

### Measures to make Thai society free from Asbestos

#### Situation and Impacts

1. Asbestos is a general term used for describing naturally occurring fibrous silicates and is divided into two groups: the amphibole and serpentine classes. The former is further divided into five forms: chrysotile, amosite, anthophyllite, and actinolite, while the latter consists of only one variety, crocidolite, (still in use at present). Asbestos has special characteristics: durable, resisting high tensile stress, high temperature, and high acids, alkali, and several types of chemicals. Because of this, it is widely used in the manufacturing of a variety of materials and products. More than 90% of imported asbestos is used to produce asbestos cement products such as fire-resistant tiles, roofing, and cement tubing. About 7% is used to manufacture such products as brake linings and clutch facings, while the remaining 3% is used to produce other products including insulation materials, underlayment for rubber flooring, plastic containers, fire-resistant clothes, corrugated sheets, and insulation cables for irons. According to the studies conducted abroad, it is estimated that there are more than 3,000 asbestos-containing products<sup>1</sup>.

2. Important asbestos-related diseases include asbestosis, lung cancer, mesothelioma or cancer of the lining of the lung and of the abdominal cavity, and thickening of the lining of the lung. The development of most asbestos-related diseases takes 20-30 years. The vulnerable population consists of two groups: those who work in asbestos-related industries that to certain extent are controlled by law, and those who use asbestos for some other purposes. The latter group has no law to govern their activities. Most of the danger from asbestos consists of dust produced during the installation or depreciation after use, e.g. during the cutting of tiles/tubes, change of worn-out brake linings or clutch facings. The use of substandard products or certain dust-producing goods without proper restrictions can be dangerous, including asbestos-insulated hairsprays.

3. It is generally accepted in academic circles and the international community that all types of asbestos are carcinogens. As a result, organizations such as the World Health Organization (WHO) and the International Labour Organization (ILO) pay considerable attention to the management of the problem with a view to preventing any asbestos-related impacts on health. It is estimated that 125 million people worldwide are exposed to asbestos at work. Of this number more than a hundred thousand die each year from exposure to the substance. One-third of the deaths die of work-related cancer caused by asbestos. Measures to eliminate asbestos-related diseases were seen in a number of resolutions passed by the International Labour Conferences and World Health Assembly. For instance, the 58<sup>th</sup> session of the World Health Assembly adopted a WHA Resolution 58.22 to promote cancer prevention and control and the 60<sup>th</sup> session adopted a WHA Resolution 60.26<sup>2</sup> urging all Member States to stop using all types of asbestos so as to control and eliminate asbestos-related diseases. Currently, there are 50 countries<sup>3</sup> that have banned the use of asbestos, and more will follow suit. This prompts the manufacturers to try every

possible way to maintain the quantity of the fibers in use, including putting up resistance at the World Health Assembly, applying the Free Trade Area (FTA) pressures, or intervention through various ministries responsible for economy and trade.

4. With no asbestos mine of its own, Thailand has imported the material for more than 70 years. Since it takes a long time for a disease to develop, it is estimated that the incidence rate will become more evident as time goes by. At present, Thailand has a second highest rate of asbestos-consumption in the world<sup>4</sup> or 3 kg/person/year, second only to Russia. The consumption rate fluctuates according to the economic situation. At present, a major manufacturer has stopped using asbestos in its production. However, the consumption rate has not significantly gone down. Possibly, this is an important transitional period when some producers seeing that the price of asbestos is tumbling down seize the golden opportunity to manufacture goods before it is banned. So, as long as no concrete measures are put forward to deal with the problem, more people will be expected to suffer from more health problems in the near future.

5. In 2009 the Department of Labour Protection and Welfare conducted a surveillance of diseases caused by exposure of asbestos in 26 plants engaged in the production of brake-linings, tiles or cement tubing and glue. It was found that the amount of asbestos dust flying around in the work environment exceeded an acceptable safety standard. There was almost 80% chance of workers inhaling the substance. In addition, they had little or no idea about asbestos, nor was there any health-prevention measure in place. For instance, they wore no special working clothes. Workers were not required to change clothes and shower before going home. No efficient protective equipment for respiration was provided. Smoking or drinking water was not forbidden in the work area where asbestos dusts could be flying around. There was no work safety manual despite the glaring fact that the business in question had activities most likely to cause asbestos dust to fly around in the work environment. From the health inspection of the workers, it was found that as many as 40% had their lung capacity operating lower than the standard.

6. According to the Department of Disease Control report in 2008 on surveillance and lookout for asbestos-caused lung diseases in 14 enterprises of the same industry, 39 cases were found to have abnormal symptoms that could be classified as such diseases. Twenty people were found to have abnormality when undertaking a high-resolution CT scan. So far Thailand has only found one patient who died of work-related cancer of the lining of the lung, three suffering from asbestosis, seven whose symptoms could be classified as asbestosis, and 33 cases of thickening of the lining of the lung. The reason for a low rate of incidence is that there is no recording system of a person's work history or exposure history, something that needs to be connected to the health information system. Thus, no attempt has been made to connect sicknesses which have direct bearing on diagnosis. In addition, there is a shortage of doctors specialized in diagnosis and inquests. It is, therefore, necessary to create and develop an efficient system. With regard to the database on health risks in the users of asbestos-based goods, there has been no evidence from the studies in Thailand. However, there are studies abroad and lawsuits claiming enormous damages from the use of asbestos-based goods.

7. At present there has been considerable technological advancement in producing a variety of alternative materials to asbestos with more or less the same efficacy for various products. Some examples of alternatives are fiber glass, rock wool, slag wool, ceramic fibers. Thailand has imported polyvinylalcohol fiber (PVA) as alternatives for the manufacture of flat and corrugated tiles as well water piping. In addition, polyacrylonitrile fiber, aramid fiber, metal fiber, rock wool fiber, potassium titanate and vermiculite are also used as substitute materials in brake and clutch-producing industries.

### **Policy and related measures**

8. At the international level there exist “measures to ban and eliminate asbestos as well as elimination of asbestos-related diseases” which came about as a result of the resolution of the 75<sup>th</sup> International Labour Conference in 2006 urging the member states to ban and eliminate all types of asbestos use. Similarly, the World Health Assembly passed a resolution adopting strategies to eliminate asbestos-related diseases in 2007 (WHA resolution 60.26), urging the member states to put them into practice.

9. Thailand organized its first international asbestos conference in 2006 with participants from 26 countries in Asia and the Pacific, Africa, Europe and North America. The conference adopted the Bangkok Declaration on the Elimination of Asbestos and Asbestos-related Diseases calling for (1) total asbestos ban, (2) protection of workers and the public, (3) promotion of the use of alternatives, (4) information exchange, (5) prevention of moves to transfer and produce asbestos in developing countries, (6) corporate social responsibility, (7) surveillance of asbestos-related diseases, and (8) international collaboration.

10. So far, there have been no laws in Thailand that strictly impose direct control of asbestos use. Most touch on general restrictions of chemical use or on the use of alternatives to hazardous substances. As a result, strict control is lacking. There is no efficient control on the route that asbestos takes in the environment. The government agencies concerned have their own laws that are related to the areas only under their jurisdiction. There is a huge gap regarding control and coordination. In particular, the innocent public could be adversely impacted. People cannot exercise their choice regarding how to protect their rights to live in a clean environment or to use safe products. For example, there is no government agency responsible for control of maintenance, addition or dismantling of buildings that have been using asbestos. There is no system that manages the disposal of asbestos remains or waste. There is no industrial product standard especially on safety in routine use. There is no control of enterprises that use asbestos-containing products, for example, in the setting of insulation. There is also no good practice available in any area of work.

10.1 Hazardous Substance Act (1992) authorizes the Committee on Hazardous Substance to announce a list of chemicals and classify various types of substance according to the needs for control. Asbestos is classified as a hazardous substance. At present, only chrysotile is classified under Type 3 the use of which requires permission from the Department of Industrial Works. The remaining five others are already banned (classified as Type 4). Thus, the power to ban the use is in the hands of the Ministry of Industry. In addition, the law requires that a responsible person be put in place to control safety in the storage of hazardous substance in a factory. This responsibility includes the control of disposal of asbestos waste. The control covers

asbestos as raw material and as production waste. The factory is required to apply for a 13-digit number that will be used as reference in the document system for transportation purposes, set an inventory of the quantity of hazardous substance and a number of containers, including methods used in the analysis and management of hazardous waste. The latter must be put in a secure and strong container that has no reaction with the hazardous waste inside. The factory is also required to develop a prevention plan and measures to cope with an untoward incident or emergency, as well as preparing documents that accompany the transportation of hazardous waste when it takes place.

10.2 Factory Act (1992) lays down the responsibility of the recipient of a permit (i.e. entrepreneur) in the control of asbestos in the factory. These requirements are similar to those governing chemicals. Certain conditions must be met when seeking contract renewal. The asbestos-using plant must control the amount of asbestos dust in the air not to exceed 2 fibers/cc and provide safety measures while at work. The factory concerned is required to prepare a report analyzing hazardous risks that may occur in its operation, including hazardous indices, risk assessment, and risk management plan.

10.3 Labor Protection Act (1998) treats control of asbestos like any other general chemical. Since 19787 it has sets a safety standard that allows contamination in the work environment not to exceed 5 fibers/cc. The standard is now considered obsolete. Today, the American Conference of Governmental Industrial Hygienists sets a standard of 0.1 fiber/cc. Asbestos is classified on a list of chemicals for which workers are required to undergo health examination. Besides, the law sets criteria and methods of health examination for workers the results of which will be submitted to labor inspectors. The person to perform health check must be a first-class practitioner of modern medicine with a license to perform occupational medicine. After the examination, the results must be put on the health record book.

10.4 Public Health Act (1992) provides for a control of health-hazardous enterprises. Asbestos-related activities that need to be controlled are listed in three groups: 1) brake lining and clutch facing; 2) manufacturing of products with asbestos as ingredient or mixture, e.g. brake linings, clutch facings, roofing tiles, rubber tiles, fiber ceiling board, and water pipes; and 3) construction.

The control usually comes in the form of general ministerial regulations. Most provisions are based on the Labour Protection Act, although there are certain criteria, measures and methods which are issued to control specific enterprises. Generally speaking, the law and regulations are designed to ensure that certain standards are met to protect worker health. The measures cover management of occupational health and safety as well as health surveillance to prevent occupationally-related diseases. All this complements the part played by the Ministry of Labour in the monitoring of work environment.

10.5 Industrial Product Standards Act (1968) provided standard specifications for industrial products. Currently, asbestos is still permitted in the manufacture of several goods without any specific compulsory requirements. In other words, manufacturers may decide not to comply with the requirements if they do not wish to have their products certified.

10.6 Consumer Protect Act (1979) provides for the Committee on Labels to have the power to declare goods that may be harmful to physical and mental health as label-controlled goods. Currently, the Committee has issued notifications on control of asbestos-containing goods, especially in such products as brakes, clutches, roofing tiles, rubber tiles, lumber planks, and water pipes. Control involves labeling and

warnings, as well as directions to use, as stipulated in the Notifications No. 27 (2009) and No. 29 (2010) issued by the Consumer Protection Control Board. However, such measures are merely an attempt to inform consumers of possible hazards, prevention or options when deciding to buy certain products. Such kinds of education and awareness building need to be built into the process so that it can reach the public in a widest possible manner.

### **Constraints on action and problem-solving**

11. Legally, it is found that the existing laws related to asbestos in Thailand are out of date and inefficient and do not reflect the current reality. There are no direct or indirect provisions that deal with the control on the spreading of asbestos into the environment.

11.1 There are no legal provisions governing the dismantling, repair and extension of old buildings with asbestos-containing material, as well as the use of asbestos products in new buildings. There are no specific provisions on the control or ban of asbestos. If an activity involving the use of asbestos is to take place, there are no clear requirements whether permission must be sought from what agency and in what manner.

11.2 The ministerial regulation on construction safety does not cover asbestos. Nor is there a system that controls the registration of people involved in such activities.

11.3 The work safety standard indication of the Ministry of Labour is out of date. In addition, Thailand has not yet set a standard of asbestos dust levels in the general environment.

11.4 There is no law that controls the use of asbestos-containing products, particularly, high-risk goods such as hair-blowers. No standard is set for inspection of naturally occurring asbestos-containing goods such as talcum-containing cosmetics.

11.5 There is no standard for asbestos-free goods. Nor are there attempts to make it a compulsory standard.

11.6 The laws which control the importation of goods are out of date and do not keep pace with the change that has been taking place.

11.7 The law that sets tax and tariff rates put asbestos in the same group as several other chemicals, thus making it very difficult to change, since the change will affect other chemicals as well. According to the existing law, raw materials that are not domestically produced and must be imported are exempt from taxation. This issue must be redressed under special considerations that asbestos is a carcinogen and several countries have put an end to its use. In addition, special attention should be paid to certain trade constraints under such circumstances as Free Trade Areas (FTA).

12. Constraints in management are found in the following situations:

12.1 The equipments currently used by government agencies for environmental inspection are not sufficient in number and are not available in areas where there are problems. There are still very few specialists in the assessment field; some have not received proper training.

12.2 Currently, no special requirements have been set regarding the qualifications of establishments designed to eliminate asbestos.

12.3 There has been no checking or monitoring what kinds of goods in Thailand contain asbestos, whether or not they are registered with the Department of Industrial Works, and what goods should be reviewed and banned for further use.

12.4 It requires a high investment to have an efficient pollution control.

12.5 There is no system that records work history, history of exposure, or health history of the workforce.

12.6 There is no quality control system for health services and the environment.

13. As far as constraints on disease surveillance are concerned, it is found that the disease surveillance system of the workforce is inefficient. In addition, no surveillance system is put in place for vulnerable groups, including installers of asbestos products and users. The law enforcement in health monitoring is still inefficient. The film used is below standard with regard to its size or quality. There is no film-reading specialist. Besides, there are an insufficient number of doctors specializing in diagnosis and inquest of asbestos-related diseases.

### **Issue for Consideration by the National Health Assembly**

The National Health Assembly is requested to consider the document NHA3/Draft Resolution 5.

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<sup>1</sup> Technical Paper Examples of the products with asbestos as ingredients are in the Annex, Technical Paper.

<sup>2</sup> The WHO Global Plan for Action on Workers' Health 2008-2017 Resolution WHA 60.26)

<sup>3</sup> The list of countries banning or severely restricting the use of asbestos is shown in the Annex.

<sup>4</sup> Tossavainen, A. (2003). National mesothelioma incidence and the past use of asbestos A. *Monaldi Archives for Chest Disease*, 59, 146-149.