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TRADE IN DISSERVICES:  
ENVIRONMENTAL AND HEALTH DAMAGES IN INTERNATIONAL TRADE

by

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and

Dr. C. Ford Runge



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TRADE IN DISSERVICES:

ENVIRONMENTAL AND HEALTH DAMAGES IN INTERNATIONAL TRADE\*

Hon. Richard Nolan\*\*

Dr. C. Ford Runge\*\*

On January 1, 1989, the European Community (EC) announced a ban on all beef imports from the United States containing hormones used to help fatten cattle. Citing health risks, the EC action touched off a cycle of retaliation that threatens the world trading system. This apparently isolated example of health regulations acting as trade barriers is part of an emerging pattern of environmental and health issues with major consequences for the world economy. These consequences are especially important to trade between developed and developing nations. Consider these other developments.

- The American Soybean Association has conducted a campaign emphasizing the health risks of palm oil, which competes directly with soybean oil in the processed food market. Palm oil is produced almost entirely in developing countries, notably Malaysia and coastal Africa.

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\*A speech prepared for the Conference on a Magna Carta for International Economic Development: Rights and Responsibilities of Investors and Developers of Industrialized and Industrializing States, Port-of-Spain, Republic of Trinidad and Tobago, January 19-22, 1989.

\*\*Hon. Richard Nolan is President of the Minnesota World Trade Center and a former member of Congress from Minnesota. C. Ford Runge is Director of the Center for International Food and Agricultural Policy and an Associate Professor of Agricultural and Applied Economics at the University of Minnesota. During 1987-88 he served as Special Assistant to the U.S. Ambassador to the GATT in Geneva, Switzerland.

- In 1988, a major controversy broke out over Italy's shipment of tons of hazardous wastes to Nigeria. The wastes, expensive and difficult to dispose of in the EC, were shipped for disposal where regulations are considerably less stringent. After the action provoked an international incident, they were returned.
- In 1987, the Sandoz chemical plant in Basel, Switzerland was the site of an environmental calamity, when tons of fertilizers and chemicals spilled into the Rhine River, killing fish and aquatic life along hundreds of miles. Largely lost amidst the public uproar was the fact that the majority of the toxic products spilled, while manufactured in Switzerland, were destined for markets in developing countries.

#### THE PROBLEM

These examples are part of an emerging problem: environmental and health risks are increasingly traded among nations along with goods and services. These risks are the opposite of services--they are environmental and health disservices traded across national borders. These problems arise directly from the transfer of agricultural technology, and will increasingly affect international investment flows, trade and development. They are therefore an important subject for consideration by this group.

This emerging pattern of trade arises from three sources. The first is the increasing role of chemicals and fertilizers promoting agricultural productivity. This links environmental and health concerns to agricultural policy as never before. Agriculture is a natural meeting point for environmental, health, and trade issues. Food and human health are

intimately connected; agriculture is increasingly dependent on chemical and fertilizer inputs; it also is a major trade sector in developed and developing countries.

The second source of the problem is the emergence of a two-tiered international structure of environmental regulation. Increasingly stringent rules and regulations in developed countries result from a rising concern with environmental quality and human health. In most developing countries, however, food production and agricultural development remain the primary focus of concern. This creates incentives to export restricted agricultural and industrial chemicals--or whole production processes--from North to South.

Third, when products carrying risks are reimported into developed country markets, competing producers may demand protection, converting environmental and health concerns to non-tariff trade barriers. As international trade increases, the linkages from environmental and health concerns to agriculture take on significance for organizations such as the General Agreement on Tariffs and Trade (GATT) which has made them a focus of the agricultural trade negotiations in the Uruguay Round.

In developed countries, increased costs of production resulting from stricter regulations put producers in a less competitive cost-price squeeze, adding to their incentives to fight imports through environmental or health restrictions. In developing countries, meanwhile, heavy use of pesticides, herbicides and fertilizers marketed without regulation is leading to major health and environmental impacts.

## SOURCES OF THE PROBLEM

### Growing Chemical and Fertilizer Use

The increasing role of chemicals and fertilizers promoting agricultural productivity has positive as well as negative dimensions. While many criticize the trend, the fact is that these production inputs have been responsible for much of the global increase in agricultural output, without which billions of people would be both poorer and more hungry than they are today. In Indonesia, for example, rice production grew at an average rate of five percent per year from 1968 to 1984. By 1985 the country was an exporter rather than an importer of rice. Yet roughly half of this increase is attributed to massive subsidies for fertilizers and chemicals. Robert Repetto, of the World Resources Institute, documents the substantial ecological costs of such policies, including water pollution, destruction of breeding habitat for coastal fish populations, and the elimination of natural predators. This has led in turn to insect infestations and subsequent overapplications of pesticides, which have actually harmed the rice crop.<sup>1</sup>

In sum, increasing production and consumption of chemicals and fertilizers over the last forty years has created a major and beneficial flow of trade. But this trend has been accompanied by significant disservices. The point is not to end the use of these chemicals, but to use them responsibly and knowledgeably. Modern chemical inputs require substantially more information to use safely and effectively. Among traditional farmers, this knowledge is often lacking. While the inputs

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<sup>1</sup>Robert Repetto, Paying the Price: Pesticide Subsidies in Developing Countries, World Resources Institute, Washington, D.C. 1985.

themselves are aggressively marketed and subsidized, farm-level education (including basic literacy necessary to read package instructions) is seldom given comparable attention.

Responsible use of powerful chemical agents also requires attention to land-use patterns. Where crops are heavily irrigated, surface and groundwater pollution is likely unless runoff and drainage are carefully controlled. On hilly or deforested lands, where soil fertility is most likely to be low, heavy applications of these chemicals flow rapidly into rivers and streams. Regulating which lands are appropriate for using these chemicals is an important step which is just now beginning in North America and Western Europe. In Minnesota, for example, we have developed a land-targeting scheme as part of our Reinvest-in-Minnesota program that promises to reduce erosion and improve water quality by guiding land use toward high-productivity, low-vulnerability terrain.

#### Structure of Environmental Regulation

The second source of the problem arises from the different priorities of developed and developing countries. In the developed countries of North America and Western Europe, the "food problem" is solved. The farm problem arises not from too little food and land in production, but too much. As predicted by Engels' Law, the incomes of developed countries have increased, and the share of this income spent on food has fallen in proportion to other goods and services. In contrast, environmental quality and health concerns have grown in importance with increasing income levels. They are "superior goods," as economists use the term, in the sense that they play a larger role in the national budget as national



incomes increase.<sup>2</sup>

In low-income developing countries, the share of national resources devoted to food and agriculture remains large, creating substantial markets for yield-increasing chemicals and fertilizers. Environmental quality and occupational health risks are widely perceived as a less pressing concern than economic development. Even if environmental and health risks are acknowledged, the income levels of most developing countries do not permit a structure of environmental regulation comparable to that in the North.

This difference in priorities creates a two-tiered structure of international environmental regulation. Stricter regulatory regimes in developed countries, when paired with lax or non-existent regulations in developing countries, increase the North-South flow of environmental risks. A kind of "environmental arbitrage" results, in which profits are gained by exploiting the differential in regulations. In the United States, for example, the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the Safe Drinking Water Act (SDWA) and the 1990 Farm Bill are all likely to be amended in ways that effectively constrain land use choices.<sup>3</sup> These are but several examples which may lead firms to expand in markets where regulatory oversight is less constraining.

#### Regulation as Protectionism

U.S. consumers are made increasingly aware of environmental and health risks posed by imported agricultural products produced with chemicals that

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<sup>2</sup>Carlisle Ford Runge, "Induced Agricultural Innovation and Environmental Quality: The Case of Groundwater Regulation," Land Economics (1987): 249-58.

<sup>3</sup>Sandra S. Batie, "Agriculture as the Problem: The Case of Groundwater Contamination," Choices (3rd quarter, 1988): 4-7.

are restricted in domestic markets. In the Caribbean Basin, an important example is fruit and vegetable production. While Caribbean farmers are encouraged to use pesticides, herbicides and fertilizers, regulations against some of these products in North America are rapidly becoming barriers to market access. The beef hormone dispute between the U.S. and EC is another example showing the difficulty of separating regulatory from trade issues in an open world economy.

Unfortunately, despite recent attempts to deal with these issues in forums such as GATT, international responses have been inadequate, in part because the problem itself has not been clearly recognized. The Food and Agriculture Organization of the United Nations (FAO) has worked to develop comprehensive rules affecting food and agricultural health and safety,<sup>4</sup> but this work has not been given the force and backing of international institutions. The World Bank/IMF system, while recently acknowledging the importance and severity of ecological factors in project development and planning, has not confronted the broader trade and development implications of environmental and health issues.

#### CONSEQUENCES OF THE PROBLEM

The global consequences of these problems are increasingly clear. Time magazine even chose to dramatize them by making the global environment its stand-in for 1988 "Man of the Year." The 1987 Brundtland Commission Report, undertaken by the United Nations and the World Commission on Environment and Development, also underscored the need for international

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<sup>4</sup>These rules are called the "Codex Alimentarius." Unfortunately, there are no agree-upon standards for health and sanitary regulations except for a few items, and none are regarded as binding in law.

action on a wide range of environmental issues.<sup>5</sup> Despite these calls to action, little has yet been done to move effectively to reduce environmental and health hazards at the international level.

Beyond ecological considerations are shorter term problems of trade distortion and market access. These distortions threaten more liberal international trade in ways that are particularly damaging to developing country interests. Not only are farmers in the South likely to be denied access to developed country markets, but technological choices in the South are likely to be biased, making farmers more dependent on purchased chemical inputs at the same time that markets for their products are foreclosed. In periods when rapid growth in trade is one of the only avenues out of debt and deficits, these distortions cannot be dismissed as unimportant.

#### ELEMENTS OF A SOLUTION

How can the complex relationship between national environmental and trade policies be addressed? One response, sometimes heard in the U.S., is to loosen the environmental regulatory constraints affecting U.S. producers. We reject this view, not only as bad policy, but because it is inconsistent with the importance we attach to the environment and health both at home and abroad. However, it is important to recognize that tight regulatory constraints do have cost and competitiveness implications, and that the perception that foreign competition does not face similar constraints breeds animosity and protectionism.

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<sup>5</sup>World Commission on Environment and Development, Our Common Future, New York: Oxford University Press, 1987.

The only meaningful way to deal with these problems is through strengthened multilateral institutions, which rationalize domestic regulations in the interest of environmental quality and health and safety. The key is to recognize the inherently international character of environmental quality and health--issues which are similar in nature to human rights. Only the force of international standards defining the duties of nations, corporations and individuals, can hope to resolve these difficult issues.

We would propose a two step attack on the problem. First, existing multilateral institutions must coordinate their efforts. These include the agencies of the United Nations (notably the United Nations Environment Program, the World Health Organization and the F.A.O.), the GATT, and the World Bank-IMF consortium. A broad-based effort from these groups, which already have considerable expertise and experience, is the first condition for success. Some of this coordination is already underway. The GATT, IMF and World Bank, for example, have recently agreed to work more closely on issues of trade, aid and development. The use of environmental and health regulations as trade barriers would provide an especially appropriate focal point for these efforts.

Second, we believe that an international accord on environmental and health regulations would be appropriate, similar in nature to the Montreal Protocol recently agreed to by 40 nations to reduce emissions shown harmful to the ozone layer. Its purpose would be to define the rights, duties, and liabilities of individuals, corporations and nations, so that national regulations on environment and health can be brought more nearly into accord. In the absence of such an agreement, groups within nations will

continue to advocate the use of regulations as disguised protectionism, or loosening standards of environmental quality in the name of greater competitiveness. Our welfare, and that of our children, cannot tolerate such environmental beggar-thy-neighbor policies. We face an historic opportunity to define the future in a way consistent both with enhanced trade and an improved global environment. Economic growth and development cannot continue to be construed as the enemy of environmental quality.