

## SHORT BIOGRAPHY for R. Scott Frey

### Contact Information

**Address:** Department of Sociology

McClung Tower 901

University of Tennessee

Knoxville, Tennessee 37996

USA

**Telephone:** 865-974-6021 (office) or 865-974-1169 (direct line)

**Fax:** 865-974-7013

**E-mail:** rfrey2@utk.edu

R. Scott Frey is currently Professor and Head of the Department of Sociology at The University of Tennessee-Knoxville. He was born in 1951 and received his Ph.D. in Sociology from Colorado State University in 1980. He has held appointments at Argonne National Laboratory, The George Washington University, Kansas State University, the National Science Foundation, and the University of North Florida. He has contributed numerous chapters to recent books on globalization and environmental issues and he has published his research in numerous journals, including the *American Journal of Sociology* and the *American Sociological Review*. The Ford Foundation and the US Department of Agriculture have supported his research.

His recent research focuses on the globalization of health, safety, and environmental risks. Attention centers on how and why core-based hazardous products, production processes, and wastes are exported to the peripheral zones of the world-system. He is also engaged in the quantitative analysis of the cross-national determinants of development, including various forms of human well-being and alternative forms of sustainability.

## **The International Traffic of Asbestos**

**R. Scott Frey**

### ***Introduction***

Peripheral countries are dependent on the core countries for capital, technology, and expertise (see, for example, Chase-Dunn 1989; Wallerstein 1979). Such dependent relations reduce the choices available to peripheral countries and place them in weak bargaining positions with the core countries. Many core countries take advantage of this situation by exporting to the periphery hazardous production processes, products, and wastes that are banned or heavily regulated, obsolete, or of declining market value in the core (Frey 1995, 1997, 1998, 2003). Since few peripheral countries have the ability to assess and manage the risks of hazardous exports, the export practices of the core countries contribute to the health, safety, and environmental risks of the periphery (Frey 2003).

I examine here one core-based hazardous export, asbestos, and the role played by Canada in the export of asbestos to the periphery. This particular form of core-periphery reproduction is approached in several steps: first, the nature of asbestos production and trade is examined. Next, the political-economic forces driving the transfer of Canadian asbestos to the periphery are outlined. I then consider the extent to which this transfer contributes to health and safety risks in the periphery, and conclude with a brief discussion of what might be done to curb the problem.

### ***The nature of asbestos production and trade***

Asbestos is a commercial term for several fire-proof mineral fibers. It has several distinguishing properties that have fostered widespread use: incombustibility, high tensile strength, good thermal insulation, good acoustic performance, resistance to solvents and most chemicals, and good reinforcement when mixed with cement (Alleman and Mossman 1997; Virta 2003). It is used in brake linings and pads, cement products (pipes and building materials), building insulation and coating materials, and various textile products. Asbestos has also been used in a host of other

products, including fiber gloves and electrical appliances such as irons, toasters, hairdryers, and washing machines.

Russia and Canada are the largest producers and exporters of asbestos, and Brazil, China, Karakhstan, and Zimbabwe are the next largest producers (Virta 2003). Asbestos production and consumption have declined in the core countries since the 1970s, but production has increased in such nontraditional producer countries as Brazil, China, and Russia. The decline in core production and consumption is linked to the controversy surrounding the adverse health consequences associated with exposure to asbestos dust. During this period, the overall peripheral production and consumption increased.

Canada is the second largest producer and exporter of asbestos (Virta 2003). Around 80 percent of the asbestos produced in Canada is mined in Quebec. Most of this is mined by La Societé Nationale de l'Aminante (SNA), which was established by the provisional government in 1978. The remainder of Canada's asbestos is mined in British Colombia and Newfoundland (Huncharek 1993).

Canada's asbestos exports to the core countries declined by 50 percent in the 1980s, while its exports to the peripheral countries grew substantially during the same period. For instance, during the 1980s, asbestos exports to Algeria increased by 1,000 percent, and exports grew by more than 300 percent to South Korea, Sri Lanka, and Taiwan. Asia has become the most significant market for Canadian asbestos, accounting for 60 percent of all exports. However, between 1985 and 2000, Canada's total exports dropped by roughly 50 percent. Canada has experienced a decline because exports to core countries fell faster than exports to the periphery (see, for example, Huncharek 1993 and Virta 2003).

### ***The political economy of Canadian asbestos exports***

Several political and economic forces characterizing relations within and between core and peripheral countries have contributed to the growth of asbestos exports to the periphery.

#### *Problems in the core*

Asbestos use in the core grew dramatically after World War II, but it has declined

substantially since the early 1970s (Alleman and Mossman 1997; Virta 2003). This decline is attributed to increased core regulation of asbestos mining, workplace exposure, air pollution associated with industrial manufacturing, the marketing of products containing asbestos, maintenance and removal of asbestos from buildings, and waste disposal. Increased regulation has reduced demand for asbestos in the core and, in turn, reduced revenues for major producers like Canada (Huncharek 1993; Virta 2003).

Since the Canadian and Quebec governments have a financial stake in continued asbestos mining and production, as do asbestos workers and the asbestos industry, efforts have been undertaken to revitalize the market. The state and the asbestos industry have spent millions of dollars in the marketing and promotion of asbestos in the peripheral countries. The benefits of asbestos have been emphasized and its risks suppressed. There are numerous accounts of asbestos shipped without warning labels and of efforts to pressure peripheral countries against regulating asbestos. Canadian asbestos interests have engaged in a host of other unscrupulous activities, ranging from the shipment of large quantities of asbestos free of charge to the sponsorship of trade fairs under the guise of international scientific conferences. These activities have been tolerated because there are few restrictions on the activities of international capital in the periphery (Hunharek 1993; Kazan-Allen 2004).

#### *Problems in the periphery*

Confronted with poverty and the resulting political pressure, debt, low commodity prices, and a world system that does not allow them full participation in economic production and exchange (Chase-Dunn 1989), many peripheral countries have chosen the path of rapid industrialization. As a result, they are willing to take anything offered to them (hazardous products and production processes such as the milling and use of asbestos in textiles, cement products, and related products) that may advance their economic and developmental interests. Canadian exporters have found a ready market in the periphery for their asbestos, because many peripheral countries need cheap and durable building materials and pipes for transport of sewage and water. In turn, economic incentives provided by Canadian asbestos interests (in

the form of bribes and kickbacks to state authorities) encourage peripheral state support of asbestos imports. These interrelated forces represent strong incentives for many peripheral countries to import and use Canadian asbestos (e.g., Huncharek 1993; Jeyaratnam 1994; Kazan-Allen 2004).

*Role of international banking and developmental organization interests*

Many international banking and developmental organizations have acted as an asbestos support group as peripheral countries have attempted to industrialize their economies and deal with public health problems centering around water quality and sewage control. Lending policies of the World Bank, the International Monetary Fund, the Inter-American Development Bank, and other regional development banks have promoted asbestos use by providing loans for the construction of textile plants using asbestos and asbestos cement plants, as well as construction projects using asbestos building materials. Various United Nations organizations have provided technical information and assistance in the use of asbestos building materials in water and sewage projects.

***Risks, vulnerabilities, and a cost-benefit assessment***

*Human health risks*

Exposure to asbestos in the workplace, in the ambient environment, and via consumer products is a problem for many peripheral countries (Joshi and Gupta 2004). Results of a study of occupational and environmental health specialists from thirteen countries (Botswana, China, Egypt, Honduras, India, Indonesia, Peru, Taiwan, Saudi Arabia, South Africa, Thailand, Turkey, and Venezuela) indicate that asbestos exposure comes primarily through contact with asbestos-cement building materials and piping (Levy and Seplow 1992:169-171). Manufacture of these products and their modification during and after application cause exposure to asbestos dust.

Exposure to asbestos dust is a major health risk (LaDou 2004; Rom 1998; Tossavainen 2004). It is linked to several adverse health consequences, including lung and gastrointestinal cancer; asbestosis (a condition in which scar tissue builds up in the lungs and interferes with breathing); and mesothelioma (cancer of the lining of the

chest or stomach). The incidence and prevalence of these health conditions in the periphery are high and appear to be increasing (Rom 1998).

Reliable data on the actual rate of asbestos-based disease incidence and prevalence in the periphery do not exist. But several studies from countries such as Brazil, China, Mexico, India, South Africa, and Thailand indicate that the problem is serious. Standardized mortality ratios for asbestosis and mesothelioma among workers and others exposed to asbestos dust in these countries are reported to be significantly elevated (Aguilar-Madrid 2003; Boffetta et al. 1994; Levy and Seplow 1992; Matos and Boffetta 1994).

#### *Vulnerabilities*

Many peripheral countries are especially vulnerable to the health risks of asbestos because of inadequate health and safety regulations and limited public awareness of health risks. The health risks of those exposed to asbestos dust are increased because of a high prevalence of tuberculosis and related health conditions among the populations of many peripheral countries. Absence of strong labor unions is also a problem. And a large proportion of the workforce consists of highly vulnerable groups such as children and women of childbearing age (Joshi and Gupta 2004).

#### **Assessing costs and benefits**

Do the benefits of asbestos exports to the periphery outweigh the costs? This is a vexing question because it is difficult to identify, quantify, and evaluate the costs and benefits of asbestos and other such hazards (Ackerman and Heinzerling 2004; Sagoff 1988). In the short turn, core exporters of asbestos such as Canada benefit economically, whereas the periphery importers benefit from cheap and durable building materials and piping for clean water and sewage control. But the long-term health costs (which cannot be adequately estimated) for the periphery overshadow the short-term benefits. There are also important distributional considerations that such assessments do not consider. . Most benefits go to core exporters like Canada, whereas the importing countries bear most of the costs. Costs in the importing countries are also distributed in an unequal fashion, for some groups are able to

capture the benefits and other groups (especially those marginalized by class, race, and gender) bear most of the costs (Aguilar-Madrid et al. 2003).

### ***What is to be done?***

Various actions have been proposed to deal with the asbestos problem in the periphery, ranging from restrictions on the use of asbestos to a total ban on the use of asbestos (LaDou 2004; Kazan-Allen 2004). Consider, for instance, the following selected recommendations regarding workplace asbestos control by the International Labor Organization (ILO) (Levy and Seplow 1992:171–73):

- National asbestos regulations should be established and strictly enforced.
- Asbestos producers and suppliers should label containers and all products that contain asbestos in a way that communicates the risks effectively to workers and users.
- Workers should be required to follow health and safety practices to reduce the risks of exposure to asbestos. Workers and employers should cooperate in the formulation and application of health-and-safety measures.
- Workers exposed to asbestos dust should be given free medical examinations. They should be informed of the examination results and advised about their health situation.
- National governments should promote the dissemination of information about health risks of asbestos and appropriate methods of prevention and control.

Implementing such recommendations would help reduce the human health risks associated with the international asbestos trade. It is unlikely, however, that these recommendations (and those that might have a more dramatic effect on reducing health risks such as a ban on asbestos use) will be enacted in the near future, because powerful political and economic interests profit from the structure of the current asbestos trade. As long as these interests (embedded in an international stratification system based on the unequal exchange of value) remain intact, the human costs of the asbestos trade will persist.

## **References**

Ackerman, Frank, and Lisa Heinzerling. 2004. *Priceless: On Knowing the Price of Everything and the Value of Nothing*. New York: Free Press.

Aguilar-Madrid, Guadalupe et al. 2003. Globalization and the Transfer of Hazardous Industry: Asbestos in Mexico, 1979–2000. *International Journal of Occupational and Environmental Health* 9:272–279.

Alleman, James E., and Brooke T. Mossman. 1997. Asbestos Revisited. *Scientific American* 27 (July):70–75.

Boffetta, P., M. Kogevinas, N. Pearce, and E. Matos. 1994. Cancer. In *Occupational Cancer in Developing Countries*, edited by N. Pearce, B. Matos, H. Vainio, P. Boffetta, and M. Kogevina, 111–26. Lyon, France: International Agency for Research on Cancer.

Chase-Dunn, Christopher. 1989. *Global Formation*. Cambridge, MA: Basil Blackwell.

Frey, R. Scott. 1995. The International Traffic in Pesticides. *Technological Forecasting and Social Change* 50:151–69.

———. 1997. The International Traffic in Tobacco. *Third World Quarterly* 18:303–19.

———. 1998. *The Hazardous Waste Flow in the World-System*. In *Space and Transport in the World System*, edited by Paul Ciccantell and Stephen G. Bunker. Westport, CT: Greenwood Press.

———. 2003. The Transfer of Core-Based Hazardous Production Processes to the Export Processing Zones of the Periphery: The Maquiladora Centers of Northern Mexico. *Journal of World-Systems Research* 9:317–54.

Huncharek, Michael. 1993. Exporting Asbestos: Disease and Policy in the Developing World. *Journal of Public Health Policy* 14:51–65.

Jeyaratnam, J. 1994. Transfer of Hazardous Industries. In *Occupational Cancer in Developing Countries*, edited by N. Pearce, E. Matos, H. Vainio, P. Boffetta, and M. Kogevinas, 23–29. Lyon, France: International Agency for Research on Cancer.

Joshi, T.K., and R.K. Gupta. 2004. Asbestos in Developing Countries. *International Journal of Occupational, Medical, and Environmental Health* 17:179–85.

LaDou, Joseph. 2004. The Asbestos Cancer Epidemic. *Environmental Health Perspectives* 112:285–90.

Levy, Barry and Andrew Seplow. 1992. Asbestos-Related Hazards in Developing Countries. *Environmental Research* 59:167–74.

Matos, E., and P. Boffetta. 1994. Other Diseases. In *Occupational Cancer in Developing Countries*, edited by N. Pearce, E. Matos, H. Vainio, P. Boffetta, and M. Kogevinas, 129–39. Lyon, France: International Agency for Research on Cancer.

Rom, William N. 1998. Asbestos-Related Diseases. In *Environmental and Occupational Medicine*, edited by William N. Rom, 349–75. New York: Lippincott-Raven.

Sagoff, Mark. 1988. *The Economy of the Earth*. Cambridge: Cambridge Univ. Press.

Tomatis, L. 1995. Socioeconomic Factors and Human Cancer. *International Journal of Cancer* 52:121–25.

Tossavainen, Antti. 2004. Global Use of Asbestos and the Incidence of Mesothelioma. *International Journal of Occupational and Environmental Health* 10:22–25.

Virta, Robert L. 2003. *Worldwide Asbestos Supply and Consumption Trends from 1900 to 2000*. Open-File Report 03–83, U.S. Department of the Interior, U.S. Geological Survey.

Wallerstein, Immanuel. 1979. *The Capitalist World Economy*. New York: Cambridge Univ. Press.