Asbestos:

towards a worldwide ban

The International Social Security Association (ISSA) was founded in 1927 and is the world's leading forum for social security institutions. ISSA is a recognized partner for all those concerned with developing a system of social security geared to the real needs of the populations they serve.

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Preface

At the ISSA General Assembly held in September 2004 in Beijing, the ***Special Commission on Prevention*** adopted a declaration on asbestos in which it urged all countries to ban the manufacture, trade in and use of all types of asbestos and asbestos-containing products as soon as possible.

Following a survey of ISSA members the Special Commission on Prevention, whose members are the eleven ISSA international sections concerned with the prevention of occupational risks, decided to compile an information brochure on asbestos. The main objective of the Special Commission on Prevention is to conduct activities at international level to promote prevention. It also delivers opinions on major issues in the field of prevention, such as asbestos (www.prevention.issa.int).

This publication is the fruit of that joint effort by the members of the Commission. The project was completed with financial support from Germany's National Federation of Industrial Employment Accident Insurance Funds (HVBG), a member of ISSA.

The brochure is published in 6 languages: English, French, Spanish, German, Chinese and Arabic.

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Introduction

There is a clear scientific consensus internationally that asbestos, in all its forms, and even at low doses, is a proven human carcinogen.

However, more than two million tonnes of asbestos are still produced every year, and the figures for asbestos manufacture and use have begun to climb again. Countries are now building up or expanding their economies by strengthening their asbestos-mining or processing industries. Countries such as Canada, Brazil, China and the republics of the former Soviet Union are amongst the leading producers of asbestos.

Furthermore, one can still read that some asbestos fibres are less toxic than others or are not toxic at all.

This well-known carcinogen has killed hundreds of thousands of people. For most of the illnesses it causes, especially mesothelioma (cancer of the pleura), there is still no effective medical treatment. Asbestos may have seemed an economically profitable commodity throughout the 20th century, but in addition to this devastating cost in human lives, it is now proving very costly in terms of compensatory pay-outs to its victims.

For well over a century asbestos was one of the materials most widely used in industries as diverse as construction, road building, engineering or shipbuilding. Its fire-resistant properties caused it to be used on a massive scale, with manufacture and use peaking in the 1970s. Workers exposed to asbestos are not only those employed in the industries which mine, prepare, process and use the product but also those in jobs where they are likely to handle materials that contain asbestos – construction and civil engineering workers, garage mechanics, plumbers, for example.

Along with other international organizations, ISSA's ***Special Commission on Prevention*** resolved to call for a permanent ban on asbestos in all countries throughout the world. This appeal, first made in Beijing in September 2004 at ISSA's General Assembly, was repeated in September 2005 in Orlando, during the XVIIth World Congress on Safety and Health at Work.

The purpose of this brochure is to remind the reader that whilst asbestos may still be seen as a "miracle mineral", it is above all a time bomb and the moment has now come to ban it once and for all. The brochure seeks to alert decision-makers and all the social partners to the devastating consequences, both human and economic, which any short-termist policy would bring in the decades ahead.

INTERNATIONAL SOCIAL SECURITY ASSOCIATION

No Lasting Peace without Social Justice…
No Social Justice without Social Security

Declaration on Asbestos, Beijing 2004

The *Special Commission on Prevention* of the International Social Security Association (ISSA), assembled in Beijing on 16 September on the occasion of the 28th General Assembly of the Association, issues the following appeal to countries that still produce and use asbestos:

- Asbestos is a natural mineral. Epidemiological findings show that all forms of asbestos fibre dust formed during extraction, transformation and utilization of all forms of asbestos, including chrysotile, are carcinogenic to humans. According to extrapolations of statistics on asbestos-related illnesses (asbestosis, lung and larynx cancer, mesothelioma), it is estimated that hundreds of thousands people around the world fall ill each year as a result of asbestos exposure in the workplace. Thousands of people die every year as a result of these diseases.

- Throughout the 20th century, asbestos has been used for the manufacturing of the most diverse products. Whatever the different transformation this material has gone through, its dangerous characteristics still remain latent.

- Several hundred million US dollars have already been spent for compensation payments. A number of companies have filed for bankruptcy after being faced with overwhelming compensation claims.

- Despite the devastating effect it has on the lives and health of people and the looming economic threat it poses, approximately 2.5 million tonnes of asbestos are still manufactured each year.

- It took three decades of protracted efforts and the emergence of suitable alternatives for a comprehensive ban on the manufacture and use of asbestos and asbestos-containing products to be adopted in a number of industrialised countries. These countries now permit the handling of asbestos only during demolition, renovation and maintenance work.

- Decades may pass between initial exposure to asbestos and the appearance of related disease symptoms, triggering a public health time bomb in all countries where asbestos has not been banned.

The ISSA *Special Commission on Prevention* urges all countries to ban the manufacture, trade and use of all types of asbestos and asbestos-containing products as soon as possible.

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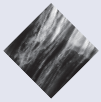
Chapter 1

Asbest: Origin, production and use of asbestos

Asbestos has been known since antiquity and was always regarded as a valuable natural substance. The name derives from the Greek adjective "asbestos" meaning "unchangeable", "non-perishable", "non-combustible".

The term "asbestos" covers six naturally occurring minerals which can be grouped on the basis of their mineralogical properties into two families: serpentines, which includes chrysotile (white asbestos), and amphiboles of which there are five types. Of these crocidolite (blue asbestos) and amosite (brown asbestos) are the most widely used in industry. Regardless of type, scientists are unanimous that asbestos is carcinogenic to humans.

There is no such thing as "good" asbestos.



Asbestos is made up of extremely fine, long fibres. Because it is resistant to heat, acids and bases, a poor conductor of heat and electricity and has high mechanical strength (tension, shear) asbestos has had a wide range of uses. Its fibrillar structure allows it to be spun or woven. But asbestos fibres are very easily shed, forming a very fine dust invisible to the naked eye which can be inhaled and then penetrates deep into the lungs. It is this that makes asbestos dangerous.

World production reached its highest level in 1975 at over 5 million tonnes. It is still around 2 million tonnes a year now, most of the asbestos produced (more than 90 per cent) being chrysotile.

The leading producers (2004 figures) are Russia (39 per cent), China (16 per cent), Kazakhstan (15 per cent), Canada (9 per cent), Brazil (9 per cent) and Zimbabwe (7 per cent).

The most important areas of asbestos use have traditionally been, and in many countries still are, in the manufacture of:

- asbestos cement, as a material for insulation and cladding, roof coverings and corrugated sheeting;
- sprayed coatings for fire protection;
- asbestos cement pipes for the distribution of drinking water and sewage;
- card, papers, textiles as an insulating and sealing material;
- industrial and domestic floor coverings;
- brake linings and clutch assemblies in the automotive industry;
- paints, coatings and fillers.

These products have also been built into a multitude of different devices: ovens, kilns, cooking and heating stoves, boilers, irons and ironing boards, work surfaces, plumbing fixtures/sanitary fittings, refrigerators, water heaters, motors and alternators, vehicles (brake linings, clutch assemblies, gaskets), railway equipment, ships, aircraft, electrical equipment and components used in civil engineering (sewage systems, water distribution, road surfacing) and buildings (roof tiles, elevator doors, fire dampers, seals, partitions, etc.).

In some industrialized countries the manufacture and use of asbestos and its derivatives is now prohibited, or at least their use is extremely limited. But people are still exposed, and will continue to be exposed for many years to come,

both at work and in the home, because asbestos-containing materials are still in place in existing structures. Those at risk are predominantly specialists working in demolition, asbestos removal and maintenance (in other words, those concerned with all types of construction finishes and fittings).

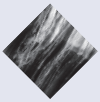
In most countries, however, asbestos is not banned. So high exposures to asbestos fibre dust continue, putting a lot of people at huge risk. And in many of these countries not only adults but also young adolescents and even children are already heavily exposed in a range of working environments, increasing their risk of developing an asbestos-related illness and of developing it earlier.

Mechanisms of action

Asbestos fibres break down into fibrils and are inhaled in the form of very fine dust that penetrates deep into the lungs. The longer and thinner these fibres are, the harder it is for the body to eliminate them. The body's defence mechanisms cannot cope, and the physico-chemical properties of the fibres trapped within the respiratory system mean that they cannot be broken down and destroyed. They then very gradually cause inflammation and then fibrosis of the lung tissue (asbestosis) or the membrane - the pleura - which covers the lungs and may cause a variety of pleural conditions. On contact with the lining of the bronchi they can interfere with cell division and, after a lengthy latency period, cause cancerous changes leading to a lung tumour. The risk is exacerbated if there is simultaneous exposure to other carcinogenic agents. Certain fibres may migrate outside the pleural cavity, where they evoke localized fibrosis (pleural plaques) or cancer of the pleura (mesothelioma).

The most dangerous fibres are those which are long (more than 5 µm) and thin (less than 3 µm), with a length-to-diameter ratio greater than 3:1. However, whilst the likelihood of developing an illness depends very largely on the size and nature of the asbestos fibres, and thus varies according to the type of asbestos concerned…

… the bottom line is that all types of asbestos are carcinogenic.



Non-malignant respiratory diseases caused by asbestos

Pulmonary fibrosis (asbestosis)

The disease is triggered by heavy exposure to asbestos fibres, over a variable length of time. The latency period between exposure and the onset of disease is usually 10 to 20 years or more, and the higher the exposure, the shorter the latency period will be. The symptom of asbestosis is breathlessness, which may progress to respiratory and cardiac insufficiency. There is no specific treatment, apart from alleviation of the symptoms. Patients with asbestosis are at higher risk than others of developing lung cancer, and that risk is significantly higher if they smoke.

Benign pleural conditions

Asbestos fibres migrate very readily from the lung to the pleura, where they cause a range of lesions: pleural plaques, pleurisy, diffuse pleural fibrosis. Pleural plaques are areas of fibrosis, with pleural thickening and sometimes calcification. Unlike asbestosis, these benign pleural plaques do not in general cause problems. They are usually identified on a chest X-ray. Regarded as a ‚marker' of asbestos exposure, they are not a predictor of mesothelioma.

Asbestos-related cancers

Lung cancer

High and protracted exposure to asbestos fibres increases the risk of developing bronchopulmonary cancer, even where these is no asbestosis. There is clearly a dose-effect relationship here, but the threshold for cancer induction cannot be identified. Exposure to other carcinogens, especially tobacco smoke, exacerbates the risk. At the same level of exposure, the risk to smokers is ten times that of non-smokers. Latency periods between exposure to asbestos and the onset of pathological symptoms are on average 15 – 20 years, and may be as long as 30 years. The disease and its progression have no specificity compared with other cancers of the lung. The same applies to the options for treating it, which vary depending on the nature of the tumour, its stage and site. Whilst the prognosis is still often very poor, lung cancer can be cured, especially if it is diagnosed early.

Pleural mesothelioma

Mesothelioma is a primitive cancer of the pleura (and very rarely of the peritoneum and pericardium). This particularly malignant tumour is highly specific for exposure to asbestos. Onset typically follows a latency period of 20 – 40 years. Unlike lung cancer it may be triggered by even very low-level and brief exposures. There is no link to smoking. Chest pain, cough and breathlessness are the principal symptoms. The prognosis for this cancer is very poor and no treatment has yet proved effective, though therapeutic trials are ongoing.

Other cancers

Scientific writing has looked at other cancer sites for a possible link with asbestos exposure:

- throat cancer, recognized as an occupational disease in some European countries;
- digestive cancers;
- urogenital cancers.

Medical surveillance

Although most asbestos-related illnesses are hard to treat and that for most of them there is no cure, it is important that they are detected as early as possible both from a social and medical point of view.

Medical surveillance of all exposed workers is imperative and monitoring must continue even after exposure has ceased, in view of the lengthy latency periods for these diseases (up to 30 or even 40 years).

Monitoring must ideally be organized using a standardized procedure, in such a way that everyone can have access to it, even when he or she stops work or moves to a new employer. It must on no account entail a loss of earnings and it must be provided free of charge to the individuals concerned. Persons exposed must be informed that they need to be monitored.

Medical surveillance entails check-ups, with an analysis of the person's occupational and medical history, respiratory function tests and a chest X-ray. These check-ups are usually offered every one to three years. Lung tumours can be detected earlier using a scanner, if this chest imaging equipment is available, and in some cases this extends the patient's expected life expectancy. But scans involve a higher level of radiation exposure than conventional radiology. So when deciding what kinds of radiological investigations to perform, besides the technical means that are available, the physician needs to take due account of the risk factors of age, latency period, duration or level of exposure, smoking habit and the expected social and medical benefits.

Compensation

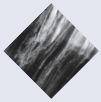
Systems of insurance in the world vary very widely, and this has a bearing on the level of costs which the patient is able to recover.

In principle there are three basic possibilities
1) The worker bears the cost himself.
2) The cost is borne by the employer. He is responsible for the illness because he caused the worker to be exposed to asbestos. In some European countries a state or private-sector insurance scheme covers these costs for the employer.
3) The state is responsible for compensation.

Compensation covers the medical costs of these illnesses, which can be extremely high, plus financial compensation for loss of income and/or benefits for the person's dependants if (s)he should die.

The scale of this reimbursement and its economic impact depend both on the quantities of asbestos used in a given country and above all on the social security provisions in place for workers. It should be noted however that disparities remain when it comes to certain types of illness (e.g. mesothelioma, asbestos-induced lung cancers and asbestosis) being recognized as occupational diseases.

The costs of compensation may be so high that they produce a serious imbalance in some countries' systems of compensation for occupational diseases, force the state to pay financial compensation or cause some companies to go bankrupt.



Using asbestos now will damage a country's economy for more than 30 years...

… by making future generations bear the responsibility for compensating victims and the financial burden of looking after them.

In Germany, for example, the total cost of meeting victims' medical expenses and paying financial compensation to victims and their dependants has already reached € 290 million. In order to deal with this problem the French Government has had to put in place a specific structure – in the Netherlands they have done something similar – which is publicly funded out of the social security and the national budget, to reimburse victims and to meet the cost of early retirement by victims or persons formerly employed in establishments on record as having used asbestos.

Liability

In many countries workers who contract asbestos-related illnesses have the right to sue their employers for costs and compensation. In some specific cases these compensation claims can be for enormous sums and may place the very survival of the company in doubt. In the USA, 2 000 companies are currently the target of compensation claims.

Against this background groupings have been formed to organize victims' bids for compensation, uphold their interests, and in particular to improve the pay-out they are likely to get. Very often these groups advise victims to bring personal lawsuits against their employer on the grounds that he failed to take appropriate protective measures, even though the risk was known and such measures were required under national law. These lawsuits have become commonplace and the victims usually win, obtaining financial compensation from the company.

Cases are also increasingly brought against the state, which is accused of being too slow to introduce laws to safeguard the health of workers or the general public against asbestos, even though the risks were known to be serious and were confirmed by international health organizations.

Chapter 4

Asbestos in place: managing the risks

Regardless of any decision to ban asbestos, thought needs to be given to asbestos-containing materials which are already in place. Working with these materials or removing them creates risks which have to be properly managed.

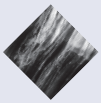
The risks here are risks to public health, and their scale and urgency are directly proportional to the volume and age of the materials in place. Removal and disposal of asbestos also means risks to the persons carrying out these operations and potentially for persons in the vicinity if anything should go wrong.

What kind of measures are needed, and how urgently, depends on how extensively fibres are being released into the air, their initial form (bonded or friable) and the condition of the materials concerned, which must be inspected regularly.

Based on an assessment of the situation, three courses of action are possible:

- ***The material must be removed, completely and immediately;***
- ***in less urgent cases, the material may be sealed off and its condition regularly inspected;***
- ***if there is no immediate danger (bonded material in good condition), it may be left in place.***

These last two options are temporary solutions, however, only possible when the level of risk permits. They take account of the constraints imposed by the need to dispose of large quantities of hazardous materials (often tens of millions of tonnes), the time available to do it and the cost of doing it.



Ultimately, total removal, even if it is costly, is the only realistic and sustainable answer; otherwise, maintenance operations will always be dangerous.

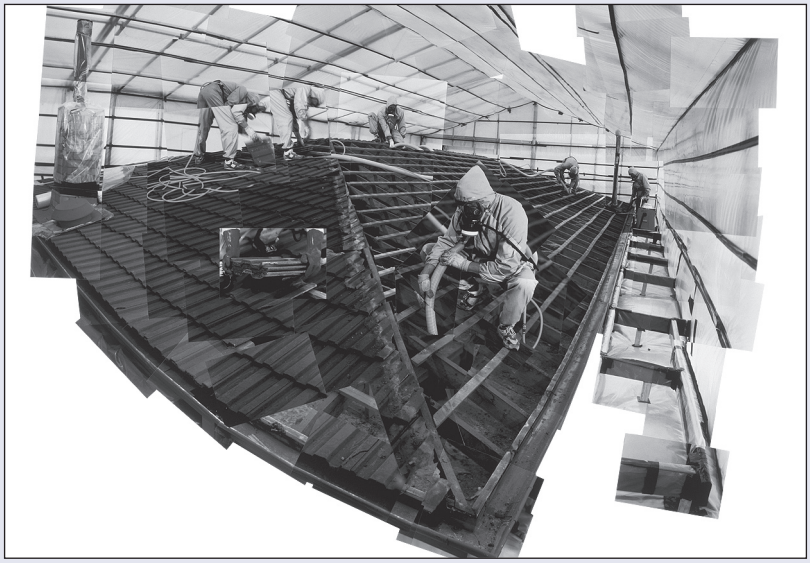
Removal of asbestos in place

Asbestos removal requires rigorous technical procedures. It is physically hard work, not to say exhausting. Friable asbestos is so hazardous that specific methods have to be used to remove it or to manage the risk, sustainably and without exposing people afresh, that fibres may be released from asbestos which remains in place. For this reason there are contractors who specialize in asbestos removal, a task which must only be undertaken by highly specialized technical personnel.

There are relatively few of these and they constitute a high-risk group. The ready propensity of the fibres to disperse in the air means that the work area has to be kept totally segregated (sealed to exclude the finest dust and maintained at negative pressure (rigorously airtight) and workers shall wear protective equipment (rigorously airtight overall, respirators).

These removal operations generate waste which is almost always heavy and bulky, and thus hazardous on that count too. It needs to be safely and durably airtight-packaged. Precautions are needed when this waste is handled, transported, destroyed or permanently disposed of at dedicated landfill sites.

To ensure that persons carrying out asbestos removal operations are protected, the work must not be done in an ad hoc manner. There must at the very least be specific instructions, sealed bags, also specifically for asbestos waste, and disposal sites must be demarcated and secured at all times.



Maintenance work

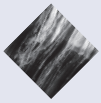
Many types of work may bring workers into contact with asbestos. Many of these will entail construction finishes and fittings. Contractors have to assess whether premises they will work in contain asbestos and inform workers of the risks in their work zone. Safety and health measures must be taken accordingly.

Chapter 5

Substitute products

There is no substitute product or fibre which combines all the qualities and technical advantages of asbestos.

But in every case an alternative can be found.



There are adequate solutions:

- ***using alternative technologies already on the market; or***
- ***using a combination of substitute materials, fibrous or not, which are less hazardous and comparable in quality.***

For example asbestos cement, which accounted for over 90 per cent of the asbestos market in the 1990s, is replaced nowadays by fibre cements – a mix of cement and fibres which may be cellulose, polypropylene, polyvinyl alcohol or aramide fibres.

Table 1 summarizes the main alternatives to traditional uses of asbestos.

Table 1: **Main substitutes**

Asbestos category	Types of use	Substitute methods/materials
I Raw asbestos in bulk	wadding, sprayed insulation, heat- and soundproofing	- mineral wools (glass, rock, slag) and ceramic fibres (never in sprayed insulation) - coatings, plaster lagging with vermiculite, mica, etc. as additive - panels, lagging using various silicates - cellulose
II Asbestos in powders, mineral products (except asbestos cement)	coatings, facade coatings, fire resistant plaster coatings, mortars, adhesives, fire resistant mortars, refractory mortars, grinding powders	various non-fibrous mineral products: carbonates, silicates, perlite, vermiculite, mica, etc.
III Asbestos in liquids or pastes	adhesives, coatings, putties, foams, sealant pastes, paints	- limestone or clay additives - cellulose - mica
IV Asbestos sheet or board	- partitions, false ceilings, sheet, felts, filters, papers - card, lagging, panels, board	- MMMF (panels, underlays) - clay and silicate foams, vermiculite aggregates - above-mentioned materials plus RCF
V Woven or braided asbestos	tape, cushions, rope, blankets, mattresses, stuffing boxes, curtains, ribbon, textiles, packings, fire-resistant clothing	- PE, PP, PA, PTFE plastics (for low temperatures) - carbon, aramide and steel fibres - glass fibres - rock fibres - RCF
VI Asbestos in a resin or plastic matrix	- clutch assemblies, brake linings, electrical insulators, gaskets - plastics - wall coverings, floor coverings as tiles or rolls	- MMMF, aramides, carbon fibres, PTFE, steel, copper, non-fibrous materials - idem II or III - alternative technologies
VII Asbestos cement	containers, weather-boarding, pipes, partitions, roofing and sheathing materials, boards, roof boards, windowsills, ducts, claddings	- cellulose, PP, polyvinyl alcohol fibres - aramides - glass fibres (rarely) - sometimes cotton, sisal, jute in some countries
VIII Asbestos in "black products" (asphalt and bitumen)	weatherboarding with a bitumen finish, bitumen, bitumen adhesives, anti-corrosion coatings, sealant coatings, roof sealants, putties, road surfacings	- limestone additives - glass and rock fibres and wools except in road surfacings

Abbreviations used in the table:

MMMF: man-made mineral fibres; PE: polyethylene fibres; PP: polypropylene fibres; PA: polyamide fibres; PTFE: polytetrafluoroethylene fibres; RCF: refractory ceramic fibres.

Some industrial processes require high temperatures, and the choice of substitute products will then be determined by those temperatures:

- ***up to 400 °C: glass fibres***
- ***up to 600 °C: rock wools***
- ***up to 1 000 °C: high-temperature insulating wools***
- ***up to 1 200 °C or 1 400 °C: refractory ceramic fibres***
- ***up to 2 500 °C: carbon fibres.***

Substitute products, particularly fibres, are often more expensive than asbestos. But this relatively smaller extra cost has to be weighed against the exorbitantly high cost to society of asbestos-related diseases *(see chapter 3)*.

Table 2 ranks a number of fibres according to their cost.

Fibres	**Relative cost**
Asbestos	=
Cellulose	+
Mineral wools	+
Refractory ceramic fibres	++
Aramide	+++
Carbon	+++

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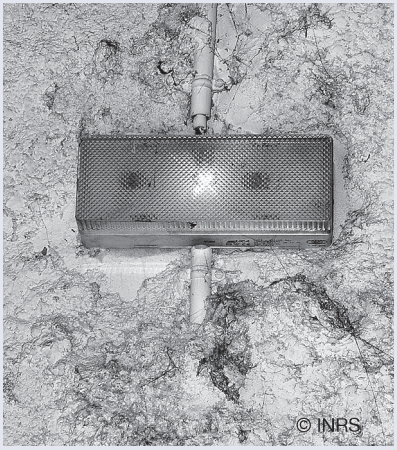
Chapter 6

The need for a ban

Both for human and economic reasons, it is imperative that the manufacture and use of asbestos should be banned.

Experience shows very clearly that the longer we procrastinate, the worse the result will be. It is now an acknowledged fact that asbestos is truly a time bomb waiting to explode.

Every country in the world has to deal with this global scourge, and none can plead ignorance of it. And yet only forty countries have so far banned asbestos or are about to ban it *(cf. Appendix 1)*.



Better understanding of the health risks, especially in the industrialized countries, had led to a decline in world consumption of asbestos during the 1980s and 1990s. But in the last few years consumption has begun to rise again. This may be due in particular to the fact that countries experiencing rapid growth are expanding their economies by strengthening their asbestos mining or processing industries and finding new markets.

Arguments against a ban

The *arguments put forward against a ban on asbestos are essentially economic.* They range from job losses to the cost of using substitute products *(see chapter 5)*. One argument used against a ban on all types of asbestos is that chrysotile (white asbestos) is supposedly less dangerous, less carcinogenic, than the other types, despite the fact that the scientific world is unanimous that a distinction in favour of chrysotile should no longer be made.

According to the WHO no threshold has been identified below which asbestos dust does not constitute a cancer risk.

Arguments in favour of a comprehensive ban

These *arguments are based primarily on health and humanitarian considerations*. They point out that over the longer term asbestos-related disease and mortality have declined *(see chapter 2)*. ***They are economic too,*** emphasizing the devastating consequences of the cost of these illnesses *(see chapters 2 and 3)*. Predictions of asbestos-related morbidity and mortality in the decades ahead may sometimes be polemical, but they show very clearly that the resulting cost is guaranteed to rise dramatically and that future generations will have difficulty meeting it.

A few figures:

- ***In Japan, asbestos has so far cost up to 27 billion yen. It is predicted that Japanese deaths from malignant mesothelioma will be 49 times higher during the next 40 years than in the 1990s.***
- ***Latest statistics of the UK government revealed that every year 3 500 persons die from past exposure to asbestos.***
- ***Currently, there are 10,000 asbestos-related deaths every year in the US.***

- ***In Pakistan, between 1995-2003, 601 cases of mesothelioma were diagnosed only in the North West Frontier Province.***
- ***Epidemiologists predict that by 2023, more than 45,000 Australians will have died from asbestos malignancies (mesothelioma and asbestos-related lung cancer).***
- ***Although the use of asbestos was banned in Sweden 30 years ago, asbestos-related diseases kill currently 2 to 3 times as many workers as fatal occupational accidents.***

Sooner or later there will also be the additional cost of removing asbestos already in place in buildings, and of processing asbestos waste.

Each country's perception of the problem depends very much on its history, its geographical location and its level of social, industrial, economic and cultural development. Each country will certainly have to consider what priority it should give to addressing this risk, compared with other priority concerns and measured against a set of criteria dictated by its systems, its trade links, its main industrial activities and its own available supplies of asbestos and substitute materials.

In view of this complex issue ISSA's Special Commission Prevention is seeking, in publishing this brochure, to draw attention to the devastating consequences which a policy of short-termist economic self-interest would bring and to provide decision-makers with the facts, so that they can take the decision to ban asbestos as soon as possible.

Appendix 1

Countries which have banned asbestos (May 2006)

Argentina	Greece	Norway
Australia	Honduras	Poland
Austria	Hungary	Portugal
Belgium	Iceland	Saudi Arabia
Chile	Ireland	Seychelles
Croatia	Italy	Slovakia
Cyprus	Japan	Slowenia
Czech Republic	Kuwait	South Africa
Denmark	Latvia	Spain
Estonia	Lithuania	Sweden
Finland	Luxembourg	Switzerland
France	Malta	United Kingdom
Gabon	Netherlands	Uruguay
Germany		

Appendix 2

The list of web sites below is not exhaustive. It is intended to provide a number of pointers for individuals or institutions wishing to know more about the subject.

National sites

Germany

- www.hvbg.de/d/asbest/index.html
  (Hauptverband der gewerblichen Berufsgenossenschaften)
- www.hvbg.de/code.php?link=1038214
  (Hauptverband der gewerblichen Berufsgenossenschaften)

France

- www.inrs.fr/dossiers/amiante.html
  (Institut national de recherche et de sécurité)
- www.amiante.inrs.fr
  (Institut national de recherche et de sécurité)

Switzerland

- www.forum-asbest.ch
  (Informationplatform Switzerland; German, French, Italian)
- www.suva.ch/asbest

(Schweizerische Unfallversicherungsanstalt; German, French, Italian)

Spain

- www.mtas.es/insht/ntp/ntp_463.htm
  (Ministerio de Trabajo y Asuntos Sociales)
- www.mtas.es/insht/revista/fp_rev_16.pdf
  (Ministerio de Trabajo y Asuntos Sociales)

United Kingdom

- www.hse.gov.uk/asbestos
  (Health and Safety Executive)

International Organisations

- www.issa.int/germ/domact/prev/prev.htm
  (International Social Security Association)
- www.ilo.org
  (International Labour Organisation)
- www.who.int
  (World Health Organisation)
- www.agency.osha.eu.int
  (European Agency for Safety and Health at Work)

Others

- www.btinternet.com/~ibas/
  (International Ban Asbestos Secretariat)
- http://hesa.etui-rehs.org/uk/dossiers/dossier.asp
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- http://www.lkaz.demon.co.uk/index.htm
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