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# Asbestos pushed in Asia as product for the poor

By KATY DAIGLE  
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VAISHALI, India (AP) — The executives mingled over tea and sugar cookies, and the chatter was upbeat. Their industry, they said at the conference in the Indian capital, saves lives and brings roofs, walls and pipes to some of the world's poorest people.

The industry's wonder product, though, is one whose very name evokes the opposite: asbestos. A largely outlawed scourge to the developed world, it is still going strong in the developing one, and killing tens of thousands of people each year.

"We're here not only to run our businesses, but to also serve the nation," said Abhaya Shankar, a director of India's Asbestos Cement Products Manufacturers Association.

In India, the world's biggest asbestos importer, it's a \$2 billion industry with double-digit annual growth, at least 100 manufacturing plants and some 300,000 jobs.

The International Labor Organization, World Health Organization, the wider medical community and more than 50 countries say the mineral should be banned. Asbestos fibers lodge in the lungs and cause many diseases. The ILO estimates 100,000 people die every year from workplace exposure, and experts believe thousands more die from exposure outside the workplace.

The asbestos executives who gathered in the ballroom of a luxury New Delhi hotel wanted to knock down those concerns. The risks are overblown, many said, and scientists and officials from rich Western nations who cite copious research showing it causes cancer are distorting the facts.

More than two-thirds of India's 1.2 billion people live in poverty on less than \$1.25 a day, including hundreds of millions still in makeshift rural dwellings that offer little protection from insects, harsh weather and roaming predators such as tigers and leopards.

"These are huge numbers. We're talking about millions of people," Shankar said. "So there is a lot of latent demand."

Yet there are some poor Indians trying to keep asbestos out of their communities, even as the government supports the industry by lowering import duties and using asbestos in construction of subsidized housing.

"People outside of India, they must be wondering what kind of fools we are," said Ajit Kumar Singh from the Indian Red Cross Society. "They don't use it. They must wonder why we would."

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In the ancient farming village of Vaishali, in impoverished Bihar state, the first word about the dangers of asbestos came from chemistry and biology textbooks that a boy in a neighboring town brought home from school, according to villagers interviewed by The Associated Press.

A company was proposing an asbestos plant in the village of 1,500 people located about 1,000 kilometers (620 miles) east of New Delhi.

The villagers worried that asbestos fibers could blow from the factory across their wheat, rice and potato fields and into their tiny mud-and-thatch homes. Their children, they said, could contract lung diseases most Indian doctors would never test for, let alone treat. Neither India nor any of its 29 states keep statistics on how many people might be affected by asbestos.

The people of Vaishali began protesting in January 2011. They objected that the structure would be closer to their homes than the legal limit of 500 meters (1,650 feet). Still, bricks were laid, temporary management offices were built and a hulking skeleton of steel beams went up across the tree-studded landscape.

The villagers circulated a petition demanding the factory be halted. But in December 2012, its permit was renewed, inciting more than 6,000 people from the region to rally on a main road, blocking traffic for 11 hours. They gave speeches and chanted "Asbestos causes cancer."

Amid the chaos, a few dozen villagers took matters into their own hands, pulling down the partially built factory, brick by brick.

"It was a moment of desperation. No one was listening to us," said a villager involved in the demolition, a teacher who spoke on condition of anonymity for fear of retribution from the company. "There was no other way for us to express our outrage."

Within four hours, the factory and offices were demolished: bricks, beams, pipes and asbestos roofing, all torn down. The steel frame was the only remnant left standing.

"Still, we did not feel triumphant," the teacher said. "We knew it wasn't over."

They were right. The company filed lawsuits, still pending, against several villagers, alleging vandalism and theft.

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Durable and heat-resistant, asbestos was long a favorite insulation material in the West, but has also been used in everything from shoes and dental fillings to fireproofing sprays, brake linings and ceiling tiles.

Scientists and medical experts overwhelmingly agree that inhaling any form of asbestos can lead to deadly diseases including mesothelioma, lung cancer and asbestosis, or the scarring of the lungs. Exposure may also lead to other debilitating ailments, including asthma and chronic obstructive pulmonary disease.

About 125 million people worldwide are exposed to asbestos at work each year, the WHO says. Because the disease typically takes 20 to 40 years to manifest, workers can go through their careers without realizing they are getting sick.

Dozens of countries including Japan, South Korea, Argentina, Saudi Arabia and all European Union nations have banned asbestos entirely. Others including the United States have severely curtailed its use.

Most asbestos on the world market today comes from Russia. Brazil, Kazakhstan and China also export, though some have been reviewing their positions.

Canada's Quebec province was the world's biggest asbestos producer for much of the 20th century. It got out of the business in 2012, after a new provincial government questioned why it was mining and exporting a material its own citizens shunned.

Asia is the biggest market. India last year imported \$235 million worth of the stuff, or about half of the global trade.

The global asbestos lobby says the mineral has been unfairly maligned by Western nations that used it irresponsibly. It also says one of the six forms of asbestos is safe: chrysotile, or white asbestos, which accounts for more than 95 percent of all asbestos used since 1900, and all of what's used today.

"Chrysotile you can eat for breakfast, lunch and dinner!" said Kanat Kapbayel of Kazakhstan's United Minerals and a board member of the International Chrysotile Association.

Chrysotile is a serpentine mineral, meaning its fibers are curly and more flexible than the other more jagged and sharp forms called amphiboles. The lobby and its supporters say this distinction makes all the difference.

A vast majority of experts in science and medicine reject this.

"A rigorous review of the epidemiological evidence confirms that all types of asbestos fiber are causally implicated in the development of various diseases and premature death," the Joint Policy Committee of the Societies of Epidemiology said in a 2012 position statement.

Squeezed out of the industrialized world, the asbestos industry is trying to build up new markets and has created lobbying organizations to help it sell asbestos to poor countries, particularly in Asia, it said.

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Developed nations are still reckoning with health and economic consequences from past asbestos use.

American businesses have paid out at least \$1.3 billion in the largest and longest-running collection of personal injury lawsuits in U.S. legal history, according to a 2012 report by the California-based Rand research corporation. Two years ago, an Italian court sentenced two businessmen from Swiss building material maker Eternit AG to 16 years in prison for negligence leading to more than 2,000 asbestos-related deaths. Billions of dollars have been spent stripping asbestos from buildings in the U.S. and Europe.

Arun Saraf, the Indian asbestos association's chairman, said India has learned from the West's mistakes.

He said the lobby's 15 member companies maintain the strictest safety standards in their factories. That includes limiting airborne dust, properly disposing of waste and insisting employees wear safety masks, gloves and protective clothing.

The vast majority of asbestos used in India is mixed with cement and poured into molds for corrugated roof sheets, wall panels or pipes. Fibers can be released when the sheets are sawed or hammered, and when wear and weather break them down. Scientists say those released fibers are just as dangerous as the raw mineral.

AP journalists who visited a working factory and a shuttered one in Bihar found both had dumped broken sheets and raw material in fields or uncovered pits within the factory premises. Workers without any safety gear were seen handling the broken sheets at both factories. The working factory was operated by Ramco Industries Ltd., while the other owned by Nibhi Industries Pvt. Ltd. was supplying materials to UAL Industries Ltd.

Saraf, who is also UAL's managing director, said the materials left strewn across the factory grounds were meant to be pulverized and recycled into new roofing sheets, and were no more dangerous than the final product as the asbestos had already been mixed with cement.

He said Nibhi was not an association member, but "I have been informed that Nibhi workers are provided with all the personal protective equipment."

Some employees of Ramco's working factory said they were satisfied that asbestos was safe, and were delighted by the benefits of steady work. But several former employees of both factories said they were given masks only on inspection days, and rarely if ever had medical checkups. None was aware that going home with asbestos fibers on their clothing or hair could put their families at risk.

Ramco CEO Prem Shanker said all employees working in areas where asbestos was kept unmixed were given safety equipment and regular medical checkups that were reviewed by government authorities. "Ramco has consistently gone the extra mile to ensure a safe working environment," he said. AP was not given permission to visit these indoor areas.

Indian customers like the asbestos sheets because they're sturdy, heat resistant and quieter in the rain than tin or fiberglass. But most of all, they're cheap.

Umesh Kumar, a roadside vendor in Bihar's capital of Patna, sells precut 3-by-1 meter (10-by-3 foot) asbestos cement sheets for 600 rupees (\$10) each. A tin or a fiberglass sheet of similar strength costs 800 rupees.

"I've known it's a health hazard for about 10 years, but what can we do? This is a country of poor people, and for less money they can have a roof over their heads," Kumar said.

"These people are not aware" of the health risks, he said. But as sellers of asbestos sheets wanting to stay in business, "we're not able to tell them much."

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The two-day asbestos conference in December was billed as scientific. But organizers said they had no new research.

One could say they've gone back in time to defend their products.

The Indian asbestos lobby's website refers to 1998 WHO guidelines for controlled use of chrysotile, but skips updated WHO advice from 2007 suggesting that all asbestos be banned. The lobby also ignores the ILO's 2006 recommendation to ban asbestos, and refers only to its 1996 suggestion of strict regulations.

When asked why the association ignored the most recent advice, its executive director, John Nicodemus, waved his hand dismissively. "The WHO is scaremongering," he said.

Many of the speakers are regulars at asbestos conferences around the world, including in Brazil, Thailand, Malaysia, Ukraine and Indonesia.

American Robert Nolan, who heads a New York-based organization called Environmental Studies International, told the Indian delegates that "a ban is a little like a taboo in a primitive society," and that those who ban asbestos are "not looking at the facts."

David Bernstein, an American-born toxicologist based in Geneva, said that although chrysotile can cause disease if inhaled in large quantities or for prolonged periods, so could any tiny particle. He has published dozens of chrysotile-friendly studies and consulted for the Quebec-based Chrysotile Institute, which lost its Canadian government funding and shut down in 2012.

When asked by an audience member about funding for his research, he said some has come from chrysotile interests without elaborating on how much. A short-term study generally costs about \$500,000, he said, and a long-term research project can cost up to about \$4 million.

He presented an animated video demonstrating how one special kind of human blood cell called a macrophage can engulf a squiggly white asbestos fiber, dissolve it in acid and carry it out of the lungs. He said his research concludes that smaller doses for shorter periods "produce no fibrosis."

"We have defense mechanisms. Our lungs are remarkable," Bernstein said. To suffer any health problems, "you have to live long enough."

Other researchers have drawn different conclusions. Their studies indicate that most chrysotile isn't eliminated but ends up in the membrane lining the lungs, where the rare malignancy mesothelioma develops and chews through the chest wall, leading to excruciating death.

Research such as Bernstein's frustrates retired U.S. Assistant Surgeon General Dr. Richard Lemen, who has studied asbestos since 1970 and first advocated a chrysotile ban in 1976.

"His presentation is pretty slick, and when he puts it on animation mode, people think: 'Wow, he must know what he's talking about,'" Lemen said by telephone from Atlanta. But Bernstein or Nolan "would get shot down if they stood up and talked about their research" at a legitimate scientific conference, he said.

Debate has ended for richer countries, but that has not stopped asbestos use in poorer ones, Lemen said.

"I've been saying the same thing over and over for 40 years. You feel like Sisyphus rolling the stone up the hill, and it comes back down."

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Research conducted around the world has not convinced some Indian officials, who say there is not enough evidence to prove a link between chrysotile and disease in India.

Gopal Krishna, an activist with the Ban Asbestos India, calls this argument "ridiculous."

"Are they saying Indian people's lungs are different than people's in the West?"

The permit for the asbestos plant in Vaishali was canceled by Bihar's chief minister last year after prolonged agitation, but some in his government still rejected that the mineral is hazardous.

"From the scientific information I have received, there is no direct health hazard with asbestos production," said Dipak Kumar Singh, who until recently was Bihar's environment secretary and oversaw industrial zones at the same time. He's now in charge of water management.

The state health secretary, Deepak Kumar, disagreed.

"It's not safe," he said. "Of course it can affect the health system, create a burden for us all and especially the poor."

India in 1986 placed a moratorium on licensing any new asbestos mining, but has never banned use of the mineral despite two Supreme Court rulings ordering lawmakers to bring the law in line with ILO standards.

Last year, an Indian delegation traveled to Geneva to join Russia, Kazakhstan, Kyrgyzstan, Ukraine, Zimbabwe and Vietnam in opposing the listing of chrysotile as a hazardous chemical under the international Rotterdam Convention, which governs the labeling and trade of dangerous chemicals. Without unanimous support among the convention's 154 members, the effort to list chrysotile failed again.

An Indian Labor Ministry advisory committee set up in 2012 to give a recommendation on asbestos has yet to release a report. The Health Ministry has said asbestos is harmful, but that it has no power to do anything about it. The Environment Ministry continues to approve new factories even as it says asbestos may be phased out.



The position of Prime Minister Narendra Modi's new government is unclear, but during 12 years as chief minister of Gujarat state, Modi oversaw a boom in asbestos manufacturing and in the asbestos-laden ship-breaking industry.

Meanwhile, village-level resistance continues. Vaishali sparked other protests, including in the nearby district of Bhojpur.

"We'll start a people's revolution if we have to," said blacksmith Dharmatma Sharma, founder of a local environmental group.

"Many people are not aware of the effects, especially the illiterate," said Madan Prasad Gupta, a village leader in Bhojpur, sipping tea with other villagers at the roadside tea shop he built decades ago when he had no idea what asbestos was.

Over his head: a broken, crumbling asbestos cement roof.

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# Forgotten asbestos mine sickens Indian villagers

By KATY DAIGLE  
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RORO VILLAGE, India (AP) — Asbestos waste spills in a gray gash down the flank of a lush green hill above tribal villages that are home to thousands in eastern India. Three decades after the mines were abandoned, nothing has been done to remove the enormous, hazardous piles of broken rocks and powdery dust left behind.

In Roro Village and nearby settlements, people who never worked in the mines are dying of lung disease. Yet in a country that treats asbestos as a savior that provides cheap building materials for the poor, no one knows the true number and few care to ask.

"I feel weak, drained all the time," Baleman Sundi gasped, pushing the words out before she lost her breath. "But I must work." The 65-year-old paused, inhaled. "I don't have a choice." Another gasp. "I have to eat."

Sundi and 17 others from a clutch of impoverished villages near the abandoned hilltop mines were diagnosed in 2012 with asbestosis, a fatal lung disease. One has since died. Tens of thousands more, some of them former mine workers, remain untested and at risk. Asbestos makes up as much as 14.3 percent of the soil around Roro Village, analysis of samples gathered by The Associated Press showed.

Few have done anything to help people such as Sundi. The villagers have no money for doctors or medical treatment, and cannot afford to move.

Neither the government nor the Indian company that ran the mines from 1963 to 1983 has made any move to clean up the estimated 700,000 tons of asbestos tailings left scattered across several kilometers (miles) of hilly mining area.

The mine's operator, Hyderabad Asbestos Cement Products Ltd., nowadays known as HIL Ltd., says it has done nothing illegal.

"The company had followed all rules and procedures for closure of a mine and had complied with the provisions of the law, as in force in 1983," it said in a statement released to the AP.

Sundi and the others are suing in the country's environmental court for cleanup, compensation and a fund for future victims of asbestos-related disease. If they win, the case would set precedents for workplace safety and corporate liability, subjects often ignored or dismissed in developing India.

"There will be justice only if we win," Sundi rasped. "Whoever did this must pay."

India placed a moratorium on asbestos mining in 1986, acknowledging that the fibrous mineral was hazardous to the miners.

But that was the government's last decision curtailing the spread of asbestos. It has since embraced the mineral as a cheap building material. Today India is the world's fastest-growing market for asbestos.

In the last five years, India's asbestos imports shot up 300 percent. The government helps the \$2 billion asbestos manufacturing industry with low tariffs on imports. It has also blocked asbestos from being listed as a hazardous substance under the international Rotterdam Convention governing how dangerous chemicals are handled.

The country keeps no statistics on how many people have been sickened or died from exposure to the mineral, which industry and many government officials insist is safe when mixed with cement.

Western scientists strongly disagree.

The World Health Organization and more than 50 countries, including the United States and all of Europe, say it should be banned in all forms. Asbestos fibers lodge in the lungs and cause many diseases. The International Labor Organization estimates 100,000 people die every year from workplace exposure, and experts believe thousands more die from exposure elsewhere.

"My greatest concern is what will happen in India. It's a slow-moving disaster, and this is only the beginning," said Philip Landrigan, a New York epidemiologist who heads the Rome-based Collegium Ramazzini, which pioneered the field of occupational health worldwide.

"The epidemic will go largely unrecognized," he said. Eventually, "it's going to end up costing India billions of dollars."

From the top of Roro Hill, a small boy leaped out to slide down the cascade of fluffy grey dust. A few villagers followed, nudging a herd of cows and goats. Huge clouds billowed in their wake.

The villagers often ignore the warnings from visiting doctors and activists to stay away from the waste. Many don't believe the asbestos, which looks like regular rocks and dirt, could be dangerous. Others are more fatalistic, noting they hardly have a choice.

"What can we do? This is our land," said 56-year-old Jema Sundi, diagnosed with asbestosis though she never went into the mines. "We tell the children, don't go there. But they are children, you cannot control them."

She then noticed her 4-year-old nephew Vijay, his tiny body covered with chalky white streaks, shrinking into himself as if trying to disappear. "You went up there today again?" she exclaimed.

Vijay, lowering his head, attempted a half-smile.

When Hyderabad Asbestos first began mining in Jharkhand in 1963, India was in its second decade of independence and attempting to industrialize. Most services and industries were nationalized, but some heavy industries and mining were opened to private companies, many of which operated opaquely.

Hydrabad Asbestos employed about 1,500 people in the asbestos mines. Most were tribal villagers eager to participate in the country's development. But for them that development never arrived.

Kalyan Bansingh, lead plaintiff in the court case, worked more than a decade building scaffolding inside newly blasted mining caverns. Like many laborers across India, he took to chewing an unrefined sugar product called jaggery in the misguided belief that airborne fibers would adhere to the sticky bolus and stay out of his lungs.

Sometimes the company provided the jaggery along with his \$2 weekly salary, but it never offered him protective masks or clothing, he said.

Bansingh regrets the job, even if it was the only paid work he ever had. "I can't run or walk long distances. I am breathless with just a few steps," the muscular 70-year-old said.

HIL said it followed strict health and safety policies, and that "no health or environmental damage was reported during the mine operations." The company did not address whether it had ever sent anyone to check on the villagers' health since the mines closed. Villagers told AP they were never been invited for a company-sponsored checkup after 1983.

The fact that Bansingh and the other plaintiffs ever had the opportunity for a diagnosis was extremely rare. Like most people in villages at the foot of Roro Hill, they

cannot read or write. They live in makeshift homes of hard-packed mud, thatched roofs and tidily swept dirt floors.

"The idea that the environment, something that has always provided and been taken for granted, could be causing them harm is a notion that just doesn't occur to them," said T.K. Joshi, a doctor who heads India's only university department specializing in occupational health. "And unfortunately, most Indian doctors are not trained to ask the right questions."

Because X-rays and detailed patient interviews are rare in rural India, experts say most Indians who suffer or have died from an asbestos-related disease were likely misdiagnosed with tuberculosis, food poisoning or other illnesses common across India.

Now India's largest asbestos-manufacturing company, HIL had revenue of about \$160 million for 2013-14, while spending about \$72 million on imports of asbestos from countries such as Russia, Kazakhstan and Brazil. It plans to scale back manufacturing asbestos-cement products, but the decision was not made for environmental or health concerns.

According to its annual report, the company is diversifying because the "closure of certain mines across the world has resulted in increased dependency on limited sources."

Shutting down asbestos mines is a dirty and costly business. There is also the danger of releasing more fibers into the air just by disturbing waste or breaking down old materials. Hundreds of millions have been spent in the United States alone cleaning old asbestos mines in states including California and Montana.

The samples collected by AP and tested by California-based laboratory EMSL Analytical Inc. showed the soil around Roro Village was between 4.1 and 14.3 percent asbestos.

"It's heartbreaking. Kids are playing on it. People are stirring it up. You don't have to inhale much to put a cap on your life," said Richard Fuller, CEO of the Blacksmith Institute, a New York-based watchdog that estimates 50,000 people could be at risk.

Other, smaller asbestos mines in states including Orissa, Andhra Pradesh, Rajasthan and Chhattisgarh have also been left in a state of neglect similar to Roro's, mining activists say.

Activists, medical workers and lawyers have described an almost Kafkaesque effort to hold the government and company accountable over the past decade, with both declaring the mine closed and subject settled long ago.

At the time the mines were open, Jharkhand state didn't even exist. The land was part of a wider Bihar state, with its capital and official paperwork held in a different city. Neither state has been able to produce the 30-year-old documents pertaining to the mine's closure.

"As far as environmental issues are concerned, we have already dealt with it," Jharkhand state's Mining Secretary Arun, who uses only one name, told AP.

In 2012, an activist group selected 150 Roro-area villagers for chest X-rays. The X-ray plates were examined by Dr. V. Murlidhar, an occupational health specialist, who confirmed 18 had the tell-tale honeycomb pattern of opaqueness that denotes asbestosis.

The results were neither surprising nor unique, he said. "More cases are likely" because asbestosis usually develops over decades of exposure, he said.

Across all of India, only 30 people have ever received marginal compensation — through out-of-court settlements — for asbestos-related disease out of hundreds of thousands of workers who have handled asbestos since the 1960s or lived near mines or manufacturing plants.

Lawyer Krishnendu Mukherjee, who is spearheading the case, has high hopes for a judgment that awards the plaintiffs and future claimants with generous compensation.

A strong verdict, he said, "sends a very strong message out to companies like HIL Ltd. that it's not permissible to simply leave a mine, a factory, whatever it is, in a state of abandonment without looking at the repercussions on the local population or on the workers."

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