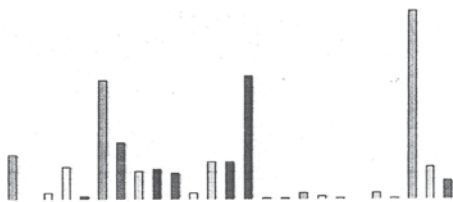
- Mandal, A.S. "Pneumoconiosis in India"
- Internal publications, Directorate General of Mines Safety

Notified Cases of Silicosis in Mines (1954-1968)



Annual Reports : Chief Inspector of Mines

Notified Cases of Silicosis in Mines (1980-2004)



Annual Reports : Directorate General of Mines Safety

DGMS Experience on Silicosis

Degana Tungsten Mine, Hindustan Zinc Ltd.

- 48 cases of extensive silicosis detected in 1993
- 105 more cases of silicosis were pending for Compensation

Mosabani Mine, Hindustan Copper Ltd.

- 217 cases of silicosis had been detected till 1998

Kolar Gold Fields, Bharat Gold Mine Ltd.

- 380 cases of silicosis detected between 1981 - 1997

DGMS Experience

Hutti Gold Mine

- 238 Cases of silicosis compensated between 1979-2000
- 313 cases of silicosis detected on PME between 1987-1999
- 53 new cases detected in 2000 - 2001 during inspection
- 115 new cases detected in 2003 during inspection

Jaduguda Uranium Mine, UCIL

- 18 cases of silicosis notified since 1971 till 2001
- 9 cases of silicosis detected during inspection in 2002
- 20 cases of silicosis notified in 2004

Global Scenario in Silicosis

- CHINA**
 - > 60,000 NEW CASES (1991-95)
 - > 1,000,000 cases diagnosed by 2002
 - > 5,000 deaths due to silicosis every year
 - 10 - 15,000 new cases of silicosis every year
- LATIN AMERICA**
 - 37% Prevalence rate of silicosis in mines
- SOUTH AFRICA**
 - 600,000 cases of silicosis diagnosed by 2000
 - 30 - 50% Prevalence in mines

Curtsey Dr. Igor Fedotov

Global Scenario of Silicosis

USA	1.7 MILLION WORKERS EXPOSED AND 10% AT RISK
GERMANY	3,000 NEW CASES OF SILICOSIS ANNUALLY (1990s)
FRANCE	300 NEW CASES OF SILICOSIS ARE NOTIFIED YEARLY
JAPAN	1,000 NEW CASES OF SILICOSIS REPORTED YEARLY
AUSTRALIA	1,010 (range 380-2410) NEW CASES ARE PREDICTED
UK	1164 NEW CASES OF PNEUMOCONIOSIS (2002)

Curtsey Dr. Igor Fedotov

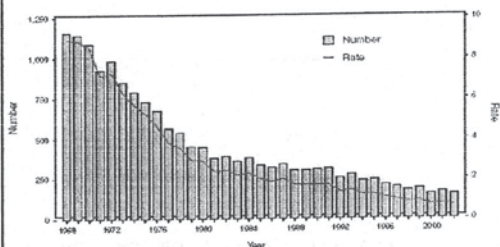
Cases of Pneumoconiosis Compensated in South Africa (2002-2004)

Mineral	2002	2003	2004	Total
Gold	2204	2168	997	5369
Platinum	51	109	84	244
Coal	58	58	55	171
Asbestos	167	3486	207	3860
Other Mines	119	117	126	352
Total	2599	5938	1469	9996

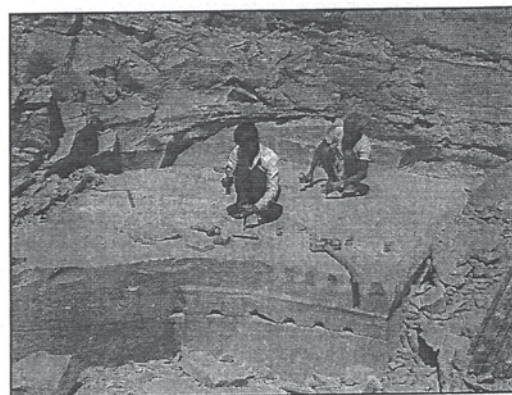
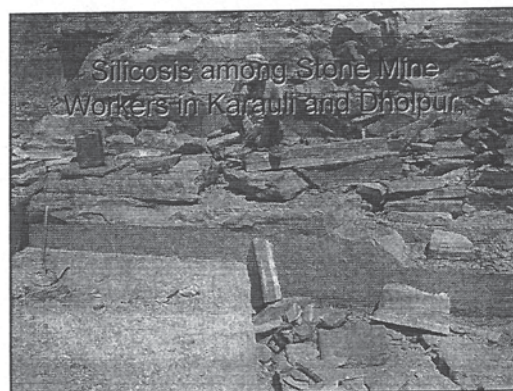
Draft Report: SIMRAC Silicosis Elimination Programme, National Institute for Occupational Health (NIOH), South Africa Project number: SIM 030603

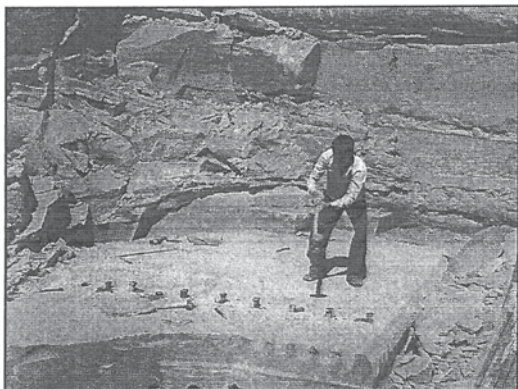
Deaths due to Silicosis in USA

FIGURE 1. Number of silicosis deaths and age-adjusted mortality rate*, by year — National Occupational Respiratory Mortality System, United States, 1968–2002



* Per million persons aged ≥15 years.





Silicosis in Karauli (Phase I)

Diagnosis	Numbers	Percentage
Suspected Silicosis	4	4.3
Silicosis	69	74.2
Silicosis with P M F	16	17.2
Silico-tuberculosis	17	18.3
Tuberculosis	8	8.6
Other Diseases	1	1.1
Normal	18	19.4
Total	93	

Prevalence of Silicosis and silico-tuberculosis =78.5%

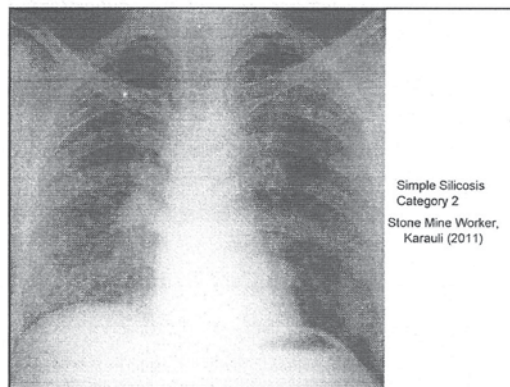
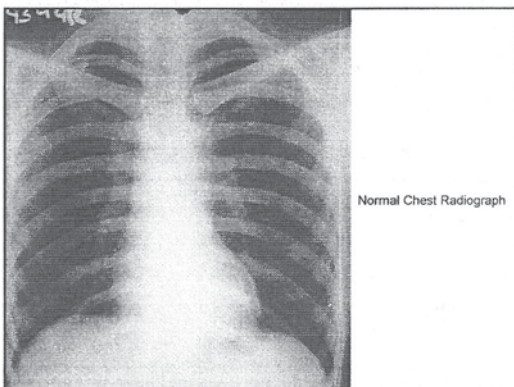
Silicosis in Karauli – Phase I (Years of Work)

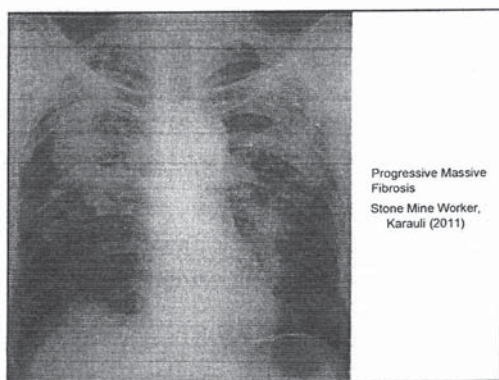
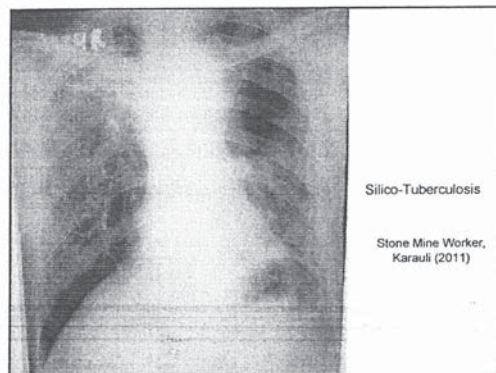
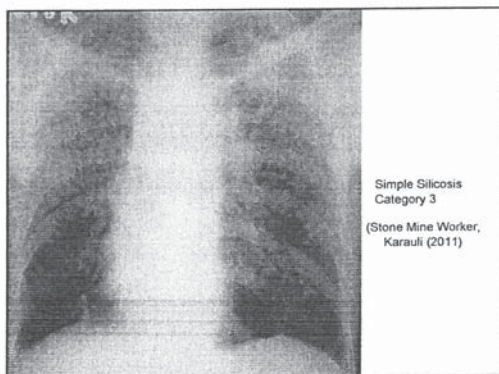
Years of work	Silicosis	PMF	Total Number of Subjects
< 10	7 (83.6)	1 (9.0)	11
11-20	30 (73.1)	7 (17.0)	41
21-30	25 (83.3)	4 (13.3)	30
> 30	11 (100)	4 (36.3)	11
Total	73 (78.4)	16 (17.2)	93

Fig in parenthesis indicates %

Summary Results of Phase - I

- Majority of workers above 30 yrs of age and more than 10 years history of work in stone mines
- 67 subjects completed DOTS & 17 were on DOTS for TB
- Chest x-ray showed small rounded opacities of 'q' or 'r' type suggestive of silicosis in 73 of 93 subjects (78.5%)
- Chest X-ray of 16 workers showed large opacities suggestive of Pulmonary Massive Fibrosis (PMF)
- 17 subjects with silicosis also had associated Pulmonary Tuberculosis, termed as Silico-tuberculosis





Silicosis in Karauli (Phase II)

Diagnosis	Numbers	Percentage
Suspected Silicosis	17	5.4
Silicosis	83	26.4
Silicosis with P M F	19	6.1
Silico-tuberculosis	29	9.2
Tuberculosis	30	9.3
Other Diseases	1	0.3
Normal	135	43.0
Total	314	

Prevalence of Silicosis and silico-tuberculosis = 48.7%

Cases of Silicosis in Karauli –Phase II (Years of Work)

Years of Work	Silicosis	PMF	Total Number of subjects
<10	0	0	28
11-20	31(32.6)	2(6.4)	95
21-30	54(58.0)	7(12.9)	93
>30	63(64.2)	13(20.6)	98
Total	148(47.1)	22(14.8)	314

Fig in parenthesis indicates %

Silicosis in Dholpur

Silicosis in Dholpur

Diagnosis	Numbers	Percentage
Suspected Silicosis	7	4.5
Silicosis	50	31.9
Silicosis with P M F	4	2.6
Silico-tuberculosis	15	9.6
Tuberculosis	11	7.0
Other Diseases	1	0.6
Normal	85	54.1
Total	157	

Prevalence of Silicosis and silico-tuberculosis = 38.4.7%

Silicosis in Dholpur (Years of Work)

Years of Work	Silicosis	PMF	Total Number of subjects
<10	0	0	28
11-20	20 (29)	0	69
21-30	20 (45.5)	2 (4.5)	44
>30	13 (56.5)	2 (8.7)	23
Total	53 (38.4)	4 (2.9)	138

Prevalence of Silicosis and silico-tuberculosis = 38.7%

Category of Silicosis Dholpur (Years of Work)

Years of Service	Category 1	Category 2	Category 3	cases of Silicosis
<10	0	0	0	0
11-20	16 (51.6 %)	7 (22.5 %)	8 (25.8 %)	31
21-30	23 (42.5 %)	19 (35.1 %)	12 (22.2 %)	54
>30	18 (28.5 %)	25 (39.6 %)	20 (37 %)	63
Total	57 (38.5 %)	51 (34.4 %)	40 (27 %)	148

Silicosis in Sikandra & Bharatpur

Dausa Stone Cutters

NIMH received 135 chest radiographs of stone cutters from DVS for evaluation. Chest x-rays of 88 persons were evaluated.

53 (60%) had evidence of silicosis and 4 (4.5 %) of them had developed PMF

10 persons showed radiological evidence of pulmonary tuberculosis (82 persons received AKI)

Age Group	No. of Persons	Silicosis	
20-30	24	13	47 (88.7 %)
31-40	54	34	
41-50	09	6	
51-60	01	0	
Total	88	53	

78 persons out of 88 are in the age group of 20 - 40 ,
47 out of 53 cases of silicosis are in this age group

Years of Work	Silicosis	PMF	Total no. of persons
< 10	05 (41%)	0	12
11-20	35 (60 %)	2	58
21-30	13 (72 %)	2	18
> 30	0	0	0
Total	53 (60 %)	4	88

Category of Silicosis	No. of Persons
Cat -1	12 (22.5 %)
Cat -2	25 (47.2 %)
Cat -3	16 (30.3%)
Total	53

Years of Work	Silicosis	PMF	Total no. of persons
< 10	05 (41%)	0	12
11-20	35 (60 %)	2	58
21-30	13 (72 %)	2	18
> 30	0	0	0
Total	53 (60 %)	4	88

Category of Silicosis	No. of Persons
Cat -1	12 (22.5 %)
Cat -2	25 (47.2 %)
Cat -3	16 (30.3%)
Total	53

Bharatpur stone mine workers

161 chest radiographs of stone mine workers for evaluation. Chest x-rays of 127 persons were evaluated.

31 (24.5%) had evidence of silicosis and 2 of them had developed PMF

17 persons showed radiological evidence of pulmonary tuberculosis (127 persons received AKT)

Age Group	No. of Persons	Silicosis
20-30	09	00
31-40	35	04
41-50	41	15
51-60	38	12
> 60	04	00
Total	88	31

27 out of 31 cases of silicosis are in the 41-60 age group

Bharatpur stone mine workers

161 chest radiographs of stone mine workers for evaluation. Chest x-rays of 127 persons were evaluated.

31 (24.5%) had evidence of silicosis and 2 of them had developed PMF

17 persons showed radiological evidence of pulmonary tuberculosis (127 persons received AKT)

Age Group	No. of Persons	Silicosis
20-30	09	00
31-40	35	04
41-50	41	15
51-60	38	12
> 60	04	00
Total	88	31

27 out of 31 cases of silicosis are in the 41-60 age group

Years of Work	Silicosis	PMF	Total no. of persons
< 10	01 (9.1 %)	00	11
11-20	20 (23.3 %)	01	86
21-30	08 (32 %)	01	25
> 30	02 (40 %)	00	05
Total	31 (24.4 %)	4	127

Category of Silicosis	No. of Persons
Cat -1	07 (22.5 %)
Cat -2	20 (64.5 %)
Cat -3	04 (13 %)
Total	31

Current Status of Silicosis Rehabilitation Programme in Karauli & Dholpur

Karauli	
Total cases of Silicosis detected	222 / 507
Death due to Silicosis	23
Total amount paid as ex-gratia to silicosis victims	Rs 168 lakhs
Further requirement	Rs 100 lakhs
Mandatory BPL Status to all victims of Silicosis	
Dholpur	
Total cases of Silicosis detected	53 / 138
Enquiry and verification going on	

Present Silicosis Detection and Treatment Programme in Karauli

- Silicosis treatment and detection and treatment camps are being organised under guidance of District TB Officer
- Pneumoconiosis Medical boards have been setup in some of the Medical Colleges
- Regular quarterly meeting are held under chairmanship of district collector for Silicosis monitoring
- Dang Vikas Sanstha has collected more than 3000 chest radiographs of stone mine workers from Karauli and Dholpur districts for evaluation
- More than 300 Chest radiographs have been sent from Dausa, Sikandara and nearby area for expert opinion by NIMH (prevalence rate of silicosis is 30 – 35%.

Shortcomings of present Silicosis Detection and Treatment Programme

- ❖ The programme is presently run by District TB officers with inadequate infrastructure and training
- ❖ Chest radiographs and PFT are not being done for all workers
- ❖ There is need for state level programme for Silicosis Prevention and Control.
- ❖ District medical officers need to be trained in detection and diagnosis of silicosis.

Need for innovative approach in legislation

Why Prevent Silicosis

- ❖ Prevention of silicosis is a constitutional obligation of the government
- ❖ Silicosis causes substantial morbidity and mortality
- ❖ Silicosis is responsible for enormous economic loss to the nation as a whole and industry in particular.
- ❖ Silicosis is a totally preventable man made occupational disease and can be totally eliminated

Magnitude of Problem of Silicosis in India

- ❖ Official statistics on morbidity and mortality not available
- ❖ Cases notified to enforcement agencies reflect not even tip of Ice-berg
- ❖ No large scale recent epidemiological studies
- ❖ Conjectures-
 - ⇒ 5-10 % of workers in coal mines
 - ⇒ 15 to 20 % workers in manufacturing industry and Metal Mines

How does the system of Detection, Prevention and Control of Silicosis Work

- ❖ Occupational Health and Safety are the responsibility of the industry
- ❖ The compliance with legislation is overseen by the enforcement agencies
- ❖ Health surveillance of persons at risk is carried out by the industry
- ❖ Silicosis cases detected by industry are notified to enforcement agencies
- ❖ Compensation and rehabilitation is the responsibility of employer
- ❖ Failure to detect silicosis does not constitute an offence under statute

Shortcomings of Present System of Detection - I

- ❖ Absence of National Policy and plan for Prevention and Elimination of Silicosis
- ❖ Absence of central authority to coordinate activities of various agencies
- ❖ Inadequate enforcement of legislation
- ❖ No central registry for cases of silicosis
- ❖ Lack of accountability on part of enforcement agencies and industry
- ❖ Poor quality or absence of health surveillance programme in industry

Shortcomings of Present System of Detection - II

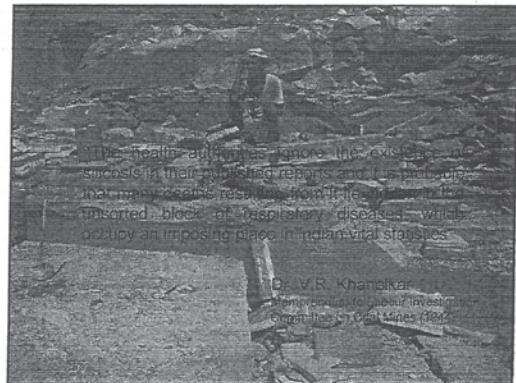
- ❖ Lack of awareness among workers, employers and doctors
- ❖ Inadequate infrastructure for diagnosis and management
- ❖ Small scale and unorganized sector poorly governed by legislation
- ❖ Non-reporting of cases of silicosis by industry
- ❖ Misdiagnosis and treatment of silicosis as tuberculosis
- ❖ Lack of coordination among stake holders for elimination of silicosis

National Programme on Elimination of Silicosis

- ❖ To conduct epidemiological surveys to determine reliable estimates of prevalence of silicosis
- ❖ Updating and upgrading legislation from prescriptive to "Goal Setting"
- ❖ Improve enforcement and accountability of enforcement agencies
- ❖ Creation of facilities for research in treatment and management of silicosis
- ❖ Education and awareness programme for workers, trade unions, employers, medical professionals, government agencies
- ❖ Development of sustainable prevention and control technologies based on local needs and resources

Innovative approach to Occupational Health Legislation

- ❖ Need for central legislation on occupational health issues covering all workplaces
- ❖ Make all Occupational Diseases as Notified Diseases
- ❖ Strengthen enforcement agencies for better enforcement
- ❖ Prevention of diseases shall be the responsibility of management
- ❖ Failure to detect occupational diseases should be an offence
- ❖ Severe penalties for failure to detect and notify occupational diseases
- ❖ Improve quality of medical and environmental surveillance
- ❖ Attitudinal Change of all stakeholders towards occupational health
- ❖ Creation of special fund for compensation of occupational diseases
- ❖ Simplification of mechanism for compensation of occupational diseases
- ❖ Victim of notified disease should be compensated without burden of proof
- ❖ Accreditation of agencies to provide Occupational Health and Hygiene Services





NATIONAL HUMAN RIGHTS COMMISSION

**Manav Adhikar Bhawan, C-Block, GPO Complex
INA, New Delhi-110023, INDIA**