

Moral Fibre: Japan's Asbestos Dilemma 倫理の綿—日本の石綿 ディレンマ

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Japan to date has provided an inspiring role model for Asian workers trying to ban the importation and mining of asbestos in Asia. Japanese money has enabled international gatherings of workers and officials trying to end the importation and use of this deadly dust.

Internationally, consumer and labour groups are joining forces with those who have contracted inevitably fatal asbestos-related diseases, to bring about a global ban on what was once thought of as a miracle naturally occurring mineral fiber. The movement is now powerful and well connected and has the support of impressive brain and political power.

Historically asbestos' ability to withstand heat and fire made it ideal for lagging, roofing and insulation. Many of us older types can remember asbestos mats on the ironing board or the stove for simmering stews. It was virtually everywhere and of course big and easy profits were made by corporations in countries like Australia Kazakhstan and China where it was and is mined.

Following a wave of high profile law suits and a continuing tsunami of deaths, asbestos has been banned in most of the developed world. Some nations like Canada entertain a national ban while continuing to sell to others like Japan. [The ban on asbestos](#) has not affected developed countries as much as developing countries.

In the 1990s, a homegrown activist group called Banjan stirred a national controversy by pointing fingers at Japan and pushing for a halt to the use of asbestos nationally in Japan. They accumulated data sets which pointed directly to government complicity and inaction leading to deaths. Eventually the Government capitulated and made a show of banning further imports. It was the first nation in Asia to do so. Countries like Indonesia that used to defend use of asbestos with the reasoning that there was no evidence of pathology in Indonesian lungs began to look queasy.



Furuya Sugio, director of BANJAN (Ban Asbestos Network Japan), at the annual meeting of the Asian Network for the Rights of Occupational Accident Victims in September 2009, in Phnom Penh, Cambodia. BANJAN has successfully pushed for a ban on asbestos in Japan. (Photo by Melody Kemp)

Despite this, there is still evidence that Chinese

and Canadian asbestos is being imported into Japan. If that is not controversial enough, it comes at a time when Japanese standards for detection and classification of this deadly dust are under fire.

Behind the scenes, altercations between international technical advisers, the International Standards Association, and the Japanese regulatory authorities indicate that Japan is not free of asbestos. In fact their methods of detecting and assessing the deadly insulating fibre may have led to 40% underestimation of the scale of the problem.



Raw asbestos from Quebec found in Osaka, January 2008.

Credit: A.Kataoka

It seems that the Japanese Government and relevant ministries have created standards which, while appearing to conform to international standards, are supported by outdated or ineffective processes, procedures and definitions, which render the standards effectively useless. Consultant Kevin Carrol Executive Director of Earth Appraisal, wrote to me, "It's another triumph of form over substance."

He reported that until now the Japanese Ministry of Economy, Trade and Industry (METI) has refused to accept standard international analytical methods used to detect asbestos (polarized light microscopy or PLM), instead requiring the use of the Japanese XRD (X-ray diffraction) method which is famously unable to identify all six regulated forms of asbestos fibers, or to accurately quantify asbestos in composites where the asbestos content is less than 5%.

Asbestos has been a big issue in Japan since the Government decreed that it should be used in construction as fireproofing after a spate of deadly fires made thousands homeless. In 2005 the Kubota Corporation admitted to paying 'sympathy money' to families of mesothelioma victims living around the production plants. This released a wave of community concern about asbestos to which Japanese regulators responded by stiffening Japan's definition of "asbestos containing material" to include all materials containing more than 0.1% asbestos which its own methods are incapable of detecting. In June 2010 the Osaka high court awarded twenty six asbestos victims 435 million yen (\$4.78M) after a protracted class-action suit against the Japanese government. The plaintiffs claimed that the government had failed to provide adequate asbestos standards for Japanese workers.

Japan's recently updated occupational and public safety and health laws stipulate that all asbestos analyses performed in Japan must use only the Japan Industrial Standard (JIS) and XRD developed by a Dr. Kohyama. It did so knowing that the methods are insufficient to protect worker and community health. Dr. Kohyama has to date refused all attempts at contact.

The Government's statement that 'We have no asbestos issues in Japan' is pure fiction," Carrol went on.

In a replay of the sorts of standoff politics seen at international whaling meetings, the International Standards Organisation's Asbestos Committee recently decided to exclude the Japanese-sponsored XRD method from the forthcoming ISO Asbestos Analytical Standard. Interestingly, the Japanese delegate to ISO voted with ISO to approve their preferred analytical method even though Japanese law disallows its use.

Toyama Naoki, occupational health consultant and working environment measurement expert with the Tokyo Occupational Safety and Health Bureau, wrote in his report to the International Ban Asbestos Network:

"Japanese representatives to ISO Working Group have campaigned for the past five years to have the JIS method included in the new ISO Standard Asbestos Analytical Method. To support their claim of the methods infallibility (in 2008) they requested a blind testing whereby asbestos reference samples would be analysed (sic) using the JIS and PRM methods. Analysts would not know which samples contained asbestos or how much."

He went on to describe what happened next. In short, the Japanese delegates were provided with the blind reference samples and given one year to submit their reports. Most stressed lab technicians would shout for joy at time frames like that. Real time practice involves much faster results.

Their submitted report indicated that the JIS method had failed to identify any asbestos content in approximately 47% of the positive (asbestos-containing) blind reference samples and grossly underestimated the asbestos content in approximately 20% of the positive samples.

Despite this stunning failure, the Japanese delegates maintained that the JIS method was sufficiently accurate to warrant inclusion in the draft ISO asbestos regulations which defined qualitative methods. The Working Group disagreed, offering Japan a second opportunity to re-analyze the blind samples in an attempt to improve the accuracy of the method. The Japanese delegates declined the offer.

There seems to be some studied duplicity. This year, METI (Ministry of Economy, Trade and Industry) sent a representative to the annual ISO Asbestos Working Group meeting along with the JIS committee members. This is the first year they have done this. The METI representative was stunned to find that the JIS method had been rejected from inclusion in the Standard. The JIS members on the committee had until then reported that ISO was "considering their request".



Japanese anti asbestos activist in Tyvek overalls, outside the Canadian Embassy Jakarta, protesting their continued export of asbestos to Asia. Credit Sanjiv Pandita AMRC.

ABan representatives told me “There are rumours that METI is now trying to include some form of PLM acknowledgement in the JIS method - while still referring to the failed XRD methods - so they can continue the charade while appearing to meet ISO criteria.”

“We have challenged Dr. Kohyama to debates and to comparative testing. Kohyama does not respond to any calls or e-mails. We have also attempted to make appointments with all the departments and Ministries responsible, but each of these requests has been quashed by METI. Comparatively speaking, METI is an 800 lb. gorilla and the rest of the ministries are weak sisters,” Carrol went on.

The heart of the matter is that more than half of the JIS committee is comprised of asbestos materials manufacturers. They have voting rights and are undoubtedly protecting corporate interests, though those very same interests could be undermined by a rash of court actions and negligence claims, particularly as the JIS method system is widely known to have serious technical shortcomings.

“And there's probably some ego at play here,” Carrol added.

“The government believes everything the JIS committee tells them, either because they don't know, or because it limits the government's liabilities. Japanese Building Codes specified and required the use of asbestos materials from approximately the 60s until the late 80s. Do the math.” Keeping a watchful eye is complicated particularly since responsibility for regulating asbestos rests with several authorities.

The very powerful METI is responsible for issuing all JIS standards; but enforcing asbestos laws falls within the realm of the Ministry of Environment, which has responsibility for outdoor emissions only, while the Ministry of Health, Labor and Welfare monitors only occupational exposures. To confuse issues further, the Ministry of Land, Infrastructure and Transport enforces construction and demolition laws. In an ideal situation the various ministries would coordinate to inspect and monitor a building to be demolished where both workers and community members were at risk. No one could tell me however, whether this method is practiced.

Asbestos can be controlled through isolation such as by erecting walls or barriers around the material to prevent wear, which releases fibres into the air, or by using an acceptable material known as an encapsulant. Encapsulants are usually sprayed on like paint and must penetrate the asbestos all the way to the substrate, such as the wall or roof truss.

Japan is trying to develop a high-temperature (thermal destruction) method for turning asbestos into a safe basalt-like material. The use of a plasma-arc furnace is conceptually feasible but it's prohibitively expensive, so wider scale development is not foreseen. “The Japanese government knows it's running out of landfill space quickly, so they're making a good effort to find alternatives,” Carrol noted.

Safely destroying toxic products is expensive as Japan well knows. They developed a high-temperature furnace for the destruction of the environmentally persistent polychlorinated biphenyls (PCBs) once used extensively in the power industry for transformers and capacitors. Currently five furnaces exist in which Japan over the last 10 years has tried to destroy high concentration PCBs from its major utilities. But low concentration materials will have to wait another 15-20 years to be destroyed.

Any revision of detection standards would ramp up the amount of asbestos- containing material to be disposed of. Analysts like Carrol suspect that thermal asbestos destruction units, of which only prototypes so far exist, pose an even bigger hurdle for Japan to surmount at a time when its economy is shaky.

While Japan's regulators are trying to save face, Japanese lawyers are facing a windfall. Toyama Naoki, in his report issued by IBAN, warned that "The failure to use an accurate asbestos-testing method will undoubtedly elevate the numbers of Japanese asbestos-related diseases and raises the spectre of additional class-action lawsuits. This may explain why Japan's ISO delegates have fought vehemently to include the JIS method in the

new ISO Asbestos Analytical Standard."

Japanese contractors are increasingly using cheaper foreign suppliers for construction materials, particularly those produced by Chinese, Indian and other Asian manufacturers, some of whom continue to use asbestos in their products.

Toyama concluded, "Ultimately, the ISO Working Group will likely vote in December 2010 on whether to incorporate the modified JIS method in the new ISO standard. If JIS fails to achieve ISO acceptance, we may see Japan forced to rewrite its asbestos laws for the sixth time in five years. Maybe this time Japan will conform to international asbestos health and safety standards."

Japan now has an aware and litigious populace. At the same time it risks losing credibility as a pioneering asbestos free nation. Perhaps it is the complexity of economic and political issues involving powerful interests that keeps the government grimly hanging on to its flawed methods.

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