



# **KILLING THE FUTURE**

Asbestos Use in Asia

by Laurie Kazan-Allen

For further information about this publication, please contact:



Laurie Kazan-Allen, Coordinator, IBAS  
email: laurie@lkaz.demon.co.uk  
website: www.ibas.btinternet.co.uk  
© IBAS – London, England. July 2007.

Published by:

The International Ban Asbestos Secretariat, UK  
The Building and Woodworkers International, Switzerland  
The International Metalworkers' Federation, Switzerland  
Ban Asbestos Network Japan, Japan  
Japan Occupational Safety and Health Resource Center, Japan  
Japan Association of Mesothelioma and Asbestos-Related Disease Victims and their Families, Japan  
Ban Asbestos Network of India, India  
The Center for Occupational and Environmental Health, India  
Corporate Accountability Desk – The Other Media, India  
The Asian Network for the Rights of Occupational Accident Victims, India  
The Asia Monitor Resource Centre, Hong Kong  
Department of Environmental Sciences, University of Peshawar, Pakistan  
Bangladesh Occupational Safety, Health and Environment Foundation, Bangladesh  
Occupational and Environmental Medicine, School of Public Health, Seoul National University, Korea  
NGO Platform on Shipbreaking, Belgium

Design: Eve Barker

Cartoon: Andy Vine

Photographs: P. Madhavan, Akira Imai, Muhamad Idham, Sugio Furuya, Sanjiv Pandita, Noor Jehan,  
Madhumitta Dutta, Greenpeace, Dave Hodgkin, Eve Barker

Printer: Justasec Print Services Ltd. London NW9 6JL

This publication is printed on ECF paper from sustainable forests

**In remembrance of...**

**Rosa Amélia de Araújo**  
**Silvane Dias Barrios**  
**Timothy Barrow**  
**Fred Beal**  
**Alice Deleuil**  
**Valerie Doyle**  
**Yukio Furukawa**  
**June Hancock**  
**Peter Heys**  
**Joan Joosten**  
**Norio Kato**  
**Nellie Kershaw**  
**Mick Knighton**  
**Gina Lees**  
**Kunio Omori**  
**José Jesus Pessoa (Zé da Capa)**  
**Alan Reinstein**  
**José dos Santos**  
**Ray Sentes**  
**Sebastião Aparecido Alves da Silva (Chorão)**  
**Les Skramstad**  
**Nélson Vieira de Souza**  
**William Ashton (Bill) Tait**  
**Pierre Voide**  
**Tadashi Yoshizaki**  
**Warren Zevon**  
**Yura Zoudine**

**and the millions of unnamed individuals  
whose lives have been taken by asbestos.  
Honoring your memory, we will continue  
the struggle to protect future generations  
from the killer dust.**

# Contents

## Killing the Future – Asbestos Use in Asia

<b>Preface</b>	5
<b>Introduction</b>	6
<b>Setting the Scene</b>	7
<b>Asbestos Experiences of Asian Countries</b>	8
China	9
India	11
Thailand	13
Vietnam	14
Indonesia	16
Pakistan	16
Korea	18
Japan	18
<b>Dumping of Toxic Waste in Asia</b>	21
Ship-breaking in India	21
Ship-breaking in Bangladesh	22
Case Study: SS France, SS Norway, SS Blue Lady	23
<b>Natural Disasters</b>	24
The Great Hanshin-Awaji Earthquake 1995	24
Indian Ocean Tsunami 2004	24
Indonesian Earthquake 2005	25
<b>Paying the Price</b>	26
<b>Action by International Agencies</b>	27
<b>Global Labor Rejects Asbestos</b>	29
Case Study: Trade Union Action on Asbestos in Asia	30
<b>Cooperation Across Borders, Academic Disciplines and Cultures</b>	32
Asian Action on Asbestos	32
Victims	33
Case Study: Mobilization of Japanese Asbestos Victims	34
<b>Concluding Thoughts</b>	36
<b>Appendices</b>	38
<b>Footnotes</b>	40





## Preface

by Professor Masazumi Harada



Asia has experienced many industrial catastrophes: calamitous outbreaks of cadmium and arsenic poisoning, toxic levels of air pollution, killer epidemics of Minamata disease and the explosion of 40 tonnes of methyl isocyanate gas which caused thousands of deaths in Bhopal. Until recently, the most lethal of all occupational killers had done its work unseen and unnamed; for decades it infiltrated workplaces, homes, schools, and communities. Successive governments and corporations remained disinterested in the potency of this killer, preferring to focus on booming economies and healthy balance sheets. As the death toll mounted, individual men and women began to look for explanations; they came together with others who were similarly affected to unmask the silent assassin who was stealing their futures: Asbestos!

Long after warnings had been heeded by most industrialized countries, Japan was still using crocidolite and amosite asbestos; when the new century dawned, Japan was one of the world's biggest consumers of chrysotile asbestos. As the incidence of asbestos disease and mortality increased, official denials of the asbestos hazard wore ever thinner, as thin as the pleura of the lungs which had so easily been penetrated by deadly asbestos fibers. The feelings of disbelief over negligent behaviour by revered Japanese companies such as Kubota, Nichias and Asahi Sekimen mutated into anger; formerly loyal employees publicly criticized those who had been responsible for the hazardous conditions in the shipyards, asbestos-cement factories and car plants.

With no company or government compensation and little or no information available on medical treatment, asbestos victims and their families were marginalized by these debilitating and totally preventable ill-

nesses. Ailing workers, grieving relatives, public health campaigners and trade unionists came together to raise awareness of the hidden tragedies which were occurring behind so many closed doors in Osaka, Yokosuka, Yokohama and Amagasaki City. As victims' groups sprang up, campaigners discovered that the plague taking so many innocent lives in Japan was also ravaging other industrial populations. To add insult to injury, asbestos salesmen, led by Canadian stakeholders, were aggressively cultivating markets in newly industrializing countries in Asia.

Japan's asbestos epidemic has only just begun; thousands more will die in the decades to come. Billions of yen will be needed to take care of the injured and decontaminate our infrastructure. And yet, the asbestos industry continually reassures its customers that asbestos can be used safely under "controlled conditions." This did not happen in Japan and it will not happen elsewhere. Countries which continue blindly down the asbestos road will pay the price for asbestos use not in rupees or bahts but in lives lost and families decimated. The only safe use of asbestos is no use.



## Introduction: One Hundred Years of Neglect

by Laurie Kazan-Allen



In 1899, a 33 year-old patient was admitted to a London hospital suffering from breathlessness; within 14 months he was dead. He had been the last survivor of a 10-man team which had worked in the carding room of an asbestos textile factory. The case of the unnamed patient, reported by Dr. Montague Murray to the British Parliament in 1906, was the first asbestos-related death to be officially documented; confirmation of the human health hazard posed by asbestos followed from France (1906), Italy (1908), Britain (1910) and America (1918). And yet, a hundred years after European governments learned of this hazard, asbestos use is increasing in some Asian countries.

Until relatively recently, widespread access to information on the use of asbestos in Asia had been minimal; initially due to a dearth of data and latterly to the lack of translated material. Landmark events which took place in Japan and Thailand in 2004 and 2006 ended this information deficit; presentations by medical researchers, epidemiologists, engineers and other eminent specialists revealed a wealth of detail on the consequences of regional consumption of asbestos and asbestos-containing materials. Related subjects such as the dumping of asbestos-laden end-of-life ships in Asian ship-breaking yards and the work of campaigning groups were also discussed by speakers at the Global Asbestos Congress 2004 and the Asian Asbestos Conference 2006. Combining a close study of these presentations with news of recent developments, the emergence of several trends has been revealed. Increasing communication amongst social partners and feedback from joint initiatives in Asia have also contributed to the information flow; as a result, we are now able to posit explanations as to how and why Asian governments and consumers continue to use a substance which has been denounced by every major scientific organization.

No one knows exactly how many lives have been sacrificed to asbestos. The World Health Organization estimates that today 125 million people are being occupationally exposed to asbestos and that such exposures lead to 90,000 deaths every year.<sup>1</sup> Professor Joe LaDou, Director of the International Center for Occupational Medicine at the University of California, believes that as many as 10 million lives may be lost before asbestos is banned worldwide.<sup>2</sup> The exploitation of vulnerable populations by asbestos stakeholders greedy for profits and political power takes advantage of loopholes in international regulations which continue to allow trade in carcinogenic substances. Long after regional and national asbestos bans were implemented in much of the developed world, the international agencies responsible for safeguarding occupational and public health remained overwhelmed

by the global propaganda campaign mounted by the asbestos industry. Using commissioned “scientific research” and industry events camouflaged as independent conferences,<sup>3</sup> asbestos apologists spread confusion, neutralized criticism and delayed the introduction of regulations to minimize hazardous exposures. Fuelled by political and financial motives, stakeholders preserved lucrative asbestos markets and, by so doing, caused the epidemic of asbestos-related ill-health and death which shows no signs of abating.

When, in 2006, the International Labor Organization and World Health Organization added their support for the campaign to ban asbestos, vested interests ratcheted up their activities. Trade unions from asbestos-cement factories in Russia, Belarus, Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan and Ukraine founded the Chrysotile International Alliance of Trade Unions to protect the industry against “scientifically unfounded attacks” and counter calls by global labor federations for asbestos to be banned. A letter sent to the WHO’s Director-General by Dr. Jacques Dunningan, former Director for Health and Environment of the Asbestos Institute,<sup>4</sup> complained that the demonization of chrysotile asbestos was unfair, ill-advised and based on faulty science. A letter to the ILO from the (Canadian) Chrysotile Institute “demanded” a retraction of the ILO’s *Resolution Concerning Asbestos (2006)* claiming that: “**Nowadays, chrysotile is used responsibly and regulated by strict safety standards.**”<sup>5</sup> The report which follows proves that this statement is untrue.

The mining, import and use of such a deadly substance is as illogical as it is short-sighted; no one is immune to the potential damage posed by this global killer. Current asbestos exposures in Asian countries will lead to higher health costs, lost productivity and increasing mortality from a range of asbestos-related diseases. Incorporating even more asbestos into national infrastructures will only worsen an already deadly situation. Contaminated buildings and transport systems constitute a risk to all who use, work in or maintain them; over time, the presence of asbestos will attract higher maintenance bills as governments mandate stricter regulations for minimizing hazardous exposures. And, in the end, any asbestos used will have to be removed and dumped as hazardous waste, incurring yet more avoidable costs.

The groups which have coalesced to produce *Killing the Future - Asbestos Use in Asia* are determined to protect future generations from the asbestos plague. To this end we have pledged our commitment and willingness to work together to achieve the common goal: an asbestos-free future!



## Setting the Scene

The shift in global asbestos consumption patterns which began in the 1980s continued into the new century: while industrialized economies shunned asbestos, developing countries increased consumption in response to economic changes and aggressive marketing campaigns by industry stakeholders. Figures released in early 2007 confirm the prominence of Asian asbestos markets; 90% of the countries with the highest percent increases in consumption are in Asia (Appendix A).<sup>1</sup> In 2005, India's asbestos-cement industry accounted for nearly 10% of worldwide asbestos consumption.

The effects of the increasing utilization of asbestos in Asia are as predictable as they are avoidable. Wherever asbestos has been used ill-health, disability, death and environmental pollution have followed. Decades after reports by factory inspectors, victims' groups and trade unions of the tragic consequences of hazardous exposures, scientists finally confirmed the existence of a European epidemic of asbestos-related disease.<sup>2</sup> The same year (1999), the use of all types of asbestos was banned throughout European Union (EU) Member States;<sup>3</sup> most other developed countries have also banned or seriously restricted the use of this acknowledged carcinogen. Unfortunately, the long latency period of asbestos-related diseases means that asbestos deaths in Europe will continue for decades to come (Appendix B). In Asia, where only one country has banned asbestos, the situation is bound to get worse as exposure to the world's biggest industrial killer increases. The majority of people currently being exposed to asbestos live in Asian countries.



**“The latest scientific study shows that chrysotile asbestos is safe.”**

Chandra Alifen,  
Vice President of PT  
Siam-Indo Concrete Products

**“Asbestos cement used in India is free from all health hazards.”**

Interview with Mr. A.K. Saraf,  
Chairman of the Asbestos  
Cement Products Manufacturers’ Association, India



## Asbestos Experiences of Asian Countries

Currently, 70% of annual global asbestos production originates in three Asian countries.<sup>4</sup> In 2003, Asian countries accounted for nearly 50% of global asbestos consumption with China (491,954 tonnes (t)), India (192,033 t), Thailand (132,983 t), Vietnam (39,382 t) and Indonesia (32,284 t) being the largest users.<sup>5</sup> Within the region, only Japan has stopped the use of asbestos; in February 2007, the Labor Ministry of Korea announced that a national asbestos ban will take effect in 2009, although details for the phase-out remain unknown.<sup>6</sup> For asbestos stakeholders in Asia, business is booming; healthy corporate profits liberally dispensed buy political influence at the highest government levels.

With a well-funded war chest, asbestos lobbyists have mounted a coordinated campaign to promote industry’s “controlled use” propaganda in the media, at industry-orchestrated events and during friendly visits by so-called “asbestos experts.” If the “controlled use” of asbestos has not been accomplished in industrialized countries with stringent regulations, well-supervised conditions and trained workforces, how can it be achieved in Asia? Sanjiv Pandita from the Asia Monitor Resource Center, Hong Kong reports that Asian “workers often cut asbestos bags open manually or use hammers to break open the bags. Asbestos dust gets everywhere.” He described conditions he observed at a 2004 visit to a corrugated asbestos sheet factory in Vietnam as follows:

“About 100 workers over three shifts in the factory worked on a single very old production line covered in asbestos dust. Workers did not use any proper protective equipment; some covered their face with a cloth. They used knives to open bags of asbestos (imported from Kazakhstan) and beat the asbestos with wooden

hammers to break down lumps before putting it in the grinding machine. Their clothes were covered with chrysotile dust. The factory has no proper ventilation system, only fans that blow the dust around.”<sup>7</sup>

In Asian ship-breaking yards, it is common practice for asbestos insulation to be removed by hand and dried in the sun to re-sell; the air breathed by the workers is full of asbestos.

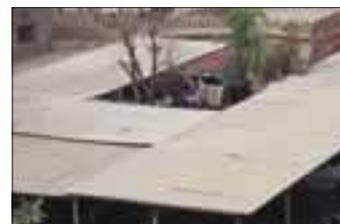
The success of industry’s “global asbestos whitewash” can be judged by a selection of extracts from media outlets in Thailand, Indonesia and India:

- “The latest scientific study shows that chrysotile asbestos is safe” (Chandra Alifen, Vice President of PT Siam-Indo Concrete Products);<sup>8</sup>
- “What we need is to push for a responsible approach that focuses on minimizing chrysotile exposure” (Mr. Sjahrul, Chairman of the Indonesian Science Committee);
- “Yes, the risk is there, but it is small compared to smokers, who have a higher risk, 880 out of 10,000... as long as there was no scientific proof, chrysotile should still be used” (Srichant Uthayopas, Director of the Industrial Works Department’s Hazardous Substance Control Bureau, Thailand);
- “Asbestos cement used in India is free from all health hazards” (interview with Mr. A.K. Saraf, Chairman of the Asbestos Cement Products Manufacturers’ Association, India).

Mr. Pandita believes that groups at risk from hazardous asbestos exposures in Asia include:

- workers using asbestos-containing roofing, insulation and friction materials;
- workers involved in ship-breaking operations in India, Bangladesh and China;
- chrysotile miners in China<sup>9</sup> and Kazakhstan;
- members of the public.

Increasing asbestos use combined with a lack of regulation and safeguards will ensure that the epidemic of asbestos-relegated diseases which has been documented in the UK, the U.S., Europe, Australia and Japan will also occur in China, India, Thailand, Vietnam, Indonesia, Pakistan and Korea.



## China

In the People's Republic of China rapid industrialization and economic growth have generated an almost unquenchable thirst for asbestos. Although it has consistently remained amongst the world's top five asbestos producers over recent decades,<sup>10</sup> domestic output does not satisfy national demand.<sup>11</sup> Imports of asbestos rose nearly 150-fold from 1,083 t (1990) to 145,425 t (2003); 82% of imports come from Russia.<sup>12</sup> China is the world's number one user of asbestos with an annual consumption of up to 537,000 t;<sup>13</sup> national consumption increased by 40% between 2000 and 2004. The majority of asbestos goes into the production of asbestos-cement building materials with the remainder being used for friction products, textiles and insulation products.

One hundred thousand people in China are exposed to asbestos at work including 24,000 in mining (15,900 in 17 state enterprises and the others in 102 collective enterprises) and 46,000 in more than 1,200 asbestos factories. Table 1 lists the 10 biggest chrysotile-consuming factories in China in 1996, according to data published in 2002 by Drs. Feng, Liu, Zhang and Pan.<sup>14</sup>

Some asbestos factories are located in heavily populated areas.

As a rule, conditions are worse in small-scale units than in large state-run facilities. Smaller workplaces are described as having:

"limited capital and human resources, lower educational levels, poor regulation, and a great lack of awareness of occupational health and safety on the part of both owners and workers. Workers in these industries are more likely to be exposed to higher levels of dust without necessary protective measures. In most cases, these workers have little access to both occupational medical care and primary health care."<sup>15</sup>

Experts report "serious occupational health failures... (and) an institutionalized aversion to worker participation in safety issues" in small-scale industrial units throughout rural China; in a paper published in 2000, they reported widespread flouting of health and safety legislation:

"Of the 29,246 enterprises studied in this effort, 8.7% have set up some kind of organization to deal with the subject of occupational health... During this study it was found that of 1780 enterprises with hazardous working conditions, only 42% had any kind of ventilation equipment... Very few enterprises had health clinics for their workers. Medical insurance was not paid by 60% of the employers. No compensation of any kind

**Table 1: Top Ten Asbestos Product Factories in China**

Name of Factory	Location	No. Workers	Production capacity (t/yr)
Hangchen Friction Materials	Hangzhou	1010	8000
Liuhe Asbestos Products	Heilongjiang	*	6000
Changchun Asbestos Products	Changchun	*	6000
Beijing Brake & Sealing Materials	Beijing	*	5000
Nanjing Friction Materials	Nanjing	*	4000
Hubei Friction & Sealing Materials	Wuhan	2000	4000
Chongqing Asbestos Products	Chongqing	1413	3000
Qingdao Asbestos Products	Qingdao	*	3000
Shenyang Friction Materials	Liaoning	1200	3000
Shanghai Asbestos Products	Shanghai	*	3000

\*not known

was given to workers with occupational injuries or illnesses in 11% of the enterprises. Only a very small fraction of employers fully cover their employees' medical expenses and compensate the occupational injuries and diseases at the level provided by state-run enterprises."<sup>16</sup>

The compliance rate with the Chinese occupational asbestos standard at the 12 monitored worksites where asbestos was being used was 0%; in other words, not one of the asbestos workplaces was operating within legal parameters. Even at asbestos-using enterprises run by the state in urban locations, hazardous asbestos concentrations commonly occur during the manufacture of asbestos-containing products, especially in areas where raw fiber is handled, or where asbestos textiles, ropes or brakes are being made.<sup>17</sup>

In chrysotile mines, dangerous conditions are routine with the highest levels of airborne asbestos being found in the oldest mines<sup>18</sup> and in some family-run enterprises; these levels can reach up to 50-150mg/m<sup>3</sup>. There are many small asbestos mines in rural areas where conditions are particularly horrendous; traditionally the initial sorting of asbestos fibers was carried out by peasants working at home.<sup>19</sup> In 1995, a report substantiated by U.S. Customs revealed the mining of asbestos at the Xinkang prison camp, Sichuan Province by inmates routinely working 15 hours/day with no protective equipment. Asbestos dust concentrations are lower in modern mines where dust exhaust systems are in place; however, elevated levels can still be found in areas where raw fiber is being processed. Bearing in mind that in China, there is a "clear distinction between the theory of occupational health and safety and its practice,"<sup>20</sup> the existence of the Occupational Exposure Limit (OEL) Value is no guarantee of worker protection either in the mines or factories. While the incidence of some types of occupational



lung disease seems to be decreasing in the cities, it is increasing in newly industrializing rural areas where "hazardous agents are poorly controlled, and occupational health services and medical care are lacking or insufficient."

Despite the fact that asbestos-related lung cancer and mesothelioma induced by occupational exposure have been recognized as statutory occupational lung diseases in China since 1990, only limited data are available. By the end of 2003, 7,907 cases of asbestosis, of which 923 were fatal, had been registered; this represented 1% of all pneumoconiosis cases. According to some epidemiological studies, more than half of all asbestosis patients had pleural plaques as did 15% of at-risk workers. The burden of occupational lung cancer in China remains ill-defined despite investigations of the link between asbestos exposure and lung cancer:

"A nation-wide cohort study reported the mortality experience of 5,893 asbestos workers in eight asbestos factories, in which chrysotile asbestos was used to produce textile products and construction materials. One hundred eighty-three cancers (including 67 lung cancers) out of 496 deaths were observed with the relative risk (RR) of 5.3 ( $p < 0.01$ ) and a standardized relative risk of 4.2 ( $p < 0.01$ ) for lung cancer. There was a synergistic effect between cigarette smoking and lung cancer, but the risk of lung cancer produced by asbestos exposure was found to be twice as high as that produced by smoking. Another study also reported higher mortality from lung cancer among nonsmoking female chrysotile workers (Obs:Exp = 6:0.88). A recently reported prospective cohort study using more sophisticated analysis methods observed RRs of 6.6 for lung cancer and 4.3 for all cancers in a group of workers who were exposed to chrysotile alone."



A survey of 5,681 female manual asbestos weavers in the textile industry in Cixi City, Zhejiang Province found a lung cancer death rate 3.88 times higher than the control group. One hundred and forty-four women died from malignant tumors, with 74 deaths from lung cancer. It is of relevance to note that the cohort was exposed only to chrysotile asbestos.<sup>21</sup> A study of 1,472 asbestos mineworkers found that their mortality from malignant tumors, and even more so from lung cancer, was significantly higher than that for coal miners.

As of 2002, few cases of mesothelioma had been diagnosed; among 10,000 asbestos product workers and

6,200 asbestos miners in one cohort study, only 4 cases of mesothelioma were observed. Drs. Fen, Liu et al reported that:

"The mortality due to mesothelioma in three cities of Liaoning province was 1.5 to 3.7/10<sup>5</sup> during 1992-2000, and the incidence was 4.7 to 8.4/10<sup>5</sup> during 1998-2000. A national survey showed that the mortality by (sic) mesothelioma was 1.6/10<sup>5</sup> and 1.2/10<sup>5</sup> for the citizens of five major cities and two counties (1988-1992), and the morbidity was 3.1/10<sup>5</sup> for the citizens. Based on the limited data available, it is estimated that annual deaths due to mesothelioma in China were about 1,500 in 1990. This is probably a conservative estimate considering the incomplete cancer registry systems and diagnosis levels in China."

Since the 1980s, government research has been conducted into the use of non-asbestos substitutes for cement, friction and sealing materials and, more recently, for heat insulation. Officially, the Government encourages technological innovation and the replacement of toxic substances by safer substitutes; it has closed down some facilities engaged in the smelting of arsenic, mercury, lead and zinc, pesticide production, electroplating, gold-selection and oil refining. Since 1994, the import and export of crocidolite has been banned; in 2001, the mining of crocidolite was forbidden and in 2002 the use of crocidolite was prohibited in building materials. From October 2003, the use of all types of asbestos was banned in the production of friction materials for the automotive industry. Laws to improve occupational health and safety introduced in 2002 include: the National Law on the Prevention and Control of Occupational Diseases, the Law of Safe Production, the Law Promoting Clean Work and the List of Backward Production Capacity, Technologies and Products (3rd revision). It is unlikely that these regulations are being enforced judging by long-standing failings of the health and safety inspectorate which is plagued by "understaffing, poor technical capacity, and widespread corruption."

## India

In recent years, the annual consumption of asbestos in India has risen by more than 30%, making it Asia's 2nd biggest consumer. Seventeen companies in India operating 49 asbestos-cement (ac) factories produced 2.4 million tonnes of ac products worth more than US\$200 million in 2005.<sup>22</sup> The industry's success buys it powerful allies; plans by Visaka Industries Limited, one of India's largest asbestos groups, to build a huge ac plant in Sonia Gandhi's constituency in Rae Bareilly, Uttar Pradesh were approved in record time. On January 1, 2006 production began at this site even though no systems had been put in place to provide medical check-ups for the workforce and no independent agency had been appointed to monitor workplace exposure levels, both of which are measures stipulated by the Supreme Court. Visaka's marketing strategy is to replace traditional thatched roofs in rural areas with locally produced ac materials; to defray heavy freight costs, factories have been set up in Andhra Pradesh, Tamil Nadu, West Bengal and Karnataka. Sales figures provided to the Securities and Exchange Board of India on January 5, 2007 by Visaka show annual growth of India's ac industry in 2003/4, 2004/5, 2005/6 as 16%, 17% and 22% respectively.<sup>23</sup>

At the same time as industry pressure succeeded in creating a pro-asbestos bias in government policy,<sup>24</sup> little has been done to protect the 100,000 workers routinely exposed to asbestos in India and nothing has been done to compensate those who are suffering. A 2004 study of workers at the Hindustan Composites mill in Mumbai found that 23% showed signs of asbestosis; a research project (2004) commissioned by the Labor Ministry of at-risk asbestos workers reported similar findings as did research undertaken by the Industrial Toxicology Research Center. Community activists have identified hundreds of asbestos victims from West Bengal, Rajasthan, Jharkhand, Andhra Pradesh and Tamil Nadu. Anecdotal evidence suggests that the level of asbestosis amongst power station workers throughout India is also high. Despite an order by the Supreme Court that the Government must check all power plants, no action has been taken by the Labor Ministry. In an academic paper (2005) which warned of the dire consequences of current hazardous exposures, official industrial hygiene surveys were cited which found asbestos fiber levels:<sup>25</sup>





- of 200-400 f/ml in asbestos mills in Pullivendalla, Cuddaph, Andhra Pradesh;
- of 10f/ml in two large-scale mechanized asbestos-cement factories and 2-3 times higher than the PEL<sup>26</sup> in an ac factory;
- 100 times higher than the PEL in small-scale processing asbestos textile units;
- 6-8 times higher than the PEL in a large-scale asbestos textile and brake manufacturing company.

The (Indian) National Cancer Register does not document cases of mesothelioma; the Indian Government does not record the incidence of occupational disease. Only 7% of the Indian workforce is organized; the vast majority of workers, especially in the construction industry, remain unseen and unheard.

Public health campaigner Madhumitta Dutta sums up the situation in India as follows:

“Cases of occupational disease never get reported due to the nexus between management, medical professionals and government agencies. Industry-sponsored studies carried out by government agencies like the Central Labour Institute, as cited on the industry’s website, show that during 2001-2005 there was not a single case of asbestos-related disease amongst workers in asbestos-cement manufacturing units...”

Despite their knowledge about the serious consequences of hazardous asbestos exposures, the government and industry continue to put millions of lives at risk as national asbestos consumption increases and lethal working conditions persist. Asbestos use in India constitutes a ‘Crime Against Humanity!’<sup>27</sup>

On two occasions, the Indian Government has, with a handful of other national asbestos stakeholders,<sup>28</sup> blocked United Nations efforts to add chrysotile to the Prior Informed Consent (PIC) list of the Rotterdam Convention. In an article analyzing the Indian Government’s on-going support for the asbestos industry, Gopal Krishna, the Coordinator of the Ban Asbestos Network of India (BANI), wrote:

“BANI, the Occupational and Environmental Health Network of India (OEHNI), civil society groups, trade unions and human rights groups have demanded an immediate ban on all uses of asbestos including an immediate end to the import of chrysotile. Other measures to identify, compensate and treat the asbestos-in-

jured and regulations to minimize harmful exposures are also being proposed. BANI demands the criminal prosecution of those responsible for asbestos exposures such as factory owners and company directors. Asbestos is a public health issue which the Government has ignored for far too long. In the public interest, BANI appeals to the Government of India to support the inclusion of chrysotile asbestos on a trade ‘watch list’ that already contains all other forms of asbestos.”<sup>29</sup>

BANI’s appeal fell on deaf ears and on October 10, 2006 India was one of 6 countries which frustrated the wishes of 95% of the Parties to the Convention by blocking the PIC listing of chrysotile.<sup>30</sup> The intransigence of the asbestos bloc was criticized by UN spokespeople who pointed out the threat this precedent posed to the Convention’s future. Trade unionists, NGO representatives and even Canadians were critical of the attack on this multilateral environmental initiative with Dr. Larry Stoffman from a Vancouver-based cancer-prevention body finding his country’s position “morally reprehensible.”

In preparation for 2008 when the PIC-listing of chrysotile will be reconsidered by the Parties to the Rotterdam Convention, the (Indian) Department of Chemicals and Fertilizers has commissioned the National Institute of Occupational Health (NIOH) to research the hazards of chrysotile use in India; 74% of the funding for this study comes from the Department of Chemicals and Petrochemicals and 26% comes from the (Indian) asbestos industry. There is little doubt that industry representatives have influenced the planning and preliminary findings of the study; as members of the study’s review committee, they also hold considerable sway in shaping the final document. Despite repeated requests, the Department of Chemicals and Fertilizers refuses to disclose the text or proposed methodology of the study to groups representing civil society; there has been no communication whatsoever with trade unions, occupational health campaigners, public interest groups or medical experts. When the NIOH report is submitted in March 2008, it is unlikely to be an accurate and unbiased representation of the impact chrysotile usage is having in India.<sup>31</sup>



**“during 2001-2005 there was not a single case of asbestos-related disease amongst workers in asbestos-cement manufacturing units.”**

Central Labour Institute, India



## Thailand

Thailand has been using asbestos for more than 30 years in the production of building and friction materials; it is the world's 4th largest asbestos consumer. According to Thai Government data, from 1997-2004, asbestos imports averaged 116,500,000 kg/year and cost US\$43.25m.<sup>32</sup> In 2004, 1,784 workers were employed at 16 asbestos-using factories in Thailand, most of which were located in central Thailand. Environmental monitoring by government agencies carried out since 2000 shows elevated levels of airborne asbestos at many of these factories (7 plants with 1,297 workers); conditions in brake and clutch factories were the most hazardous. Most asbestos (90%) in Thailand is used in the manufacture of asbestos-cement pipes and roofing materials; 8% goes into brakes and clutches and 2% into vinyl floor tiles, gaskets and heat insulating material.

Workplace levels of asbestos contamination in Thailand are higher than those allowed in other Asian countries and often exceed the Thai Asbestos Occupational Exposure Limit (OEL) of 5 f/cc.<sup>33</sup> Recent measurements taken by industrial hygienist Ms. Karnviroj in asbestos-cement factories in Thailand found that 30% of samples taken were higher than 5 f/cc. The dustiest conditions were experienced by those workers manually handling bags of asbestos fiber and using sandpaper to polish asbestos-cement roof fittings. Despite their occupational exposure, lung function tests of 85% of the factory workers and chest X-rays of 97% were normal. Given the high level of asbestos use, it is surprising that not one case of asbestos-related disease has been reported to the national surveillance scheme or the Workmen's Compensation Fund.<sup>34</sup> Dr. Kamjad Ramakul, from the (Thai) Bureau of Occupational and Environmental Diseases, is worried: "Since asbestos consumption is increasing and concentrations of asbestos in working conditions are high, especially in brake and clutch factories, we can expect the number (of asbestos cases) to be high in the near future." Possible explanations for the lack of registered cases of asbestos-related disease are:

- there are no cases of asbestos-related diseases in Thailand;
- cases are occurring but are not reported and doctors do not have the knowledge to diagnose these diseases;
- the long latency period of these diseases means that symptoms have not yet developed;
- a high turnover of the workforce in the asbestos industry means that workers did not inhale a sufficient fiber burden to develop these diseases;

- there is neither a follow-up nor a registration system for exposed workers, which means that cases of asbestos-related disease that do occur remain unacknowledged.

Research was undertaken in 2003-2004 by the Ministry of Public Health to investigate cases of asbestosis and lung abnormalities amongst people with occupational exposure to asbestos in the production of cement or friction products. Using questionnaires, chest radiographs, HRCT,<sup>35</sup> air sampling and physical examinations, 41 out of 140 workers were found to have lung abnormalities. All those exhibiting symptoms of asbestosis reported a past history of occupational asbestos exposure. Air samples collected in 2003 showed that 12 out of 25 samples were over the standard set by the ACGIH;<sup>36</sup> 6 out of 40 samples collected in 2004 exceeded the standard. Researcher Vichuda Lojananont believes that:

- efforts should be made to raise awareness of the hazardous nature of asbestos;
- the national policy on asbestos should be reviewed;
- the implementation of no-smoking initiatives is crucial;
- greater numbers of occupational physicians should be trained and a further cohort study should be undertaken.

Dr. Ponglada Subhanachart from the Chest Disease Institute (Thailand) has identified some cases of lung disease amongst asbestos-cement factory workers. Chest X-rays of 907 workers from one factory were examined by experienced chest radiologists using standard ILO classifications. Where there was a suspicion of asbestosis or early asbestos-related pleural disease, HRCT examinations were undertaken. The results were:

- 747 workers had normal X-rays;
- 26 (2.87%) had abnormal chest radiographs and/or abnormal HRCTs;
- 14 had abnormal X-rays compatible with asbestosis, pleural plaques or calcifications;
- 7 (0.77%) had very early lung fibrosis: only one patient had lesion profusion 1/1 which is the cut-off point in Thailand for the diagnosis of asbestosis;
- 24 had pleural lesions such as pleural plaques and/or pleural calcification.

Dr. Subhanachart believes that the low incidence of disease could be explained by the fact that most patients are in the latent period or that the systems for reporting these diseases in Thailand are inadequate. Concluding that chest radiographs are a useful tool for





the screening for asbestosis and asbestos-related pleural disease, he remains concerned about the high level of false readings and supports the use of HRCT examinations for confirmation in cases with lung lesion profusion >1/1.

Responding in 2005 to a report of widespread pleura thickening amongst workers at an asbestos factory in Nakornsithammarat, Thailand, researchers designed and carried out a cross-sectional survey which established that amongst the 40 workers who participated in the study, there were 9 cases of pleural thickening.<sup>37</sup> Almost all those affected were: older than 50, had a history of smoking, had worked in the factory for more than 25 years and had spent time in the asbestos bag opening department, the stripping and mold department, the asbestos mixing department or the rod mill.



It is ironic that a substance as deadly as asbestos was widely used in hospitals in Thailand. In a cross-sectional descriptive study conducted in March 2006 at Buddhachinaraj Hospital,<sup>38</sup> Dr. Nopadol Suchat found asbestos in asbestos-cement roofing materials and sewage pipelines. He recommended that when these materials are removed, a wet process should be used and workers should be provided with personal protective respiratory protection.

Representatives from Thai Ministries speaking at an international asbestos conference in July 2006 agreed that doing nothing about the increasing use of asbestos would exacerbate the predictable epidemic of asbestos-related disease, incur increased medical and compensation costs, alarm the public, strain the economy and compromise the national reputation. To persuade policy-makers of the need for an asbestos ban, a concerted effort is needed, they said, to encourage government agencies to cooperate on initiatives to raise asbestos awareness, collect data and initiate health screening and surveillance of at-risk groups. Thai civil servants stressed the importance of working with local asbestos manufacturers on the transfer to non-asbestos technologies. One Thai doctor proposed that a higher tax be introduced for asbestos products to increase the cost advantage of safer alternatives. Although the best way to protect Thai society from the asbestos hazard is to ban asbestos, until the Government is ready or able to take this step, serious measures need to be adopted and enforced to protect workers and the public from hazardous exposures.

The Department of Labor Protection and Welfare (Thailand) has issued regulations, carried out inspections, undertaken training, developed guidelines and provided information to those working in or administering

the asbestos industry. Thai regulations which protect occupational health and safety include the: Working Environment Regulation (1977), Harmful Chemicals Regulation (1991), Physical Examination Regulation (2004) and Safety Officer and Safety Committee Regulation. The Government is taking steps to tackle the asbestos hazard by: lowering the threshold limit value from 5 fibers/cc to 2 fibers/cc, setting up criteria to limit hazardous asbestos exposures, providing health surveillance and dust monitoring in small and medium-sized companies and improving the criteria for the diagnosis and compensation of asbestos-related diseases. The ratification of ILO Occupational Health and Safety Resolutions by Thailand will take place in the near future (2007/2008) but *ILO Resolution 162: Convention Concerning Safety in the Use of Asbestos (1986)* will not be considered at that time.

### Vietnam

A conflict between economic development<sup>39</sup> and public health can forestall action by pro-ban governments.<sup>40</sup> Although Vietnamese delegates to the GAC 2004 confirmed their Government's commitment to an asbestos ban, this goal has not been achieved;<sup>41</sup> in fact, Vietnam's asbestos consumption increased 32% over the period 2000-2004 (Appendix A). From the 1970s, asbestos imported from Russia, Canada, China and Zimbabwe has been used in Vietnam principally for the manufacture of asbestos-cement (ac) roofing tiles, insulation and friction materials. Nearly 10,000 workers at 37 facilities in 21 provinces manufacture 60 million m<sup>3</sup> of ac roofing tiles every year; these relatively cheap tiles are popular amongst poor people in rural, mountain, coastal areas and in the Cuu Long River Delta. Thirty-two of the ac roofing tile factories in Vietnam were built between 1995 and 2000; the majority of these factories are owned by the state.

The adverse effects of occupational asbestos exposure in Vietnam have been studied since 1996. Medical examinations of more than 1,000 asbestos-exposed workers from 12 ac companies have revealed that hazardous occupational exposures have resulted in a high level of lung disease amongst this cohort of workers. Research conducted by officials from the National Institute of Labor Protection (NILP) in 2000 at a factory producing asbestos roofing materials recorded levels of asbestos exposure from 33.7 f/cm<sup>3</sup> by the grinding machine to 1.8 f/cm<sup>3</sup> by the mixing machine. The fact that levels were reduced to 11.7 f/cm<sup>3</sup> and 0.7 f/cm<sup>3</sup> within nine months does not disguise the fact that the situation remains unsatisfactory. Research (2002) following up on the initial survey at 23 ac roofing factories revealed that: "most of the stud-

ied enterprises are polluted by asbestos dust. The reasons are:

- no knowledge and understanding about harmfulness and hazard of the asbestos dust among the workers;
- no dust treatment and exhaust system;
- inadequate attention to OSH (Occupational Safety and Health) from employers.”

Other steps taken by the Government to quantify and categorize the adverse impact of asbestos use on occupational and public health include:

- in 1990, NILP staff were sent to Australia for training on asbestos analytical techniques;
- in 2002, NILP undertook a study: *Assessment of Current Environmental Status at Asbestos-Cement Roofing Tile Enterprises and its Influence on Workers' Health – Proposal of Solutions*;
- a recent survey to assess levels of environmental pollution by asbestos-consuming factories found that 9 out of 23 (40%) recorded maximum concentrations ranging from 2.22-4.2 f/cm<sup>3</sup>;
- medical examinations of 1,032 workers in 12 companies showed that 98% had normal X-rays, however, 907/1,032 (88%) reported health problems ranging from difficulty in breathing to chronic nasal inflammation.

Despite a government decision in 2004 to phase-out the use of asbestos-cement roofing materials,<sup>42</sup> the transition period has been prolonged due to uncertainty over the existence and cost implications of safer alternatives such as ceramic, glass, stone, quartz, natural organic and/or man-made mineral fibers. During the current phase, regulations have been tightened so that:

- asbestos-using enterprises are prohibited from exploiting, manufacturing and importing amphibole asbestos; the use of chrysotile asbestos is permitted;
- all asbestos-using enterprises must register plans for technological modernization which include systems of environmental controls; enterprises must conduct environmental monitoring and periodic medical check-ups of workers;
- training courses will be organized for all workers in asbestos-cement roofing tile companies;
- government agencies will increase supervision to ensure compliance with occupational safety and health regulations.



**“Asbestos kills, whether it’s blue, brown or white – it is deadly. Choosing between chrysotile and amphibole asbestos is like deciding between the electric chair and a lethal injection.”**

Fiona Murie, BWI



Calls for the elimination of asbestos use in Vietnam were aggressively countered by industry stakeholders who maintained the substance was indispensable for the country’s development. In response to these claims, a government research program focusing on the replacement of chrysotile by para-aramid, polyvinyl alcohol (PVA) or cellulose fibers was initiated. Laboratory studies and industrial experiments established that PVA-cement roofing tile production and the transition from asbestos to non-asbestos technology were feasible.

### Indonesia

In the global rankings, Indonesia is the world’s 8th largest importer, processor, consumer and exporter of asbestos and asbestos materials;<sup>43</sup> during the period 2000-2004, consumption rose by 20%. Throughout Indonesia, asbestos sheeting is readily available and, as one of the cheapest materials, remains the building product of choice for many customers. More than 7,700 workers are employed by asbestos-processing industries; one case of mesothelioma has been identified. The majority of chrysotile asbestos, which is imported from Canada, Brazil and Russia, is used in the manufacture of asbestos-cement roofing materials.<sup>44</sup>

A well-resourced national asbestos lobby aggressively counters potential threats to the industry. In February 2006, the Fiber Cement Manufacturers Association, supported by the International Chrysotile Association and the Canadian Embassy, held a so-called “International Scientific Symposium” in Jakarta which was little more than a propaganda exercise to promote the “safe use” of chrysotile. On the cover of the symposium program the logos of the International Chrysotile Association, the Government of Canada and the Chrysotile Association were prominently displayed. An attempt to invite Australian pathologist Dr. Douglas Henderson, a leading asbestos expert and adviser to the World Trade Organization on the case Canada brought against the French asbestos ban, to speak at this meeting was rejected out of hand by the event organizers. One year on, things had improved marginally with the participation of

trade unionist Fiona Murie at a “Ban on Asbestos Panel” discussion during a National Working Meeting in Jakarta. Whilst the other speakers in this session<sup>45</sup> extolled the virtues of industry’s “controlled use” philosophy, Ms. Murie said:

“Since 1989, the Building and Woodworkers International (BWI) has had a clear policy to actively campaign for a global ban on all kinds of asbestos, mainly used in building materials. The reason is clear – asbestos kills, whether it’s blue, brown or white – it is deadly. Choosing between chrysotile and amphibole asbestos is like deciding between the electric chair and a lethal injection...

The BWI has heard the oft-repeated ‘safe use’ refrain from so-called ‘asbestos experts,’ whose research has been commissioned by the industry or who are paid consultants to the industry; we give no credence to their spurious findings or to the propaganda which makes use of it. The BWI prefers to rely on the opinions of the independent scientific community, such as the World Health Organization, the International Agency for Research on Cancer, the International Programme on Chemical Safety, the Collegium Ramazzini, the International Social Security Association, the International Labour Organization, the Senior Labour Inspectors’ Committee and many more independent organizations which enjoy international credibility and are not in the pay of the asbestos industry. They agree that the use of asbestos is hazardous and that the best way to protect humanity from the asbestos scourge is to ban asbestos.”

### Pakistan

In Pakistan, widespread contamination by both imported and locally sourced asbestos endangers both public and occupational health.<sup>46</sup> A range of tests including geological, air and product sampling from various deposits, mines, mills, factories and residential areas, carried out by Geologist Dr. Noor Jehan from Peshawar University over recent years, revealed that all the samples contained:

“different types of respirable chrysotile, tremolite and anthophyllite. The exposure level was hundreds and thousands times greater than the permissible exposure limit in the indoor and outdoor environment as specified by the WHO and OSHA.”<sup>47</sup>

Residents living in close proximity to small-scale asbestos-using production units or in typical houses containing uncoated asbestos doors, windows and sidings as well as students/teachers using asbestos tables and other furniture and patients/staff in hospitals with as-



bestos bedside tables, operating tables or corrugated sheeting are all at-risk. Consumers who use small heating plates, containing up to 80% asbestos, sold in Peshawar's main market, and industrial and mine workers also experience hazardous exposures on a regular basis. In addition to the asbestos mined in Pakistan, raw fiber from Canada and asbestos products on board end-of-life ships are imported.

Between 1995-2003, 601 cases of mesothelioma were diagnosed in the Northwest Frontier Province, of which 60% were in males (356) and 40% (245) in females.<sup>48</sup> According to Professor Dr. Arshad Javed, President of the Pakistan Chest Society, up to 1000 cases remain undiagnosed.<sup>49</sup> Despite the known health effects associated with asbestos exposure, asbestos-related diseases are not recognized by the Department of Health and hazardous exposures are not controlled by the Environmental Protection Agency in Pakistan. Even if as-

bestos were banned tomorrow, the problem of disposal would remain; there are no waste collection or disposal procedures and no dumps designated to receive asbestos waste in Pakistan.

In a letter written on March 16, 2006, the All Pakistan Federation of United Trade Unions informed the Minister for Industries and Production, Mr. Jehangir Khan Tarin, under the subject heading: "Asbestos is dangerous for human life" that:

"the scientific and medical evidence on the dangers of this building material is beyond doubt. We as a group of unions believe that this substance should be BANNED in our country. We also note that asbestos is still being widely produced and used in our industry and call on government, employers and unions to work together to switch to substitute products as a matter of urgency."



## Korea

In January 2007, test results confirmed the presence of asbestos fibers in 14 stations<sup>50</sup> on three lines of Seoul's subway system. The fibers were liberated from products used in the 1970s and 1980s for noise and heat insulation; whilst the use of asbestos-containing materials by the Seoul Metro company ceased in 2001, hazardous products already in situ, such as ceiling tiles, were not removed. Even though a spokesperson for the testing company, ETS Consulting, downplayed the risks saying that airborne asbestos in the stations was "below the permissible level," Seoul Metro promised to decontaminate the stations and remove contaminated materials.

The asbestos in the subway is a legacy of nearly fifty years of asbestos use in Korea. The life cycle of the asbestos industry in Korea has had three distinct phases:

**Expansion (1960-1982)** The industry's expansion was fuelled by overseas investment, principally from Japan and Germany, with foreign companies transferring hazardous technologies abroad in light of increasing restrictions at home. Concurrently, Korean policies to stimulate the construction and manufacturing sectors boosted asbestos demand; the lack of any health and safety regulations meant companies were spared the expense of installing control measures or providing personal protective equipment for workers. As the asbestos industrial sector matured, the production of asbestos textiles increased; these products required a higher quality of fiber and import patterns reflected this shift in consumption.

**Plateau (1983-1995)** Although consumption was adversely affected by the introduction of the (Korean) Industrial Safety and Health Act (1981), asbestos had not yet become a social issue.

**Decline (1996-Present)** As active regulation of hazardous working conditions began, Korean producers of asbestos textiles and brake linings relocated to China and other countries in Southeast Asia. The diagnosis of the first case of mesothelioma in Korea (1994) brought the compensation issue to the fore and the removal of asbestos from old buildings and demolition sites became a social issue. As of August 2006, compensation had only been paid to 35 mesothelioma and asbestos-related lung cancer claimants most of whom were end-users such as construction and maintenance workers and welders. Korea is 15-20 years behind Japan in its national epidemic of asbestos-related disease. The situation in the subway,<sup>51</sup> and similar incidents will contribute to the increase in asbestos mortality. Ironically, within weeks of the media coverage of the sub-

way contamination, the Labor Ministry announced that an asbestos ban in Korea will take effect in 2009.<sup>52</sup> This decision marks the beginning of the country's attempt to tackle its asbestos legacy; however, work is needed to address the following gaps:

- There is no company in Korea certified by the Government to remove asbestos safely as stipulated in 2003 by the Ministry of Labor; companies undertaking such work only hold licenses for the removal of ordinary construction materials.
- There are no asbestos removal training programs in South Korea; as a consequence, there are no workers with the skills or experience to tackle this work.
- There are only a handful of institutions in South Korea with the facilities for carrying out bulk analysis and sampling of materials suspected to contain asbestos.

## Japan

Widespread public awareness of Japan's lethal asbestos legacy began on June 29, 2005, the day the Kubota Corporation disclosed that scores of workers at its former Kanzaki asbestos-cement pipe plant had contracted mesothelioma, an aggressive type of cancer. The company was responding to requests from local mesothelioma victims for data on the amount and types of asbestos used at the factory and the number of workers affected. From 1954-1975, crocidolite and chrysotile were used at this site in the production of asbestos-cement pipes; from 1971-1997, only chrysotile was used for the manufacture of construction materials, mainly roofing products. The first occupational asbestos death caused by the Kanzaki plant was an asbestosis fatality which occurred in 1979; seven years later, the first Kubota worker died of mesothelioma. By March 2005, there had been 75 asbestos-related deaths amongst the Kanzaki workforce; by March 2006, this figure had risen to 105. As the factory had employed a total of 1,015 workers for more than one year, this means that more than 10% of all the workers have died of asbestos-related diseases.

Hazardous exposure to Kubota asbestos was not confined to



the workplace, however, and cases of mesothelioma contracted from neighborhood exposure were reported.<sup>53</sup> Research undertaken by Drs. N. Kurumatani and S. Kumagai charted mesotheliomas amongst people in Amagasaki City living within 1,500 meters of the former Kubota Kanzaki plant. By the end of March 2006, 99 cases of mesothelioma had been confirmed amongst local people whose only exposure to asbestos was environmental. In 1975, more than 20% of townspeople (120,000 out of 540,000) lived in areas where asbestos fiber concentration levels were estimated to have exceeded 10 f/liter. Although no large-scale epidemiological survey has been conducted on the impact of environmental asbestos exposure in Japan, anecdotal evidence has been accumulating which demonstrates the effect that Japanese asbestos consumption has had on residents living in proximity to asbestos-using factories.<sup>54</sup> Unfortunately, Amagasaki City is not the only locale where mesothelioma has been found amongst residents; researchers are locating increasing numbers of victims in diverse areas:<sup>55</sup>

- 1 female victim from Tosu City, the location of the former Japan Eternit Tosu factory;
- 3 victims in Ikaruga Town, the site of the Tatsuta plant, a subcontractor of the Nichias Oji factory;
- 2 victims in Oji Town, the location of the Nichias Oji factory;
- 2 victims in Hashima City, the home of the Nichias Hashima plant;
- 1 female victim in Amagasaki City due to exposure generated by the former Kansai Slate factory;
- 1 male victim in Kawachi Nagano City from exposure generated by the Toyo company.

The Kubota announcement seemed to open a floodgate to admissions by other well-known and respected national corporations that created an asbestos storm throughout the Japanese media. On July 1, 2005 the Taiheiyo Cement Corporation announced that six of its workers had also died from mesothelioma. Five days later, the Nichias Corporation, formerly called the Japan Asbestos Corporation, admitted that 86 former workers had died of asbestos-related diseases. By July 5, 2005, in response to Government enquiries, 20 manufacturers had declared a total of 277 occupational asbestos deaths.<sup>56</sup> The media attention these announcements attracted was enormous; the "Kubota Shock," as this sequence of events came to be called, had a great impact on the national government and the public.

Although the Kubota Shock was the impetus which finally forced the Japanese Government to address the national asbestos scandal,<sup>57</sup> the first asbestos panic had, in fact, taken place nearly 20 years earlier:



- in April 1986, a retrospective study of asbestos textile workers showed a six-fold increased risk of lung cancer;
- in June 1986, the first judgment by the Nagano district court on an asbestos case was handed down; it ordered the defendant company to pay compensation to asbestos claimants;
- in February 1987, the first case of mesothelioma due to neighborhood exposure was reported in Japan;
- in February 1987, the disturbance of sprayed asbestos in a university building was reported;
- in July 1987, baby powder used in Japan was found to be contaminated with asbestos;
- by the end of 1987, 3 workers in the Kanzaki asbestos plant had been diagnosed with pleural mesothelioma;
- during the late 1980s, concern about asbestos contained in school buildings escalated amongst parents and schoolteachers.

Unfortunately, the Japanese Government did not react to any of these developments and the asbestos business continued unabated for another two decades. Long after other industrialized countries had imposed regulations on using or importing asbestos, Japan continued to utilize crocidolite, amosite and chrysotile. Epidemiological data from Europe, North America and Australia show the correlation between the level of national asbestos consumption and the incidence of mesothelioma mortality. Based on Japan's high levels of consumption – up to 10 million tonnes of asbestos





were imported – and the lack of regulations to protect workers and the public from hazardous asbestos exposures, Japanese epidemiologists are predicting more than 100,000 deaths from malignant pleural mesothelioma in the next 40 years. Had Japan acted on the precautionary principle and banned asbestos sooner, many of these deaths could have been avoided.

The Japanese Government's first response to the Kubota Shock was to set up an inter-ministerial team at section chief level (July 1, 2005); the bureaucratic response was soon upgraded to department director level (July 21) and subsequently to minister level (July 28) in light of public outrage at the Government's decades of collusion with the asbestos industry. Responding to the Kubota revelations, in July 2005 Health, Labor and Welfare Minister Hidehisa Otsuji announced that the partial asbestos ban adopted in 2004 would be supplanted within three years by a total ban;<sup>58</sup> Prime Minister Junichiro Koizumi pledged that the prevention of further asbestos-related disease was a high priority. On August 11, 2005, Japan ratified the ILO Asbestos Convention Number 162, nearly 20 years after it had been adopted.

After six months of high-level meetings, it was resolved that:

- a Law Concerning the Relief of Health Hazards Caused by Asbestos, to provide compensation for individuals and families affected by mesothelioma and lung cancer whose exposure was domestic or environmental, would be passed; it came into force on March 27, 2006. Benefits which can be claimed under this act include: relief benefits, special condolence money for bereaved families, medical compensation and medical treatment pensions;<sup>59</sup>
- legislation would be revised to curtail hazardous exposures: changes were made to the Air Pollution Control Law, the Building Standards Law, the Waste Management and Public Cleaning Law.

Victims' organizations criticized the relief scheme as inadequate. Compensation for Japanese asbestos victims remains compartmentalized with occupational and non-occupational exposure claimants being eligible under some laws and not under others:

- Pneumoconiosis Law (1960 to present) available for workers with asbestosis and lung cancer;
- Workmen's Accident Compensation Insurance Law (1947 to present) available for workers with lung cancer, mesothelioma, benign effusion or diffuse thickening;

■ Pleural plaques are not compensated in Japan.

The changes which have improved the medical treatment and legal position of asbestos victims were the result of coordinated efforts by campaigning trade unions and NGOs such as BANJAN and JOSHR<sup>60</sup> which, in cooperation with the Japan Association of Mesothelioma and Asbestos-Related Disease Victims and their Families, now represent the "voice of the people" in the national asbestos debate. Sugio Furuya, BANJAN Secretary General, believes that the asbestos experience in Japan has lessons for other Asian countries:

**Lesson 1:** Adopt the precautionary approach based on the experience of industrialized countries without awaiting the appearance of a national asbestos epidemic.

**Lesson 2:** Introduce national asbestos bans as soon as possible; a ban on asbestos marks the first step in tackling a wide range of issues which make up national asbestos legacies.

**Lesson 3:** Coordinate the efforts of social partners to maximize effectiveness; the empowerment of asbestos victims and their families should be at the heart of an asbestos campaign.

**Lesson 4:** Facilitate global cooperation at various levels and across subject disciplines.

To mark the one year anniversary of the Asbestos Victims' Relief Law, on March 25 and 26, 2007 hundreds of Japanese demonstrators expressed their outrage at the inadequacy of government compensation for asbestos-related injuries during a demonstration at the National Diet, a mass rally and a Symposium on the Asbestos Relief Law held in Tokyo. Calling for "fair and equal compensation for all asbestos victims," the protestors highlighted the cumbersome red-tape, unfairness of screening criteria which bars people with asbestosis from claiming, shoddy treatment of victims whose exposure was non-occupational and injustice meted out to bereaved families who receive no compensation if ailing relatives die before qualifying for benefits. Representatives from seven areas in Japan affected by environmental asbestos contamination participated in these events.

## Dumping of Toxic Waste in Asia

### Ship-breaking in India

If done correctly, the decommissioning of end-of-life vessels contaminated with asbestos, lead, mercury and PCBs is an expensive process. Seeking to minimize costs, governments have taken advantage of the world's dirtiest industry: the scrapping of toxic ships by workers in Asian countries.<sup>61</sup> The *Clemenceau*, a 27,000 tonne flagship French warship, set sail for the Alang shipyard (India) on December 31, 2005 after a ruling by a French administrative court which confirmed the ship's status as "material of war." The ship was "pure poison," containing a cocktail of lethal substances including up to 1,000 tonnes of asbestos. Inconveniently for French decision makers, the international dumping of such contaminated waste infringed the Basel Convention, and the European Waste Shipment Regulation as well as national law.

The French Government's actions were based on double standards: at home, the import and use of asbestos was banned yet abroad the Government was prepared for scrapyards workers to receive hazardous exposures in the most primitive of conditions. Ship-breaking is big business in Alang Bay; in 2001-2002, 264 ships were broken up by 25,000-40,000 workers, some as young as 17. Women carry away the lighter items from the ships including many which contain or are covered with asbestos. Asbestos is torn off steelwork with bare hands; people dry out crocidolite so it can be resold. The workers are mostly barefoot and protection from the many occupational hazards they are exposed to consists, in general, of a scarf over their mouths. No protective equipment or respiratory protection is provided to protect workers from hazardous asbestos exposures. Working conditions which are typical in Alang include the following:

- exploited and illiterate unskilled workers paid US\$2/day;
- deaths, fatal accidents, minor and major injuries are common and no medical assistance is available;
- little or no provision of even the bare minimum of protective gear;
- no job security or redress of grievances exist;
- the presence of asbestos and the dumping of asbestos and other toxic substances put workers' health at risk both at work and at home as many live on or near the worksite.<sup>62</sup>

P. K. Ganguly, from the Center of Indian Trade Unions,

(CITU) sums up the situation faced by those in the ship-breaking yards as follows:

"These workers are the most vulnerable workers in our sector, constantly migrating in search of seasonal jobs in the shipyards, subject to ruthless employers who are callous about their occupational health and safety and totally ignored by the political authorities... workers in Alang face daily exploitation and exposure to life-threatening hazards due to the inability of the government to establish and enforce standards."<sup>63</sup>

A global campaign to send the *Clemenceau* back to France was mounted by international NGOs led by the Corporate Accountability Desk (India), Ban Asbestos France and the NGO Platform on Shipbreaking.<sup>64</sup> Legal proceedings were initiated in France and India by the NGOs to force the recall of the ship. After demonstrations by Greenpeace and environmentalists 50 nautical miles off the coast of Egypt on January 12, 2006,<sup>65</sup> authorities in Egypt delayed the ship's passage through the Suez Canal claiming they had been misinformed as to the nature of the on-board contamination. Synchronized demonstrations in France, India, Egypt and Bangladesh were covered in media reports that were widely circulated. On February 15, 2006, a French Court suspended the authorization of the Clem-

**"Workers in Alang face daily exploitation and exposure to life-threatening hazards due to the inability of the government to establish and enforce standards"**

P. K. Ganguly, CITU





enceau's passage; shortly thereafter the French President recalled the ship. On May 17, 2006, the ship returned to its home port after its fruitless US\$38 million 12,000 mile quest to find an Asian scrapyards willing to decommission it. The inability of international treaties and national laws to prevent the global trade in toxic waste, which was exposed by the Clemenceau debacle, has led to renewed efforts to engage with regional authorities such as the European Union to ensure that there is a clampdown on such illegal practices.

Despite the success achieved with the Clemenceau, business in Alang's scrapyards is booming. From November 2006-January 2007 a total of 47 ships arrived for scrapping; January's figure of 24 marked a two year high and signifies an increase in Alang's workload from the measly 32 ships which arrived in the five months between June to October 2006.<sup>66</sup> Ship-breaking commentators say that the strength of the steel market in Alang and political turmoil in Bangladesh are responsible; Alang is receiving small (5,000 tonne) and mid-sized (12-15,000 tonne) tankers from the Gulf countries.

### Ship-breaking in Bangladesh

For more than 20 years, commercial ship-breaking operations have been carried out in Bangladesh; on average 180-250 ships a year are scrapped at 35 yards directly employing 50,000 individuals and indirectly employing 80,000. The work in these yards is labor intensive and carries no job security or social security protection; non-unionized, illiterate local migrants who make up 98% of the workforce have no knowledge of the asbestos hazard. Occupational accidents, injuries and deaths as well as hazardous exposures to a myriad of toxins occur on a daily basis.

There are many natural and political reasons for the growth of ship-breaking in Bangladesh. The coastline is suitable for the beaching of large vessels and the geographical isolation of the shipyards prevents social monitoring of working conditions. The availability of cheap labor, the low cost of machinery and the lack of health and safety legislation keep operating costs low. The resale value of material reclaimed from the ships is high:

- re-rolling mills process reclaimed scrap iron;
- shops sell old ships' furniture;
- reclaimed asbestos sheet materials are reused;
- second-hand electric equipment and materials are sold as are redundant sanitary equipment, kitchen machinery and cooking appliances.

The removal of and disposal of asbestos waste is unregulated in Bangladesh and the manual crushing and reuse of asbestos from ships is common.

National mobilization on the asbestos threat has been spurred by the actions of the Bangladesh Occupational Safety, Health and Environment Foundation (OSHE)<sup>67</sup> which is campaigning for a global and national ban on the import of asbestos and asbestos-contaminated ships, a ban on the reuse of redundant asbestos-containing products, government regulation, periodic workplace inspections, compensation and support for asbestos victims. As part of this remit, the OSHE and the Asian Monitor Resources Center organized a conference in Agrabad, Chittagang: *Banning Asbestos in South Asia* on December 15-16, 2006. This small informal gathering drew together occupational health experts, community activists, trade unionists and scientists from Bangladesh, India, Pakistan and Japan who, amongst other issues, considered: asbestos exposures in power plants in India, the asbestos hazards in the ship-breaking industry, asbestos politics in Asia and the development of asbestos victims groups and NGOs in South Asia. Indian delegate Gopal Krishna reported that the sessions in Bangladesh were both informative and productive and included a visit to shipyards where people were observed working in an asbestos-laden atmosphere with no health and safety precautions.

In collaboration with the Netherlands Confederation of Trade Unions the OSHE has embarked on a project to: raise asbestos awareness amongst ship-breaking workers, empower local trade unions to be actively engaged in the social debate on asbestos with government and company officials and develop procedures and regulations to safeguard occupational health and safety. To heighten public awareness, in April 2007 the OSHE commemorated International Workers' Memorial Day at events held in the capital city including:



- April 27: a workshop: *Making Decent Work a Reality in Bangladesh* followed by a press conference which launched a national appeal to ban asbestos;
- April 28: a public discussion on "ban asbestos" at the OSHE Center in Shitakunda, Chittagong.<sup>68</sup>

## CASE STUDY

### SS FRANCE, SS NORWAY, SS BLUE LADY

Like the Clemenceau the SS Blue Lady, formerly the SS France, was an iconic ship. At 316 meters long, she was the world's longest ship when she was launched on May 11, 1960 by the wife of the French President. In 1980, the liner was re-christened the SS Norway and for nearly 20 years she was the flagship of the Norwegian Cruise Line (NCL), a subsidiary of Star Cruise Ltd. After a fatal boiler explosion (May 25, 2003) in Miami, the SS Norway was towed to Bremerhaven, Germany. Because of the presence of asbestos and other hazardous waste, the ship's departure from Germany was prohibited under the Basel Convention. When the German authorities were assured that the SS Norway was being towed to Malaysia for repairs, permission was given for it to sail. Commenting on this development, the NGO Platform on Shipbreaking noted:

"NCL withheld vital information from German authorities while seeking permission for the ship's departure... SS Norway's movement out of Germany is a violation of Article 16 of the European Union Waste Shipment Regulation, Articles 4 and 6 of the Basel Convention, and the Basel Ban Amendment."<sup>69</sup>

The ship left Germany in May 2005; when it docked on August 10, 2005 at Port Klang, Malaysia, it had been renamed the Blue Lady.

An attempt to off-load the ship on Bangladesh did not succeed after a campaign led by the Bangladesh Occupational Safety, Health and Environment Foundation (OSHE) and supported by other NGOs. In a petition submitted to the Government, the OSHE highlighted the health risks posed by the prospective purchase of the Blue Lady by a Bangladeshi ship-breaking company; at a public demonstration in Dhaka on February 12, 2006 and in press statements, the OSHE detailed the toxic nature of the ship's 1,250 tonnes of asbestos products and unknown quantities of polychlorinated biphenyls (PCBs) as well as other toxic substances. On February 15, dozens of environmentalists formed a human chain to protest plans to dismantle the ship at the Giri

Subedar ship-breaking yard near the southern city of Chittagong. Media coverage of other protests increased the pressure on Bangladeshi shipyard owners and government officials to boycott the ship. On February 16, 2006 Tariqul Islam, Environment Minister of Bangladesh, ordered the navy and coastguard to ensure the ship stayed out of Bangladeshi waters and instructed the Central Bank and customs department not to issue an import order for the ship saying:

"Based on the information we have gathered, we've decided to ban the ship from entering our waters."<sup>70</sup>

On February 17, 2006, the Bangladesh Ship-Breakers Association confirmed that no member organization would purchase the contaminated ship.

Having failed in Bangladesh, the owners of the Blue Lady looked to India for a solution. In May 2006, Indian campaigners requested that the (Indian) Supreme Court ensure that the vessel complied with international and Indian law; the Gujarat Maritime Pollution Board banned the Blue Lady from entering Indian waters. In June, the Supreme Court did a U-turn and granted permission for the vessel to enter India on humanitarian grounds. On June 13, 2006, instead of heading, as expected, for Alang, the ship left Malaysia for the United Arab Emirates; after only 4 days, it set off again, this time for India.

On June 30 the Blue Lady dropped anchor in Indian waters, 35 nautical miles off-shore from Alang. Two weeks later, amidst protests by NGOs and a media scrum, the ship was beached in Alang.

The legalities of the ship's arrival in India has involved multiple court, committee and administrative hearings. Like the Supreme Court, the Gujarat Pollution Control Board (GPCB) reversed its original opposition to the import of the vessel; in a report issued by the GPCB in February 2007 the authority concluded that as attempts to refloat the vessel would be costly and unwise, the vessel should be dismantled in India. On February 26, 2007, the Blue Lady case was the subject of a hearing before a Special Bench; proceedings were adjourned with the Court asking for further submissions.



The Indian Platform on Ship-breaking<sup>71</sup> continues its legal efforts to reverse the short-sighted decisions of the Supreme Court and GPCB. Coordinator Gopal Krishna reports:<sup>72</sup>

"The case of the Blue Lady highlights loopholes which permit illegal and profitable practices to thrive at the expense of occupational and public health. The Hazardous Waste Rules (2003) completely ban the import of waste asbestos and waste containing PCBs/PCTs. The obligation under the Stockholm Convention on Persistent Organic Pollutants, which India has ratified, is to prohibit the entry of wastes containing PCBs into our country because they cannot be managed in an environmentally sound manner as there is no facility in India capable of meeting the Convention's requirements.

The owners of the Blue Lady did not submit any documentation seeking permission for ship-breaking in India; the ship entered India purely on humanitarian grounds. The Indian authorities have not had the opportunity to consider all the issues involved in the scrapping of this polluted ship in a shipyard which does not have the facility or equipment to deal with the asbestos and other pollutants present on the Blue Lady. Campaigners have now submitted their final petitions to the courts on these matters and await the judgment of the Supreme Court."<sup>73</sup>



Objecting to the potential health hazard posed by the scrapping of the Blue Lady in Alang, on March 8, 2007, Bhagvatsinh Haubha Gohil, the democratically elected head of Sosiya village council (Panchayat) in Talaja District, Gujarat, filed an application on behalf of 30,000 inhabitants from 12 village councils living up to 25 kilometers from the Alang ship-breaking yard. At a Supreme Court hearing on March 12, 2007, an official order was given which required further investigation within 6 weeks by the Technical Experts Committee "as to whether conditions stipulated have been complied with before any action can be taken on the dismantling plan."<sup>74</sup> The situation remains unresolved; a case hearing scheduled for April 30, 2007 was postponed.

## Natural Disasters



### The Great Hanshin-Awaji Earthquake 1995

One of the consequences of Japan's widespread use of asbestos was observed after the 1995 Great Hanshin-Awaji earthquake which affected Kobe, Awaji, Ashiya and Nishinomiya and their surrounding areas. Post-earthquake atmospheric monitoring by the Environmental Agency (Japan) showed an increase in ambient asbestos concentration in the stricken zone; a diffusion model was used to assess how much of this contamination was due to sprayed-on asbestos insulation/fireproofing present in earthquake-damaged buildings at 16 sampling points. The scientists estimated that prior to the earthquake there had been 3,740 tonnes of sprayed-on asbestos stock in the affected buildings; the quake liberated 26.4 kg of asbestos into the envi-

ronment.<sup>75</sup> Experiments revealed that demolition without pre-removal of asbestos caused the highest levels of asbestos emissions into the surrounding areas; asbestos removal costs accounted for 68-94% of total demolition costs.

### Indian Ocean Tsunami 2004

The destruction wrought by the Indian Ocean tsunami devastated communities in Sri Lanka, Thailand, India, Indonesia and the Maldives. On February 22, 2005, Ian Cohen, an Australian politician who was on the beach in Hikkaduwa, in the south-west of Sri Lanka on December 26, 2004, told the New South Wales Parliament that in the aftermath of the tsunami there was:

"a great deal of asbestos spread around that coastal area. As the houses and buildings were destroyed, asbestos was broken up. It was being cleared by hand and bulldozer without appropriate safety measures."

Despite Cohen's warnings of the hazards caused by thousands of tonnes of asbestos waste, no attempts were made to control the widespread contamination. Cohen explained:

"There is an asbestos industry in Sri Lanka that claims it is just blue asbestos that is the problem, not white asbestos. I have it on good authority from people who have been involved in unions here in Australia that white asbestos is as much the issue as is blue asbestos. I have written a letter to Alexander Downer advising him that the asbestos industry in Sri Lanka has been conducting an aggressive campaign to convince particularly Southeast Asian countries that asbestos products are safe."

Observers from the United Nations Environment Programme (UNEP) were seriously concerned about the threat posed by hazardous waste, including clinical waste, waste oil, batteries as well as asbestos, found in post-impacted tsunami countries. In a series of UNEP Post-Disaster Waste Management Workshops which were held in the Maldives (May 2005), Indonesia (June 2005) and in Pakistan (March 2006), the asbestos hazard was one of many waste issues flagged up.<sup>76</sup> Although funding was available, no such workshop took place in Sri Lanka, a country where asbestos-containing materials are regarded as everyday building materials. The Government's views are expressed in a three-page document entitled: *Usage of Chrysotile Fibre-Bonded Cement Roofing Sheets for the Housing*

*Reconstruction Programme Launched to Settle the People Displaced by the Tsunami* which was issued by the Sri Lankan Reconstruction and Development Agency in June 2006. After a scant 10 weeks of research which relied on outdated and faulty sources, the conclusions cited in this paper included the following:

- “III Once the asbestos fibres are bonded with cement as in the case of asbestos roofing sheets, it will cause no health hazard unless the fibres are exposed due to cutting, drilling or grinding.
- IV Usage of asbestos roofing would not involve grinding but would necessitate drilling while fixing. Any health problems to arise from exposure to drilling could be avoided if the recommended safety measures such as wearing breathing masks are practiced by those engaged in it.
- V The Asbestos Manufacturers’ Association has educated the builders and carpenters by conducting training programs as well as by way of catalogues and brochures.
- VI The asbestos manufacturing industries subject their employees to periodical medical check-ups and it has been revealed that employees have not been identified to be suffering from industrial related diseases.
- VII According to the information available at the Cancer Hospital there is no evidence to show that the asbestos fibres are in the lungs of cancer victims in Sri Lanka.”<sup>77</sup>

### Indonesian Earthquake 2005

The earthquake which hit the Indonesian provinces of Yogyakarta and Central Java on May 27, 2005 measured 5.9 on the Richter scale. It lasted just 57 seconds, killed over 5,700 people and injured 47,000; more than 500,000 homes were destroyed or damaged.<sup>78</sup> According to Dave Hodgkin the Shelter Cluster Coordinator and Technical Advisor from UN Yogya/Central Java Earthquake Response:

“In Jogya, cleanup operations were largely community driven, with Gotong Royong (community working bee) groups chipping in, to sweep up, and remove much of the rubble. Almost uniformly no attention was paid to the risks posed by rubble removal. Low lying land, roadsides, rice paddies and rivers, were all used as dumping sites for the billions of tonnes of waste created by the minute long quake.

Families scrounged through rubble, dusting off bricks, timbers, steel, windows, doors, roof tiles, asbestos sheet and anything else with some possibility for reuse. Rubble crushers, backhoes, bulldozers and raw

human labour set to work, cleaning up debris and re-using whatever possible as road base, foundation fill etc; all with little or no heed to dust for months after the earthquake.

As in Aceh, aware members of the emergency shelter cluster applied some of their overstretched resources (both time and funds) to produce public outreach documents to encourage safe handling of asbestos waste and to discourage its further purchase.

In both cases, efforts were often hampered by multiple factors including the scale of the disasters. With over 800 affected villages in the Java earthquake, comprising something in the order of 8,000 individual hamlets, and mixed literacy levels as well as varying levels of media access, public outreach is a massive task.”<sup>79</sup>





## Paying the Price

Despite the progressive increase in asbestos consumption in Asia over recent decades, the number of individuals being diagnosed with mesothelioma, a signature cancer of asbestos exposure, remains low. Research presented by Dr. Claudio Bianchi at the Asian Asbestos Conference in 2006 elaborated on the discrepancies between the incidence of mesothelioma in European and Asian countries. He posited the following explanations:

- mesothelioma is a particularly difficult disease to diagnose and requires histological examination of neoplastic tissue and/or microscopic identification of the tumor for a reliable differential diagnosis; these techniques are not widely available in some Asian countries;
- low life expectancy or competitive causes of death combined with the long latency period of mesothelioma, from 14-75 years, pre-empt deaths from mesothelioma;
- the role of co-factors in mesothelioma causation;
- the relatively recent industrialization in Asia which means that a sufficient time lapse has not yet occurred for mesothelioma to develop;
- widespread underestimation of the true incidence of the disease.

Although huge amounts of asbestos were used in Japan between 1960-2000,<sup>80</sup> the number of pleural mesotheliomas was extremely low (about 150 per year) until the early 1990s.<sup>81</sup> Comparing the number of cases of mesothelioma in two similar sized shipyard areas in Japan and Italy in the last 3 decades of the 20th century showed a huge differential with 48 cases in Yokosuka, Japan and 557 cases in Trieste-Monfalcone, Italy.

The absence of historical measurement data of hazardous asbestos exposures, a common problem in many countries, has been an obstacle to campaigners facing government demands for proof that asbestos can kill.<sup>82</sup> According to Dr. Ken Takahashi, co-author of a paper published in *The Lancet* in March 2007, there is another way to predict the human cost of asbestos use: "The volume of asbestos consumed per head can act as a surrogate for the exposure levels of a population and ecological associations between exposure rates and disease rates can be measured." The authors of *Ecological Association between Asbestos-related Diseases and Historical Asbestos Consumption: an International Analysis*<sup>83</sup> found a "clear and plausible" correlation be-



tween the amounts of national asbestos consumption in 1960-69 and the incidence of asbestos mortality in 2000-2004; statistical calculations using data from 33 countries revealed that:

"Historical asbestos consumption was a highly significant positive predictor of all mesothelioma mortality ...

The association for asbestosis mortality rate was positive and statistically significant in men... The slope showed a 2.7-fold increase in deaths from asbestosis in men per 1 kg incremental rise in asbestos consumption in the population."

Speaking of a "global epidemic of asbestos-related diseases," the scientists "strongly support the recommendation that all countries should move towards eliminating (the) use of asbestos."

## Action by International Agencies

### International Labor Organization and World Health Organization

In 2006, the magnitude of the global asbestos hazard was recognized both by the International Labor Organization (ILO) and the World Health Organization (WHO). A *Resolution Concerning Asbestos* was adopted in June at the ILO's General Conference:

"Considering that all forms of asbestos, including chrysotile, are classified as human carcinogens by the International Agency for Research on Cancer, a classification restated by the International Program on Chemical Safety (a joint program of the International Labour Organization, the World Health Organization and the United Nations Environment Programme),

Alarmed that an estimated 100,000 workers die every year from diseases caused by exposure to asbestos...

#### 1. Resolves that:

(a) the elimination of the future use of asbestos and the identification and proper management of asbestos currently in place are the most effective means to protect workers from asbestos exposures and to prevent future asbestos-related disease and deaths...<sup>84</sup>

In October 2006 the WHO published a policy statement on the *Elimination of Asbestos-Related Diseases* which echoed the ILO's 2006 Resolution on Asbestos. Recognizing that: all types of asbestos cause asbestosis, mesothelioma and lung cancer, safer substitutes exist, exposure of workers and other users of asbestos-containing products is extremely difficult to control, and that asbestos abatement is very costly and difficult to carry out in a completely safe way, the WHO called for a worldwide ban:

"Bearing in mind there is no evidence for a threshold for the carcinogenic effect of asbestos and that increased cancer risks have been observed in populations exposed to very low levels, the most efficient way to eliminate asbestos-related diseases is to stop using all types of asbestos. Continued use of asbestos cement in the construction industry is a particular concern because the workforce is large, it is difficult to control exposure, and in-place materials have the potential to deteriorate and pose a risk to those carrying out alterations, maintenance and demolition. In its various applications, asbestos can be replaced by some fibre materials and by other products which pose less

or no risk to health."<sup>85</sup>

The WHO is currently scaling up action on asbestos under its policy of primary prevention of environmental risks to public health. Effective interventions by Member States for the elimination of asbestos-related diseases is being advocated. "Asbestos is," says Dr. Ivan D. Ivanov, a WHO Occupational Health Specialist, "the most important occupational carcinogen causing 54% of all deaths from occupational cancer:"

"We estimate that currently 124 million people in the world are exposed to asbestos and thus are at risk of developing asbestos-related diseases – the majority of people at risk, 66 million, live in Asian countries particularly in the regions of the Western Pacific...These diseases have high fatality rates and do not respond well to medical treatment."

As of June 2006, 23% of WHO Member States had banned or intended to ban chrysotile;<sup>86</sup> 41% had not banned it but showed no records of trading in asbestos and 36% still imported, used and exported asbestos and asbestos-containing materials. The largest users were developing countries which mostly used chrysotile in asbestos-cement products. To implement its goals, the WHO is working with major international actors, NGOs and Member States; it is advising countries to:

- stop the use of asbestos;
- take measures to avoid exposure to asbestos during asbestos removal and abatement work;
- provide information about solutions for replacing asbestos with safer substitutes and develop economic and technological mechanisms to stimulate the transition to safer non-asbestos technologies;
- improve the early diagnosis, treatment, social and medical rehabilitation and compensation for sufferers of asbestos-related diseases;
- establish registries of people with past and/or current exposure to asbestos.

### United Nations

A United Nations (UN) initiative to minimize the asbestos hazard in consuming countries has been stymied by asbestos stakeholders who on two occasions succeeded in blocking efforts to place chrysotile on the Prior Informed Consent list of the Rotterdam Convention.<sup>87</sup> The most recent veto of this proposal took place



**“We call on those countries, which have already banned use and production of asbestos in their own countries to stop trade in asbestos...”**

GCSF-8's Chemicals Working Group



at the Conference of the Parties to the Rotterdam Convention on October 10, 2006 when delegates from 5% of the Convention's Parties opposed the listing of chrysotile.<sup>88</sup> The reactions of UN representatives and NGOs ranged from disappointed to incandescent with Alexander Fuller of the UN's Food and Agriculture Organization pointing out the precedent this veto sets for the listing of other “actively traded chemicals.” Anita Normark, General Secretary of global building workers' union BWI, expressed her disgust at the dictatorial stance adopted by national asbestos stakeholders saying:

“Asbestos kills one person every five minutes, more than any other industrial toxin. If it can't be listed under the Rotterdam Treaty, then every peddler of hazardous substances will know how simple it is to protect their deadly industrial favourite. The whole process is discredited.”

Asbestos was deemed a priority issue at the 8th Global Civil Society Forum (GCSF-8), a Nairobi meeting (February 3 & 4, 2007) organized by the United Nations Environment Programme (UNEP) which brought together 160 representatives of civil society from 65 countries. This was the first occasion for groups representing civil society to engage in a “direct and open exchange of information and views” with the UNEP's Executive Director and to delineate key areas of concern that should be addressed by Member States at the upcoming 24th Session of the UNEP Governing Council/Global Ministerial Environment Forum.<sup>89</sup> Under the subject heading of asbestos, the 2-page document prepared by the GCSF-8's Chemicals Working Group noted:

“UNEP should promote better understanding of global and regional impact of all forms of asbestos, on the environment and public health and provide guidelines for a programme towards the global elimination of asbestos use.

We call on those countries, which have already banned use and production of asbestos in their own countries to stop trade in asbestos and set up policies for safe clean-up and disposal of asbestos waste.”

In early 2007, UNEP staff continued to follow up documented reports of asbestos contamination created by the 2004 tsunami and other disasters in talks with the WHO and ILO about developing a joint strategy on asbestos not only for UN agencies but also for scores of NGOs and development partners. Unfortunately these talks did not progress beyond the exploratory stage; the departure of the key UNEP employee steering the discussions (March 2007) and the fact that he is not

being replaced is cause for concern. One observer commented that amongst international agencies, asbestos seems to fall in a “fuzzy” area; while the ILO and WHO have clearly demarcated responsibilities for occupational and public health respectively, the issue of environmental health seems to be something of an orphan. Narrow remits of other international agencies and multilateral agreements dealing with aspects of the asbestos hazard, such as the use of asbestos-cement building products for housing, the global dumping of asbestos-containing waste and the safety of ship-breaking workers, compound the on-going neglect of this contentious subject.<sup>90</sup>

National Asbestos Programs, supported by international agencies working in concert, are needed to delineate the most effective means of limiting hazardous exposures and assisting the asbestos-injured; amongst the measures which should be considered for inclusion are the:

- setting up of mesothelioma registers and medical training programs;
- recognition of all work-related asbestos diseases as occupationally caused with the onus on negligent employers to make restitution to injured workers;
- development of asbestos analysis skills, sampling techniques, dust controls and prudent working practices;
- regulation of commercial enterprises engaged in asbestos removal and demolition work;
- commissioning of cost-benefit analyses that include the financial cost of damage incurred by individuals, local communities and society,
- provision of affordable and regulated asbestos waste sites;
- easy access to information about safer substitutes.

Asbestos victims' associations, environmental and public health campaigners, NGOs and global labor have important roles to play in devising and enforcing strategies to tackle the repercussions of asbestos misuse.

## Global Labor Rejects Asbestos

Groups representing global labor support the campaign to ban asbestos and many affiliated unions in the Asia-Pacific region are making a global asbestos ban a focus of their activities. The Japan Trade Union Congress, Korean trade unions and the Australian Congress of Trade Unions have achieved good results working with national policy makers on asbestos bans and health and safety legislation. Labor groups in other countries in the region have not, up till now, had the same success but nevertheless the ban asbestos policy remains a cornerstone of labor action in Asia following the October 2005 Resolution to Ban Asbestos which was adopted at the 81st International Confederation of Free Trade Unions-Asia & Pacific Executive Board Meeting in Malaysia and the 18th Regional Conference in February 2005 in Nepal.

Throughout 2005-2006, work on asbestos continued apace with the publication of trade union ban asbestos campaign material, training and capacity development of key personnel and the implementation of joint projects in Bangladesh, Pakistan, Indonesia and the Philippines. On International Workers' Memorial Day (IWMD, April 28, 2006), trade unions around the world highlighted the human cost of asbestos use and demanded a worldwide ban during demonstrations, rallies, information sessions and marches to mark the day. As the theme for labor activities on IWMD 2007 was occupational cancer, the asbestos scourge was, once again, a high priority issue on that day of global action. A document entitled: *Occupational Cancer/Zero Cancer: A Union Guide To Prevention*, produced in English, French, Spanish and Russian by the International Metalworkers' Federation in collaboration with the 10 sector-based global union federations and the International Trade Union Confederation, was launched on that day.<sup>91</sup> Placing asbestos within the context of other occupational cancers it stated:

"at least one in every 10 cancers – and probably many more – is the result of preventable, predictable workplace exposures. Asbestos is the biggest industrial killer of all time, and kills thousands from cancer every single week, at least one death every five minutes. But it is not banned worldwide...

Unions are challenging workplace cancer risks. Asbestos bans are spreading, despite a cash-rich rearguard public relations offensive by the asbestos industry. Unions have won recognition of causes of occupational

cancer, restrictions on their use and compensation for their victims. Prevention, though, is the only cure. That's why, through advice, training and union action at workplace, national and international levels, this campaign intends to ensure workplace ill-health is not the forgotten item on the cost-benefit ledger. Work should provide a living, not a cause of death."



**"Asbestos is the biggest industrial killer of all time, and kills thousands from cancer every single week, at least one death every five minutes. But it is not banned worldwide..."**

International Metalworkers' Federation



**TRADE UNION ACTION ON ASBESTOS IN ASIA**

Today, more building workers die each year from past exposures to asbestos than are killed in falls; current hazardous exposures guarantee that an epidemic which has already taken so many lives will continue. As 90% of current asbestos consumption is for asbestos-cement construction materials used in the developing world, building workers in Asia are at serious risk of contracting deadly asbestos diseases. Fiona Murie, the Director of Health, Safety and the Environment of the Building and Woodworkers International (BWI),<sup>92</sup> is concerned about the continuing vulnerability of construction workers in Asia:

“The vast majority of building workers in Asia are part of the unregulated informal sector; working in appalling conditions, they regard asbestos-cement as just another construction material. They have no masks, protective equipment or training; when they get ill they receive neither corporate nor government benefits. It is urgently needed to stop introducing asbestos into the built environment and to protect workers who may be exposed during maintenance, renovation and demolition activities in buildings that contain asbestos.”

Nearly 20 years ago, the BWI designated a global asbestos ban as a top priority. Since then, BWI action on asbestos has taken place at national and regional levels, in tripartite meetings, in discussions with international agencies and in campaigns with NGOs and other unions; it has addressed 4 key areas:

- ◆ marketing campaigns by global asbestos producers and the role of the Government of Canada in industry-sponsored events such as the 2006 meetings in Jakarta and Montreal;
- ◆ the availability of safer substitutes; evaluations by the WHO-IARC confirm that alternatives such as cellulose, polyvinyl alcohol, p-aramids and polypropylene are safer than chrysotile;
- ◆ the need to protect workers and end-users from hazardous exposures; the ILO Asbestos Resolution passed in June 2006 was a major victory as it clearly stated that there is no such thing as the safe use of

asbestos. The ubiquitous use of asbestos-cement presents a serious challenge to occupational health especially for those workers who cut it, break or saw it, perforate or handle these products;

- ◆ the rights of those affected by asbestos injuries; improvement of medical surveillance for early diagnosis, treatment and compensation.

The growing strength of the BWI's ban asbestos campaign in Asia can be judged by the accomplishments of its affiliates:

**PHILIPPINES:** On July 4, 2005, the BWI Philippine Affiliates Council took part in the launch of the Philippine Ban Asbestos Network. In 2006, the Associated Labour Unions (ALU), another BWI affiliate, initiated a national asbestos training program and petitioned the President of the Philippines to enact a national asbestos ban. Responding to this request, the Ministry of Environment and Natural Resources (RTD) held a round-table discussion during which the ALU highlighted the lack of: social protection for the asbestos-injured and effective measures for the monitoring and dismantling of asbestos-contaminated infrastructure. During the roundtable, the RTD sought to downplay the call for a national ban preferring to focus on issues such as regulation, utilization and disposal of asbestos, the ALU, on the other hand, ensured that the issues of phasing out or banning asbestos were central to the discussion.

**MALAYSIA:** In 2004, Malaysian BWI affiliates, including the Sabah-Timber Industry Employees Union, the Timber Industry Employees Union Sarawak and the Timber Employees Union joined in ban asbestos activities on International Workers' Memorial Day. The next year, BWI officials from head office held discussions with the Ministry of Manpower on the subject of a global ban on asbestos and the part the Malaysian Government could play in the regional campaign to achieve this goal. Several affiliates in the sub-region petitioned the Canadian embassies and consulates in Malaysia and Indonesia over Canada's support for the pro-asbestos lobby. On IWMD 2007, the ban asbestos issue was on the agenda of high-level meetings

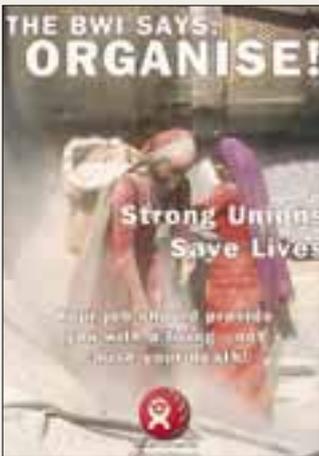
of politicians, trade union officials and representatives of employers' association; it was also the subject of a keynote presentation made at a rally of 1,000 trade unionists at Putrajaya, the new administration center of the federal government.

**KOREA:** Since 2000, trade unions in South Korea, including the Korean Federation of Construction Industry Trade Unions (KFCITU), a BWI affiliate, have been lobbying for a national ban. During worksite visits, KFCITU local officers ensure that no asbestos products are being used. When officials from the Chunan-dongbu KFCITU local noticed that asbestos was being used on a site, it sent warning letters to the main and sub-contractors; the companies stopped using the contaminated materials immediately. Although banning the use of asbestos is not part of KFCITU collective bargaining agreements, it is incorporated into occupational safety and health agreements.

**INDIA:** In October 2006, 17 participants from 8 BWI affiliates<sup>93</sup> participated in a seminar on Occupational Health and Safety in Chennai, Tamil Nadu which included discussions on: activities for raising occupational and grass-roots awareness of the asbestos hazard, strategies for developing ban asbestos links with medical associations, plans for a national asbestos conference (2007) and the need to intensify political lobbying at regional and national levels. A presentation made to the meeting by a producer of non-asbestos roofing material underlined the availability in India of safer and affordable alternatives. In November 2006, the “Ban Asbestos Campaign” was on the agenda of the five-day Indian Social Forum.

**OTHER REGIONAL AFFILIATES:** Throughout 2005-2006, other asbestos events held by BWI affiliates took place in Nepal and Bangladesh.

On April 28, 2006, the BWI and other federations representing labor made the ban asbestos campaign a priority issue on International Workers' Memorial Day (IWMD). In dozens of countries, BWI members engaged in: “peaceful demonstrations and petitions at Canadian Embassies and Consulates to convince the Cana-



dian government to call a halt to its aggressive marketing and promotion of asbestos in developing countries such as India, Zimbabwe and Brazil.”

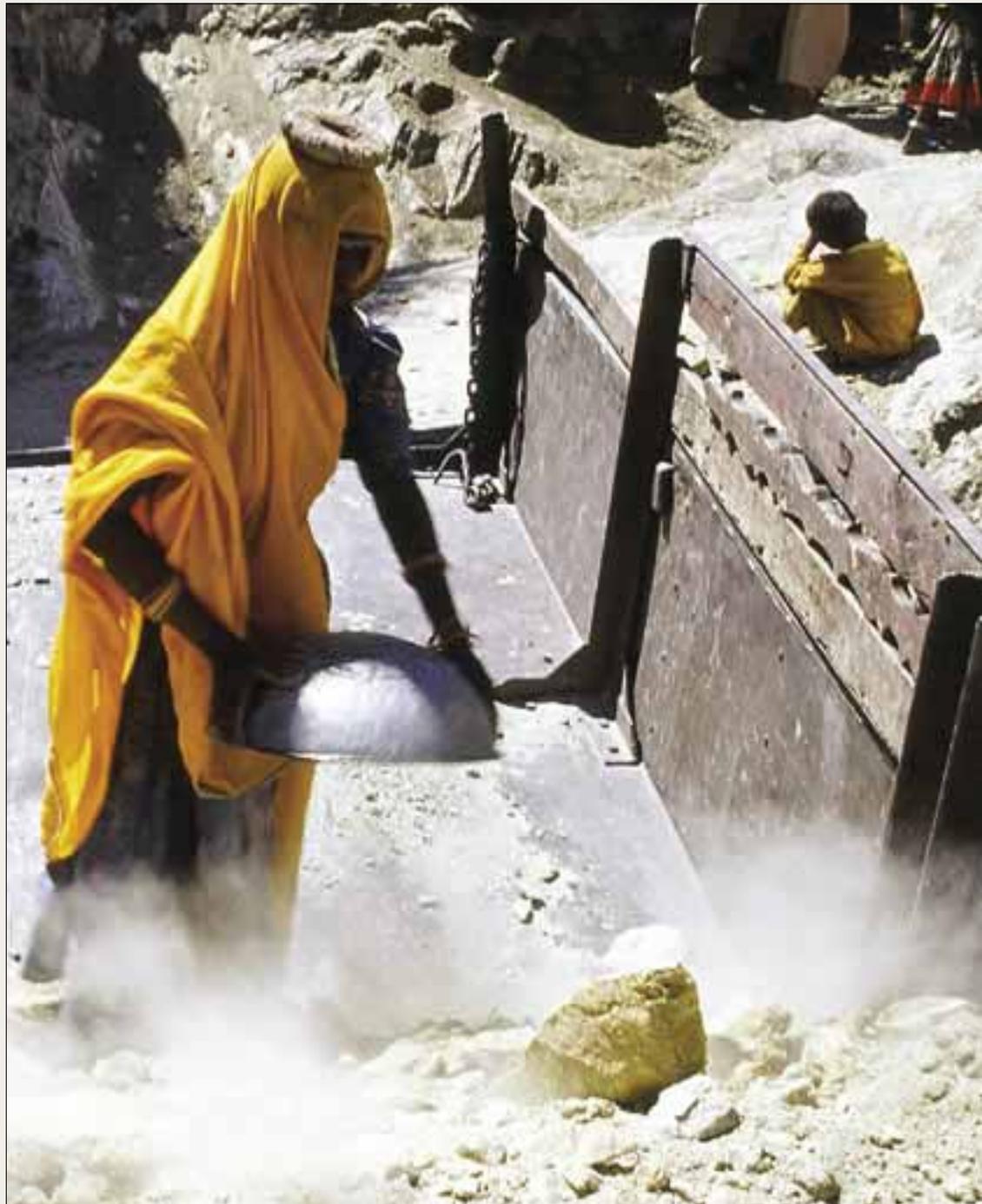
As labor’s theme for IWMD 2007 was Occupational Cancer,<sup>94</sup> asbestos was on the agendas of high-level meetings, regional gatherings and grass-roots events. Launching the global “zero cancer” campaign in Geneva, Anita Normark, General Secretary of the Building Workers’ International, said:

“Occupational cancer is the most common work-related cause of death, ahead of other work-related diseases and accidents, but it is not taken seriously by regulators or employers. Asbestos alone accounts for an estimated 100,000 deaths each year. While our global campaign to ban deadly asbestos is gaining momentum, much more needs to be done to prevent exposure to asbestos which is already present in millions of buildings and workplaces all over the world.”

The BWI’s *Cancer in Construction and Timber Fact Sheet* warns of the hazards posed by contaminated products hidden within national infrastructures:

“For asbestos which is already installed in buildings, asbestos management plans should be prepared, supervised and adhered to. Employers should know where asbestos is in their premises, and should ensure a record is kept and workers are informed of its presence if there is any possibility it might be disturbed. All work with a potential asbestos exposure should be undertaken only by properly trained and protected workers. Dust levels should be kept as low as practicable. Workers should be provided with appropriate health surveillance and all exposures should be recorded in an asbestos register.”<sup>95</sup>

The provision of detailed information on the BWI website about safer substitutes for asbestos in roofing, pipes, storage tanks and guttering reinforces the argument that in the 21st century, there is no justification for the use of asbestos.<sup>96</sup>



**“The vast majority of building workers in Asia are part of the unregulated informal sector; working in appalling conditions, they regard asbestos-cement as just another construction material. They have no masks, protective equipment or training.”**

Fiona Murie, the Director of Health, Safety and the Environment of the Building and Woodworkers International (BWI)



## Cooperation Across Borders, Academic Disciplines and Cultures

The first opportunity to explore the threats posed by the increasing use of asbestos in Asia was created by international asbestos victims groups, NGOs, trade unions, government agencies and Japanese supporting bodies which worked together to organize the Global Asbestos Congress 2004 (GAC 2004) in Tokyo. This event, which brought together 800 delegates from 40 countries, addressed a range of medical, legal, epidemiological, biochemical, environmental, social and political issues. Representatives of international labor federations and hundreds of Asian trade unionists were in attendance, underlining the growing awareness of the toll being paid by building workers for hazardous asbestos exposures. The presence of Japanese, Indian, Australian, Canadian, American, Welsh and Northern Irish asbestos victims and family members personalized the growing worldwide epidemic.

GAC 2004 kick-started the regional asbestos debate and gave birth to many joint initiatives including a follow-up conference in Bangkok in July 2006 which progressed the regional asbestos dialogue. Attendance of high-level Thai politicians and civil servants at the Asian Asbestos Conference (AAC 2006) enabled Thai delegates to engage in one-to-one discussions on issues such as the lack of surveillance of working conditions in asbestos facilities located in rural areas. Dr. Ivan D. Ivanov, an Occupational Health specialist from

the WHO, called the meeting an “important milestone” in regional and global efforts to curb the epidemic of asbestos-related diseases.

By offering speakers the opportunity to present up-to-date and accurate information on the asbestos hazard, AAC 2006 succeeded in exposing industry propaganda such as reassurances that “the controlled use of asbestos is safe.” No delegate to the conference left Bangkok with any illusions about the potential for lasting harm posed by the use of asbestos and asbestos-containing products. Highlighting the importance of the conference for Thai delegates, Dr. Somkiat Siriruttanapruk, one of the conference organizers, reported that:

“Since the conference, the asbestos issue has been the focus of meetings and discussions amongst civil servants, government personnel and occupational health professionals in Thailand. We are determined to build on the momentum generated by the July meeting so that improvements will be made and the population will be better protected from the asbestos hazard. Thailand was honored to have so many distinguished international experts attend this event and we look forward to working with this global network in the future.”

Delegates at the AAC adopted *The Bangkok Declaration on the Elimination of Asbestos and Asbestos-related Disease* (Appendix D) which calls for a total abolition of the use of asbestos and asbestos-containing products, highlights the importance of primary prevention and the application of practical guidelines for good practice, points out that safer alternatives are available and should be used and emphasizes the need for early disease detection, appropriate medical treatment and prompt payment of government benefits and compensation claims.

### Asian Action on Asbestos

The asbestos problem epitomizes common challenges facing Asian populations, such as the epidemic of industrial accidents and deaths and the lack of good governance. Grass-roots mobilization linked to international advocacy is critical for a “sustained and holistic improvement” for workers in the region according to Sanjiv Pandita, from the Hong-Kong based Asian Network for the Rights of Occupational Accident Victims (ANROAV) who says:



“Workers in Asia should not need to go through the same painful experience as workers in industrialized countries before a complete ban on asbestos is introduced.”

ANROAV is working to raise awareness of asbestos issues throughout Asia and has played a major part in the asbestos campaign mounted by NGOs such as BANJAN and JOSHR in Japan. Recognizing the need for practical support from medical and legal professionals and collaboration with trade union, environmental and health activists, ANROAV cultivates links through its attendance of meetings such as the GAC 2004 and the AAC 2006 and its outreach programs. To counter industry’s propaganda, it has launched an information campaign in major Asian languages about occupational and environmental asbestos hazards.

Throughout the 20th century, countries with the highest incomes were the biggest asbestos consumers; in the 21st century, the biggest consumers are middle income countries. This shifting pattern of consumption should be ringing warning bells throughout Asia. As history has shown that a national ban by one country merely relocates the problem to its neighbors, a coordinated strategy such as once proposed by Professor Ken Takahashi, from the University of Occupational and Environmental Health (Japan), is needed. To be effective, an Asian Asbestos Action Plan should include: measures for prevention of all types of asbestos exposure, simultaneous national bans to prevent the transfer of hazardous technologies and systems for monitoring actions taken and progress made.

### Victims

The year 2006 was dubbed the Year of Action on Asbestos by the global ban asbestos network. During that time, the asbestos debate started in earnest in Bangladesh, Bulgaria, Egypt, Greece, India, Indonesia, Thailand and the Philippines and engaged with new social partners, groups and individuals in Australia, Belgium, Brazil, Canada, Denmark, France, Italy, Ja-



pan, Korea, Poland, Italy, South Africa, the UK and the U.S. In support of calls for a global ban made by trade unions in 2006, asbestos victims’ associations, community groups, international bodies and politicians from 42 countries issued a petition stating:

“we declare that each human being has the right to live and work in a healthy environment. It is not acceptable that a substance which is too harmful to be used in the European Union is used in Asia, Africa and Latin America; it is not acceptable for an industrialized country to dump asbestos-contaminated ships in a developing country... The time for action is now!”

Emphasizing the ever-expanding links of the virtual ban asbestos campaign was the agenda of a meeting held on December 3, 2006 in New Delhi by Dr. TK Joshi, Head of the (Indian) Center for Occupational & Environmental Health. The well-attended event featured presentations by key scientific and medical experts from Asia, North America and the Middle East and campaigners representing Asian asbestos victims and community groups. On May 18-19, 2007, a Korean-Japanese Symposium: *Solutions on Asbestos Issues* was held in Seoul, Korea; this event was supported by a broad range of groups representing civil society in both countries.



**MOBILIZATION OF JAPANESE  
ASBESTOS VICTIMS**

Since her husband died of asbestos-related lung cancer (2001), Mrs. Kazuko Furukawa has become known throughout Japan for her tireless campaigning on behalf of asbestos victims. She now knows what she did not know when doctors first informed the couple of Yukio Furukawa's diagnosis. At that time, neither one of them had heard of asbestos or knew of the link between asbestos and cancer. Ms. Furukawa says:



“My life has completely changed since my husband died. I spend much of my time traveling throughout Japan to assist other asbestos victims. My husband was exposed to asbestos at the power station where he worked as a welder... Since he died, I have been fighting against asbestos. At the beginning of my struggle against asbestos I was lonely. I started to apply for Workers Accident Compensation Insurance (WACI) but it took a long time to get the application approved. I faced various difficulties. While I was applying for WACI, I came to realize that he had been working in such dangerous and terrible surroundings. They didn't receive safety instructions at the workplace and moreover they were not provided with ventilation systems and personal protective gear.”



Working with others whose lives had been affected by asbestos, Ms. Furukawa was a founding member of the Japan Association of Mesothelioma and Asbestos-Related Diseases Victims (the Association), an umbrella group which ensures that local victims' groups and campaigning NGOs have a national presence in the asbestos debate. The Association was founded on February 7, 2004 to spread awareness of asbestos-related diseases and provide a forum for information exchange amongst the injured and their family members to combat the depression, loneliness and isolation an asbestos diagnosis brings.

The experience of the Association's members differs widely; some are ill for years with varying levels of disability and others die within six

months of diagnosis. Medical treatment includes: operations, chemotherapy, drugs, the use of folk remedies and palliative care. The average age of victims is getting younger with some in their 30s and 40s; although most asbestos exposure is occupational, there are many cases of non-occupational and environmental exposure.

The cases which follow illustrate the personal asbestos tragedies which are all too common in Japan. Just before his death in September 2004, 65 year old Tokuo Kato wrote:

“Two years have passed since I started suffering from malignant pleural mesothelioma. As the disease progressed I grew distressed in many ways. At first I was confused, later my mind felt blank when my doctor informed me that there was no treatment. I had many sleepless nights. It was just like being kicked when I was already down.

Around 40 years ago I worked as a welder at a boiler manufacturing company. The reason for my illness was asbestos exposure in those days. I contracted this disease through no fault of my own. I feel very sorry that I have to die of this with no cure in sight. Before I was diagnosed, I had no information about mesothelioma. One day I learned about the existence of an 'asbestos hot-line' while watching TV. I called in and learned it was possible to apply for workers' compensation. A half year later, thanks to the help of the hotline workers, I qualified for the workers' compensation. The notification letter was quite simple but it gave me a great sense of relief.

Until then I was given anticancer drugs and visited hospital repeatedly. I really feel in my body that my condition is getting worse day by day and would like to take effective medicine as soon as possible. This is a natural desire, as a patient. In the past, we didn't know about the dangers of asbestos and inhaled it. But, now we know that asbestos is a carcinogen. No more victims like myself. This is another one of my wishes.”

Fumitoshi Saito, Rapporteur of the Association, worked as an electrician on houses, shops and factories

from the 1970s; he used several types of asbestos boards and was neither warned about the hazards nor given protective equipment. Mr. Saito (69) was diagnosed with lung cancer in 1998 and had an operation to remove part of his right lung; asbestos fibers were found in the removed section. Currently, he has a cough, experiences difficulty in breathing and pain around the scar when the temperature or humidity change. After a home-interview in 2002 by a doctor and nurse, he became aware for the first time that his condition might be due to asbestos exposure. With help from the Tokyo Occupational Safety and Health Center he succeeded in obtaining workers' compensation. Mr. Saito is proud that the Association is creating opportunities for victims and their families to share their problems and concerns. “I was ignorant about asbestos,” he says “and now I try to inform asbestos victims all over the nation about asbestos, particularly about diagnosis, treatment, care for families and compensation.”

The asbestos death of her husband on March 26, 1998, shattered a lifetime of dreams and hopes for his widow Mrs. Kaeko Omori. Working in power stations belonging to Tokyo Electric Company for eighteen years brought Kunio Omori into contact with a range of asbestos materials. The original diagnosis made of his condition was lung cancer; this was, Mrs. Omori said, bad enough but a second opinion was even worse: malignant mesothelioma. The company which originally denied Mrs. Omori's application for compensation finally relented after the involvement of the Tokyo Occupational Safety and Health Center. Mrs. Omori finds it hard to accept that the company never apologized for exposing Mr. Omori to the asbestos which killed him. She said:

“My husband and I had planned to travel around Japan after his retirement but our dream failed to come true. I don't think my husband died. He was killed by the company and the Government.”

When the family of Mr. Saito realized that he would never recover from the illness which had hospitalized him, they brought him home. As his condition worsened, more painkill-

ers were needed to bring the pain under control. When the pain finally subsided, Ms. Saito and her sister asked their parents to tell them how they first met: "Which places did you go to on dates? How did you feel when we were born?" Ms. Saito asked.

"My father smiled happily when my sister thanked him for bringing us into this world. We had a blissful time remembering our happy life in the past."

"We will never accept the use of asbestos stole my father from us, and we will continue our activities so that there are no more asbestos victims like my father. My father and my family's struggle for a better society have just started."

Rinzo Uno, Secretary of the Association worked for 37 years building ships in the town of Yokosuka, 50 kilometers south of Tokyo. Throughout much of this time, he was required to remove asbestos by hand; masks were not provided until 1978. He has been involved in activities to raise awareness of pneumoconiosis for twenty years and was a founding member of the new Japanese asbestos victims' association. Fifteen years ago, he was diagnosed with pneumoconiosis; he described the effects it has on his life as follows:

"I usually have 4 coughing fits every night. Since my coughs are very close together, I can't ingest any medicines. My wife rubs my back and sometimes asks me if we should call an ambulance but I am not able to reply during a fit. During my two-hour fit, she just watches me and I feel more dead than alive. Actually, it is not only pain but the struggle of my family. When I have a light fit while riding on a train, my neighbors sometimes change their seats. This makes me feel very lonely."

Mr. Uno deplors the passivity of the Japanese Government: "My friends are dying one after the other from mesothelioma and lung cancer. And I cannot forget for an instant that I also carry a time bomb of asbestos in my lungs."

Ms. Kazumi Yoshizaki agrees that the Association has a vital role to play in raising asbestos awareness in Japan; her father, who died from mesothelioma, had worked at the

Nichias Corporation factory in Oji, Japan. Since 1896, this company had been a respected manufacturer of thermal insulation materials in Japan. Unfortunately, their products used asbestos and many former employees, like Tadashi Yoshizaki, have paid the price for the company's negligent use of such a dangerous substance. Speaking in July 2006, Ms. Yoshizaki told delegates at an asbestos conference that she loved her father and hated asbestos and pledged that the Yoshizaki family would continue to campaign for a global asbestos ban and justice for all asbestos victims.

Nowadays there are 10 branches of the Association throughout Japan with nearly 400 members. Association representatives assist victims and their families by providing:

- ◆ a free telephone consultation service;
- ◆ assistance for patients in bringing compensation claims for occupational and non-occupational asbestos exposure;
- ◆ opportunities for victims, family members and bereaved relatives to get together to offer mutual support and advice;
- ◆ coordination of a national lobby for legislation to improve the plight of victims and their families.

The Association holds social events

such as picnics during the Cherry Blossom festival so that people marginalized by illness can be resocialized. In November 2004, the Association played a pivotal role in the organization of the Global Asbestos Congress (GAC 2004), which provided a wonderful opportunity for Japanese people to have face-to-face meetings with overseas experts, victims' representatives, victims and bereaved family members. Since then, the Association has sponsored a petition for the provision of basic rights for asbestos victims and for the creation of an asbestos-free society which attracted massive support. To draw attention to this document, the Association held meetings and a rally in Tokyo.

Turning adversity to advocacy, the members of the Japan Association of Mesothelioma and Asbestos-Related Diseases Victims have put their painful experiences to use by helping others whose lives are being destroyed by asbestos. They are there to listen to the fears, share the sadness and help ease the loneliness and isolation which follow in the wake of asbestos-related diseases. And, only a short time after the first international conference of asbestos victims took place in Asia, they have forced the Government to embark on the long process of tackling Japan's ill-advised use of asbestos.



## Concluding Thoughts



Differing realities can affect the feasibility of some courses of action in individual countries.<sup>97</sup> On the whole, however, many factors remain constant throughout Asia:

- the construction industry is notoriously dangerous and even minimal compliance with health and safety legislation is rare in most Asian countries; workers in the construction and demolition industries will continue to receive hazardous exposures as long as asbestos products are being used;
- there is an almost total lack of government surveillance of occupational conditions at asbestos-using production facilities and downstream locations such as construction sites;
- there are little or no national data on the incidence of asbestos-related diseases or mortality; the absence of data is exploited to validate the continued use of asbestos;
- compensation for victims of asbestos-related diseases is virtually non-existent;<sup>98</sup>
- deadly economic exploitation of unskilled and uneducated workers exposed to asbestos in the informal sectors is widespread;
- the transfer of hazardous asbestos technology from developed to developing countries: the expansion of the Korean asbestos industry in the 1960s and 1970s was fuelled by investment from Japan<sup>99</sup> and Germany; as regulations tightened in the 1990s, Korean producers of asbestos textiles and brake linings relocated to China and other countries in Southeast Asia;
- the existence of aggressive and well-financed misinformation campaigns, using industry-funded “experts” citing “voodoo science” to mislead governments and consumers;
- a lack of political will to tackle national asbestos legacies; a typical example of this is decades of government inaction in Japan; even when governments acknowledge the asbestos hazard, there is no sense of urgency in dealing with the problems it has created;
- the lack of coordination among government agencies with, for example, the Ministries of Public Health, Labor and Environment supporting an asbestos ban and the Ministries of Industry and Natural Resource opposing it;
- asbestos-using facilities sited in densely populated areas pollute the atmosphere and put local people at risk;

- the almost total absence of provision for the controlled disposal of asbestos waste.

Variations in national economies notwithstanding, there is no level of asbestos exposure which is “safe;” the concept of the “controlled use of asbestos” is an industry fallacy designed to mislead unsuspecting governments and naïve consumers. If countries are not ready to ban asbestos and are serious about minimizing the asbestos risk to the population, they should impose the strictest controls possible; even with a Threshold Limit Value (TLV) of 0.1 f/cc, as many as 5 out of 1,000 workers will die from asbestos-related lung cancer, if the TLV is 2 f/cc, 64 out of 1,000 will die. Concerted regional action on asbestos in Asia is recommended; history has shown that unilateral asbestos bans result in hazardous technologies being dumped on the most vulnerable workers in countries with no bans.

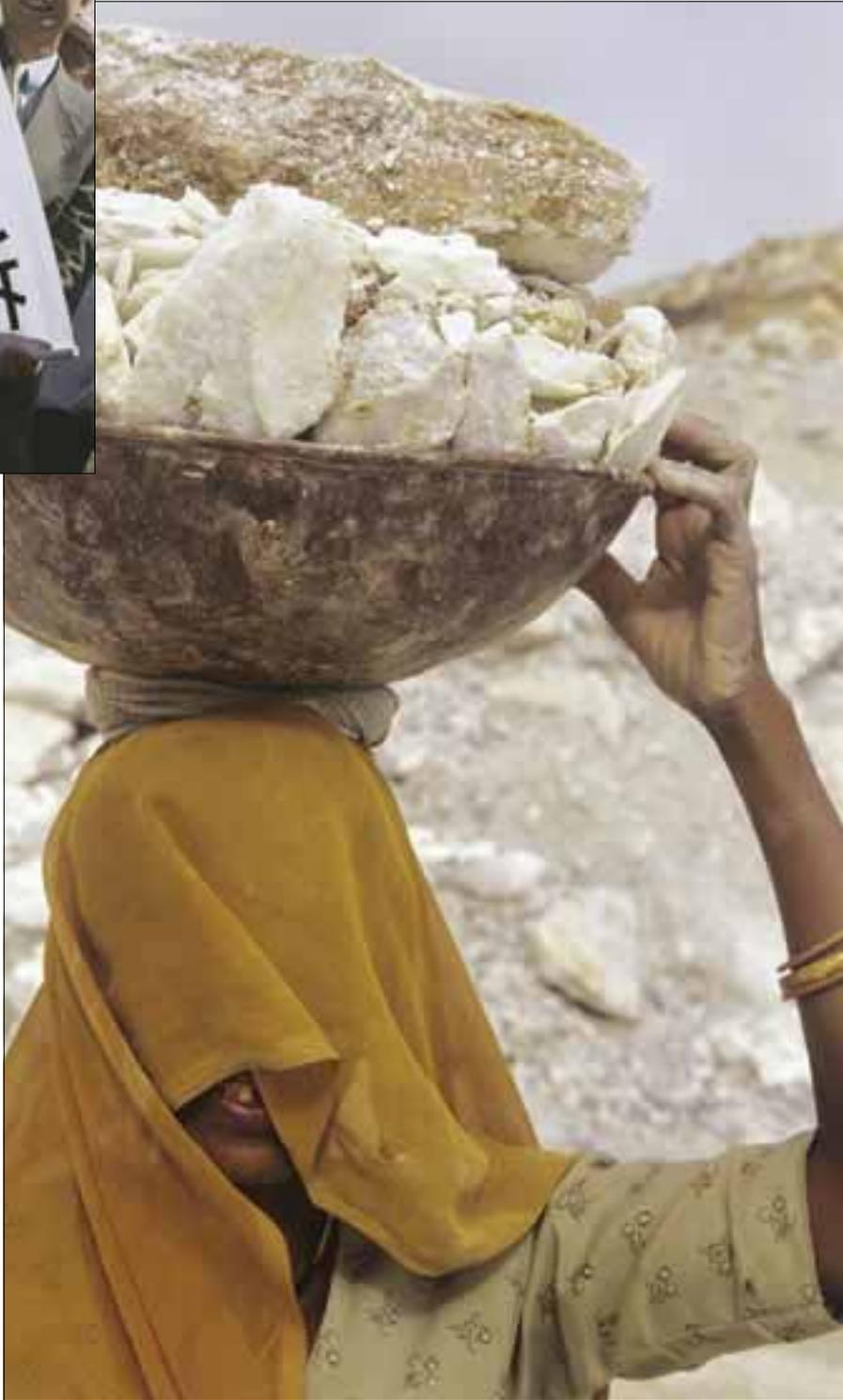
Mr. Issei Tajima, a Member of the House of Representatives of Japan and the Secretary General of the Asbestos Task Force of the Democratic Party of Japan, urges other Asian countries not to make the same mistakes as Japan. Despite the fact that the ILO had pointed out the carcinogenicity of crocidolite as early as 1970, the Japanese Diet did not ban its use until 1995; although government negligence led to high levels of asbestos-related damage, the Japanese Government continues to prevaricate about its responsibilities, saying that it acted in accordance with the level of scientific knowledge available at the time. Mr. Tajima says:

“I have strong feelings that for other countries to delay their response in the same way as Japan, a whole host of potentially avoidable problems such as an increase in damage including pollution and panic will occur in other regions of the world. We must find a global solution to the problem of asbestos starting with a response in Asia as a whole.”

The transference of asbestos technology to industrializing countries is an imperialist act which exploits the world’s most at-risk populations. While a handful of producers reap the benefits of the commercial exploitation of asbestos, scores of countries experience far-reaching damage during each industrial phase: manufacture, demolition and disposal. Only by externalizing significant costs, such as the compensation and medical treatment of the asbestos-injured, can asbestos compete with safer materials. The continuing use of asbestos is a crime against humanity and cannot be

justified. The trans-border shipment of raw fiber, tainted products, contaminated waste materials and poisoned vessels show a contemptuous and illegal disregard for international regulatory frameworks, regional directives and national laws. When the problems which remain in the industrialized world from its asbestos past are considered, it is inexplicable that decision makers in developing countries continue to allow the use of this acknowledged toxin.

Even as the level of ban asbestos mobilization increases throughout Asia, some national governments remain unable or unwilling to impose national restrictions on the use of this hazardous substance. Nevertheless, serious efforts are being made to raise awareness amongst workers in Bangladesh, India, Indonesia, Japan, Korea, Pakistan and Vietnam by asbestos victims' groups, trade unions, medical professionals, civil servants and academics. The future holds no place for the killer dust; it is neither sustainable nor irreplaceable. As millions of global asbestos victims have learned, when it comes to asbestos the polluter rarely pays; the real costs of asbestos use are borne by individuals, families, communities and countries facing huge asbestos-related health and decontamination bills. The best way to reduce the burden of asbestos-related disease is to ban asbestos; asbestos is yesterday's material and should be relegated to the dustbin of discredited technologies and discarded materials; an asbestos-free future is possible.



## Appendix A

### Countries Showing Increases in Asbestos Consumption 2000-2004 (tonnes)

Country	2000	2004	% increase	Global ranking
Azerbaijan	7,150	10,600	48%	11
China	383,000	537,000	40%	1
India	145,000	190,000	31%	3
Indonesia	42,900	51,000	20%	8
Iran	40,700	64,300	58%	6
Kazakhstan	71,700	269,000	275%	2
Kyrgyzstan	16,500	26,500	61%	9
Pakistan	1,590	9,170	477%	12
Romania	10,700	13,000	21%	10
Thailand	110,000	166,000	51%	4
Ukraine	80,900	122,000	51%	5
Vietnam	44,200	58,300	32%	7

According to figures provided in February 2007 by the United States Geological Survey (U.S.G.S.), in the period 2000-2004 the largest percent increases in national asbestos consumption occurred in: Pakistan (+477%), Kazakhstan (+275%), Kyrgyzstan (+61%), Thailand (+51%) and Ukraine (+51%). From a tonnage standpoint, the largest increases were recorded by Kazakhstan (197,300 tonnes/t), China (154,000 t), Thailand (56,000 t), India (45,000 t), Ukraine (41,000 t).<sup>100</sup>



## Appendix B

### Asbestos-Related Diseases

Exposure to asbestos has been linked predominantly to three deadly diseases, characterized by extended latency periods:

◆ **Asbestosis** - an irreversible lung condition that progresses even after exposure to asbestos ceases, results from the inhalation of asbestos fibers over an extended period. In cases of asbestosis, scar tissue stiffens and distorts the lungs, making breathing progressively more difficult; as the blood supply to the lungs becomes impaired, the heart is put under strain by the reduced efficiency of the lungs. The thickening of the alveoli, the air sacs, caused by the action of the asbestos fibers reduces the uptake of oxygen and the discharge of carbon dioxide.

The higher the exposure, the greater the chances of developing asbestosis and the shorter the time it takes. Asbestosis tends to be linked to heavy occupational exposure although cases of asbestosis among those not occupationally exposed, such as residents who lived near asbestos-using factories, have been known.

◆ **Malignant mesothelioma** - once considered to be a rare tumor, has become increasingly more common. It is a cancer that usually arises on the outer surface of the lung (pleura), but can also occur in the lining of the abdominal cavity (peritoneum) and on rare occasions elsewhere.

There is a consensus that the commonest causal agent of mesothelioma is asbestos. Mesothelioma may occur in the absence of asbestosis and is associated with relatively low exposures to asbestos. It accounts for the majority of victims who contract an asbestos-related disease through environmental exposure and is a notoriously aggressive disease with no known cure.

◆ **Asbestos-related lung cancer (bronchial carcinoma)** - can occur from occupational or environmental asbestos exposure; it is the predominant malignancy contracted by the asbestos-exposed. There is a powerful synergistic interaction between asbestos exposure and cigarette smoking. If you set the lung cancer risk as 1 for a non-smoker with no occupational asbestos exposure, the risk for an asbestos worker who did not smoke is 5 times, for a smoker with no asbestos exposure it is 10 times and for a smoker who worked with asbestos it is 55 times the background level.

## Appendix C

### Asbestos Imports into Thailand (1997-2004)

Year	Quantity (kg)	Value (US\$)
1997	177,123,729	56,879,810
1998	60,092,992	27,020,559
1999	100,423,242	38,466,601
2000	120,563,168	44,614,534
2001	126,515,184	45,758,518
2002	181,348,064	55,004,723
2003	166,483,431	49,362,921
2004 (Jan.-July)	106,793,735	29,291,799

Data presented by Vichuda Lojananon & Churairat Srimanee at the Asian Asbestos Conference, Bangkok July 2006.

## Appendix D

### Asian Asbestos Congress 2006 Bangkok, Thailand

The Bangkok Declaration on elimination of asbestos and asbestos-related diseases

#### Preamble

The Asian Asbestos Conference 2006 was organized by the Ministry of Public Health, Thailand on 26-27 July, 2006, with Co-organization of the Ministry of Labour, Thailand and co-sponsored by the International Labor Office (ILO), the World Health Organization (WHO), International Ban Asbestos Secretariat (IBAS) and the International Commission on Occupational Health (ICOH). The conference was attended by 300 participants from 26 Asian Pacific, African, European and North American Countries, including experts, administrators, representatives of Building and Woodworkers International (BWI) and industries.

#### The Conference,

- ◆ recalling the ILO resolution on Asbestos, the ILO Conventions on Occupational Cancer (No. 139), Safety in the Use of Asbestos (No. 162), Occupational Safety and Health (No. 155), Occupational Health Services (No. 161) and Labour Inspection (No. 81),
- ◆ recalling the WHO Global Strategy on Occupational Health for All and the WHA Resolution 58.22 on Cancer Prevention and Control,
- ◆ considering the ICOH International Code of Ethics for Occupational Health Professionals, and having discussed the situation of asbestos exposures and related morbidity and mortality in Asia, and compared national asbestos experiences and highlighted international developments regarding the global asbestos epidemic, has thereby agreed on the following appeal to Governments, Inter-Governmental and other International Organizations, NGOs, Professional Occupational Health and Safety and Public Health Organizations, Industries, Businesses and other Communities:

#### 1. Total Asbestos Ban

Asbestos mining, the use and recycling of asbestos and asbestos-containing products should be totally banned in all countries. The removal and disposal of existing asbestos must be conducted under stringent regulations and control by following the principle of highest level of protection.

#### 2. Protection of Workers and the Public

In protection of health and safety of workers from asbestos hazards, primary prevention must be taken as an over-arching principle. Good practices guidelines by Inter-Governmental Organizations on prevention and elimination of asbestos hazards must be considered and implemented at national level.

Without prejudicing the primary responsibility of the Employers and Producers of asbestos and related products and the responsibility of national governments to safeguard the safety and health of workers and the general population, the programs and measures for asbestos risk management must be developed in collaboration and with the active participation of the at-risk groups.

#### 3. Alternatives

Numerous safer alternatives are available and should be used in substitution for asbestos. International databank and guidance on the properties of substitutes, their availability and use should be organized.

#### 4. Information Exchange

Up-to-date and accurate information on the health hazards related to the use of asbestos should be accumulated and disseminated through collaborative actions taken by Inter-Governmental Organizations, national

governments, occupational health and safety experts, interest groups and other relevant organizations including Trade Unions and Employers' Organizations.

Awareness raising campaigns on asbestos hazards must be undertaken and monitored systematically.

#### 5. Just Transition and the Prevention of Asbestos Dumping

Every effort should be made to secure effective transition towards non-asbestos technologies. Moves to transfer asbestos production and disposal to developing and newly industrializing countries should be prevented through Inter-Governmental and other International Organizations by using their instruments and through national legislation and other national actions, including National Action Programs on Asbestos.

#### 6. Corporate Social Responsibility

Multinational Corporations with major production facilities in countries where asbestos is banned must adopt corporate global policies for avoiding the use of new asbestos products and carefully managing in-place asbestos products in existing infrastructure.

#### 7. Surveillance, Fair Compensation and Treatment of Asbestos-related Diseases

Programs for the earliest possible detection and appropriate surveillance of asbestos-related diseases among exposed workers must be organized at national level. Asbestos patients and their families must be appropriately and without delay compensated. The asbestos-injured patient must have access to competent diagnostic and treatment services and necessary support services must be provided. Empowerment of patients and their families should be regarded as a high priority.

#### 8. International Collaboration

International collaboration on asbestos elimination, management and control must be strengthened. Such collaboration must include the active participation of asbestos patients, workers, trade unions, politicians, employers and their organizations, academics and researchers, lawyers, grassroots organizations, other relevant agencies and interested groups in industrialized and in developing countries in both the Northern and Southern hemispheres. Successful strategies identified through such collaboration should be exchanged through existing and new networks.

International Development Banks must adopt best practice policies to avoid the use of asbestos and asbestos products in new projects, carefully manage in-place asbestos products and support the development of safer alternatives in order to facilitate the effective implementation of national asbestos bans.

Human beings have the right to work and to live in a healthy environment. The tragic repercussions of the widespread epidemic of asbestos-related diseases must be prevented as a fundamental human right.

Bangkok 27 July 2006

## Footnotes

### Introduction

- 1 World Health Organization. *Elimination of Asbestos-Related Disease. Policy Paper*. September 2006. [http://www.who.int/occupational\\_health/publications/asbestosrelated-diseases.pdf](http://www.who.int/occupational_health/publications/asbestosrelated-diseases.pdf)
- 2 LaDou J. *The Asbestos Cancer Epidemic*. Environ Health Perspect. 2004. 112(3):285-290.
- 3 Recent industry events include those held in Ekaterinburg 2002, London 2002, New Delhi 2003, Lima 2005, Montreal 2006, Jakarta 2006 and Moscow 2007.
- 4 Since 1984, the Asbestos Institute, renamed the Chrysotile Institute, has acted as the mouthpiece for the Canadian asbestos industry; it is financed by the Canadian Federal Government, the Government of Quebec and the asbestos industry.
- 5 Chrysotile Institute Newsletter. Volume 6, Number 1. February 2007. See: [http://www.chrysotile.com/data/newsletter/bull\\_6\\_1\\_en.pdf](http://www.chrysotile.com/data/newsletter/bull_6_1_en.pdf)

### Asbestos use in Asia

- 1 Unless otherwise specified, the information included in this text is from material presented at the Asian Asbestos Conference held in Bangkok on July 26 & 27, 2006. Some of the measurements are in kilograms and some in tonnes; discrepancies in consumption and production figures underline the fact that data collection on a wide range of asbestos issues remains unsatisfactory.
- 2 Peto J, Decarli A, La Vecchia C, Levi F, Negri E. *The European Mesothelioma Epidemic*. British Journal of Cancer (1999); 79(3/4): 666-672.
- 3 Whilst the EU ban asbestos directive (1999/77/EC) was enacted in 1999, the deadline for the introduction of national asbestos prohibitions in all Member States was January 1, 2005.
- 4 Current global asbestos production is 2,230,000 t of which 95% is from Russia (875,000 t), China (355,000 t), Kazakhstan (346,000 t), Canada (200,000 t), Brazil (194,000 t) and Zimbabwe (152,000 t).
- 5 These figures relate to consumption in 2003, the latest year for which data is available on the United States Geological Survey website: <http://minerals.usgs.gov/minerals/pubs/commodity/asbestos/>
- 6 *Ban on Asbestos to Take Effect in 2009*. Information has been received which suggests that as of January 1, 2007, Korea prohibited the manufacture, import, transfer, provision and use of asbestos in all asbestos-cement building products with the exception of those which contain less than 1% asbestos by weight. The Korean Ministry of Labor intends to extend the prohibition to include all products which contain more than 0.1% asbestos by weight from January 1, 2008 with some minor exemptions. See: <http://english.chosun.com/w21data/html/news/200702/200702050011.html>
- 7 Pandita S. *Banning Asbestos in Asia*. Int J Occup Environ Health 2006;12:248-253.
- 8 For over 100 years, chrysotile asbestos constituted the most widely used type of asbestos fiber. Nowadays, the commercial use of amosite and crocidolite asbestos is rare; more than 90% of asbestos being used today is chrysotile.
- 9 In 1995, Chinese dissident Harry Wu documented the deadly conditions in a prison camp in Sichuan, China which operated the country's largest asbestos mine.
- 10 Total asbestos reserves in China are believed to be 10 million t of chrysotile and 45,000 t of crocidolite.
- 11 It is not just extra amounts of chrysotile that China buys; domestically-mined chrysotile contains mainly short fibers and imports have longer fibers.
- 12 Virta RL. *World Asbestos Supply and Consumption Trends from 1900 through 2003*. U.S.G.S. website: <http://www.usgs.gov>
- 13 There is a discrepancy over estimates of Chinese asbestos consumption:

- the U.S.G.S reports 537,000 t (2004) and Dr. Li Tao, from the Chinese Center for Disease Prevention and Control, estimates annual consumption at 300,000 t. Tao L., Dehong L. *Current Status in the Use of Asbestos and Health Effects in China*. Paper presented at the Global Asbestos Congress 2004, Japan.
- 14 Feng Y, Liu J, Zhang T, Pan G. *Asbestos in China: Country Report*. Proceedings of the Asbestos Symposium for Asian Countries. Finnish Institute of Occupational Health. 2002.
  - 15 Wang XR, Christiani DC. *Occupational Disease in China*. Int J Occup Environ Health 2003;9:320-325.
  - 16 Zhi S, Sheng W, Levine SP. *National Occupational Health Service Policies and Programs for Workers in Small-Scale Industries in China*. AIHAJ (2000); 61:842-849.
  - 17 In China, the Occupational Exposure Limit (OEL) Value for asbestos is set at 2 mg/m<sup>3</sup> or 2 f/cm<sup>3</sup>.
  - 18 Three quarters of chrysotile asbestos mining operations in China are small- or medium-scale with only 31 out of 120 being classified as large-scale.
  - 19 Vogel L. *Offloading the Risks to Asia*. HESA Newsletter. June 2005;27:9-17.
  - 20 Pringle TE, Frost SD. *The Absence of Rigor and the Failure of Implementation*. Int J Occup Environ Health 2003;9:309-316.
  - 21 Zhang X, Da Sun T, Shi N, Zhu L, Morinaga K. *Survey on the Mortality from Malignant Tumors of Female Asbestos Spinning Workers*. Report given to the Global Asbestos Congress, Tokyo 2004. To qualify for inclusion in the cohort, the women had to have worked on the manual spinning of asbestos in a family home for more than one year between January 1, 1960 and December 31, 1980. Concentrations as high as 38.00-73.00mg/m<sup>3</sup> were recorded around spinning machines; the introduction of plastic covers for dust prevention in 1967, reduced dust levels to around 2 mg/m<sup>3</sup>.
  - 22 *Annual Report Visaka Industries Limited 2005-2006*: <http://www.visaka.org/facts.pdf>. An official document found on-line which was submitted by Visaka Industries Limited and dated January 5, 2007 had different figures: 36 ac manufacturing units owned by 11 companies with total national production of 2.7 million tonnes.
  - 23 *Visaka Industries Limited Placement Document* <http://216.239.59.104/search?q=cache:YRHLYxlr90J:www.visaka.org/Visaka%2520QIP.pdf+Vijayawada+asbestos-cement+factory&hl=en&ct=clnk&cd=11&gl=uk>
  - 24 In 2003, regulations requiring specific asbestos import licenses were annulled with the result that asbestos could be imported by anyone possessing an open general license; import duty on asbestos was lowered from 78% (1992) to 15% (2004) thereby giving asbestos products a price advantage over safer alternatives.
  - 25 Dave SK, Beckett WS. *Occupational Asbestos Exposure and Predictable Asbestos-related Diseases in India*. Am J. Ind. Med. 2005:48: 137-143.
  - 26 The current permissible exposure limit (PEL) is 1 f/ml.
  - 27 One observer, who has spoken of the "parasitic relationship which exists between (Indian) politicians eager for campaign contributions and industry shareholders greedy for profits," believes that a "quid-pro-quo relationship" between Government officials and asbestos businessmen exists. Of course, it doesn't hurt the industry's position that the Deputy Leader of the Indian National Congress in the Lower House of Parliament owns one of India's largest ac manufacturing companies.
  - 28 Kazan-Allen L. *Rotterdam Treaty Killed by Chrysotile*. October 17, 2006. [http://www.ibas.btinternet.co.uk/Frames/f\\_lka\\_rott\\_meet\\_geneva\\_oct\\_06.htm](http://www.ibas.btinternet.co.uk/Frames/f_lka_rott_meet_geneva_oct_06.htm)
  - 29 Krishna G. *India's Position on Chrysotile Asbestos Dictated by Vested Interests*. September 2006. [http://www.lkaz.demon.co.uk/chrys\\_hazard\\_rott\\_conv\\_06.pdf](http://www.lkaz.demon.co.uk/chrys_hazard_rott_conv_06.pdf)
  - 30 Kazan-Allen L. *Chronological Record of Chrysotile Debate at the Conference of the Parties to the Rotterdam Convention (COP3) on October*

- 10, 2006 in Geneva, Switzerland .[http://www.ibas.btinternet.co.uk/Frames/f\\_lka\\_chron\\_rott\\_chrys\\_deb\\_oct\\_06.htm](http://www.ibas.btinternet.co.uk/Frames/f_lka_chron_rott_chrys_deb_oct_06.htm)
- 31 Dutta M. *Briefing Note on Asbestos*. February 1, 2007. Private Communication.
- 32 Thailand banned the import and use of crocidolite in 1992 and recently banned amosite; chrysotile is the only legal form of asbestos in Thailand. Over recent years, the major asbestos exporters to Thailand have been Canada, Russia, Greece, Zimbabwe, Brazil and Kazakhstan; in the period 1997-2003, Canada and Russia each exported more than 300,000 t to Thailand. For government data see Appendix C.
- 33 Other Asian OELs (f/cc) are: 0.1 in Malaysia and Singapore, 1 in Vietnam, and Taiwan, 2 in the Philippines. See also: Takahashi K, Karjalainen A. *A Cross-country Comparative Overview of the Asbestos Situation in Ten Asian Countries*. Int J Occup Environ Health 2003;9:244-248.
- 34 According to calculations by Dr. Antti Tossavainen, every 270 t of asbestos used produces 1 case of mesothelioma in a country. Thailand is currently consuming 121,000 t/year which should produce a minimum of 711 cases of mesothelioma and 2,135 cases of asbestos-related lung cancer/year.
- 35 HRCT: high resolution computer tomography.
- 36 AICGH: American Conference of Industrial Hygienists.
- 37 The factory employed 146 workers to produce 220 million kg/year of asbestos insulation board using chrysotile asbestos.
- 38 Buddhachinaraj Hospital is a 904 bed regional public facility with 96 buildings.
- 39 The US\$38+ million generated by the ac industry, its direct employment of 10,000 workers and indirect employment of many thousand others and the industry's use of low quality cement (500,000 t/year) make important contributions to the Vietnamese economy.
- 40 This information was presented Dr. Le Van Trinh and Dr. Nguy Ngoc Toan from the Vietnam National Institute of Labor Protection at GAC 2004.
- 41 On Aug. 1, 2001, in Governmental Decision No 115/QĐ-TTg, the Prime Minister declared that there should be an end to "using the asbestos material in the roofing tile production." Since 2001, the construction of new asbestos-cement tile factories has been forbidden.
- 42 In 1998, the import and use of amphiboles such as amosite and crocidolite were banned in Vietnam by Interministerial Circular No. 1529/1998; only chrysotile asbestos is used in the production of roofing materials.
- 43 Asbestos imports more than doubled between 1999 and 2004; the latest data shows annual consumption of 65,000 t/year. After the tsunami in December 2004, "a generous country (a big chrysotile exporter) shipped material containing asbestos to Indonesia." In May 2006, a government official announced that more cement and asbestos were needed for reconstruction after the earthquake in Yogyakarta.
- 44 *Anti-asbestos Campaign Worries Indonesia Firms*. Jakarta Post. March 3, 2006. There is a discrepancy over consumption data for 2004 with the U.S.G.S. saying Indonesia's consumption for that year was 51,000 t while industry sources claim it was 70,000 t.
- 45 The speakers at the session on April 25, 2007 included representatives from the Department of Manpower of Indonesia and the Indonesian Employers' Association.
- 46 From 2000 to 2004, asbestos consumption in Pakistan increased more than four-fold from 1,590 t to 9,170 t.
- 47 OSHA: Occupational Safety and Health Administration, U.S.
- 48 Jehan N. *Asbestos Risks: Occupational and Para-Occupational Health Status in Pakistan*. Global Asbestos Congress. November, 2004.
- 49 *Mesothelioma Cancer on the Rise in NWFP*; (accessed June 14, 2004): [http://www.hipakistan.com/en/pdetail.php?newsId=en67109&F\\_catID=&f\\_type=source](http://www.hipakistan.com/en/pdetail.php?newsId=en67109&F_catID=&f_type=source)
- 50 Affected stations: Line 2: Youngdeungpo Office, Hanyang University, Euljiro 1-ga, Shinlim, City Hall, Seolleung, Bangbae, Sangwangsimmni, Samsung, Bongrae, Mungrae, Nakseongdae, Seoul National University of Education and Seocho; Line 3: Chungmuro; Line 4: Sukmyung Woman's University and Sukmyung Woman's University (Donam). *Asbestos Detected in 17 Subway Stations*. The Chosun Ilbo. January 23, 2007.<http://english.chosun.com/w21datahtml/news/200702/20070250011html> *Seoul Subway says it will*
- Remove Asbestos*. The Hankyoreh, January 26, 2007. [http://english.hani.co.kr/artienglishedition/e\\_national/1867389.html](http://english.hani.co.kr/artienglishedition/e_national/1867389.html)
- 51 According to an editorial entitled *Threat of Asbestos* in the Korea Times on January 23, 2007: "most of the stations have undergone major construction, installing elevators, ventilation or other facilities lately. A cold shiver runs down our spine when we consider the vast amount of dust poured on passengers during construction."
- 52 <http://english.chosun.com/w21datahtml/news/200702/20070250011html>
- 53 Neighborhood victims contract mesothelioma at a younger age than occupational victims because their exposure to asbestos begins at an earlier age.
- 54 From 1930 to 2004, more than 10 million tonnes of asbestos were imported by Japan to produce a range of asbestos products including asbestos-cement building, sewage and drainage products, insulation boards, insulation products including sprayed asbestos, joints and packing, friction materials, floor tiles and sheets, molded plastics and battery boxes (containing 55-70% asbestos) and fillers, reinforcements, felts, millboards, paper, filter pads for wines and beers, underseals, plastics, adhesives and coatings.
- 55 On April 17, 2006, the Kubota victims' association announced that an agreement had been reached under which the Kubota Corporation will pay individual mesothelioma claimants whose exposure was environmental sums ranging from 25-46 million yen (US\$213,157-392,210). A few companies have followed the example of the Kubota Corporation but the level of compensation they are paying is substantially lower than Kubota's and there has been no consultation with the victims.
- 56 Government officials asked all industry organizations for corporate data on asbestos consumption and the incidence of occupational asbestos disease; the Ministry of Health, Labor and Welfare disclosed the names of companies with workers who had been compensated for asbestos cancer by Workers Compensation Insurance as well as the numbers of claimants from each company.
- 57 Only after the Kubota Shock occurred was ILO Convention Number 162 ratified, a new compensation law enacted and an announcement made that chrysotile, the only form of asbestos still permitted in Japan (crocidolite and amosite having been banned in 1995), would be banned by 2008; unfortunately minor exemptions were still allowed and no timetable for the implementation of a comprehensive ban has been set.
- 58 *Hundreds of Deaths Spur Ministry. Plan to Ban All Asbestos Use* by 2008. The Japan Times. July 9, 2005.
- 59 The new law introduced two types of relief schemes: one for victims not covered by workers' compensation and another for bereaved families of workers who had died of asbestos disease prior to March 27, 2001 and whose right to workers' compensation had expired due to a 5 year statute of limitations.
- 60 BANJAN: Ban Asbestos Network Japan was established in 1987 as a coalition of trade unions, citizens' groups, occupational safety and health campaigners and concerned individuals. BANJAN put forward a draft ban asbestos bill to phase-out asbestos and set up the Council for Prevention Measure of Asbestos Health Hazards. When the ban asbestos bill was proposed to the National Diet, it faced opposition from the asbestos industry and the Democratic Liberal Party and was rejected without deliberation in 1992. JOSHR: Japan Occupational Safety and Health Resource Center
- 61 Twenty years ago, ship-recycling took place in 79 countries; nowadays most of this work is conducted in South Asia. According to one authoritative source, more than 90% of redundant ships are broken up or recycled on the beaches of India, Bangladesh, Pakistan, China and Turkey.
- 62 See: *End of Life Ships – The Human Cost of Breaking Ships* at website: <http://www.fidh.org/IMGpdf/shipbreaking2005a.pdf>. Also see: *Improving Conditions in Shipbreaking*: <http://www.imfmatal.org/main/index.cfm?n=47&l=2&c=8268>
- 63 Press Release – Indian Platform on Ship-breaking. *Illegal Traffic of Toxic Waste Laden Ship Blue Lady*. July 6, 2006. <http://www.indiaresource.org/news/2006/1073.html>
- 64 The groups which are part of this platform are: Greenpeace, the International

- Federation for Human Rights, the European Federation for Transport and Environment, North Sea Foundation, Bellona, the Ban Asbestos Network and the International Ban Asbestos Secretariat.
- 65 Kazan-Allen L. *Le Clemenceau: Action and Reaction*. January 13, 2006. [www.ibas.btinternet.co.uk](http://www.ibas.btinternet.co.uk)
- 66 Sahu M. *Political Turmoil in Bangladesh Turns Tide in Favour of Alang*. February 19, 2007.
- 67 Founded in 2003, the OSHE is a specialized labor foundation for collaborative work on development issues relating to the human rights of workers, decent work and sustainable development.
- 68 Plans for a ban asbestos demonstration in front of the Bangladesh Supreme Court on April 28 were called off due to lack of official authorization
- 69 *Ugly Side of Shipbreaking Trade*. Down to Earth. September 2006. The NGO Platform on Shipbreaking is pressuring the German authorities to recall the ship on the grounds that it's export does not comply with the Basel Convention; the European Commission has asked Germany to explain its role in this case.
- 70 This decision came one month after the contaminated ocean liner MT Apsheon had been denied entry into Bangladesh by the Department of Shipping until it had been pre-cleaned elsewhere.
- 71 Members of the Indian Platform on Ship-breaking include: Greenpeace, Ban Asbestos Network of India, various trade unions and others.
- 72 Krishna G. *Will the Blue Lady do a Le Clemenceau*. February 17, 2007. <http://www.indiatogether.org/2007/feb/env-bluelady.htm#continue>
- 73 Statement made by Gopal Krishna in an email received on March 5, 2007.
- 74 Supreme Court of India Order. Record of Proceedings Writ Petition (Civil) No. 657/1995. March 12, 2007.
- 75 Sprayed asbestos fireproofing and insulation products were used extensively in Japan; some sprayed asbestos products were prohibited in 1975 but the use of some sprayed products with lower asbestos fiber concentrations continued until 1995. An investigation of infrastructure contamination by sprayed asbestos which was carried out by three government ministries found that the categories of buildings worst affected were: national universities, private schools, public colleges and hospitals. Whilst, the quantity of sprayed asbestos products in Japan is unknown, the amount of asbestos-containing construction materials has been estimated at 40 million tonnes.
- 76 United Nations Environment Programme. *After the Tsunami – Rapid Environmental Assessment*. [http://www.unep.org/tsunami/tsunami\\_rpt.asp](http://www.unep.org/tsunami/tsunami_rpt.asp)
- 77 [http://www.humanitarianinfo.org/srilanka/catalogue/Files/Reference/Guidelines/Government%20of%20Sri%20Lanka/G\\_rada%20guidelines.pdf](http://www.humanitarianinfo.org/srilanka/catalogue/Files/Reference/Guidelines/Government%20of%20Sri%20Lanka/G_rada%20guidelines.pdf)
- 78 <http://www.un.or.id/yogya/index.asp>
- 79 Email from Dave Hodgkin to Laurie Kazan-Allen. March 1, 2007.
- 80 Data presented by Dr. Bianchi at the Asian Asbestos Conference in Bangkok in July 2006 showed that the peak use of asbestos in Japan, Singapore and Thailand was 398,877 t (1980), 8,671 t (1975) and 190,205 t (1996), respectively.
- 81 Kazan-Allen L. *Report on Asian Asbestos Conference*. [www.ibas.btinternet.co.uk](http://www.ibas.btinternet.co.uk)
- 82 Press release. *Historical Asbestos Consumption is Associated with Asbestos-Related Diseases*. The Lancet. March 10, 2007: "About 20-40% of adult men are thought to have held jobs that could have entailed some asbestos exposure. However, attempts to estimate the proportion of exposed people in populations are hampered by the absence of reliable estimates of people with occupational asbestos exposure, for women's exposure, and for environmental exposure."
- 83 Lin R, Takahashi K, Karjalainen A et al. *Ecological Association between Asbestos-related Diseases and Historical Asbestos Consumption: an International Analysis*. The Lancet. March 10, 2007. Vol 369 844-849.
- 84 <http://www.ilo.org/public/english/standards/relm/ilc/ilc95/pdf/pr-20.pdf>
- 85 [http://www.who.int/occupational\\_health/publications/asbestosrelated-diseases.pdf](http://www.who.int/occupational_health/publications/asbestosrelated-diseases.pdf)
- 86 According to Dr. Richard Lemen, the Assistant Surgeon General of the U.S. (retired), the 17% of the countries which have banned asbestos are those with the world's "most highly advanced scientific communities and the strongest public health protections." Submission to Senator Patty Murray. March 18, 2007.
- 87 <http://www.pic.int> and [http://www.ikaz.demon.co.uk/chrys\\_hazard\\_rott\\_conv\\_06.pdf](http://www.ikaz.demon.co.uk/chrys_hazard_rott_conv_06.pdf)
- 88 Of the 110 Parties to the Convention on September 15, 2006, only 6 opposed the inclusion of chrysotile: Canada, Kyrgyzstan, Iran, Peru, India and Ukraine; the Russian Federation, which vociferously opposed chrysotile inclusion, is not a Party to the Convention. See: *Rotterdam Treaty Killed by Chrysotile Asbestos!* [http://www.ibas.btinternet.co.uk/Frames/f\\_ika\\_rott\\_meet\\_geneva\\_oct\\_06.htm](http://www.ibas.btinternet.co.uk/Frames/f_ika_rott_meet_geneva_oct_06.htm). See: *Transcript of COP3 Interventions* [http://www.ibas.btinternet.co.uk/Frames/f\\_ika\\_rott\\_meet\\_geneva\\_oct\\_06.htm](http://www.ibas.btinternet.co.uk/Frames/f_ika_rott_meet_geneva_oct_06.htm) See: *Chrysotile Asbestos: Hazardous to Humans, Deadly to the Rotterdam Convention* [http://www.ikaz.demon.co.uk/chrys\\_hazard\\_rott\\_conv\\_06.pdf](http://www.ikaz.demon.co.uk/chrys_hazard_rott_conv_06.pdf)
- 89 <http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=499&ArticleID=5509&I=en>
- 90 Three such initiatives are the: UN Habitat, the United Nations agency responsible for promoting socially and environmentally sustainable towns and cities, the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, a UNEP-administered multilateral agreement tasked with preventing the dumping of toxins in developing countries, and the International Maritime Organization, a specialist UN agency charged with, among other things, preventing marine pollution.
- 91 [www.imfmetal.org/cancer](http://www.imfmetal.org/cancer)
- 92 The Building and Woodworkers International (BWI) is a Global Trade Union Federation representing 350 trade unions with a membership of approximately 13 million workers in 135 countries.
- 93 BWI affiliates represented at this event included: AIKTMS (all Indian Building and Construction Workers' Union), INRLF (Indian National Rural Labour Federation), KKNTC (Kerala Kaitide Nirmana Thozhilali), SGEU (Shevaroy's General Employees Union), TMKTS (Tamil Maanila Thozhilalar Sangam), UNIFRONT, RWO (Rural Welfare Organization), MBLKS (Maharashtra Construction and Wood Workers' Union).
- 94 *Occupational Cancer/Zero Cancer: a union guide to prevention*, available at [www.imfmetal.org/cancer](http://www.imfmetal.org/cancer)
- 95 [www.imfmetal.org/pdfs/cance-in BWI.pdf](http://www.imfmetal.org/pdfs/cance-in BWI.pdf)
- 96 <http://www.bwint.org/pdfs/cance-in BWI.pdf>
- 97 <http://www.bwint.org/pdfs/asbestosubstitutes.pdf>
- 97 Cultural issues such as religious sensitivities over pathology tests of lung sections to establish the cause of death cannot be ignored, even though a finding of death by asbestos might bring legal or other benefits.
- 98 According to Sanjiv Pandita: "China has compensated an aggregate 4,300 cases of asbestos-related diseases in the past 40 years."
- 99 As asbestos use decreased in Japan and Korea, companies from these countries transferred their asbestos production elsewhere in Asia. From the 1970s-1990s, Japanese asbestos companies such as Nichias, Oriental Metal, Meisei etc. invested in companies producing asbestos gaskets, insulation products, friction materials and textiles in Korea, Taiwan, Thailand, Singapore, Malaysia, the Philippines, India and Indonesia. In the 1990s, most asbestos-using firms in Taiwan relocated to mainland China, Vietnam and Thailand.
- 100 According to Robert Virta of the U.S.G.S., because trade data used in the consumption calculation was not available for all countries for all years, some of these figures are estimates.

## Useful Internet Links

The International Ban Asbestos Secretariat, UK  
website: [www.ibas.btinternet.co.uk](http://www.ibas.btinternet.co.uk)

The Building and Woodworkers International, Switzerland  
website: [www.bwint.org](http://www.bwint.org)

The International Metalworkers' Federation, Switzerland  
website: <http://www.imfmetal.org/main/index.cfm>

Ban Asbestos Network Japan, Japan  
Japan Occupational Safety and Health Resource Center, Japan  
Japan Association of Mesothelioma and Asbestos-Related Disease Victims and their Families, Japan  
website: <http://park3.wakwak.com/~banjan/main/torikumi/html/issues.htm>  
contact: Sugio Furuya, email: [banjan@au.wakwak.com](mailto:banjan@au.wakwak.com)

Ban Asbestos Network of India, India  
contact: Gopal Krishna, email: [krishnagreen@gmail.com](mailto:krishnagreen@gmail.com)

The Center for Occupational and Environmental Health, India  
contact: Dr TK Joshi, email: [kantjoshi@gmail.com](mailto:kantjoshi@gmail.com)

Corporate Accountability Desk - The Other Media, India  
contact: Madhumita Dutta, email: [madhu.dutta@gmail.com](mailto:madhu.dutta@gmail.com)

The Asian Network for the Rights of Occupational Accident Victims, India.  
website: <http://www.anroav.org/>

The Asia Monitor Resource Centre, Hong Kong  
website: <http://www.amrc.org.hk/>

Department of Environmental Sciences, University of Peshawar, Pakistan.  
contact: Dr. Noor Jehan, email: [noorjpk1984@yahoo.com](mailto:noorjpk1984@yahoo.com)

Bangladesh Occupational Safety, Health and Environment Foundation,  
Bangladesh.  
website: <http://www.oshebd.org/>

Occupational and Environmental Medicine, School of  
Public Health, Seoul National University, Korea.  
contact: Dr Domyung Paek, email: [paekdm@snu.ac.kr](mailto:paekdm@snu.ac.kr)

NGO Platform on Shipbreaking, Belgium  
contact: Ingvild Jenssen, email: [ingvild@bellona.no](mailto:ingvild@bellona.no)

## About IBAS

The International Ban Asbestos Secretariat (IBAS) was established in 1999; it is an independent non-governmental organization which has two objectives: a worldwide ban on asbestos and justice for all asbestos victims. IBAS monitors, analyzes and disseminates news received from the ever-expanding network of individuals and groups involved in the international movement against asbestos, as well as information from legal, medical and industry sources. IBAS produces written material and organizes conferences to raise the profile of asbestos issues.

The work of IBAS is coordinated by Laurie Kazan-Allen; more information is available on the website: <http://www.ibas.btinternet.co.uk>



## **Killing the Future – Asbestos Use in Asia**

Asbestos, a carcinogenic substance banned in the industrialized world, is being off-loaded to developing countries. Although major international agencies agree that exposure to asbestos is deadly, the consumption of white asbestos (chrysotile) is increasing throughout Asia; half of current asbestos consumption takes place in Asian countries.

As shown by the experience of Japan, the repercussions of using this discredited substance are predictable; 10 million tonnes of asbestos contaminating communities and national infrastructure have injured thousands of workers and members of the public. The failure of the Japanese Government to protect the population from the asbestos menace is regarded as a national disgrace.

This publication documents the status of the regional debate on asbestos, with particular reference to the ground-breaking Global Asbestos Congress held in Tokyo (2004) and the subsequent Asian Asbestos Conference in Bangkok (2006). Placing national policies and practices within the regional context, the author highlights the work of pioneering victims' associations, non-governmental organizations and labor activists in raising the profile of asbestos issues in Asia.