PRECAUTIONARY PRINCIPLE AND NEED TO BAN ALL FORMS OF ASBESTOS USE IN INDIA

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The Precautionary Principle

There has been a debate for some time now on the value of Risk Assessment *viz.-a viz.* Precautionary Principle. Let us just see what does the proponents of precautionary principle say?

The precautionary principle has been defined as "When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationship are not fully established scientifically.[1]

In the United States in January 1998 the Science and Environmental Health Network invited those who had been advocating for and writing about the principle internationally at a conference at Wingspread in Racine, Wisconsin. The principle the group defined went as under:

When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. In this context the proponent of an activity, rather than the public, should bear the burden of proof. The process of applying the Precautionary Principle must be open, informed, and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action.

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Collegium Ramazzini in Italy elected him a fellow in year 2001, an honor not conferred on any Indian physician till this day. The fellowship is restricted to a mere 180 scholars. Dr. Joshi will be awarded the honor in a special function to be held in October 2002 at Carpi, Italy the headquarters of Collegium Ramazzini.

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United States has vigorously defended to make its version of risk assessment the comprehensive method for determining the probability of harm, and to make proven harm the sole basis for the international regulatory standards that govern trade – as it is, by and large, in the U.S. regulatory system.[2]

Risk assessment tries to determine how much harm can be tolerated. Precaution inquires how much harm can be avoided.

Precaution requires evaluating alternatives as stringently as any proposed activity.

It is much more comprehensive in scope than risk assessment, which has a restricted reach.

The precautionary principle is in focus now on both sides of the Atlantic. The precautionary principle is seen as an overarching mechanism to lower the risk that chemicals pose by:

- Ensuring that chemicals lacking hazard data are not marketed;
- Taking account of the needs and acceptance of risk expressed by society;
- Aiming to achieve a high level of protection (for example, hazardous substances originating from human activity should not be found in breast milk or in the open seas);
- Ensuring that the least risky option is chosen to deliver the goods or service, and giving preference to risk reduction through substitution rather than emission control;
- Basing the quantification of risk on worst-case assumptions; and taking action without delay based on the best available knowledge at the time and giving preference to human health and the environment rather than the economic interests of companies.[3]

The Precautionary Principle as Applied to Asbestos Use

Let us just see the situation with regard to asbestos keeping in view these developments. There is convincing evidence that asbestos used in any form and in any manner is carcinogenic with no safe levels of exposure as evidenced by the position taken by a number of international agencies.

The International Agency for Research on Cancer (IARC) considers asbestos as a Group 1 carcinogen.[4]

WHO, through its Environmental Health Criteria 203/98 of the International Programme of Chemical Safety says that the occurrence of chronic effects of asbestos exposure are independent of exposure doses, so that it is impossible to establish safe levels of exposure.[5]

The Pan American Health Organization, in the series of publications ECO in the year 1983, indicated the existence of several non-occupational sources of exposure to asbestos (domestic and evironmental exposures, originating in primary sources which are easily identifiable).[6]

ILO, through its convention 162/86 on safe use of asbestos, recommended that whenever possible asbestos be replaced by less harmful products or technologies.[7]

EU, through Directive 76 769/EEC of July 27 1999 forbade chrysotile asbestos use starting January 1, 2005 (which is already practiced since years in the majority of the EU countries).

The verdict of WTO dated March 12, 2001, confirmed "the right of member states to prohibit the import and use of materials containing carcinogenic substances such as chrysotile…" "that chrysotile is an established carcinogenic, there is no safe threshold and controlled use is not an effective alternative to the national prohibition".

There is a wide spectrum of population at risk because of environmental exposure of asbestos fibres released during production, use, repair or disposal of products which contain them.

According to Barry Castleman "Even though 95% of all the asbestos ever used was chrysotile, the industry says most of the workers now dying got sick from the other kinds of asbestos, the amphibole varieties. And the amphiboles, which were even banned in Brazil some years ago are hardly, mined anywhere today. So why ban white asbestos, they say". [8]

A recent Chinese study concluded that heavy exposure to pure chrysotile asbestos alone, with negligible amphibole contamination, could cause lung cancer and malignant mesothelioma in exposed workers.[9]

To eliminate the burden of disease and death that is caused worldwide by exposure to asbestos, The Collegium Ramazzini, the most prestigious association of occupational and environmental health experts, called for an immediate ban on all mining and use of asbestos. To be effective, the ban must be international in scope and must be enforced in every country in the world.[10]

An international ban on the mining and use of asbestos is desirable because the risks are difficult to control by technology or by regulation of work practices. The most stringent occupational exposure limits for chrysotile asbestos (0.1 f/cc) are estimated to be associated with lifetime risks of 5/1,000 for lung cancer and 2/1,000 for asbestosis. These exposure levels can be technically attained in the United States and in a few other highly industrialized countries. In emerging industrializing countries engaged in mining, manufacturing, and construction, asbestos exposures are often manifold higher, and the potential for epidemics of asbestos related disease looms large.

The call for ban on use of all forms of asbestos has also been echoed by the International Commisiion on Occupational Health and Indian Association of Occupational Health.

Asbestos Use in India

Yet an estimated 1,25,000 million metric tons of asbestos is used in India each year, 1,00,000 tons imported mainly from Canada and Russia, and 25,000 mined locally. The imported asbestos is all *Chrysotile* as government of India prohibits the import and use of *Crocidolite* asbestos. The locally mined material is *Chrysotile* and *Tremolite* with mining mainly confined to three states, *Rajsthan, Bihar,* and *Andhra Pradesh.*

The asbestos based units operate in about 15 major states. Nearly 60 units are in operation with numerous small-scale operators carrying on the work in unorganized sector. States of *Andhra, Madhya Pradesh, Haryana, Maharashtra, Tamilnadu and Gujrat* account for about 75% of the total consumption. A factory near *Delhi* in *Haryana* State consumes 15%, and another in *Gujrat* uses up about 8% of the total asbestos.[11]

It is estimated that the asbestos industry employs directly 6,000 workers, and another 1,00,000 are indirectly dependent on its use. However, these figures may be an under estimate. Most asbestos, i. e., 98%, is used in the manufacture of *asbestos cement products* such as pipes and sheets. The remaining is used by automotive industry since asbestos is used in the manufacture of brake shoes and clutch pedals as well as gaskets etc.

The exposure to asbestos is covered under *The Environment Protection Act* 1986, which sets a limit of 4 f/cc for environmental emission. Under *The Factories Act* 1948, the limit of occupational exposure is 1 f/cc, which is under review and may be brought down to 0.5 f/cc. This will still be higher compared to the standard of 0.1 – 0.5 f /cc prevailing in most developed countries. Under *The Factories Act, asbestosis* is mentioned as the notifiable disease but there is no mention of *mesothelioma*. However, under *The Mines Act* 1952 after a revision in 1995, the condition of *Cancer lung, stomach*, and *pleura including mesothelioma* were also included in the list of *notified diseases*.

Need to Banish Asbestos from India

Great progress has been made in the development of alternative products, which are considered safer than asbestos, and are available as well as the technologies needed to produce them.[12]

There are several constraints in implementing a strict medical surveillance for asbestos exposed workers in India. Large number of small scale units spread far and

wide in the country with scant resources and lack of will to implement health and safety measures at work, makes protection of workers difficult. Moreover, the construction workers remain unsupervised.

Asbestos exposure is causing a "Disaster in Slow Motion" but is not visible as no proper records are available, and enforcement remains weak. It is doubtful if the policy makers, and those defending asbestos due to their own interest as well as most of us, will be around 30 or 40 years later when India may be inundated by an epidemic of mesothelioma and cancer lung in consequence to asbestos exposure (read chrysotile) taking place today. This happened in Australia, which has recently embarked up on a phase out of new (chrysotile), asbestos use by 2003.[13]

There is a great responsibility on all of us, and on IAOH in particular. We must ask the policy makers to invoke the precautionary principle and ban all forms of asbestos use in India. If we do not act now, asbestos exposure will claim many times more lives than the Methyl Isocynate exposure in Bhopal in 1984.

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