

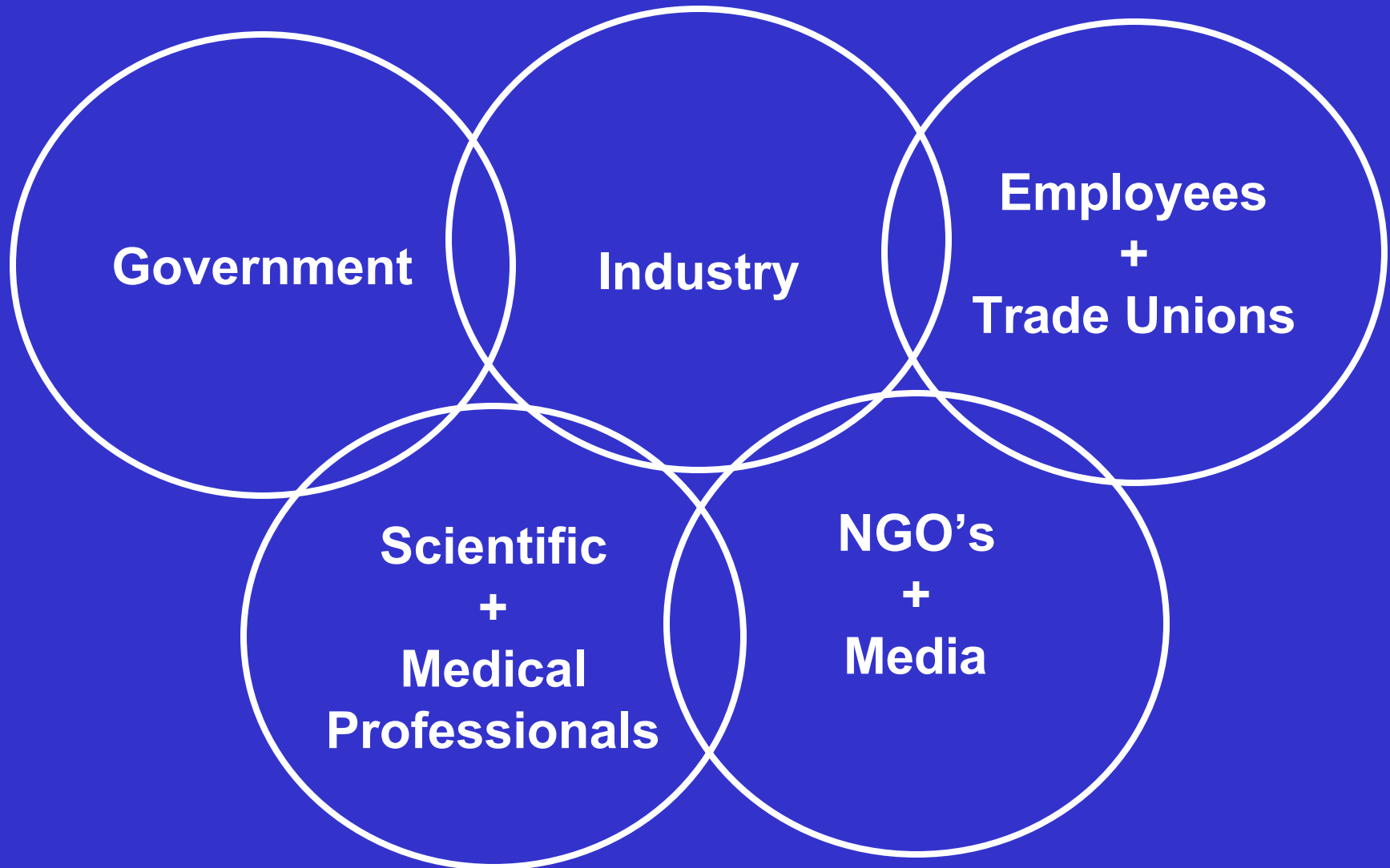
# **INDIA: THE SAFE USE APPROACH OF CHRYSOTILE**

**DR. S. P. VIVEK CHANDRA RAO**

**GENERAL MANAGER OCC. HEALTH & ENVIRONMENT**

**HYDERABAD INDUSTRIES LIMITED**

**HYDERABAD, INDIA.**



**Introductory statement for the panel on responsibilities and management of risk – Jacques Dunnigan – Japan – 1991.**

# 12<sup>th</sup> Century

**“LIVES OF SIXTY THREE ILLUSTRIOUS  
PERSONS”**

**Use of cloth of asbestos**

**A man is described as having the “Beautiful  
appearance of cloth which is cleaned by Fire”.**

**Asbestos – November 1945.**

**1977 - 81**

**Health and Environment studies  
conducted by**

**Central Labour Institute**

**National Institute of Occupational Health**

**Directorate General of Mines safety**

**Individuals / Independent authorities**

**1980**

# **ASBESTOS INFORMATION CENTRE (AIC) - INDIA**

- 1) Non-profit organization**
- 2) No business promotion**
- 3) Dissemination of “State of art scientific, technical, and medical information on Asbestos – Health”**

**Concept and commitment on safe use approach of asbestos**

## SHIP TO SHOP

The handling of asbestos prior to manufacture constitutes potential source for emission of fibre.

Based on engineering estimates, relative fibre emission factors are said to be 2 for loading and unloading operations against 1 for controlled asbestos cement operations (as per Rajhans and Bragg).

Better Engineering and methodology can significantly reduce these factors.

- a) Break bulk shipment
- b) Palletized Shipment
- c) Marino sling shipment
- d) Containerized shipment.

**1983 - 85**

**Committee “To study the health hazards in asbestos industry”**

**Constituted by**

**Directorate General of Technical Developments. Panel on Asbestos products industry.**

**Members**

**Policy Makers**

**Regulatory and Research Bodies**

**Industry**

**Independent experts in the field**

**Contd..**

## **DGTD contd..**

**Team A – Medical**

**Team B – Environment & Occupational Hygiene**

**Large, medium and small-scale industries and mining sectors were studied.**

**Recommendations were made on environment controls;**

**Occupational hygiene and medical surveillance.**

# DGTD Recommendations

## Environment:

State pollution control Boards should prescribe emission standards

## Factory acts and Rules:

Irrespective of number of employees or electric power consumption, all asbestos operations should be brought under purview of factories act and Rules.

Wherever Engineering controls are not successful in controlling the dust exposure levels, all such processes should be prohibited in milling of asbestos-ore.

**Contd..**

Membrane filter technique should be followed to evaluate dust concentration at workplace.

To have quality assurance programs in fibrous dust counting both industry and regulatory bodies.

Plant and machinery should be supplied along with dust control equipment.

### Small-scale Industry:

Financial subsidy for dust control equipment

Educate the employer and employees

Health Surveillance programs for employees

### National standards / Codes of Practice:

Indian Standards Institute should expedite.

**Contd..**

## **Compliance of Regulations:**

Unitized and palletized Fibre consignments in impermeable bags.

Periodic dust monitoring

Waive import duty on dust monitoring equipment

## **Medical surveillance:**

Plan, Structure and frequency

Health Education

Maintenance of Medical records

## **Compensation:**

Criteria for diagnosis of Asbestos related Disease.

Regional Medical panels as referral centres

ESI and WC act

**1985-87**

**BUREAU OF INDIAN STANDARDS (BIS)**

**Has Published 16 recommendations on  
“Safety in Handling and use of Asbestos”**

**These are further revised in the year 2002.**

# 1985 Onwards

## **A I C Conducted seminars / Workshops**

**In addition to imparting training to professionals of its own members, AIC educated Employer and Employee groups of small-scale industries, Mines and service institutes on Occupational Health Measures and Environment controls.**

**1986**

## **FROM ASBESTOS TO CHRYSOTILE**

**Chrysotile is used in the manufacture of Non-friable,  
Dense, Locked-in products**

**Rapidly cleared from lungs than amphiboles**

**Data supports controlled use strategy**

**Import of Crocidolite is not permitted – Ministry of  
commerce, Government of India, 1994.**

**1986 - 95**

## **PUBLIC INTEREST LITIGATION CASE IN SUPREME COURT**

**NGO's Vs Union of India & All Major Industries**

**Prayers** amounting to ban use of asbestos

**Counters** filed with supporting documents

- i) Matters arising out of asbestos use in Ontario, Royal Commission Report 1984**
- ii) Doll & Peto Report, HSE, U.K. 1985**
- iii) Environment Controls & Data on dust levels in Indian Industry**

**Contd..**

## Amended prayers

controlled use

### Directions by the Court:

- 1) Health Records Maintenance 40 / 20 years whichever is later.
- 2) Membrane filter method for dust levels evaluation
- 3) Medical Insurance for all employees
- 4) Review of TLV's every 10 years
- 5) Irrespective of size of industry all covered under factories act.
- 6) Re-examination of cases of Asbestos related diseases in question by NIOH.

1987

## QUALITY ASSURANCE PROGRAM

Standardisation of Interlaboratory Variation in Asbestos Fibre Counting Scheme (SIVA)

Training of occupational Hygienists from industry & regulatory bodies.

# 1988

## S I V A - P H A S E I

### Aims and Results

- 1) In this phase basic information regarding measurement and analytical procedures followed by laboratories was obtained.
- 2) A batch of slides were sent for evaluation to each laboratory and results were analyzed for variation in counts.
- 3) After circulation of slides and presentation of results, a work shop for counters was organized to discuss results of Phase I and training in asbestos Fibre counting organised.

## S I V A - P H A S E I I

### Aims and Results

- 1) In this phase Evaluation of effect of training imparted at the end of Phase I.
- 2) In this phase specially designed slides called **Specific Field Training Slides (SFTS)** were circulated among counters. The slides were designed to evaluate the ability of counter to identify and count the fibres according to specified criteria.

## S I V A - P H A S E I I I

### **Aims and Results**

In this phase a regular slide exchange program was established to keep variation among laboratories within reasonable limit.

The standardization of Inter Laboratory variation in Asbestos fibre counting scheme (SIVA) was designed by AIC with following objectives.

- 1) To evaluate proficiency of counting laboratories of member industries.
- 2) To arrange training programs for counters to reduce variation in results.
- 3) To arrange regular slide exchange program to maintain variation in results within acceptable limits.

**1990**

**AI – ILO Sponsored “Training the Trainer” work-shops.**

- i) Seminar for representatives of tripartite group**
- ii) Work shop on dust sampling and evaluation**
- iii) Work shop on health surveillance and diagnosis of ARD.**

# 1995

## **“REPORT OF STUDY OF ASBESTOS SECTOR”**

**Technical Committee appointed by the Ministry of Industry, GOI.**

**(Mullick Committee Report)**

### **Recommendations**

- 1) Use of asbestos is recommended under controlled and regulated conditions so that the benefits of this material can be harnessed without any undue risk to workers.**
- 2) The asbestos products industry should shed the perceived image of an industry which is health risk, and project the image of being eco-friendly, efficient and technologically competitive enterprise.**
- 3) T L V to be reduced from 2 f/cc to 1 f/cc.**
- 4) Formation of a medical board.**

# 1998

## **Industry Voluntary Agreement**

**Tripartite expert group visiting member industries on matters of health & environment whether complying to technical (Mullick) Committee & Hon'ble supreme Court of India's directions for controlled and safe use of asbestos.**

**2000**

## **BAN ASBESTOS ACTIVITY**

**Formation of BANI**

**Organized Seminars on Ban asbestos**

**Participation of Overseas faculty trained at Mount-Sinai or Fellows of Collegium Ramazini, both committed for Ban on Asbestos**

**Participation in most of the government formed committees.**

# 2000 Onwards

**A I C to throttle Ban Asbestos India Voice (BANI)**

**Evidence based Medicine**

**Differentiating between fibres, processes and products**

**Highlighting the practices relevant to India**

**Pro active and reactive Press releases**

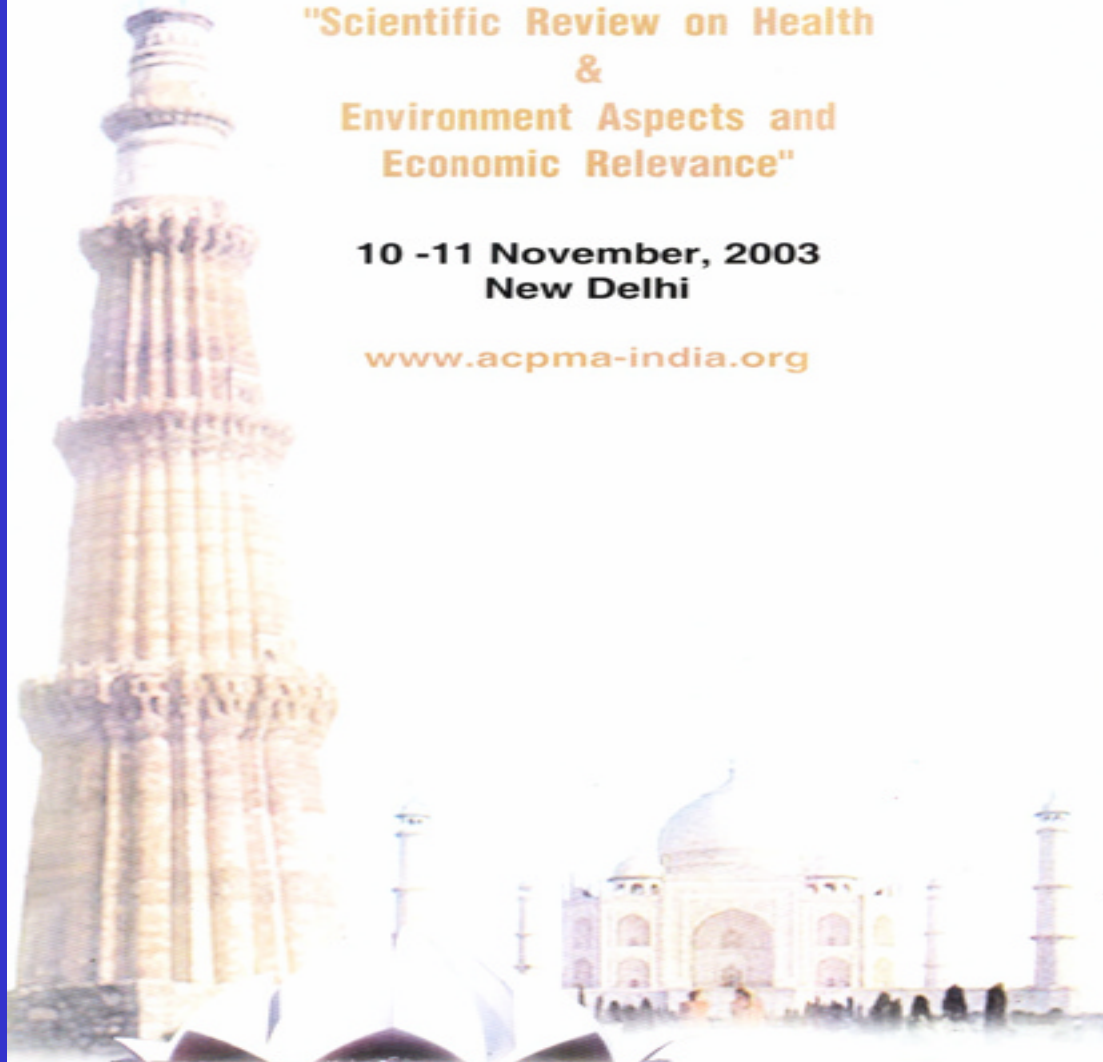
2003

# International Conference on Chrysotile Asbestos Cement Products

"Scientific Review on Health  
&  
Environment Aspects and  
Economic Relevance"

10 -11 November, 2003  
New Delhi

[www.acpma-india.org](http://www.acpma-india.org)



THE ASBESTOS INSTITUTE



THE ASBESTOS CEMENT PRODUCTS  
MANUFACTURERS' ASSOCIATION



CONFEDERATION OF  
INDIAN INDUSTRY



ASBESTOS INTERNATIONAL ASSOCIATION

## The National study on health status of workers in asbestos industry.

### DGFASLI 2004

\* No of Asbestos cement industries studied – 5

\* No of Brake lining units studied – 3

Randomly selected 702 employees participated in this study.

#### Age group

> 50 Yrs.	4.1 %
41-50 Yrs	29.1 %
31-40 Yrs	30.2 %
21-30 Yrs	35.6 %
< 20 Yrs	1.0 %

Contd..

# The National study on health status of workers in asbestos industry.

**DGFASLI 2004**

## Exposure in years

> 20 Yrs.	6.8 %
16-20 Yrs	20.9 %
11-15 Yrs	10.5 %
06-10 Yrs	42.6 %
< 05 Yrs	19.2 %

## PFT

65.4 % - Within Normal Limits

34.6 % - Abnormal – 24.1 % - Restrictive and 10.5 % - Obstructive

## CHEST X – RAY

PL TH – 13 (1.9 %)

CP Angle obstruction – 11 (1.6 %)

Inter lobar fissure thickening – 0.3 %

No mention of pneumoconiotic opacities - No Asbestos related Disease noted.

# **ROLE OF MEDIA**

**Highlights Ban Asbestos News**

**Side line / Suppress any positive News**

**ACPMA – Advertorial given**

**Pro active actions have met similar response as met in U.K., The resulting “Alice Fight for life” in early 1980’s.**

**2006**

**Study in offing**

**By**

**National Institute of occupational  
Health on Health and Environment in  
Asbestos Cement Industry workers.**

2006

## Study under planning

Chrysotile Asbestos Cement Dust  $\neq$  Chrysotile Asbestos

## **INDUSTRY ROLE – SAFE USE APPROACH OF CHRYSOTILE**

- : Understanding the issue**
- : Formation of AIC and ACPMA**
- : AIC's Industry code on asbestos**
- : Self Audit**
- : Industry Voluntary Agreement**

**SAFE USE APPROACH OF CHRYSOTILE**

## **GOVERNMENT'S ROLE – SAFE USE APPROACH OF CHRYSOTILE**

The regulatory authorities always differentiated between types of fibres while prescribing Permissible Exposure Limit Values.

Ministry of Labour, Ministry of Environment,

Ministry of Health, Ministry of Science and Technology and Ministry of Consumer affairs of Government of India are constantly reviewing / updating regulations / recommendations guiding on the safe use approach of Chrysotile.

## **ASBESTOS CEMENT INDUSTRY PRODUCTION**

<b>Year</b>	<b>Production (MT)</b>
<b>2001-2002</b>	<b>1,252,527</b>
<b>2002-2003</b>	<b>1,438,895</b>
<b>2003-2004</b>	<b>1,561,512</b>
<b>2004-2005</b>	<b>1,818,088</b>
<b>2005-2006</b>	<b>2,171,975</b>

**Next 3 years 15 – 20 % Increase is projected**

# Thank you

[drvcr Rao@yahoo.com](mailto:drvcr Rao@yahoo.com)

[Vcr@hil.in](mailto:Vcr@hil.in)