National Foreign Trade Council, Inc.

'Enlightened' Environmentalism or Disguised Protectionism?

Assessing the Impact of EU Precaution-Based Standards on Developing Countries ©

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The National Foreign Trade Council advocates an open, rules-based world economy. Founded in 1914 by a group of American companies that supported an open world trading system, the NFTC now serves nearly 300 member companies through its offices in Washington and New York. The NFTC represents its member companies on trade and investment, export finance, economic sanctions and international tax policies that affect the competitiveness of U.S. companies overseas. It supports open markets, opposes unilateral sanction restrictions on trade, and assures U.S. business access to needed risk insurance and export and project finance.

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I. INTRODUCTION:

A. The Objective of the NFTC Studies

This is the third in a series of studies prepared by the National Foreign Trade Council as part of its Trade and Risk Regulation Project. The goal of the project has been to examine critically the growing use of disguised regulatory trade barriers that have the effect of denying market access to foreign products. In addition to discussing the impact of such measures on industrialized nations' technologically advanced and processed exports, these studies have also focused on lower priced, natural resource driven agricultural and industrial commodity exports of developing countries. These studies are intended to provoke discussion on a national and international level between industry and government about how to eliminate these unnecessary obstacles to trade. They are also intended to encourage serious global consideration of how best to reduce the impact of these measures on the developing and least developed countries for whose benefit the Doha Trade Round negotiations were largely begun. As the Doha Ministerial Declaration itself proclaims,

> "*The majority of WTO Members are developing countries. We seek to place their needs and interests at the heart of the Work Programme adopted in this Declaration*…[W]e shall continue to make positive efforts designed to ensure that developing countries, and especially the least developed among them, secure a share in the growth of world trade commensurate with the needs of their economic development…" (emphasis added). [1]

B. The Findings of the First Two NFTC Studies

The first NFTC study, entitled *Looking Behind the Curtain: The Growth of Trade Barriers that Ignore Sound Science*[2], identified and analyzed a number of national and/or regional technical regulations and standards whose stated objective is to promote human health and safety, animal welfare, environmental protection or consumer choice. The study found that most of these regulations and standards have been promulgated within the EU and justified on the basis of *precaution* to block trade in a wide variety of agricultural and industrial products. This study gathered evidence of the following circumstances: 1) where regulations or standards are not based on 'sound science' or subject to a rational and balanced risk assessment, but are instead grounded on the *Precautionary Principle*, an inherently nonscientific touchstone; 2) where regulations and/or standards are not based on or do not adhere to internationally agreed upon standards developed by international standardization bodies, or otherwise do not recognize equivalent U.S. national standards or regulations; and 3) where U.S.-based exporters are effectively prevented from participating fully in the regulatory drafting and review processes and do not receive adequate and timely notification of regulatory changes (i.e., the regulatory processes are not fully transparent and inclusive). The study concluded that when regulations and standards are not based on 'sound science' they serve as *de facto* trade barriers and have a negative impact on a wide variety of U.S. export sectors, as well as those of developing and least developed countries.

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[1] Ministerial Declaration of the World Trade Organization (WT/MIN/(01)/DEC/W/1), Ministerial Conference Fourth Session, Doha, (Nov. 9-14, 2001), at par. 2.

[2] This study, in both its full and executive summary versions, is accessible on the NFTC website, at: (http://www.nftc.org/default/white%20paper/TR2%20final.pdf) for the full report, and at: (http://www.nftc.org/default/white%20paper/Exec%20SummaryII.pdf) for the Executive Summary.

The second NFTC study, entitled *EU Regulation, Standardization and the Precautionary Principle: The Art of Crafting a Three Dimensional Trade Strategy that Ignores Sound Science*,[3] went a step further. It explained how the EU's use of health and safety, animal welfare and environmental regulations and standards having an extra-territorial impact on the products of and production processes within other countries was not merely an unintended byproduct of the regional integration process. The evidence revealed, rather, that such measures were indicative of a deliberate and systematic campaign waged alongside environmental non-governmental organizations ('ENGOs') to export the *Precautionary Principle* globally, establish it as a norm of customary international law, and alter World Trade Organization ('WTO') rules. In particular, this study shows that the EU has sought to inject the *Precautionary Principle* within: 1) the WTO system through creative interpretation of the SPS and TBT Agreements and through obligations assumed under multilateral environmental agreements; 2) international standards through skilled participation in the international standards development process; and 3) EU free trade and aid agreements and capacity-building initiatives offered to developing countries. It also explains how such a strategy simultaneously protects ailing or lagging EU industries by imposing on foreign industries the same high cost of regulation to which EU industries are subject regionally.

C. The Third NFTC Study

The purpose behind this third NFTC study is to identify and explain how the EU strategy for employing the *Precautionary Principle* adversely affects developing country prospects for economic growth, poverty alleviation, social advancement and environmental protection.

It is generally agreed that developing country government institutions and industries generally lack the experience and financial resources necessary to comply with overly stringent health and safety and environmental regulations and standards that serve as de facto barriers to trade. [4]

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[3] This study, in both its full and executive summary versions, is also available on the NFTC website, at: (http://www.nftc.org/default/white%20paper/WLFfinaldocumentIII.pdf) for the full report, and (http://www.nftc.org/default/white%20paper/precprin2EXECsum803.pdf) for the Executive Summary. The Full Report was also published by the Washington Legal Foundation as a separate Working Paper entitled, Unscientific 'Precaution': Europe's Campaign to Erect New Foreign Trade Barriers". It is accessible on the WLF website, at: (http://www.wlf.org/upload/kogan.pdf).

[4] See, e.g.,: John S. Wilson and Tsunehiro Otsuki, "Food Safety and Trade: Winners and Losers in a Non-Harmonized World", World Bank Development Research Group – Trade, (2001); H. Newing and S. Harrop, "European Health Regulations and Brazil Nuts: Implications for Biodiversity, Conservation and Sustainable Rural Livelihoods in the Amazon", Journal of International Wildlife and Policy 3(2), pp. 109-124, at p. 10 (2000), citing "Summary of SPS Committee of 12-13 March 1998, G/SPS/R/10; John Wilson, Tsunehiro Otsuki, Baishali Majumdar, "Balancing Food Safety and Risk: Do Drug Residue Limits Affect International Trade in Beef?", World Bank Development Research Group – Trade (2002); John S. Wilson and Tsunehiro Otsuki, "To Spray or Not to Spray? – Pesticides, Banana Exports and Food Safety", World Bank Development Research Group - Trade, Policy Research Working Paper 2805 (March 2002); John S. Wilson, Tsunehiro Otsuki, and Mirvat Sewadeh, "Dirty Exports & Environmental Regulation: Do Standards Matter to Trade", World Bank Development Research Group, Trade (March 2002); T. Ademola-Oyejide, E. Olawale Ogunkola, s. Abiodun Bankole, "Quantifying the Trade Impact of Sanitary and Phytosanitary Standards: What is the Known and Issues of Importance", University of Ibidan, Paper prepared for the Workshop on Quantifying the Trade Effects of Standards and Regulatory Barriers, Is it Possible?, Held at the Work Bank (April 27, 2000);

> "Developing countries in particular find the EU's strict food safety requirements disruptive to trade…*In addition to sanitary and phytosanitary standards, new technical product specifications and industrial norms may, in certain cases, impede the exports of developing countries*…The EU has introduced a series of directives in this regard, varying from technical specifications for cars, weighing machines and toys, to the compulsory labeling of genetically modified organisms (GMOs), eggs and voluntary eco-labels. In addition to Community standards, there are regulations at the member-state level.
>
> …*The degree to which this continual flow of new standards helps to restrict imports from developing countries is not properly known. It is clear, however, that WTO notification leads to protests by developing countries*…Some of them expressed their concern…regarding new EU directives on discarded electronic apparatuses proposed by the Commission in 2000. ASEAN countries, Egypt, India and Brazil feared that the export market that they had built up within the EU would be lost if their industries – *usually small or medium-sized firms – were charged with the onus* of recovery and recycling. The Netherlands has raised this question in Brussels, but a definite decision has not yet been reached" (emphasis added). [5]

It is also known that these countries often experience difficulties implementing internationally recognized SPS and TBT standards.[6] Furthermore, it is commonly recognized that the technical assistance and funding provisions contained within the several multilateral environmental agreements in force today[7] are inadequate to satisfy the administrative and financial obligations such conventions impose on developing countries.

Notwithstanding these limitations, the EU continues to try to convince individual developing countries that it is in their best interest to develop EU-compatible health and safety and environmental standards. As an inducement, the EU has entered into bilateral and regional trade and aid agreements and capacity building initiatives in Asia, Latin America, and Africa that provide funding and technical assistance to developing countries for purposes of establishing national standards bodies and technical product standards that

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David Wheeler, "Racing to the Bottom? Foreign Investment and Air Pollution in Developing Countries", World Bank Development Research Group, (2000), wherein the World Bank concluded that the 'race-to-the-bottom' scenario of environmental regulation is flawed. The theory's underlying premise has been that free trade will precipitate a collapse in environmental standards, such that polluters would threaten to relocate to pollution havens in the developing world in the face of stringent national environmental regulations. The World Bank's study found that such a model misrepresents the political economy of pollution control in developing countries.

[5] "European Trade Barriers and Developing Countries", Ministry of Foreign Affairs, Sustainable Development Economic Department, Netherlands Embassy (Aug./Sept. 2003), at pp. 65, 67-68.

[6] See, e.g., "WTO Agreements & Public Health, A Joint Study by the WHO Secretariat" (2002), at par. 119. See, also; Standards & Global Trade – A Voice for Africa, John S. Wilson and Victor O. Abiola (editors) The International Bank for Reconstruction and Development (The World Bank) (2003); Gary Hufbauer, Barbara Kotschwar and John Wilson, "Trade Policy, Standards and Development in Central America" (2000), at p. 12; Keith E. Maskus, John S. Wilson and Tsunehiro Otsuki, "Quantifying the Impact of Technical Barriers to Trade" (Dec. 2000), at p. 2..

[7] This third study's focus on the POPs/Rotterdam and Basel Conventions and the EU REACH regulation is intended to highlight the growing movement towards global environmental governance that the EU is promoting through the United Nations Environment Program. See: "The Hazardous Chemicals and Waste Conventions", The United Nations Environment Program (Sept. 2003), at: (http://www.gdrc.org/uem/waste/all3-overview.pdf).

employ the *Precautionary Principle*.[8] Until the EU has fully secured these arrangements, however, it unilaterally imposes its own stringent regional regulations and standards and/or liberally interprets international environmental agreements in a manner adverse to developing country interests.[9]

The first essay within this study discusses how the Stockholm Convention on Persistent Organic Pollutants (POPs), stringent EU regulations proposed to implement that Treaty and narrowly drawn international donor programs adversely impact developing and least developed country economic and social welfare. In particular, it describes how the POPs Treaty, which is largely based on the *Precautionary Principle*, essentially bans the use of DDT as one of several possible effective malaria-prevention options in besieged African nations. In addition, it discusses how the EU regulations go further than the POPs Treaty requirements in banning shipments of POPs to developing countries for use in malaria vector control. Furthermore, this essay discusses how international donor programs sponsored by the EU ban funding for DDT malaria control and how U.S. donor programs fail to promote DDT as a viable alternative. Moreover, the essay notes how ENGO claims that DDT poses possible but unproven environmental risks has created a risk/risk scenario in malaria-stricken countries that has resulted in high mortality rates, substandard health care, negligible economic growth, a poorer quality of life, and increased environmental degradation on the African continent.

The second essay discusses how the Basel Convention's broad definition of 'hazardous waste', the Convention's Ban Amendment prohibition against shipments of waste intended for recovery and recycling, and the proposed revision of the EU Waste Shipment Regulation adversely affects a number of vital developing country industries and related technologies. It points out how this EU regulation invokes the *Precautionary Principle* and implements the Ban Amendment unilaterally without developing country consent. In addition, this essay notes how such measures have been largely promoted by ENGOs and exploited by Brussels even though the definition of hazardous waste has not been conclusively defined by the Convention's Secretariat and the Ban Amendment has not yet entered into force. Furthermore, it emphasizes how such extra-territorial measures violate developing country national sovereignty and threaten the economically and socially important ship-breaking and e-waste recovery industries. These industries are comprised of thousands of small and medium-sized enterprises (SMEs) operating within a number of South and Southeast Asian nations.

The third essay discusses how the extra-territorial scope of the proposed EU REACH Regulation relating to chemicals, even in its revised form, would adversely impact developing country economic growth prospects, labor market stability and social welfare. In particular, it addresses how REACH, which is premised on the *Precautionary Principle*, would threaten the local and global competitiveness of the industrial sectors that produce or

[8] "…Europe has tended to apply [new] SPS norms more stringent than those that previously applied and stricter than those accepted internationally. This change can have disadvantageous consequences for developing countries. *Technical assistance is thus essential to help them satisfy such standards and set them themselves*" (emphasis added). "European Trade Barriers and Developing Countries", at p. 67.

[9] See, e.g., Stephen Pollard, Alberto Mingardi, Cecile Philippe and Dr. Sean Gabb, "EU Trade Barriers Kill", Centre for New Europe (Sept. 2003).

use chemicals in manufacturing or in finished products within a number of Asian and Latin American countries. Also, this essay explains how REACH would compromise the viability of the thousands of SMEs that provide 'inputs' to those sectors by subjecting them to costly and administratively burdensome requirements with which they lack the experience and resources to comply. In addition, it notes how the burdens imposed by REACH would place unnecessary social pressures on some developing countries and possibly trigger a return to the illicit drug trade in others. The discussion is based on the many comments submitted by Asian and Latin American governments and industry trade associations in connection with the EU REACH internet consultation process that took place between May and July 2003.

One developing country commentator from Kenya has passionately described the social and economic plight of developing countries amid this largely unilateral effort [10] to employ the *Precautionary Principle* globally.

> "*Why do developed countries impose their environmental ethics on poor countries that are simply trying to pass through a stage they themselves went through*? After taking numerous risks to reach their current economic and technological status, why do they tell poor countries to use no energy, agricultural or pest control technologies that might pose some conceivable risk of environmental harm? *Why do they tell poor countries to follow sustainable development doctrines that really mean little or no energy or economic development*?
>
> If only people in developed countries [who] are 'passionate about environmental causes'…could see…the millions who are poverty stricken, sick, starving and even dying because of misguided environmental policies…[B]ut they ignore [them]…*They send us aid, but it would be far better if they let us trade with them, develop our resources, set our own policies and determine our own destinies*. People in developed countries can afford to worry about climate change, endangered bugs and a few hundred more dying of cancer before they are 70. *We have to worry about millions of people dying of malaria, typhoid, dysentery and starvation. Millions of parents in sub-Saharan Africa must worry about where they will get their next meal, whether the water they drink will kill them and whether their babies will live beyond age five…*
>
> …[S]ome companies have been forced by lobbyists to engage in activities that make the predicament of people in poor countries even worse…[They]…support organizations and governments that oppose energy and economic development, international trade and the use of DDT. These groups say Africa and India should rely on expensive make-believe energy options, like wind and solar, *that further delays our economic, health and environmental progress*…
>
> To think long term does not give rich countries a license to restrict poor nations from making use of their resources. *People need access to health care, they need to trade and they cannot do this when science is turned into a political tool to harass the poor*.
>
> African countries face other tough battles, too. *Europe in particular* has confined their exports largely to primary products and imposed high tariffs on processed commodities. *Many agricultural products from poor countries face quarantine rules that act as trade barriers, if Africans do not follow strict environmental standards*.
>
> *Even if they use DDT to stop terrible malaria epidemics* or plant genetically modified bananas or

[10] See, e.g., Alan Oxley, Kristen Osborne and Lisa Marty, "European Unilateralism – Environmental Trade Barriers and the Rising Threat to Prosperity Through Trade", Australian APEC Study Centre, Monash University (Aug. 2003).

> sweet potatoes to prevent famines, *these standards block our produce out of the richer markets*. Along with price-distorting domestic subsidies, *these policies have severely impacted economic growth in poor countries*" (emphasis added). [11]

These criticisms of European standards and regulations are expressed also by commentators and government officials from Asian and Latin American countries. If WTO governments are to pay anything more than lip service to the Doha Ministerial Declaration, then they must address these concerns. To that end, this third NFTC study shows how the imposition of *precaution-based*, rather than risk-based health and safety and environmental standards and regulations,[12] further *precludes* developing and least developed countries from participating fully in the international trading system. It is only after considering the impact of these measures on developing and least developed country economic and social advancement that one may ask the question: do such measures reflect 'enlightened' environmentalism or disguised protectionism? [13]*

II. The Stockholm Convention On Persistent Organic Pollutants (POPs), Proposed

[11] James S. Shikwati , "Lethal Environmental Ethics" (Jan. 24, 2003), Inter Region Economic Network (http://www.irenkenya.org/articles/shikwati_january242003.htm).

[12] See: Lawrence Kogan, "The Precautionary Principle and WTO Law: Divergent Views Toward the Role of Science in Managing Risk," a forthcoming research paper that will appear in the Spring 2004 issue of the *Seton Hall Journal of Diplomacy and International Relations*.

[13]* The title of this study was inspired by a paper prepared by authors Andrew Jordan and Timothy O'Riordan entitled, "The Precautionary Principle in Contemporary Environmental Policy and Politics". That paper, in part, explained the context in which the Precautionary Principle evolved in Germany. It arguably elucidates the motivations underlying the current EU campaign to export the Precautionary Principle globally. According to these authors, "Initially, precaution was by German authorities used in the early 1980's to justify unilateral application of technology based standards to reduce acid rain. But once in place, the Germans pressed the EU to adopt similar standards across the rest of Europe, to prevent its own industries being placed at a competitive disadvantage. *This was not enlightened environmentalism at work but the dictates of a competitive market of member states*…According to Weale (1998), 'The policy debate was more dominated by competitive considerations rather than environmental concerns, as much of the delay [in adopting measures] was due to fears about comparative costs and benefits of individual states'…As Boehmer-Christiansen (1994:30) notes in a comprehensive review of the German experience: '*The precautionary principle therefore helped to lay the conceptual and legal basis for a proactive environmental policy, which once spread into Europe, was also directed at ensuring 'burden sharing' in order that German industry would not lose its competitive edge*, but rather gain new markets for its environment-friendly technology and products'" (italicized emphasis added). Andrew Jordan and Timothy O'Riordan, "The Precautionary Principle in Contemporary Environmental Policy and Politics", Paper prepared for the Wingspread Conference on 'Implementing the Precautionary Principle', 23-25 January 1998, Racine, Wisconsin, at pp., 2-3, at: (http://www.johnsonfdn.org/conferences/precautionary/jord.html).

EU Regulations Banning DDT and International Donor Programs that Do Not Fund DDT Use Seriously Undermine and Threaten Developing Country Public Health Efforts to Control Malaria

A. The Human Toll Imposed By Malaria on Developing Countries

It is "estimated that malaria affects between 300 – 500 million people leading to about one million deaths worldwide [per year]."[14] At least one study has determined that, "[f]orty-four of the 150 countries…with populations over one million in 1995, which account for over 99 percent of the world's population, or 29 percent, have intensive malaria. Thirty-five of these 44 countries are in…the poorest continent, Africa…The only parts of Africa free of malaria are the northern and southern extremes."[15]

> "…More cases of malaria exist in Africa today than there has been at any time in recorded history. *Malaria is one of the major single causes of death in Africa more than any other known cause*. In real terms, over 90 percent of malaria-related deaths occur in sub-Saharan Africa, although about 40 percent of the world's population is at risk…Malaria kills one African child every 30 seconds and 225 children in Africa die every two and a half hours, while about 2,173 children under the age of five die daily in the continent from malaria infection…In 2002, more than 300 million new cases were recorded with over one million deaths from malaria, a majority of which were young children" (emphasis added). [16]

The impact of malaria on individual sub-Saharan African countries and their populations is even more of a human tragedy than these figures reveal.

For example, within Kenya, it has been reported that "malaria…kills 700 Kenyans a day…The disease…currently accounts for up to half of all hospital admissions in Kenya."[17] According to the "British ambassador to Ethiopia, Myles Wickstead…'Malaria is one of the biggest killers in Ethiopia'…Malaria claims around 100,000 lives in Ethiopia each year – 250 people a day – out of a population of 70 million."[18] "Malaria [in other words] affects 75% of the population in Ethiopia."[19] In Nigeria, alone, 60 million come down with malaria

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[14] Statement of Peter Winstanley, Director, of the Welcome Trust Tropical Center at the University of Liverpool, United Kingdom. See: Ikenna Emeka Okpani, "Expert Says Malaria Affects Over 300m People Annually", Daily Trust (Abuja), at: (http://allafrica.com/stories/200311110930.html).

[15] John Luke Gallup and Jeffrey D. Sachs, "The Economic Burden of Malaria", CID Working Paper No. 52, Center for International Development at Harvard University (July 2000), at p. 3. The study concluded that, "[t]he location and severity of malaria are mostly determined by climate and ecology, not poverty per se. Areas with intensive malaria are almost all poor and [they] continue to have low economic growth. The geographically favored regions that have been able to reduce malaria have grown substantially faster afterwards. The estimated impact of malaria on economic growth, using two different measures of malaria, is very large, but the mechanisms behind the impact are not clear." Ibid., at p. 12.

[16] Sola Ogundipe, "Rolling Back the Malaria Burden", Vanguard (Nov. 18, 2003), at: (http://allafrica.com/stories/200311180562.html).

[17] Henry Neondo, "DDT Row Splits Kenya's Scientific Community", Africa Fighting Malaria.org (Aug. 22, 2003), at: (http://www.africafightingmalaria.org).

[18] "British Government Pledges U.S. $2.5 Million to Fight Malaria", UN Integrated Regional Information Networks (Nov. 12, 2003), at: (http://allafrica.com/stories/200311120068.html).

[19] "UK Contributes 2,500,0000 Dollars to Fight Malaria in Ethiopia", Addis Tribune, (Nov. 14, 2003), at: (http://allafrica.com/stories/200311140354.html); See, also: "Ethiopia: Government Urges Action Against Malaria", UN OCHA Integrated Regional Information Network, (Sept. 29, 2003), at:

attack at least twice in a year with no less than 80 percent of the population exposed to the disease."[20] Malaria "kills an estimated 300,000 Nigerians a year."[21] In the West African country of Burkino Faso, "the death rate [attributable to malaria] among children under five is 1,444 per 100,000, one of the highest in Africa."[22] Zambian Health Minister Brian Chituwo has indicated that "malaria was…during the past two decades… the leading cause of in-patient and out-patient attendance, including deaths among children and adults in Zambia. He said the disease had also been cited as a major contributing factor and cause of maternal deaths of about 729 per 100,000, a rate that was 40 times higher compared to developed countries. 'Malaria incidents have gone up during the last ten years from 235 to 375 per 1,000. This entails that there are about 3.2 million cases per year while the fatality rate has also trebled from 10 percent in 1976 to 51.3 percent in 2001'…Zambian National Assembly Speaker, Amusaa Mwanamwambwa said malaria currently accounted for close to 40 percent of all under-five deaths in Zambia."[23] Furthermore, "Malaria is the leading cause of mortality in Burundi, killing more people than AIDs or war. At least 50 percent of medical consultations in the country concern malaria patients. It is particularly common in pregnant women and children aged under five years, especially those living in camps for the displaced."[24] Malaria is also a major cause of infant mortality and morbidity in Uganda, the Gambia and the Sudan, not to mention many other sub-Saharan countries.[25]

Malaria risk, however, is not confined to the African continent. Malaria affects many other countries within the tropical and subtropic zone. For example, India, the country with the greatest number of poor people in the world, has a serious malaria problem. Malaria incidence in India dropped dramatically following the introduction of programs for indoor residual spraying in the 1950s.

> "DDT spraying had reduced the number of malaria cases from 75 million to around 50,000 in

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(http://www.reliefweb.int/w/rwb.nsf/0/e5036bff8aeedea0c1256db0003d36cl?OpenDocument). "*Malaria is the third biggest killer in the Horn of Africa country* and claims around 250 lives a day. Some 40 million people in the country are at risk of infection" (emphasis added).

[20] Sola Ogundipe, "Rolling Back the Malaria Burden".

[21] Tamela Hultman, "Shell Backs Health and Food Security Projects in Nigeria with Africare and USAID", AllAfrica.com News (Nov. 17, 2003), at: (http://allafrica.com/stories/2003/11170303.html). "Julius Coles, the Africare president, called malaria one of Africa's most serious health problems, '*in some cases, a more important killer than HIV/Aids'*…[Shell's] three-year malaria control campaign…will focus on selected communities in six Nigerian states in the oil producing Niger Delta region along the country's Atlantic coast. The rivers and mangrove forests of the area, home to an estimated 10 million people, provide a fertile breeding ground for the mosquitoes that carry the malaria parasite, he said" (emphasis added).

[22] "Country Gets $26m for Action Against HIV/Aids and Malaria", United Nations Development Program News (Nov. 13, 2003), at: (http://allafrica.com/stories/200311131013.html).

[23] "Aids, Malaria, TB Diseases of Mass Destruction", The Times of Zambia (Nov. 11, 2003), at: (http://allafrica.com/stories/200311110762.html).

[24] "Government Launches New Malaria Medicine", UN Integrated Regional Information Networks (Nov. 11, 2003), at: (http://allafrica.com/stories/200311110668.html).

[25] See: Bamuturaki Musinguzi, "$2m Needed for Malaria Drugs", New Vision News (Nov. 3, 2003), at: (http://allafrica.com/stories/200311030711.html) ; "More Children Dying Despite Anti-Malaria Campaign", UN Integrated Regional Information Networks (Nov. 5, 2003), at: (http://allafrica.com/stories/200311050732.html); "Surge in Malaria Cases in Bahr El Ghazal", UN Integrated Regional Information Networks, NEWS (Nov. 18, 2003), at: (http://allafrica.com/stories/200311180122.html). See, also: "World [Malaria] Risk Zones – Sub-Saharan Africa", at: (http://www.preventingmalaria.info/riskzones/subsaharan.cfm).

> 1961, and the number of malaria deaths from nearly a million in the 1940's to a few thousand in the 1960's…As DDT use declined in India due to the resistance of foreign aid agencies and various UN organizations to fund DDT spraying programs, "the mosquitoes hit back and endemic malaria returned to India [by the mid 1960's]. By 1997, the UNDP's Human Development Report 2000 estimates there were about 2.6 million malaria cases." [26]

Similarly, "Sri Lanka is among six countries in the world, outside of Africa south of the Sahara, which share a third of the remaining global burden due to malaria. Insecticide and drug resistance, financial constraints and decreasing community acceptance of spray programs all contributed to this resurgence. Malaria has been a serious public health problem in much of the North-Central Province of Sri Lanka for decades."[27]

Mexico, as well, has had its share of Malaria epidemics.

> "Malaria is also *a long-standing public health problem* in Mexico. Sixty percent of its territory from sea level to 1,800 meters above sea level presents favorable conditions for transmission. Some 45 million people live in these areas. Ninety percent of all malaria cases occur in five States: Oaxaca, Chiapas, Sinaloa, Michoacán and Guerrero…In the 1940s and 1950s, malaria was one of the main causes of mortality, responsible for an average of 24,000 deaths annually and afflicting an estimated 2.4 million others. In recent years, the incidence of malaria ha[s] declined significantly, to less than 5,000 cases, and no deaths from malaria have been reported since 1982…[T]he *control of the disease had been highly dependent on DDT spraying*" (emphasis added). [28]

B. The Economic and Social Costs Imposed by Malaria on Developing Countries

> "[C]ountries with the weakest conditions of health and education have a much harder time achieving sustained growth than do countries with better conditions of health and education...In short, health status seems to explain an important part of the difference in economic growth rates…*In today's world, poor health has particularly pernicious effects on economic development in sub-Saharan Africa, South Asia, and pockets of high disease and intense poverty elsewhere.* Sub-Saharan Africa has experienced a chronic decline of living standards during the past generation, starting from the lowest base in the world. The heavy burden of disease and its multiple effects on productivity, demography, and education, have certainly played a role in Africa's chronic poor performance…*High*

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[26] Deepak Lal, "The New Cultural Imperialism: The Greens and Economic Development", The Inaugural Julian L. Simon Memorial Lecture, Liberty Institute, New Delhi, (Dec. 9, 2000), at p. 10, at: (http://www.libertyindia.org/seminars/Jslecture_DeepakLal.pdf); Excerpt from Humane Studies Review Vol. 14, No. 3, (2000), at p. 10, at: (http://www.theihs.org/libertyguide/hsr/hsr.php/64.html). According to other developing country commentators, "Prior to DDT use, India recorded 75 million cases of malaria per annum with around 800,000 deaths. After the introduction of DDT to malaria control, the number of cases fell to just 50,000…" See, also: See: Roger Bate and Richard Tren, "Do NGOs Improve Wealth and Health in Africa?", Africa Fighting Malaria (June 12, 2003), at p. 9, at: (http://www.aei.org/docLib/20030624_bate.pdf).

[27] Johan Morner, Robert Bos and Marjon Fredrix, "Reducing and Eliminating the Use of Persistent Organic Pesticides – Guidance on Alternative Strategies for Sustainable Pest and Vector Management", Inter-Organization Program For the Sound Management of Chemicals (IOMC), (2002), at p. 61, at: (http://www.chem.unep.ch/pops/pdf/redelipops/redelipops.pdf). "The IOMC was established in 1995 by UNEP, ILO, FAO, WHO, UNIDO and the OECD. Since 1998, it has also included UNITAR. The purpose of the IOMC is to promote coordination of the policies and activities pursued by the participating organizations, jointly and severally, to achieve the sound management of chemicals in relation to human health and the environment." Ibid., at p. 2.

[28] Ibid., at p. 65. "Mexico continued the use of DDT in malaria campaigns until the 1990s, not only because of its effectiveness, but also because of its low cost and lack of acute toxicity for spray teams, compared to alternative chemical pesticides." Ibid

> *prevalence of diseases such as malaria and HIV/AIDS are associated with persistent and large reductions of economic growth rates. High malaria prevalence, for example, has been shown to be associated with a reduction of economic growth of 1 percent per year or more*" (emphasis added). [29]

This excerpt from the Report of the Commission on Macroeconomics and Health (WHO) is based, in part, on a prior Harvard University study which concluded that, although malaria is prevalent in the poorest countries, it is usually a *cause* rather than a consequence *of poverty*.[30]

The study found, based on cross-country data for the periods 1965-1990 and 1980-1996, that there is a statistically significant correlative relationship between malaria and economic growth. Generally speaking, the study showed that "countries with intensive malaria in 1965 had dramatically lower economic growth in the subsequent twenty-five years…[while]…countries that managed to reduce malaria over the period had much higher economic growth."[31]

The Harvard study, furthermore, identified other avenues through which malaria could have large impacts on the economy. They include foreign direct investment and tourism flows and the limitation on internal movement.

> "Whether or not individuals are significantly debilitated by malaria[32], there are several other channels through which malaria could have large impacts on the economy. *The first is the impact of malaria on foreign direct investment and tourism*. Malaria, unlike diseases resulting from poverty, does not discriminate between rich and poor victims. *As long as malaria protection is imperfect and cumbersome, well-to-do foreign investors and tourists may stay away from malarial countries. A second channel through which malaria may affect the economy is limitation on internal movement.* The better educated and the ambitious who move to the largely malaria-free cities lose their natural protection due to lack of exposure. They may be reluctant to maintain contact with the countryside for fear of infection. Communities in unstable malaria areas may make people from stable malaria areas unwelcome. *In general, the transmission of ideas, techniques, and development of transportation systems may all be stunted by malaria*" (emphasis added). [33]

It is precisely this economic concern [34] that the Lubombo Spatial Development Initiative ('LSDI') Malaria Program was designed to address. The LSDI is a trilateral initiative commenced during October 1999 between the governments of Mozambique, Swaziland and

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[29] "Macroeconomics and Health: Investing in Health for Economic Development", Report of the Commission on Macroeconomics and Health, World Health Organization
Chaired by Jeffrey D. Sachs and *Presented to* Gro Harlem Brundtland, Director-General of the World Health Organization, (Dec. 20, 2001), at pp. 34-35.
[30] See: John Luke Gallup and Jeffrey D. Sachs, "The Economic Burden of Malaria".
[31] Ibid., at p. 11.
[32] Ibid., at p. 11.
[33] Ibid., at pp. 11-12.
[34] South Africa suffered from poor malaria control when it stopped using DDT. "In 1995, the last year South Africa had a comprehensive DDT program, there were only 6,000 malaria cases in the country. According to South Africa's Department of Health, by 2000, resistance had developed to the compound [pyrethroids] that had replaced DDT and that number had risen to 60,000. Worried by these figures, South Africa again began using DDT in 2001. By 2002, cases had again fallen to 15,000." Nicole Itano, "Push to Fund DDT in Fight Against Malaria in Africa", Christian Science Monitor, (May 29, 2003), at: (http://www.globalpolicy.org/socecon/develop/africa/2003/0529malaria.htm).

South Africa. It targets the region of eastern Swaziland, southern Mozambique and northeastern KwaZulu Natal, South Africa, which are linked by the Lubombo mountains.

> "The LSDI aims to develop the Lubombo region into a *globally competitive economic* zone while creating sustainable employment and equity in access to *economic opportunity*...[It recognizes …there is increasing evidence that *malaria control is a positive precursor to development… Promoting the area for agriculture and tourist development* will only be effective once it has been clearly shown that the risk of being infected with malaria is decreased, and that there is an ongoing, sustainable malaria control programme in place" (emphasis added). [35]

In addition to these macro-economic costs, the Harvard study also found that there are less obvious micro-economic costs associated with a lack of malaria control. They include the cost of lost opportunities of household members who help out a person with malaria and the effects of malaria on individual productivity over a person's lifetime. Although the study was unable to reliably measure these costs it, nevertheless, does not mean that they are insignificant.

> "Malaria has life-long effects on cognitive development and education levels through the impact of chronic malaria-induced anemia and time lost or wasted in the classroom due to illness." It has also been shown that "iron-deficiency anemia *per se* [can] affect the cognitive skills of children as well as their cognitive abilities in later life." [36]

Moreover, several recent Africa media reports highlight the significant social and economic costs that malaria imposes on African countries. According to Zambian Health Minister, Dr. Brian Chituwo, "malaria [is] a social economic problem."[37] "In addition to the extremely high rate of infection and death, malaria cripples developing economies through the enormous cost in medical expenses and days of labor lost...The link between malaria and development is very clear. Malaria reduces productivity of labor and increases the already high mortality rate of the African population. It also aggravates the incidence of poverty by reducing the capacity of the poor to earn sustainable livelihood. The poor are more likely to die from malaria attack than the rich because of inability to meet the cost of treatment."[38] According to one Mali physician, "not only does malaria contribute to the gap between rich and poor and keep the poor people poor…the decreased productivity and the perception of elevated risk to foreign investments lead to an estimated $12 billion loss in Africa each year. 'For us, it makes no sense to separate the fight against malaria from the fight against poverty.'"[39] Even "the WHO says [that] malaria has contributed heavily to the substantial

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[35] Brian Sharp, Bronwyn Curtis, Francois Maartens, Amanda Jackson and Rajendra Mahararaj, "Successful Malaria Control Within the Lubombo Spatial Development Initiative Area", (Medical Research Council) on behalf on the Regional Malaria Control Commission of the LSDI, at: (http://www.kzn.org.za/invest/malaria.pdf). LSDI is a public-private partnership funded for the first two years (2000-2001) by The Business Trust, Mozal, The Department of Health in South Africa and the Ministry of Health in Mozambique.

[36] Ibid., at p. 11.

[37] Bivan Saluseki, "Mosquitoes Are Criminals, Should Be Killed – Sampa", the Post, Lusaka, (Nov. 11, 2003), at: (http://allafrica.com/stories/200311111188.html).

[38] Sola Ogundipe, "Rolling Back the Malaria Burden"

[39] Statement of Dr. Fatoumata Nafo-Traore, Mali physician. See: Sarah Bloxham, "Progress Still Small in Fight Against Malaria – Mali Physician Reviews Roll Back Malaria Initiative", briefing hosted by the office of Congressman Donald Payne, sponsored by the United States Agency for International Development (USAID),

economic losses in Africa …WHO country representative Dr. Stella Anyangwe said the losses were mainly as a result of absenteeism from work by highly skilled human resources directly involved in production."[40]

C. Malaria and DDT Use

DDT (dichlorophenyltrichlorethane) was first used in public health programs by the allied forces during World War II, as the primary method employed to halt the spread of malaria.[41] Although DDT had been successful in eradicating malaria in many countries (e.g., the Philippines) and had been supported by the World Health Organization (WHO) and the US Agency for International Development (USAID) for many years thereafter,[42] DDT use has since been mostly abandoned and discouraged by the developed world.[43]

> "In the 1940's malaria [which is transmitted by mosquitoes] afflicted 300 million people worldwide and killed 3 million every year. With the help of DDT, developed nations eradicated this killer disease. Poor countries in Asia and Africa reduced malaria death rates by 70% in the early 1950's. [Subsequent] *pressure from developed countries* [during the 1960's] *drastically restricted the use of DDT, on the basis of environmental concerns*. Last year [2002], malaria again infected over 300 million people and killed over 2 million – most of them in Africa, and half of them children. Those who don't die are often unable to work for weeks or months on end, sapping economies and health care resources" (emphasis added).[44]

Nevertheless, DDT remains today a vital tool and, until recently, a legally available option in the struggle to control the malaria epidemic within many developing countries, especially those least developed.

Unfortunately, environmental concerns surrounding the historic use of DDT for medical and agricultural purposes and POPs in general have slowly diverted focus away from the

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the Global Health Council and Roll Back Malaria, (June 23, 2002), at: (http://usinfo.state.gov/regional/af/usafr/a3062302.htm).

[40] "Aids, Malaria, TB Diseases of Mass Destruction", The Times of Zambia (Nov. 11, 2003), at: (http://allafrica.com/stories/200311110762.html).

[41] See: Roger Bate and Richard Tren, "Do NGOs Improve Wealth and Health in Africa?", at p. 8; See, also: Johan Morner, Robert Bos and Marjon Fredrix, "Reducing and Eliminating the Use of Persistent Organic Pesticides – Guidance on Alternative Strategies for Sustainable Pest and Vector Management", at p. 61.

[42] "So successful was the use of DDT in malaria control that, shortly after the Second World War, the World Health Organization [WHO], with funding from the U.S. Agency for International Development [USAID], launched a global malaria eradication program. The use of DDT in indoor residual spraying (IRS) formed the base of this program. Applicators mixed the insecticide with water and sprayed it on the inside walls of houses where the adult *Anopheles* mosquito rested…Within a few short years, public health efforts using DDT had eradicated malaria from southern Europe and the United States." Roger Bate and Richard Tren, "Do NGOs Improve Wealth and Health in Africa?", at p. 8.

[43] "Despite the initial spectacular successes in malaria control, the eradication plans failed. It soon became clear that basing an entire malaria control program on the use of one weapon, DDT spraying, was not wise. It was difficult to ensure that the spraying was done correctly…in some areas insecticide resistance to DDT meant that the insecticide was not as effective…After the failure of the malaria eradication plans, the WHO [and USAID] abandoned the idea of eradication and embarked on malaria control programs. The vector management of these control programs had a far lower emphasis on the use of DDT in particular and, indeed, on indoor residual spraying with insecticides in general…" Ibid., at p. 9.

[44] See: James S. Shikwati, "Lethal Environmental Ethics", supra.

critically important developing country issues of public health, malaria control and mortality.[45] Emphasis has instead been placed on more esoteric transboundary environmental issues relating to such prior uses, namely, the potential but uncertain environmental impact of POPs traces found in the upper areas of the Northern Hemisphere.[46] With the recent reporting of results from tests performed on EU Environment Commissioner Margot Wallstrom's blood, the EU environmental campaign appears poised to use the global public health card as the primary rationale underlying its environmental agenda.[47] However, it lacks the direct scientific evidence to support its claims.[48]

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[45] "For many years, DDT played a key role in vector control. Millions of human lives were saved by the residual house spraying campaigns. Malaria, usually of the unstable type, was eradicated from substantial areas in the temperate and sub-tropical zones and from some small island states in the tropics. The malaria eradication campaigns brought health services to the community level in many countries and provided employment and livelihood for tens of thousands of people. Yet, as part of this paradigm shift, the concept of a flexible malaria control program geared to generating local solutions to local problems disappeared and traditional multidisciplinary and intersectoral support for malaria vector control operations was replaced by strictly vertical, health sector confined operations. While the new reliance on DDT and other residual insecticides triggered research into the behavior and genetics of vectors, research on the ecology and biology of vectors came to a virtual standstill. The build-up of an environmental load of DDT and its residues started, *although it should be stressed that the proportion of DDT used for public health purposes has been minor compared to the amounts applied in agriculture*, until its banning for agricultural use from the first half of the 1970s" (emphasis added). Johan Morner, Robert Bos and Marjon Fredrix, at p. 35.

[46] It has been claimed for example, that, "Killer Whales swimming in waters around Washington and British Columbia are considered among the most contaminated marine mammals in the world – they carry PCB levels of over 200 parts per million…Polar bears and other animals that feed at the top of the food web are exposed to high concentrations of POPs that accumulate in their body fat…Bald Eagles are one of the many species threatened by DDT and other POPs". See: Clifton Curtis and Cynthia Palmer Olsen, "New Stockholm Convention to Protect Wildlife and People from POPs", World Wide Fund for Nature / World Wildlife Fund (WWF), Wash. DC (2002), cited in Sustainable Development International, pp. 155-158.

[47] In general, "Persistent Organic Pollutants (POPs) are chemicals that persist in the environment, accumulate in high concentrations in fatty tissues and are bio-magnified through the food-chain. Hence they constitute a serious environmental hazard *that comes to expression as important long-term risks to individual species, to ecosystems and to human health*. POPs chemicals *may* cause cancer and disorders in the reproductive and immune systems as well as in the developmental process. They constitute a particular risk to infants and children who *may* be exposed to *high* levels through breast-milk and food" (emphasis added). Johan Morner, Robert Bos and Marjon Fredrix, at p. 7.

[48] "Commissioner Wallstrom participated in a bio-monitoring survey conducted by World Wildlife Fund (WWF) sending 40 ml of her blood for screening to the Department of Environmental Sciences at Lancaster University in the United Kingdom. Mrs. Wallstrom was checked for 77 man-made chemicals, which can be found in everyday products such as TV sets, carpets, furniture and food…Out of the 77 chemicals analyzed, the laboratory in the UK found 28 chemicals in Mrs. Wallstrom's blood…The blood test…contained substances from [the organo-chlorine pesticides] group, in particular DDT. Organo-chlorine pesticides are a group of pesticides developed and widely used between the 1950's and the 1970's. Many, including DDT, have been banned after they were belatedly found to be highly persistent in the environment and to cause long-term toxic effects in wildlife. DDT is an insecticide widely used until the 1960's to control insects in agriculture and insects that carry diseases such as malaria. Although it is banned in many countries, including all EU Member States, DDT is still employed in some developing countries affected by malaria. DDT and its breakdown products (DDE and DDD) are persistent substances that…can travel long distances through the atmosphere and in water. These substances are still widely found in food and the environment, as well as in the tissue of living organisms in which they build up. The predominant route of exposure for the general public to DDT and its breakdown products is through the diet. DDT present in the mother can enter an unborn baby through her placenta and later it can be passed on to children during breastfeeding…In animals, short-term oral exposure to small amounts of DDT or its breakdown products has had harmful effects on reproduction. *Thus far, there is no conclusive evidence that exposure to DDT and its breakdown products at*

Developing country commentators have long argued that the European environmental movement has served as the catharsis for this subtle and evolving shift in focus, and is tacitly supported in its endeavors by the EU institutions as it embraces the outdated U.S. DDT policy of thirty years ago.[49]

D. The Stockholm Convention on Persistent Organic Pollutants (POPs) Employs the Precautionary Principle to Severely Restrict DDT Production and Use for Public Health Purposes

The *production and use* of DDT has been addressed within the text of the Stockholm Convention on Persistent Organic Pollutants (POPs), a multinational environmental agreement that was opened for signature under the auspices of the United Nations Environmental Program (UNEP) in 2001. The treaty will go into force on May 17, 2004, the ninetieth day following the POPs Treaty Secretariat's receipt of the fiftieth letter of ratification submitted by France on February 17, 2004.[50]

The POPs Treaty has been undergoing review within the Senate Foreign Relations and Energy and Public Works Committees for at least a year. The purpose of that review also has been to ensure that U.S. domestic legislation will permit the U.S. to effectively implement its obligations under the Treaty if and when it is ultimately ratified. The status of the POPs Treaty review process was discussed during a Senate Foreign Relations Committee ratification hearing on June 17, 2003. Environmentalist groups such as the World Wildlife Fund have called for a speedy conclusion to the POPs ratification hearings. They have also called for the Senate's effective delegation to the POPs Treaty Secretariat of the determination of which additional chemicals could be characterized prospectively as a

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the [trace] levels found in the environment, affects reproduction and development in humans. The possible association between exposure to DDT and various types of cancers in humans has been extensively studied, particularly breast cancer, but no link has yet been established" (emphasis added). Communiques De Presse, d'l'UE, "Presence of Persistent Chemicals in the Human Body Results of Commissioner Wallstrom's Blood Test", DN: Memo/03/219, (Nov. 6, 2003), (http://www.agriseek.com/news/A12365/Agrochemicals/headlines-2-Agrochemicals.php).

[49] "The environmentalist pressure against insecticides and DDT…[which] was sparked [by heavy DDT] *agricultural use*…began in the 1960's with Rachel Carson's book entitled, Silent Spring." Ibid. The book claimed that, "the use of DDT had devastating effects on bird life, particularly those higher up the food chain. It was also claimed it caused hepatitis in humans…In 1972 [following a relentless campaign by environmentalist groups, most notably the Environmental Defense Fund], President Nixon's head of the U.S. Environmental Protection Agency (EPA), William Ruckelshaus, banned DDT [for agricultural use in the U.S.]…He argued that the pesticide was 'a warning that man may be exposing himself to a substance that may ultimately have a serious effect on his health.' Most developed countries followed the U.S. and banned the chemical for all uses" (emphasis added). See: Deepak Lal, "The New Cultural Imperialism: The Greens and Economic Development", at p. 10; Roger Bate and Richard Tren, "Do NGOs Improve Wealth and Health in Africa, at p. 9.

[50] "Stockholm Convention on Persistent Organic Pollutants (POPs) To Enter Into Force On May 17, 2004", United Nations Environmental Program Press Release (Feb. 18, 2004), at: (http://www.pops.int/documents/press/pr2-04SC.pdf). "The 90-day countdown to the treaty's entry into force was triggered on 17 February 2004 when France became the 50th state to ratify the agreement." Ibid. See, also: "List of Signatories and Parties to the Stockholm Convention", at: (http://www.pops.int/documents/signature/signstatus.htm).

POP and thereby banned or severely restricted under U.S. law.[51] It is arguable, however, that this environment–first position fundamentally ignores the debilitating impact that POPs Treaty ratification would immediately and in the future have upon global humanitarian and health initiatives to control malaria in developing countries, especially within LDCs located on the African continent.

DDT is among twelve chemicals whose production and use is to be severely restricted and ultimately eliminated by the Stockholm Convention. The Convention has identified these chemicals as posing an unacceptable global hazard to human health and the environment. This classification is based solely on their 'four common characteristics', rather than upon any scientific certainty that they cause specific human harm. "[(a)] They are toxic. [(b)] They are persistent, resisting normal processes that break down contaminants. [(c)] They accumulate in the body fat of people, marine mammals and other animals and are passed from mother to fetus. [(d)] They can travel great distances – typically from temperate and tropical regions to the poles – on wind and water currents."[52] It was agreed by the Conference of the Parties during the Convention's negotiations that "DDT should be phased out *over the long run*, but that developing countries could continue to use this organochlorine pesticide for controlling mosquitoes that transmit malaria. Production and use of DDT for agriculture, however, would be prohibited" (emphasis added).[53]

> "The production and use of DDT shall be eliminated *except for* Parties that have notified the Secretariat of their intention to produce and/or use it…Each Party that produces or uses DDT *shall restrict such production and/or use for disease vector control in accordance with the World Health Organization recommendations and guidelines on the use of DDT and when locally safe, effective and affordable alternatives are not available to the Party in question*…Every three years, each Party that uses DDT shall provide to the Secretariat and the World Health Organization information on the

[51]According to a recent letter submitted by the WWF to Senate Foreign Relations Committee Chair, Senator Lugar, "A timely and effective mechanism…['the adding mechanism']…to allow the appropriate regulation of POPs chemicals as they are added to the Convention is in our view the most important component of the POPs treaty implementing legislation…The domestic regulatory process should promote timely decisions by the United States on new chemicals that are added to the Stockholm Convention. The *legislation should seek to avoid redundancy and unnecessary delays* whenever possible. It should facilitate, through the rulemaking process, the development of a U.S. position on these chemicals that is in sync with the scope and timing of the Convention's Article 8 international process. *This will avoid the necessity of a de novo domestic review* ***and scientific determination*** *after the Conference of Parties (COP) decides to add a chemical*…and…The COP listing process and *decision should provide the default option for domestic action*...Proposals put forward earlier this year, coordinated by the White House's Office of Management and Budget, risk bogging down that mechanism in lengthy and *cumbersome* ***cost-benefit related proceedings*** that would make it extremely difficult if not impossible for EPA to take action when POPs are added to the treaty" (emphasis added). Brooks B. Yeager, Vice President, Global Threats Program, World Wildlife Fund, Letter to Honorable Richard Lugar, Chairman, Senate Foreign Relations Committee (June 16, 2003), at: (http://www.worldwildlife.org/toxics/whatsnew/pr_37.htm).

[52] Clifton Curtis & Cynthia Palmer Olsen, "New Stockholm Convention to Protect Wildlife and People from POPs", World Wide Fund For Nature / World Wildlife Fund (WWF), appearing in Sustainable Development International, pp. 155-158, at p. 155 (2002).

[53] Cheryl Hogue, "Toxics Pact Down to the Wire – Governments Still Have Major Sticking Points on Eliminating Persistent Organic Pollutants", C&EN Washington, Vol. 78, No. 48, at pp. 15-17, (Nov. 27, 2000), at: (http://pubs.acs.org/cent/coverstory/7848/print/7848gov1.html). "Although industrialized countries banned DDT years ago, farmers in some developing countries still use this relatively inexpensive chemical to control insect pests in their fields." Ibid.

> amount used, the conditions of such use and its relevance to that Party's disease management strategy…" (emphasis added). [54]

The conditional exemption established by the Convention for DDT production and use *for disease vector control* recognizes the unique role DDT has served and continues to serve in malaria control programs within developing countries. This exemption appears to have several elements.

First, a Party that wishes either to produce or use DDT must notify and register with the Convention's Secretariat, which is charged with establishing a DDT register.

> "Although the Convention is not in force yet and the register is not yet established, some countries have expressed their intention to be included on the register…China, India and Russia have indicated that they will seek exemption to produce DDT. [At least] thirty countries…[including] the Russian Federation…have expressed their intention to use DDT in disease control…" [55]

Thereafter, developing country Parties must justify to the Secretariat their continued use of DDT every three years.[56]

Second, the Convention provides that DDT may not be used for disease vector control *unless*, such use is "in accordance with WHO recommendations and guidelines"[57] [58] *and* when "*locally* safe, effective and affordable alternatives[59] are not available to the Party in

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[54] "Stockholm Convention on Persistent Organic Pollutants", Article 3(1)(b); Annex B, Part II (1)(2) and (4).
[55] Roger Bate and Richard Tren, "Do NGOs Improve Wealth and Health in Africa", at pp. 11-12. "India, Republic of Korea, Brazil and China have requested permission…[and] intend to *use* DDT as an intermediate…in the production of other chemicals" (emphasis added). Ibid.
[56] Stockholm Convention, Annex B, Part II (4) and (6).
[57] Stockholm Convention, Annex B, Part II (2) (3) (4) and (6).
[58] A WHO Study Group (WHO 1995) arrived at the following conclusions and recommendations [concerning the proper use of DDT]: (1) The information does not provide convincing evidence of adverse effects of DDT exposure as a result of indoor residual spraying as carried out in malaria control activities; (2) There is, therefore, at this stage no justification on toxicological or epidemiological grounds for changing current policy towards indoor residual spraying of DDT for vector-borne disease control; (3) DDT may therefore be used for vector control, provided that **all** the following conditions are met: [a] It is used only for indoor spraying; [b] It is effective; [c] The material is manufactured to the specifications issued by the WHO; [d] The necessary safety precautions are taken in its use and disposal. (4) In considering whether to use DDT, governments should take into account the following additional factors: [a] The costs involved in the use of insecticides (DDT or alternatives); [b] The role of insecticides in focal or selective vector control, as specified in the Global Malaria Strategy; [d] The availability of alternative vector control methods, including alternative insecticides [… *this was a departure from the long-held WHO position that considered DDT to be the insecticide of choice where effective…]*; [e] The implications for insecticide resistance, including possible cross-resistance to some alternative insecticides; [f] The changing public attitude to pesticide use, including public health applications." (italicized and bold emphasis in original)." Johan Morner, Robert Bos and Marjon Fredrix, "Reducing and Eliminating the Use of Persistent Organic Pesticides – Guidance on Alternative Strategies for Sustainable Pest and Vector Management", Inter-Organization Program For the Sound Management of Chemicals (IOMC), at pp. 35-36.
[59] "The WHO outlook with respect to the future of insecticide use for vector control, and of DDT in particular, was clearly stated by the World Health Assembly in 1997. *The replacement of DDT* should not be limited to alternative pesticides, but should consider alternative strategies and methods that allow an overall reduction of the reliance on pesticides. The WHO Action Plan for the reduction of reliance on DDT in disease vector control (WHO, 2001b) defines alternatives as use of alternative products for chemical and biological control,

question" (emphasis added).[60] At first glance, this treaty language would seem to suggest that it is primarily the local rather than the global impact of such DDT use that must be considered when evaluating whether to authorize DDT for malaria control in developing countries. However, to consider only the local effects of DDT use would defeat the global anti-DDT campaign, and impose upon developed countries the difficult burden of scientifically proving that such local developing country DDT use adversely affects human health and the environment in developed countries.

Considering that sound scientific empirical evidence of such harm has not yet been adduced, the Convention proceeds to reverse the burden of proof in two ways. First, it 'encourages' developing country users of DDT to engage in "research, development, and implementation of *safe, effective and affordable* alternatives to DDT[61] [recommended by third parties]"[62] (emphasis added). Second, it imposes the burden on developing countries to prove that the alternatives recommended are less safe, effective and affordable than DDT. Annex II of the Convention states that,

> "*With the goal of reducing and ultimately eliminating the use of DDT*, the Conference of the Parties shall encourage *Each Party using DDT* to develop and implement an action plan…[that] shall include…[d]evelopment of regulatory and other mechanisms *to ensure that DDT use is restricted to disease vector control*; implementation of *suitable alternative products, methods and strategies*, including resistance management strategies to ensure the continuing effectiveness of those alternatives; measures to strengthen health care and *to reduce the incidence of the disease…The Parties, within their capabilities, to promote* research and development of *safe alternative* chemical and non-chemical products, methods and strategies *for Parties using DDT*, *relevant to the conditions of those countries and with the goal of decreasing the human and economic burden of disease*. Factors to be promoted when considering alternatives or combinations of alternatives shall include the *human health risks* and environmental implications *of such alternatives. Viable alternatives to DDT shall pose less risk to human health* and the environment, *be suitable for disease control based on conditions in the Parties in question* and be supported with monitoring data" (emphasis added). [63]

While it appears that DDT alternatives are to be pursued based on objective demonstration of the facts, it is arguable that a great deal of latitude may exist for subjective justification of any particular DDT alternative that is championed by a third party. Similarly, although presentation of monitoring data (empirical evidence) is required to demonstrate the efficacy

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alternative methods for the application chemical and biological control, environmental management and personal protection, and alternative strategies i.e. integrated vector management based on scientifically sound criteria, cost-effectiveness analyses and delivery systems compatible with current trends in health sector reform. This reform may include decentralization, intersectoral action at the local level and subsidiarity in decision-making" (emphasis added). Ibid., at pp. 36-37.

[60] Stockholm Convention, Annex B, Part II (2) and (5).

[61] These third parties include developed country governments (e.g., the EU and EU Member States), international organizations (e.g., the UN, WHO, ILO, FAO, OECD) and non-governmental organizations (e.g., environmental NGOs such as WWF, Greenpeace, and Friends of the Earth).

[62] Clifton Curtis & Cynthia Palmer Olsen, "New Stockholm Convention to Protect Wildlife and People from POPs" (WWF), at p. 156.

[63] Stockholm Convention, Annex B, Part II (5)(a)(i)-(iii) and (b). The Convention, in other words, emphasizes that DDT alternatives should be promoted within certain parameters. They must: a) Be relevant to the conditions of the countries in which they are to be used, i.e., they must be suitable for disease control based on conditions within the Parties in question; b) Reduce the incidence of the disease and decrease the human and economic burden of the disease; *and* c) Pose less risk to human health and the environment than DDT.

(or non-efficacy) of DDT alternatives within a particular developing country, it appears that the data may be susceptible to biased interpretation, thereby calling into question the need to show scientific data at all.

The Convention therefore has the effect of imposing a significant burden upon malaria-infected countries that are POPs Treaty Parties and that wish to *use* DDT.[64] First, they and their citizens must bear the economic and administrative burden of procuring and employing DDT alternatives recommended by third parties for malaria control. Second, they must also endure the emotional and psychological burden (stress and anxiety) of demonstrating with their lives that such alternatives are less medically effective and more environmentally harmful than DDT. Practically speaking, in order to justify the need to use DDT, malaria-infected countries must show that DDT alternatives employed within their country impose significant environmental, social and human welfare costs, in terms of human morbidity and mortality, as well as substantial economic costs such as lost GDP.[65]

Although the Stockholm Convention does not specify a timeframe within which to phase-out DDT, the EU and environmental groups such as the World Wildlife Fund (WWF), had initially called for its elimination by 2007.[66] WWF now says it is willing to overlook that deadline provided DDT is ultimately eliminated. It admits that pressure had been applied in order to trigger speedy implementation of DDT alternatives, and to incite "fears that DDT would be phased out without sufficient guarantees of protection of public health from malaria" in the event of inaction.[67] Both the EU and WWF have based their campaigns on the need to exercise precaution. Indeed, the EU and the WWF have argued broadly that *the precautionary principle* was the chief rationale underlying the Convention in the first place. In the words of the WWF, the Convention's significance lies in

> "[I]ts embrace of precaution in the face of uncertainty about the nature and extent of toxic chemical threats…*Precaution [is] the guiding principle*…Precaution, including transparency and public participation, *is operationalized throughout the treaty*, with explicit references in the preamble, objective, provisions for adding POPs and determination of best available technologies" (emphasis added). [68]

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[64] Benin, Botswana, Chad, Cote D'Ivoire, Dijibouti, Ethiopia, Ghana, Lesotho, Mali, Rwanda, Senegal, and Sierra Leone are Parties to the POPs Treaty. These Parties lack the capacity to produce DDT, and thus would be subject only to the POPs Treaty 'use' restrictions.

[65] For this reason, it has been argued that, "[W]hile the Stockholm Convention recognizes the ongoing need for DDT in public health programs, it will most likely severely undermine public health efforts. *The Convention removes decision-making from health experts and scientists in developing countries and burdens poor country governments with excessive reporting and bureaucratic requirements*…[The] DDT issue demonstrates clearly how a green agenda can be turned into international regulation, with little or no consultation with developing countries, *and can result in increased poverty, disease and misery*..." (emphasis added). Roger Bate and Richard Tren, "Do NGOs Improve Wealth and Health in Africa", at p. 14.

[66] See: "Group Calls for Worldwide DDT Ban", Environmental News Network, CNN.com, (Jan. 29, 1999), at: (http://www.cnn.com/TECH/science/9901/29/ddt.enn/index.html). The WWF "called for a global ban on the production and use of DDT by 2007." Ibid.

[67] "WWF's Efforts to Phase Out DDT", at: (http://www.worldwildlife.org/toxics/progareas/pop/ddt.htm).

[68] Clifton Curtis & Cynthia Palmer Olsen, "New Stockholm Convention to Protect Wildlife and People from POPs" (WWF), at p. 155.

E. A Malaria-Stricken Developing Country Importer Can Face Additional Obstacles Procuring DDT Depending Upon Whether It and the DDT Exporter are POPs Treaty and/or Rotterdam PIC Procedure Parties

Beyond the burdens imposed by the Stockholm Convention, a malaria-stricken developing country could face additional obstacles procuring DDT depending upon whether it is also a Party to the Rotterdam PIC Procedure,[69] and upon whether the DDT exporting country is a POPs Treaty Party and/or a PIC Procedure Party. For example, if *both* the exporting and importing DDT countries are POPs Treaty Parties *and* PIC Procedure Parties[70] (e.g., South Africa[71] and Ghana), the importing country would likely encounter *both* the exporting country's and its own POPs 'use' restrictions[72], *as well as*, importer and exporter PIC notification and labeling requirements.[73] If a malaria-infected POPs Treaty Party seeks to procure DDT from Mexico (a POPs Treaty Party but *not* a PIC Procedure Party) which, like South Africa, may hold DDT stockpiles[74], it would face domestic POPs 'use' restrictions and importer PIC labeling requirements, *as well as*, Mexico's POPs use restrictions. However, if it seeks to obtain DDT from India or China, perhaps the only two remaining DDT producers in the world [75] and *non*-Parties to both treaties, it would be subject only to domestic POPs use restrictions and importer PIC labeling requirements.

A malaria-infected country that is a PIC Procedure Party but *not* a POPs Treaty Party[76] and which seeks to acquire DDT from South Africa, would be subject to importer and exporter

[69] The *import and export* of DDT is governed by the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade ('the PIC Procedure'), a multilateral environmental agreement which recently went into force on February 24, 2004. See: FAO News Room: "Rotterdam Convention Enters Into Force", (Feb. 24, 2004), at: (http://www.fao.org/newsroom/en/news/2004/37667/). The U.S. did not ratify this treaty.

[70] Ethiopia, Gabon, Ghana, Mali, Senegal and South Africa are both POPs Treaty Parties and PIC Procedure Parties.

[71] South Africa is the only one of the countries listed above likely to hold stockpiles of DDT available for export.

[72] Stockholm Convention, Article 3 (2) (a) and (b).

[73] Generally speaking, prior to the export of DDT, the exporting Party must submit to a procedure that includes providing the importing Party with written notification of the DDT shipment. If the shipment is accepted, the procedure requires the exporting Party to ensure that the DDT is adequately labeled upon export or is otherwise subject by the importing Party to adequate labeling that discloses risks and/or hazards to human health or the environment, taking into account 'relevant international standards'. See: Articles 10, 11 and 13. The PIC Procedure requires Treaty Parties to exchange "scientific, technical, economic and legal information concerning the chemicals [covered by] the Convention…[particularly] …information on domestic regulatory actions that substantially restrict one or more uses of [such] chemicals…[and]…on *precautionary measures*, including hazard classification, the nature of the risk and the relevant safety advice…" (emphasis added). See: Articles 5; 14 (1) and (3); Annex V 'Information Requirements For Export Notification', at: (http://www.pic.int/en/ViewPage.asp?id=104).

[74] The last DDT manufacturing plant in the Western Hemisphere, located in Mexico, was shut down in 1999. See: "Revisiting DDT", The Science and Environmental Policy Project (SEPP), at: (http://www.sepp.org/NewSEPP/revisiting_DDT.htm).

[75] See: Roger Bate, "DDT Saves Lives" Tech Central Station (Feb. 14, 2002), at: (http://www.techcentralstation.com/021402A.html); Roger Bate, "DDT Use Should Not Be Abandoned", The Economic Times, Times Syndication Service (2004), at: (http://syndication.indiatimes.com/articleshow.cms?msid=20451713).

[76] Burkino Faso, Camaroon, Gabon, the Gambia, Guinea and Tanzania are Parties to the PIC Procedure but are not Parties to the POPs Treaty.

PIC notification and labeling requirements, *as well as*, to South Africa's (but not its own) POPs use restrictions. If such a country (e.g., Camaroon) seeks to procure DDT from Mexico, it would be subject to importer PIC labeling requirements, as well as, to Mexico's POPs use restrictions. And, if it seeks to obtain DDT from India or China, it faces only its own PIC labeling requirements.

Where a malaria-stricken country is *neither* a POPs Treaty Party *nor* a PIC Procedure Party ('a non-Party") (e.g., Kenya),[77] it would likely be subject to South Africa's and Mexico's POPs Treaty use restrictions and to South Africa's PIC Procedure notification and labeling requirements. If, however, a non-Party were to import DDT from India or China, it is likely that it would not face any of the legal restrictions or requirements noted above. Nevertheless, a non-Party is still likely to encounter logistical difficulties to the extent that India or China is pressured politically by POPs Treaty and/or PIC Procedure Parties not to directly fund the purchase/sale/export of DDT. It is well recognized that the DDT obtained by most malaria-stricken African countries is financed through governmental, intergovernmental and/or private third-party donor organizations.

F. The EU's Proposed Regulation on POPs and the EU Regulation Implementing the PIC Procedure Collectively Prohibit DDT Production, Use, Export or Disposal

On June 12, 2003, the EU issued a Proposed Regulation intended to implement obligations that EU Member States will assume under the Stockholm Convention on Persistent Organic Pollutants ('POPs') and the 1998 'POPs' Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution ('LRTAP') when they enter into force.[78] The Explanatory Memorandum accompanying the Proposed Regulation specifically refers to the treatment accorded DDT by the LRTAP Convention. "The Protocol… scheduled for elimination at a later stage DDT…[and]…severely restricts the use of DDT"[79] It also specifically mentions how the exercise of precaution within the Stockholm Convention serves as the basis for restricting DDT use.

> "The overall objective of the Convention is to protect human health and environment from POPs. Specific reference is made to a *precautionary approach* as set forth in Principle 15 of the Rio Declaration on Environment and Development. Most importantly, this principle is made operational in Article 8, which lays down the rules for including additional chemicals in the Convention…[T]he production and use of DDT, a pesticide still used in many developing countries for malaria and other disease vector control, is severely restricted, as set out in Annex B of the Convention" (emphasis added). [80]
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> "…*The Convention provides a framework, based on the precautionary principle*, for elimination of production, use, import and export of the initial twelve priority persistent organic pollutants, their safe

[77] Angola, Central African Republic, Congo, Kenya, Madagascar, Malawi, Niger, Nigeria, Sudan, Zambia, and Zimbabwe are not Parties to either the POPs Treaty or the PIC Procedure.
[78] See: "Proposal for a Regulation of the European Parliament and of the Council on Persistent Organic Pollutants and Amending Directives 79/117/EEC and 96/59/EC", COM (2003) 331, 2003/0119 (COD) (6/12/03). The 1998 Aarhus Protocol on Persistent Organic Pollutants (POPs) entered into force on October 23, 2003. See: (http://www.unece.org/env/lrtap/status/lrtap_s.htm).
[79] COM (2003) 333, 'Explanatory Memorandum', at p. 3.
[80] Ibid.

> handling and disposal and elimination or reduction of releases of certain unintentional persistent organic pollutants…" (emphasis added). [81]

The Explanatory Memorandum, furthermore, focuses on Article 3 of the Proposed Regulation, which "lays down the prohibitions and restrictions on production, placing on the market and use of the intentionally produced POPs. In the first paragraph reference is made to Annex I…In line with the aim of elimination, it is proposed nonetheless to prohibit the production and use of these substances *completely*, *even though the international agreements would allow production and use of some of them*" (emphasis added).[82] DDT happens to be listed in Annex I of the Proposed Regulation as one of the chemicals slated for elimination.[83] In addition, no exemption is granted for the production or use of DDT as a closed-system, site-limited intermediate, as is provided for by the Stockholm Convention.[84]

A separate EU regulation implementing the Rotterdam PIC Procedure [85] would prohibit EU companies holding stockpiles of DDT (even before they become actual waste) from *exporting* those stockpiles to needy developing countries for use in disease vector control.[86] Although such activity is not technically prohibited by the Stockholm Convention[87], the Proposed EU POPs Regulation would treat such DDT stockpiles as 'fictional waste', and consequently, require their destruction.[88]

> "Article 7 lays down the general rules on *waste* containing substances listed either in the Convention or the Protocol…For the sake of legal clarity, a separate Annex IV [in which DDT is listed] [89] is established for the purpose of the waste provisions. As a general rule, waste containing any of the listed POPs should be disposed of without undue delay in such a way that the POP content is destroyed or irreversibly transformed…The Convention would…allow exemption from the basic obligation in cases where destruction does not represent the environmentally preferable option. *It is not proposed to transpose this exemption in the Community legislation as the destruction of POPs is*

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[81] See: "'Proposal for a Council Decision concerning the conclusion, on behalf of the European Community, of the Stockholm Convention on Persistent Organic Pollutants' (presented by the Commission)", COM (2003) 331 final, 2003/0118 (CNS) (6/12/03).

[82] Ibid., at p. 11.

[83] Ibid., Annex I, "'List of Substances Subject To Prohibitions', DDT (1,1,1-trichloro-2,2-bis(4-chlorophenyl ethane), CASNo 50-29-3, EC No 200-024-3." Article 3 states that, "The production, placing on the market and use of substances listed in Annex I, whether on their own, in preparations or as constituents of articles, shall be prohibited."

[84]The Explanatory Memorandum indicates that, "The Convention allows the use of DDT…as [a] closed-system site-limited intermediate with certain conditions. In line with the aim of elimination, th[i]s substance-specific exemption [is] *not* transposed in the Regulation" (emphasis added). Ibid., at p. 12. See, also: Stockholm Convention, Annex B, Part I, Notes (i) - (iii).

[85] See: Regulation (EC)No 304/2003 of the European Parliament and of the Council Concerning the Export and Import of Dangerous Chemicals implements the Rotterdam Convention on the Prior Informed Consent Procedure (PIC Procedure), approved March 6, 2003. See: Council Decision 2003/106/EC, at: OJ L 63,6.3.2003,p.27.

[86] Ibid., Article 14(2) and Annex V "'Chemicals and Articles Subject to Export Ban' DDT (1,1,1-trichloro-2,2-bis (p-chlorophenyl) ethane EC No 200-024-3, CAS No 50-29-3, CN No 2903 62 00". This provision is more stringent than the PIC Procedure.

[87] See: Stockholm Convention, Article 3 (2)(b)(i) – (iii).

[88] COM (2003) 333 final, Explanatory Memorandum at p. 12; Article 7 "Waste Management".

[89] Ibid, Annex IV "'List of Substances Subject to Waste Management Provisions Set Out in Article 7', DDT (1,1,1-trichloro-2,2-bis(4-chlorophenyl ethane) CAS No 50-29-3, EC No 200-024-3".

> *regarded as the only environmentally sustainable way to deal with waste with high POP concentration*" (emphasis added).[90]

The Proposed EU Regulation on POPs would also be more stringent than the WHO guidelines that set forth the proper use (including disposal) of DDT in malaria vector control. Pursuant to the terms of the Stockholm Convention, these guidelines arguably serve as the international standard against which all uses of and requests to use DDT must be evaluated. In the past, at least, the WHO had recognized that,

> "Several countries continue to allow the *use* of DDT *for public health purposes*, either for regular indoor residual spraying, for targeted spraying or as an emergency response to disease outbreaks. The Stockholm Convention on POPs considers the use of DDT for vector control acceptable in cases where alternatives that are locally safe, effective and affordable are not available. Such use must follow practice and procedures recommended in WHO guidelines, which include the need to ensure that the insecticide is not diverted for other, illegal uses (WHO, 1995). *The use of existing stocks of DDT in malaria vector control programmes is promoted as an acceptable disposal option in the WHO Action Plan (WHO, 2001). For this disposal option to be valid, the stockpiled DDT must meet [the] WHO specifications. Shipment of stockpiled DDT for its proper use in another country may contribute to a reduction in the need for its further production*. Such shipments will have to be carried out in accordance with the rules laid down in the relevant international Conventions: the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (www.basel.int) and the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade" (emphasis added). [91]

Lastly, the Explanatory Memorandum to the Proposed Regulation on POPs refers to how the EU will use technical assistance to facilitate the procurement and use by developing countries of DDT alternatives.

> "Article 11 [of the proposed regulation]…sets out the general obligations of the Commission and the Member States in providing technical assistance to developing countries and countries with economies in transition. Technical assistance should be designed to strengthen the capacities of these countries and to find solutions for such issues as the remaining use of DDT in some developing countries. The [Stockholm] Convention still allows the production and use of DDT for disease vector control in countries where safe, effective and affordable alternatives are not available. *In order to gradually eliminate the use of DDT* in line with the Communication from the Commission (COM (2003) 93 final),[92] *research, development and introduction of alternatives to DDT should be promoted.* Within the context of technical assistance, *the Commission and the Member States should also consider giving support to non-governmental organizations*, the role of which can be very important" (emphasis added). [93]

It is arguable that these provisions significantly bias the EU's technical assistance and trade capacity building policy against DDT use in general, and thereby, effectively discourage private donor initiatives aimed at subsidizing developing country use of DDT to promote public health via malaria vector control.

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[90] COM (2003) 333, 'Explanatory Memorandum', at p. 14.
[91] Johan Morner, Robert Bos and Marjon Fredrix, "Reducing and Eliminating the Use of Persistent Organic Pesticides – Guidance on Alternative Strategies for Sustainable Pest and Vector Management", at p. 51.
[92] "Communication from the Commission to the Council and the European Parliament, 'Update on the EC Program of Action – Accelerated Action on HIV/AIDS, Malaria and Tuberculosis in the Context of Poverty Reduction'", COM (2003) 93 final (2/26/03).
[93] COM (2003) 333, 'Explanatory Memorandum', at p. 15.

G. International Organizations and Donor Agencies Have Been Reluctant to Fund or Promote Malaria Control Public Health Programs Involving DDT

Despite the fact that the Stockholm Convention recognizes the effectiveness of DDT in fighting malaria in promotion of public health and allows countries to apply for a special exemption to use DDT, there has been no donor funding for DDT spraying.

> "[T]he international community has been slow to embrace DDT and remains largely unwilling to fund DDT spraying programs. Officially the policy of the UN is that DDT is effective and should be used until it can be replaced with less harmful chemicals. But in practice, the chemical is hardly mentioned and almost never funded *(DDT was not mentioned in [America's $15 billion pledge to fight infectious diseases, such as malaria, which was signed into law by President Bush on May 27, 2003])*. Instead, the UN advocates the use of insecticide-treated bednets, which most malaria experts say are far less effective. In the first two rounds of the Global Fund aid distribution, for example, not a single country received money for DDT spraying, although several projects to distribute insecticide-treated nets were approved" (emphasis added). [94]

This is, in part, attributable to the conflicting message sent by international organizations such as the WHO. On the one hand, the WHO guidelines noted previously in this study provide that limited DDT use for malaria vector control (public health purposes) is a legally permissible option under certain circumstances. On the other hand, however, the "WHO Action Plan for Reduction of Reliance on DDT" advocates a policy of eliminating DDT and promoting DDT alternatives. According to the WHO Action Plan,

> "The reduction of reliance on DDT for public health use, and eventually its complete elimination, will need concerted action from government authorities at different levels. WHO has formulated a five point Action Plan, which aims to assist Member States in their efforts to comply with World Health Assembly Resolution 50.13, i.e. to reduce their reliance on pesticides for public health purposes in general *and on DDT in particular*, without jeopardizing the level of protection offered by their vector control programs (WHO, 2001b)" (emphasis added). [95]

This dual approach gives credence to the claims made by developing country malaria experts that DDT spraying programs are not funded because "[d]onor agencies under pressure to conform to environmental standards in the West are reluctant to fund IRS and are particularly unwilling to fund the use of DDT in malaria control."[96] "USAID …[for example, has]…maintained that, as DDT is not registered by the EPA for use in the US, foreign assistance is not available for programs that use DDT."[97] Similarly, "the Swedish International Donor Agency (SIDA)…claims that it cannot fund the use of DDT in poor countries because it is banned in Sweden."[98]

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[94] Nicole Itano, "Push to Fund DDT in Fight Against Malaria in Africa", Christian Science Monitor, (May 29, 2003), at: (http://www.globalpolicy.org/socecon/develop/africa/2003/0529malaria.htm).
[95] Johan Morner, Robert Bos and Marjon Fredrix, "Reducing and Eliminating the Use of Persistent Organic Pesticides – Guidance on Alternative Strategies for Sustainable Pest and Vector Management", at p. 38.
[96] Roger Bate and Richard Tren, "Do NGOs Improve Wealth and Health in Africa?", at pp. 10-11.
[97] Deepak Lal, "The New Cultural Imperialism: The Greens and Economic Development", at p. 10.
[98] Roger Bate and Richard Tren, "Do NGOs Improve Wealth and Health in Africa?", at pp. 10-11.

Based on the wording of a recently prepared report for the Inter-Organization Program for the Sound Management of Chemicals (IOMC), a cooperative group comprised of various U.N. agencies and the OECD, a donor organization bold enough to promote or offer DDT funding would encounter overwhelming political pressure to reconsider.

> "Multilateral organizations and non-governmental organizations have an important role. They can influence and facilitate policy reform, often through comparative examples from different regions. They can also lobby to influence policy-makers, carry out independent assessments and evaluations, disseminate information and set up pilot projects. They have an overview of trade in pesticides, as well as of obsolete pesticide stocks, and can assist in disposal operations. *They must* clearly *never recommend or facilitate the procurement of POP pesticides* beyond what is permitted under the Stockholm Convention. In the application of DDT for malaria control*, WHO guidelines should be strictly adhered to*. Multi- and bilateral external support agencies will need to finance many of the crucial activities. In general, it is important that *aid policies* are consistent with and supportive of IPM and IVM. They *must never procure POP pesticides for overseas projects* beyond what is permitted under the Stockholm Convention*, or support their use in other ways*. They should support research on and development of alternatives, particularly to DDT for effective malaria control" (emphasis added). [99]

However, it is arguable, that such political concerns, especially when voiced by persons *other than* the malaria victims themselves, do *not* excuse the U.S. from failing to promote DDT spraying as a viable funding and treatment option where it is otherwise feasible to do so.

It is also possible that the official reluctance of government donor agencies such as USAID to fund or promote DDT indoor residual spraying ('IRS') *may* relate to the relatively high indirect costs generally associated with IRS (whether or not involving DDT) in certain geographic settings (e.g., rural areas). [100] These can include infrastructure costs, such as expenditures for personnel training, substance delivery (roads/accessibility) and program administration. This possibility is alluded to within a recent report prepared by two malaria experts based in South Africa. The report focused on the indirect costs of administrating IRS programs, generally, based on global DDT activities since World War II.

> "IRS has a long and distinguished history in malaria control. Using mainly (DDT), malaria was eliminated as a public health problem in large parts of the world, in Asia, Russia, Europe and Latin America. In Southern Africa, over 13 million people are currently protected by IRS in 7 countries. However, virtually no IRS programmes operate in the remaining high endemicity countries of sub-Saharan Africa. *The main reason for this is the requirement for highly structured government-supported programmes and a sustainable high level of financing, which is not available in many of these countries*" (emphasis added). [101]

This report also highlighted that, as compared to insecticide-treated bed nets (ITNs), the recommended alternative to DDT spraying, the efficacy and cost of IRS is nearly the same. This holds true especially if the cost of nets is borne by the government providers rather than the users and the cost of regularly retreating the nets every 6-12 months is figured

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[99] Johan Morner, Robert Bos and Marjon Fredrix, "Reducing and Eliminating the Use of Persistent Organic Pesticides – Guidance on Alternative Strategies for Sustainable Pest and Vector Management", at p. 14.
[100] Administration and delivery costs, for example, might be lower in high-density urban population centers.
[101] Christian Lengeler and Brian Sharp, "Residual Spraying and Insecticide-Treated Nets" (2002) at p.1.

in.[102]Consequently, according to this report, the decision to employ one strategy in lieu of another should be based purely on logistics.

> "Both IRS and ITNs show a remarkably consistent health impact across a large number of settings. Their efficacy is therefore proven beyond doubt. Overall, the health impact of ITNs was slightly better than IRS, although the differences were not striking in most settings and can hardly be used to justify one approach over the other. Regarding cost, IRS was found to be cheaper in the majority of settings, but again the difference was usually not large. However, it is important to emphasize that all the studies above included the cost of providing the nets. If the cost of the nets were borne by the users (a situation found in virtually all settings so far, including China and Vietnam), ITNs would be cheaper than IRS for a government provider…*Choosing between IRS and ITNs is therefore largely a matter of operational feasibility and availability of local resources, rather than one of malaria epidemiology or cost-effectiveness.*" [103]

To the contrary, the authors of the IOMC report commented on what they perceive to be the shrinking cost advantage of procuring DDT relative to other chemicals.

> "The low cost of DDT is often used as an argument for its continued use. This may have been a relevant consideration in the past. Recent cost comparisons show, however, that the argument has lost much of its validity…The product cost of, for example, synthetic pyrethroids may still be higher than that of DDT. When taking into account operational cost such as transport, storage and application, however, the overall cost of indoor spraying with alternative insecticides per house per six months will in several instances overlap with the cost of DDT. This is especially true for pyrethroids, as they are much less bulky than DDT, thus reducing transport and storage costs." [104]

According to one South African commentator, however, some DDT alternatives such as "organophosphates and carbamates do not last as long on the walls as DDT and pyrethroids and are more toxic. This means that if one was forced to switch to these compounds, two rounds of spraying would have to be carried out during the summer transmission season, doubling the costs of the control program."[105]

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[102] These experts emphasize that "For IRS the key issue remains the securing of long-term human and financial resources for regular spraying campaigns. This is especially the case in resource-poor countries (for example Madagascar or Ethiopia) and in countries where the level of transmission is so low that it becomes increasingly difficult to justify large outlays of public money for this purpose. Secondly, insecticide resistance remains a constant threat to the effectiveness of IRS, as demonstrated recently in South Africa with the emergence of pyrethroid-resistant *Anopheles funestus*. Fortunately, there is currently a large enough choice of products to address this problem, even though the cost might increase with the use of newer compounds… For ITNs, current challenges include the creation of an enabling environment, the improvement of the supply of inexpensive ITNs to the majority of rural African populations, and mechanisms to target subsidies at high-risk groups. An important practical problem is the need for regular re-treatment of nets (every 6-12 months) and this has proven to be a major challenge for all current programmes. The development and commercialisation of nets with a long-lasting insecticide treatment (NELLIT) offers considerable promise to solve this problem." Ibid., at p. 8.

[103] Ibid., at p. 6.

[104] Johan Morner, Robert Bos and Marjon Fredrix, "Reducing and Eliminating the Use of Persistent Organic Pesticides – Guidance on Alternative Strategies for Sustainable Pest and Vector Management", at p. 47.

[105] M Coetzee, "Insecticide Resistance in Malaria Vector Mosquitoes: The New Southern African Reality", Communicable Diseases Survey Bulletin, National Institute for Communicable Diseases (NICD) (Nov. 2003) at p. 10, at: (http://www.nicd.ac.za/pubs/comdis/nov03.pdf).

The EU, as well, has established official health-related aid/assistance programs which are global in scope that encourage the use of DDT alternatives in disease vector control and discourage the private funding of DDT initiatives by NGOs. An example of this is the "EC Program for Action on Communicable Diseases in the Context of Poverty Reduction" (PfA). In brief, the PfA,

> "[E]stablishes, as part of an expanded international effort, a broad and coherent Community response, over the period 2001 to 2006, to the global emergency caused by the three major communicable diseases, HIV/AIDS, malaria and tuberculosis (TB). These diseases affect the poorest populations most and *undermine global health and sustainable development*. The Community response entails a comprehensive and mutually reinforcing set of actions to increase: (i) the impact of existing interventions, (ii) the affordability of key pharmaceuticals, and (iii) research and development of specific global public goods to confront HIV/AIDS, malaria and TB at the national, regional and global levels… The PfA has demonstrated that a strong EU voice is crucial, and, *as a result of the PfA, EU positions on targeted HIV/AIDS, malaria and TB actions have been significantly strengthened on a global level jointly with other partners…* It is now generally accepted that the PfA has directly contributed to the international consensus reached on [Millennium Development] MDG Goal 6…[which]…relate[s] to 'HIV/AIDs, malaria and other diseases'" (emphasis added). [106]

The EU has devoted substantial time and funding to reduce the burdens imposed by these diseases and should be commended for its generosity and efforts.

> "Throughout 2001 several resolutions on the Programme for Action were adopted: the Council resolution on 14 May 2001; the EP resolution on 4 October 2001; the ACP-EU Joint Parliamentary Assembly resolution on 1 November 2001. The Commission's proposal for a legal base for the EC contribution to the Global Fund to fight AIDS, Tuberculosis and Malaria (GFATM) was adopted on 23 October 2001, and on 19 December 2001 the Council and EP adopted the contribution by the EC to the GFATM… The Commission has [also] reformulated the regulation creating a special budget line (B7-6311) for HIV/AIDS, malaria and TB, in line with the follow-up to the Program for Action.[107] Throughout 2002, this regulation has been thoroughly discussed in Council and Parliament. The Commission proposed an almost threefold increase in allocations (from € 25.27 to € 73.35 million). It is expected that the regulation will be adopted by the EP and Council beginning 2003" (emphasis in original). [108]

However, such efforts do not relieve the EU of its responsibility as an international donor to remain objective when evaluating which anti-malaria initiatives should be promoted and/or funded. It also does not excuse the EU from employing a balanced approach when considering competing health and environmental concerns. The EUs failure to adhere to

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[106] "Communication from the Commission to the Council and the European Parliament, 'Update on the EC Program of Action – Accelerated action on HIV/AIDS, malaria and tuberculosis in the context of poverty reduction, COM (2003) 93 final, (2/26/03), at pp. 6-7. "Central to [the Millennium Development G]oals is a reduction in the proportion of people living in extreme poverty by 50% by 2015. Health targets feature prominently, highlighting the link between overall poverty reduction and health investments. The specific Goal 6…indicates a strong commitment, acknowledging that without addressing these diseases the central outcome of global poverty reduction will not be met. Specifically, the aim is to halt and reverse the spread of HIV/AIDS and the incidence of malaria and TB by 2015. " Ibid., at p. 8.

[107] See: "Proposal for a Regulation of the European Parliament and of the Council On aid for poverty diseases (HIV/AIDS, malaria and tuberculosis) in developing countries", COM/2002/0109 final -COD 2002/0051.

[108] "Communication from the Commission to the Council and the European Parliament, 'Update on the EC Program of Action…" at p. 13.

such a protocol has arguably resulted in its continuing promotion of DDT alternatives, notwithstanding increasing scientific evidence of growing mosquito resistance to them.

> "Insecticide-treated nets and intermittent preventive treatments can significantly reduce a large proportion of the burden of disease from malaria. Despite the fact that more than five million insecticide-treated nets were distributed during 2000-2001, the proportion of children under five in Africa sleeping under insecticide-treated nets remains below 10%, and the average use of bednets is still only 1% of the African populations at risk. It is only in Vietnam where the child mortality rate due to malaria has declined over the last decade. In Sub-Saharan Africa the incidence of malaria has increased. *The rapid increase in drug resistance suggests that malaria deaths may be poised to rise sharply. Progress on phasing out DDT for malaria control has been made with the adoption of the Persistent Organic Pollutants (POPs) Convention in Stockholm May 2001. Exemptions have been given to developing countries on the condition that research for safe and alternative chemicals and non-chemicals would continue in order to find an equally efficient and affordable tool for malaria prevention."* (emphasis added). [109]

H. The UN Facilitated 'Roll Back Malaria' Field Program Supported by the EU Promotes DDT Alternatives in the Name of Precaution

The EU and environmentalist public relations campaigns to promote DDT alternatives have contributed to the development of the United Nation's 'Roll Back Malaria' (RBM) initiative which was launched in 2001, and is now being implemented in a number of African countries.

> "RBM is a global movement that seeks to accelerate efforts to prevent and treat malaria in all countries in which malaria remains a public health problem. The movement was launched as a joint initiative of the United Nations Development Program [UNDP], the United Nations Children's Fund [UNICEF], the World Bank and the World Health Organization [WHO]. At the country level, partnerships are led by the government but include non-governmental agencies and interested private-sector partners." Thus far, "[p]riority actions, identified by proven effectiveness and large-scale feasibility, include: developing ways to make insecticide treated bed nets [ITNs] available to all who need them through a combination of public-private action; improving the treatment of malaria close to the home, through stimulating a combination of public-private efforts; treating all pregnant women at risk from malaria to minimize the effects of the disease on their newborns; and predicting and managing epidemics of malaria…[RBM's] goal is [to] halv[e] the world's malaria burden by 2010." [110]

The Roll Back Malaria initiative "recognizes four interventions that can stop malaria: timely access to the right drugs; the use of insecticide-treated nets; preventive treatment in

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[109] Ibid., at p. 10.

[110] Sola Ogundipe, "Rolling Back the Malaria Burden", Vanguard, (Nov. 18, 2003), at: (http://wwwallafrica.com/stories/200311180562.html). The focus of RBM on pregnant women is based on studies that show that "pregnant women who are HIV-positive and also have malaria are at a higher risk of getting full-blown AIDs and dying than mothers who are negative. The babies they bear also suffer a similar risk…[T]he study [is] titled, "Effects of Placental Malaria on Mother-to-Child HIV Transmission in Rakai, Uganda"…According to the journal Aids, [which published the study's findings] inflammation as a result of malaria infection may damage the placenta, increasing the exchange of maternal and fetal blood and facilitating HIV transmission in the uterus. The study found…that babies whose mothers were HIV-positive and had malaria had higher levels of the virus than infants whose mothers were HIV-positive but without malaria." See: Jennifer Bakyawa, "Malaria, HIV Put Unborn Babies At Risk", The Monitor (Kampala), (Nov. 11, 2003), at: (http://allafrica.com/stories/200311110419.html).

pregnancy; and the prevention and control of epidemics. These interventions were cited as goals by the Abuja Summit on Malaria in April 2000 attended by 40 African heads of state."[111] RBM advocates claim that it is specifically "aimed at using insecticide treated bed nets to reduce malaria mortality rates in pregnant women and in children under the age of five years, by raising awareness of the threat of malaria…[and]…by encouraging behavior change and increasing the demand for use of insecticide-treated bed nets."[112] Indeed, "recent studies by the World Health Organization [have shown] that the universal use of ITNs can reduce episodes of illness by 50% in areas of high malaria transmission… 'By consistently sleeping under an ITN, families can protect themselves from the mosquitoes that bite in the middle of the night -- the only ones that cause malaria.'" [113]

I. Anecdotal Evidence that the Roll Back Malaria Program Isn't Working as Planned - Increasing Mosquito Resistance to Pyrethroid Pesticides and Anti-Malarial Drugs, and Local Resistance to Bed Nets

According to Dr. Fatoumata Nafo-Traore, executive secretary of the RBM, "several African countries have experienced areas of success…[Yet, there is]…a continuing need for resources, including commodities such as nets, insecticides and anti-malarial drugs, as well as training for non-health staff and volunteers, and above all, financial resources. 'Although the monies available through the Global Fund represent an unprecedented level of malaria funding, substantial funding is still necessary for many years.'"[114]

Even so, RBM continues to suffer serious setbacks. For example, there have been an increasing number of documented cases of mosquito resistance to synthetic pyrethroid pesticides used as DDT alternatives in agriculture.[115] As a result, there is concern that mosquitoes that have become resistant to such pyrethroid pesticides may also become resistant to pyrethroids used on insecticide treated bed nets.[116]

> "Pyrethroid resistant mosquitoes have to date been mainly found in Western Africa, where selection is considered to be a direct result of intense agricultural [pyrethroid] insecticide use, and more recently in South Africa and southern Mozambique. Fortunately from studies in West Africa, *it does*

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[111] Sarah Bloxham, "Progress Still Small in Fight Against Malaria", U.S. State Department Information Services, (June 2002), at: (http://usinfo.state.gov/regional/af/usafr/a3062302.htm).
[112] Chioma Obinna, "Campaign Against Malaria Gets Another Boost from DFID", Vanguard News (Nov. 19, 2003), quoting Mr. Yomi Oduwole, Country Director of NGO Futures Group Europe (Nigeria), at: (http://allafrica.com/stories/200311190571.html).
[113] Fred Ouma, "Mosquito Nets Still Unpopular Locally", New Vision News, (Nov. 3, 2003), quoting Fredrick Kato, a senior medical officer of the Malaria Control Program in Uganda, at: (http://allafrica.com/stories/200311030713.html).
[114] Sarah Bloxham, "Progress Still Small in Fight Against Malaria", U.S. State Department Information Services.
[115] See: Barbara Sina, "MIM Symposium on Insecticide Resistance in African Malaria Vectors", TDR News No. 65 (June 2001), at: (http://www.who.int/tdr/publications/tdrnews/news65/resistance.htm). "Evidence was presented that… in some parts of Côte d'Ivoire, Benin and Burkina Faso…high levels of…pyrethroid …resistance evolved in response to mosquito larval exposure to insecticide contaminated agricultural runoff from cotton and vegetable fields near mosquito breeding sites." Ibid.
[116] Johan Morner, Robert Bos and Marjon Fredrix, "Reducing and Eliminating the Use of Persistent Organic Pesticides – Guidance on Alternative Strategies for Sustainable Pest and Vector Management", at p. 49.

> *not seem* that this has reduced the effectiveness of ITNs for protecting sleepers against malaria transmission" (emphasis added).[117]

In addition, as the EU itself has found out, there have been an increasing number of incidences of mosquito resistance to malaria drugs.[118] Several African media sources have noted this trend.

> "Without doubt, the biggest obstacle in tackling the menace of malaria today is the wave of increasing resistance of the malaria parasite to numerous drug therapies…Such is the magnitude of the levels of drug resistance that several insecticides are no longer effective against the mosquito vector. While years of vaccine research have produced few hopeful candidates, scientists are not hopeful of an effective vaccine in sight." [119]

These setbacks have prompted calls for the development and use of new and stronger drugs, as well as the use of combinations of different drugs. A recent report from Burundi reveals that UNICEF, as part of the Roll Back Malaria program, announced the use of a new combined malaria drug treatment in response to such growing resistance to conventional drugs. It launched a

> "New malaria [curative] treatment, a combination of artesunate and amodiaquine…and announced the stoppage of chloroquine and fansidar, which have become resistant to the disease… [S]tudies showed that chloroquine and fansidar had failed to cure more than 25 percent of patients…Dr. Jean Kamana, the health minister…of Burundi…said that 'studies done on the molecules originating from artesinine…show that the combination of the two medicines was powerful in more than 95 percent of patients'…The agency, together with WHO…is supported by several donors such as the Belgium government, the EU, the British Foreign Development and Assistance Office and the US Agency for International Development (USAID)."[120]

Dr. Simon Miti, Health Permanent Secretary of Zambia, also noted the increase in treatment failure of chloroquine". According to Dr. Miti,

> "Since 1982 when the chloroquine resistance was first documented, there had been a proportional increase in the malaria incidence and case fatality rates…[R]esistance to malaria was due to decrease in access to quality health care, resistance to chloroquine and increase in poverty levels...[As a result,]…[the] government…changed the malaria treatment policy...to provide access to more effective treatment…[T]he new malaria treatment would be Artemether Lumefrantrine and Sulphadoxine Pyrimenthamine for children below 10 kilograms of weight while the second line treatment would be quinine." [121]

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[117] Christian Lengeler and Brian Sharp, "Residual Spraying and Insecticide-Treated Nets", at p. 8.
[118] Barbara Sina, "MIM Symposium on Insecticide Resistance in African Malaria Vectors". "[T]he spread of insecticide resistance in vector mosquito populations threatens to undermine the increased deployment of pyrethroid treated bednets to reduce malaria transmission…[j]ust as the alarming spread of malaria drug resistance throughout the continent presents challenges for effective treatment strategies…" Ibid.
[119] Sola Ogundipe, "Rolling Back the Malaria Burden".
[120] "Government [Burundi] Launches New Malaria Medicine", UN Integrated Regional Information Networks, (Nov. 11, 2003), at: (http://allafrica.com/stories/200311110668.html).
[121] Bivan Saluseki, "Mosquitoes Are Criminals, Should Be Killed – Sampa", The Post (Lusaka), (Nov. 11, 2003), at: (http://allafrica.com/stories2003/11111188.html).

Peter Winstanley, Director of the Welcome Trust Tropical Center at the University of Liverpool, United Kingdom, has also acknowledged this continuing phenomenon.

> "[O]ne of the major obstacles to the reduction of the burden of malaria was the development of malaria parasites that are resistant to most of the widely-available and affordable anti-malaria drugs like Choloroquine…[T]he new malaria drug, Lapdap…a combination of chlorproguanil hydrochloride and dapsome…which was used widely in the treatment of leprosy…was found to have anti-malaria activity which has been harnessed in the new drug…" [122]

Even the International Center of Insect Physiology and Ecology (ICIPE) in Kenya, a group which advocates against lifting the DDT ban, recognizes that, "current malaria control strategies are plagued by many problems. Malaria parasites become resistant to many anti-malarial drugs, while mosquitoes have extended their bite time beyond the normal sleep time. Some malaria vaccines are being developed, but they will take many years before they reach the market."[123]

Furthermore, the EU, itself, has undertaken a review of its anti-malaria protocols given the increasing resistance of mosquitoes to malaria drugs.

> "Discussions are under way between *the Commission* and ACP countries, Roll Back Malaria, Médicins Sans Frontières and other partners relating to existing malaria national protocols. There is a need for a change of protocols to include artemisine combination therapies, especially in East Africa…The new EML includes Artemether-lumefantrine (Co-artem) as a combination artemesin product" (emphasis added). [124]

Apparently, it has recognized the magnitude of the situation and the need to broaden its outlook toward and consideration of new alternative malaria prevention tools.

Moreover, aside from the scientific setbacks noted above, there is evidence of increasing public resistance within some African countries (e.g., Nigeria and Uganda) to continuing the use of insecticide treated bed nets, due to feasibility and 'quality of life' concerns.[125]

J. Promoting Only DDT Alternatives to Control Malaria in the Name of Environmental Protection Does Not Reflect a Primary Concern for Developing Country Public Health

The arguments made by the EU, the UN and the European environmentalists in favor of using only DDT alternatives for malaria vector control appear to suffer from a lack of intellectual honesty. As a Harvard University study reveals, the malaria disease vectors that demand the most urgent action and resources defy the application of any single preventive

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[122] Ikenna Emeka Okpani, "Expert Says Malaria Affects Over 300m People Annually", Daily Trust (Abuja), (Nov. 11, 2003), at: (http://allafrica.com/stories/200311110930.html).
[123] Sam Gonza, "Africa to Acquire Biological Anti-Malarial Technology", African Church Information Service, (Nov. 17, 2003), at: (http://allafrica.com/stories/200311170874.html).
[124] Ibid., at p. 14.
[125] See: George Oji, "Roll Back Malaria Can't Work – Expert", This Daily News, THISDAYonline, (Sept. 22, 2003), at: (http://www.THISDAYOnline.com); Fred Ouma, "Mosquito Nets Still Unpopular Locally", New Vision News, (Nov. 3, 2003), at: (http://allafrica.com/stories/200311030713.html).

or curative treatment, method or strategy. While "successful elimination of malaria through vector control requires a well-run organization and financial resources…the determining factor in where malaria has been eliminated in the post-war-era has not been institutional or financial. It has been the susceptibility of malaria and the vector to control."[126]

> "[S]ince 1946 malaria has only been eliminated in nontropical regions and certain islands where its foothold is much weaker…Above all, it should be stressed that malaria eradication [in temperate areas in the late nine-teen forties and early 1950s] was [only] achieved…particularly for *P. faliparu*m" due to seaonality of malaria transmission, low nighttime outdoor temperatures, and less efficient malaria vectors in temperate regions…In addition to differences in malaria intensity due to climate, the world distribution of *Anopheles* mosquitoes, the malaria vectors, have a major impact on malaria prevalence and severity[127]…By far the most efficient vector, *Anopheles gambia*e, is exclusively found in sub-Saharan Africa…Consequently, malaria eradication through vector control has been orders of magnitude more difficult in sub-Saharan Africa. According to a recent expert committee [NIH] report: 'The epidemiology of malaria is driven by the dynamics of the mosquito vectors. Thus, 90% of the world's malaria is in Africa because it is home to the three most effective vectors.'[128] Not only do the mosquito species determine the intensity of transmission, but they also affect the mix of malaria between the malignant *P. falciparu*m, and the less serious *P. vivax, P. malaria*e, and *P. ova*le. Africa is also the only major region of the world where falciparum malaria predominates."[129]

It is for this reason, the Harvard study indicates, that there has been no single proven malaria control method in sub-Saharan Africa. Consequently, no strategy, method or treatment should be overlooked.

> "Malaria control in sub-Saharan Africa [and other areas of intense transmission] has been a non -starter. There has been no successful malaria control of large regions outside of the temperate southern tip, the controlled environment of some mining camps, and a few islands… A recent NIH report notes the intractable nature of malaria Africa: "The availability of anti-malaria measures, when correctly integrated and applied without financial constraints, can probably cope successfully with the malaria problem everywhere in the Tropics *except in the Afrotropical regio*n." (emphasis added in original). [130]

South African and Mexican officials addressed this problem several years ago. They have been either 'rotating' the spraying of two insecticides (including DDT) within a given geographic area on an annual basis or applying different chemicals in a 'mosaic' or random pattern depending on the household. These techniques have been found to result in lower levels of resistance than continuous spraying of a single insecticide. [131] "The mosaic is

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[126] John Luke Gallup and Jeffrey D. Sachs, "The Economic Burden of Malaria", at p. 6.
[127] "Vectorial capacity is a measure of the efficiency with which mosquitoes carry malaria from one human to another, an estimate of the number of secondary cases of malaria generated by one primary case. The vectorial capacity of different species of *Anopheles* varies by orders of magnitude." Ibid.
[128] NIH. 1997. "Final Report, International Conference On Malaria In Africa: Challenges And Opportunities For Cooperation", (Jan. 6-9, 1997) Dakar, Senegal, at: (http://www.niaid.nih.gov/dmid/malafr/).
[129] "At least two biological factors explain the exceptional severity of malaria in Africa. The most efficient mosquito vector and the most serious malaria strain both most likely came from Africa. The vector *Anopheles gambiae* s.s. coevolved with humans in the Afrotropical rain forest. The development of African agriculture in forest clearings resulted in the vector's most important characteristic for malaria transmission: it almost exclusively bites humans…" Ibid., at p. 7.
[130] Ibid., at p. 7.
[131] Barbara Sina, "MIM Symposium on Insecticide Resistance in African Malaria Vectors".

effectively what South Africa is applying now by spraying traditional houses with DDT and western style homes with pyrethroids." [132] Similarly,

> "[T]he insecticides in some areas [of Mexico] are changed every year: organophosphates one year, pyrethroids the next, then carbamates and back to pyrethroids. Other areas use a 'fine-scale mosaic', where a pyrethroid and an organophosphate are used within the same village, but the same houses are always sprayed with the same insecticide… These systems are being compared to use of DDT alone – which has been used for many years in Mexico – or to the use of a pyrethroid alone." [133]

In light of these facts, it would seem that the decision of the EU, the UN and environmental organizations to ban DDT use and funding without full consideration of both the costs *and* the benefits of doing so is based more on precautionary ideology than on principles of sound science. If, however, true objectivity were the standard the option of employing a holistic approach that includes DDT (spraying) along with other treatments in areas of high malaria infection would not be effectively foreclosed. Given the lost quality of life and the human suffering and death associated with the transmission of the malaria epidemic from generation to generation, arguably it is options rather than restrictions that are needed.

These conclusions, furthermore, are supported by a World Bank study that examined how the incidence of malaria was reduced by 67 percent in the Solomon Islands between 1992 and 1999. Observing that "a mix of control interventions had been used, including DDT residual house spraying and insecticide treated mosquito nets", the study found that,

> "...DDT house spraying, insecticide treatment of nets, and education about malaria were all independently associated with reduction in incident cases of malaria or fever…The results indicate how much each method used was contributing to malaria control in Solomon Islands and can be used to design the most cost-effective package of interventions. The evidence suggests that impregnated bednets cannot easily replace DDT spraying without substantial increase in incidence, but [that] impregnated nets do permit a substantial reduction in the amount of DDT spraying. [134]

The study also recommended that a full economic cost/benefit analysis be undertaken to accurately determine the costs associated with replacing DDT with other interventions. "A full economic analysis would have to include not only the program costs of all alternative interventions, but also the environmental benefits of reducing DDT use in order to arrive at the socially optimal combination of malaria control interventions." [135]

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[132] M Coetzee, "Insecticide Resistance in Malaria Vector Mosquitoes: The New Southern African Reality". See, also: "Malaria Control Within the Lubombo Spatial Development Initiative Region – 2003 Malaria Update" (2003), at: (http://www.malaria.org.za/Malaria_Risk/Update/LSDIupdate.html); Brian Sharp, Pieter van Wyk, Janet B. Sikasote, Paul Banda and Immo Kleinschmidt, "Malaria Control by Residual Insecticide Spraying in Chingola and Chililabombwe, Copperbelt Province, Zambia", Tropical Medicine and International Health, Vol. 7, No. 9, at pp. 732 and 735 (Sept. 2002).

[133] "The Resistance Movement", The Wellcome Trust, at: (http://www.wellcome.ac.uk/en/malaria/TheMosquito/mfinsr1.html).

[134] Mead Over, Bernard Bakote'e, Raman Velayudhan, Peter Wilikai and Patricia M. Graves, "Impregnated Nets Cannot Fully Substitute For DDT: The Field Effectiveness of Alternative Methods of Malaria Prevention in Solomon Islands, 1993-1999", World Bank Research Development Group (2000), at pp. 1 and 16. The study emphasized that "the role of bednets and other interventions is to permit a substantial reduction of DDT spraying for any given target incidence level..rather...[than to replace DDT]." Ibid., at p. 16.

[135] Ibid., at p. 16.

K. Conclusion

The WHO Commission on Macroeconomics and Health has eloquently summarized how indispensable good public health is to individual prosperity and quality of life.

> "The importance of health in its own right cannot be overstressed. In the words of Nobel Laureate Amartya Sen, health (like education) is among the basic capabilities that gives value to human life…The anguish of disease and premature death makes disease control a central preoccupation of all societies, and motivates the inclusion of health among the basic human rights enshrined in international law. The wisdom of every culture also teaches that "health is wealth" in a more instrumental sense as well. For individuals and families, health brings the capacity for personal development and economic security in the future. Health is the basis for job productivity, the capacity to learn in school, and the capability to grow intellectually, physically, and emotionally. In economic terms, health and education are the two cornerstones of human capital, which Nobel Laureates Theodore Shultz and Gary Becker have demonstrated to be the basis of an individual's economic productivity. As with the economic well-being of individual households, good population health is a critical input into poverty reduction, economic growth, and long-term economic development at the scale of whole societies."[136]

But it is precisely these entitlements that the EU, the UN and environmental movements overlook as they endeavor to impose a DDT ban upon the developing world. These campaigners have utilized instruments such as the Stockholm Convention, regional EU regulations and international donor programs orientated against DDT to prevent developing countries, especially those located in sub-Saharan Africa, from addressing malaria, a pandemic disease, in a manner appropriate for *their* societies. Contrary to the *spirit* of the Doha Ministerial Declaration, both developing and least developed countries are being effectively denied the tools necessary to "share in the growth of world trade commensurate with the needs of their economic development".[137] DDT constitutes one such tool which, if used along with other treatments as part of a holistic approach to malaria control, could successfully control this ongoing public health nemesis and open the door to social and economic development within these countries.

In addition, the policy advocated by these parties is likely fashioned around selected interpretations of the economic and public health reports discussed in this study, the outdated U.S. DDT policy of thirty years ago and the consumer fears that both the studies and the campaigns themselves have engendered. Apparently, these organizations have sought to establish that insecticide treated bed nets (ITNs) are just as medically effective as and a more cost-efficient *treatment method* than indoor residual spraying (IRS), which happens to be the only method by which DDT can be administered pursuant to the POPs Treaty. They have also sought to establish that DDT is a less cost-effective and potentially more environmentally harmful *treatment substance* than pyrethroids. That they remain unable to produce scientific or other evidence of the health or environmental *benefits* that

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[136] Macroeconomics and Health: Investing in Health for Economic Development",
Report of the Commission on Macroeconomics and Health, World Health Organization, at p. 31.

[137] The Ministerial Declaration issued at the WTO Ministerial Conference at Doha, Qatar, Nov. 9-14, 2001, WT/MIN(01)/DEC/W/1, at par. 2, citing the Preamble to the Marrakesh Agreement Establishing the World Trade Organization.

are likely to materialize from such a ban and the use of DDT alternatives in malaria control arguably reflects the intellectual and empirical weakness of their claims.

It must be emphasized, furthermore, that in pursuing their anti-DDT policies these groups have failed to answer several important questions. First, can basing an anti-malaria policy almost entirely on an environmental concept such as the precautionary principle realistically protect the public health interests of developing countries and avoid a health- environment trade-off? Second, couldn't justifying an anti-DDT malaria control policy by reference to the cost savings that DDT alternatives are believed to generate without proof of their corresponding environmental, social and health benefits likely result in a risk/risk scenario in which one uncertain risk is traded for another? Should not the risks associated with using DDT be *objectively* weighed against the risks of not having it?[138] Third, how do international environmental policies that dictate to developing and least developed countries without their informed consent the manner in which they must address national public health crises such as malaria uphold their guaranteed rights to national sovereignty, economic development and quality of life? Hopefully, after seriously reflecting upon these questions, anti-DDT advocates may realize that there "comes a point where the environment will not have any use if everyone living there ha[s] died of malaria." [139]

[138] "Replacing DDT with other pesticides for indoor residual treatments may, for example, also require operational changes. More frequent treatments need to be made with some alternative pesticides, while others, such as the modern synthetic pyrethroids, have a residual activity comparable to that of DDT. As they are less bulky, operational problems may be even smaller. A thorough analysis of each situation is always required. Johan Morner, Robert Bos and Marjon Fredrix, "Reducing and Eliminating the Use of Persistent Organic Pesticides – Guidance on Alternative Strategies for Sustainable Pest and Vector Management", at p. 21.
[139] See: "DDT Takes a Bite Out of KZN's Malaria Rate", quoting Andreas Malwane, Sapa-AFP (2000), at: (http://www.btrust.org.za/newsroom/237242.htm).

III. The Basel Convention, the Proposed Ban Amendment and the Proposed Revision to the EU Waste Shipment Regulation Collectively Establish an International Environmental Standard that Adversely Impacts Developing Country Economic and Social Welfare

A. The Basel Convention and its Policy Objectives

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal ('the Basel Convention') was signed in 1989 under the auspices of the United Nations Environment Program (UNEP)[140] and went into force in 1992. It was arguably the first broad-based multilateral environmental agreement ('MEA') to impose global environmental standards for trade. The U.S. remains a non-Party to the Convention,[141], though the Clinton Administration had at one point imposed its own unilateral restrictions on the shipment of hazardous wastes.[142]

The Basel Convention was negotiated with the assistance of environmental non-governmental organizations (ENGOs), most notably Greenpeace. Its adoption "created [an evolving] global regulatory regime to control trade in hazardous wastes, which obligates governments to manage waste transportation and disposal" [143]. According to some commentators, the selection of a framework convention-protocol process (model), which has since been utilized as a template for other global environmental regimes, [144] has strategic

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[140] "The growth of the international waste trade first prompted negotiations under the United Nations Environment Program (UNEP). Calls for regulation peaked in 1988 when the news media highlighted numerous incidents of improper waste dumping in Africa and Eastern Europe…" James M. Sheehan, "Trashing Free Trade: The Basel Convention's Impact on International Commerce", Competitive Enterprise Institute, Environmental Studies Program, (Sept. 9, 1996), at p. 1, citing, Environmental Law and Institutions Unit, UNEP Environmental Law Library No. 2, "The Basel Convention on the Control of Hazardous Wastes and Their Disposal 3-4, 6-7, 1990, as cited in David A. Wirth, "International Trade in Wastes: Trade Implications of the Recent Amendment to the Basel Convention Banning North-South Trade in Hazardous Wastes", New York: Global Environment and Trade Study, (Jan. 19, 1996).

[141] President Bush (41) signed the Basel Convention in 1989, but the Convention has since not been ratified by the Senate.

[142] In 1994, the Clinton Administration reversed U.S. policy on hazardous waste exports. "It decided to support a ban on waste exports to developing countries, and asked Congress to bring U.S. law into conformity with Basel. The administration position would [have] permit[ted] trade in Basel wastes only with Canada and Mexico, exempt[ed] some recyclables, [and] prohibit[ed] exports of used car batteries." James Sheehan, at p. 4.

[143] "The regime-building process does not end with the signing and ratification of a global environmental convention. Once established, a regime can be strengthened, its central provisions made clearer or more stringent through further bargaining. The strengthening of a regime may occur either because new scientific evidence becomes available on the problem, *because there are political shifts in one or more major states*, or because the existing regime is shown to be ineffective in bringing about meaningful actions to reduce the threat. *The process of regime strengthening is encouraged by the review process that takes place at the periodic meetings of the Conference of the Parties mandated by most global environmental conventions*." Gareth Porter, Janet Welsh Brown and Pamela S. Chasek, Global Environmental Politics, 3rd ed., Westview Press, (2000), at pp. 80-81.

[144] "Negotiators were encouraged to utilize *the convention-protocol process*, which establishes a framework of general commitments and broad goals governing international behavior. This 'soft' law instrument is designed to evolve over time, with 'hard' law instruments to be negotiated and approved later through Conferences of the Parties. Subsequent protocols are used to implement more detailed policies within a binding regulatory

implications for both parties and non-parties.[145] For example, "the Basel Convention allows 'substantive decisions' to be made by a two-thirds majority of those present and voting, without any opt-out provision for those who oppose it, which is how the ban on the trade in hazardous wastes was adopted."[146]At least one commentator has emphasized that,

> "The Basel Convention makes it possible for a minority of countries to ratify and impose measures that will affect the entire global community….In a system of multi-lateral forums *many poorer developing countries do not have adequate funds to support their presence and participation in multi-lateral forums*. *Such poorer countries can become easy recruitment by developed countries for casting votes in favor of measures such as bans*. The Convention can thus…[a]ffect international legal regimes through minority voting! This is clearly undemocratic in practice and spirit (emphasis added)." [147]

It has been said that the philosophy underlying the treaty is premised on the notion that, "the global environment is best safeguarded by reducing the generation of wastes by industry. The Basel Convention has three primary objectives. [First,] transboundary movements of hazardous wastes should be reduced to a minimum consistent with their 'environmentally sound management'. [Second,] hazardous wastes should be treated and disposed of as close as possible to their source of generation. [Third,] hazardous waste generation should be reduced and minimized at source."[148] Many materials have been classified as 'hazardous waste' under the treaty. They include solvents, chemical residues, and pharmaceutical byproducts. At least one commentator has argued that "these [definitional] criteria are so

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regime. " (emphasis added). Ibid., at p. 3, citing Gareth Porter and Janet Welsh Brown, Global Environmental Politics, 2d ed., Westview Press, (1996), pp. 86-87. See, also: Porter, Brown and Chasek, 3rd ed., at pp. 80-82.

[145] "Regime strengthening may take one of three possible forms: The Conference of the Parties can formally amend the treaty…The Conference of the Parties can adopt a protocol that establishes concrete commitments or targets, as in the cases of the Parties to the Vienna Convention negotiating the Montreal Protocol, the Parties to the UN Framework Convention on Climate Change negotiating the Kyoto Protocol, and the Parties to the Convention on Long Range Transboundary Air Pollution negotiating protocols on sulfur dioxide, nitrogen oxide, and volatile organic compounds [such as persistent organic pollutants]. [Arguably, the Parties to the Convention on Biological Diversity achieved a similar result through negotiation of the Cartagena Protocol on Biosafety.] *In some treaties, the Conference of the Parties can make decisions requiring important new actions by the Parties without either amending the convention or creating a new protocol*, as in the cases of the tightening of phase-out schedules in the Montreal Protocol, [and] the ban on hazardous waste exports to developing countries in the Basel Convention…The adoption of protocols has been used successfully to strengthen regimes that began as a framework convention. A framework convention does not establish any detailed, binding commitments…usually because the negotiators have not been able to reach agreement on such measures…The creation of a conference of the parties allows further negotiations on more concrete, binding actions on the issue, taking the form of one or more protocols…*This two-stage approach has allowed the international community to establish the institutional and legal framework for regime strengthening even when there was no agreement on the specific actions to be taken*" (emphasis added). Ibid., at p. 81.

[146] Ibid., at p. 82.

[147] Prasanna Srinivasan, "The Basel Convention of 1989 – A Developing Country's Perspective", Liberty Institute, India (Sept. 24, 2001), at p. 7. See, also: "Waste", Sustainable Development Network, at: (http://www.sdnetwork.net/waste.htm), wherein it was stated that, "with environmental treaties, it is common that aid-dependent nations such as those in Africa become pawns in the game, enticed with money to sign and ratify treaties. Along with the EU, countries like Rwanda often are among the first to sign and ratify such treaties."

[148] James Sheehan, "Trashing Free Trade: The Basel Convention's Impact on International Commerce", at p. 2. The concept of 'environmentally sound management' is defined as "taking all practicable steps to ensure that waste is managed in a manner that will protect human health and the environment against adverse effects which may result from such waste."; The Basel Convention, Article 2(8).

broad that trade in the byproducts of nearly all agricultural and industrial processes are potentially affected." [149]

While a detailed analysis of the Basel Convention is beyond the scope of this paper, its requirements may be said to involve the presentation of detailed documentation, the obtaining of prior informed consent, and the enactment of national/ regional laws to implement the obligations of each Party to the Convention. This includes the promulgation of laws to prevent and punish illegal trafficking in hazardous wastes.[150]

> "Customs officers 'are to make sure that the material being inspected corresponds to both the transport manifest and the Movement Documents that accompany the wastes'. Transboundary shipment is prohibited unless government authorities in the state of export, the state of import, and all states in transit are provided written notification concerning *21 categories of information*. To transport listed material within a signatory country, a shipper must have *prior informed consent*, permission from that country's government to transport or dispose of wastes somewhere in that country's territory. A Party may export hazardous materials *for disposal only* if it cannot dispose of the waste domestically…*Trade in hazardous materials is permitted only between Parties to the Convention.* 'Transboundary movements of hazardous wastes carried out in contravention are to be considered illegal traffic and a criminal act…*every Party shall introduce national legislation to prevent and punish illegal traffic in hazardous wastes*'…" (emphasis added). [151]

In addition, the Convention prohibits a Party from exporting "listed materials to a non-Party, [[152]] unless such trade is *regulated* by a separate agreement no less stringent than the Basel Convention.[153] This provision, found in Article 11 of the treaty, could effectively enforce the Convention on the entire world, even on countries which oppose it. The executive secretary [to the Convention] says, 'Parties and non-Parties will have to respect standards

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[149] James Sheehan, "Trashing Free Trade: The Basel Convention's Impact on International Commerce", at p. 2.
[150] On December 10, 1999, at the conclusion of the Fifth Conference of the Parties (COP-5), the Basel Protocol on Liability and Compensation was adopted. The Protocol addresses "the concerns of developing countries about their lack of funds and technologies for coping with illegal dumping or accidental spills. The objective of the Protocol is to provide for a comprehensive regime for liability as well as adequate and prompt compensation for damage resulting from the transboundary movement of hazardous wastes and other wastes, including incidents occurring because of illegal traffic in those wastes. The Protocol addresses who is financially responsible in the event of an incident. Each phase of a transboundary movement, from the point at which the wastes are loaded on the means of transport to their export, international transit, import, and final disposal, is considered. The Protocol shall enter into force on the ninetieth day after the date of deposit of the twentieth instrument of ratification, acceptance, formal confirmation, approval or accession." The Protocol has not yet entered into force. As of October 17, 2003, there are only thirteen signatures. See: Secretariat of the Basel Convention, United Nations Environment Program, Protocol on Liability and Compensation", at: (http://www.basel.int/pub/protocol.html).
[151] James Sheehan, "Trashing Free Trade: The Basel Convention's Impact on International Commerce", at pp. 2-3, fns 6 and 9, citing I. Rummel-Bulska, "The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal and Trade and Environment Issue,", *Trade and the Environment: Challenges for 1996*, Global Environment and Trade Study and New York University Law School, (Jan. 19, 1996), pp. 2-3.
[152] Basel Convention Article 4 (5) imposes a general obligation on Parties. It states that, "A Party shall not permit hazardous wastes or other wastes to be exported to a non-Party or to be imported from a non-Party."
[153] Basel Convention Article 11 (1) provides a narrowly drawn exception to that general obligation that effectively impacts all WTO members, whether or not they are Parties to the Basel Convention.

recognized as essential by the international community for the protection of the environment'" (emphasis added).[154]

At least one commentator disputes the notion that there was much illegal traffic in waste for the Convention to address in the first place, as well as, the idea that, in most cases, the developing countries were unwilling recipients i.e., victims, of illegal waste dumping.

> "The overwhelming majority of transboundary shipments of hazardous waste take place legally among industrialized countries with well-developed regulatory regimes that require environmentally sound management of waste. *Data from the United Nations Environment Programme show that most waste trade (80%) is between European Union countries, for the purposes of recycling and recovery, not final disposal*. Furthermore, little environmental damage has occurred as a direct result of transfrontier movements of hazardous waste, whether legal or illegal. But what about poorer countries: are they dumping grounds for the rich? Based on an economic logic - but not on facts - that waste flows to places where disposal costs are low and environmental consciousness weak, Greenpeace and other organizations created the misperception that developing countries were victims of '*environmental imperialism*'" (emphasis added). [155]

B. The Status of the Ban Amendment and its Promotion by the EU and Environmental Groups

Concerned that Article 11 of the Convention did not adequately protect developing countries from illegal dumping of hazardous waste, especially from non-Parties seeking to circumvent the treaty, the Conference of the Parties agreed in 1994 to a proposed amendment to the Basel Convention. The amendment, known as 'the Ban Amendment' (adding new preambular paragraph 7 bis, [156] new Article 4A and new Annex VII[157]), would impose "an immediate *ban* on the export from OECD to non-OECD countries of 'hazardous waste' intended for final disposal (emphasis added)." [158] They also agreed to ban, by December 31, 1997 (i.e., to phase-out), the export of wastes intended for recovery and recycling."[159] By comparison, "the initial Convention (of 1989) did not seek to impose a ban" on hazardous waste movements between countries; it sought only to closely regulate and monitor such movements "through a system of recording trade and 'Prior Informed Consent' amongst Parties."[160]

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[154] James M. Sheehan, "Trashing Free Trade: The Basel Convention's Impact on International Commerce", at p. 3.
[155] Mark A. Montgomery, "Waste Not, Want Not", Tech Central Station 1/10/03, at: (http://www.techcentralstation.be/011003M.html).
[156] Following adoption of the amendment, new preambular paragraph 7 was inserted. "Recognizing that transboundary movements of hazardous wastes, especially to developing countries, have a high risk of not constituting an environmentally sound management of hazardous wastes as required by this Convention…" See: "The Basel Ban", Secretariat of the Basel Convention, United Nations Environmental Program, at: (http://www.basel.int/pub/baselban.html).
[157] See: (http://www.basel.int/pub/baselban.html).
[158] Ibid.
[159] "At the Second Meeting of the Conference of the Parties (COP – 2) in March 1994, Parties agreed to an immediate ban on the export from OECD to non-OECD countries of hazardous wastes intended for final disposal. They also agreed to ban, by 31 December 1997, the export of wastes intended for recovery and recycling (Decision II/12)." Ibid.
[160] Prasanna, Srinivasan, "The Basel Convention of 1989 – A Developing Country Perspective", at p. 5.

The Conference of the Parties later expanded the countries that could be classified as permitted hazardous waste exporters and importers to include members of the EU and Liechtenstein, as well as, OECD countries.[161] Attempts made by other (non-OECD) countries to be included within this classification, however, were unsuccessful.[162]

The Ban Amendment has not yet entered into force. As of December 18, 2003, only forty-three of the necessary sixty-one countries have ratified the Ban Amendment (excluding the EU).[163] Nevertheless, "some countries, notably the EU countries…[continue in their]…attempt[s] to enforce the ban…" [164] And, it has been argued that the Ban Amendment continues to be aggressively promoted by "protectionist industries…[and] …trade unions…in the European Union…[as well as by] organizations such as Greenpeace and the Basel Action Network ('BAN')." [165]

These groups have been working also with the United Nations Environment Program in developing countries to train local industry and governments in various capacities. Unfortunately, as one developing country commentator has noted,

> "*The measures proposed under the Convention will have a significant and adverse impact on many developing economies*. These measures are being strengthened under the influence of groups like

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[161] "[B]ecause Decision II/12 was not incorporated in the text of the Convention itself, [however,] the question as to whether it was legally binding or not arose. Therefore, at COP-3 in 1995, it was proposed that the Ban be formally incorporated in the Basel Convention as an amendment (Decision III/1). Decision III/1 does not use the distinction OECD/non-OECD countries. Rather, it bans hazardous wastes exports for final disposal and recycling from what are known as Annex VII countries (Basel Convention Parties that are members of the EU, OECD, Liechtenstein) to non-Annex VII countries (all other Parties to the Convention)". Ibid.

[162] It was feared by NGOs that any additional expansion would serve to circumvent the Ban Amendment, since hazardous waste exports were prohibited only to non-Annex VII Parties. In other words, only Annex VII countries were permitted to export hazardous wastes to each other. Porter, Brown and Chasek, Global Environmental Politics 3rd Ed, at p. 108, fn 72. See, also: "A Report On the Negotiations and Results of the Fourth Conference of Parties to the Basel Convention Held in Kuching, Malaysia 23-27 February 1998", Basel Action Network, at: (http://www.ban.org/issues_for_cop4/what_happened.html). "…The proposals of Monaco, Israel and, at the last minute, Slovenia, to be admitted to Annex VII, raised the specter of an Annex VII 'domino effect' expansion, which would rapidly render the Basel Ban meaningless." Ibid.

[163] See: Basel Convention Article 17 (5). See, also: "The Basel Ban - Ratification", Secretariat of the Basel Convention, at: (http://www.basel.int/ratif/ratif.html); (http://www.basel.int/pub/baselban.html); (http://www.basel.int/ratif/ban-alpha.doc). 82 Convention Parties were represented at the adoption of the Basel Ban Amendment, including the EU (81 Parties excluding the EU). Therefore, 62 Convention Parties (3/4ths of those present) must ratify the Ban Amendment for it to go into force (61 Parties excluding the EU).

[164] Prasanna, Srinivasan, "The Basel Convention of 1989 – A Developing Country Perspective", at p. 4.

[165] Prasanna Srinivasan, "Let the Trade in Waste Continue", Liberty Institute, New Dehli, India, Wall Street Journal Asia (Dec. 16, 2002), cited by the International Policy Network website, at: (http://www.policynetwork.net/article.php?ID=446); See: "Environmental Justice Activists Denounce California Electronics Waste Bill - Makes Toxic Waste Dumping in Asia More Profitable than Ever Before", Press Release: Basel Action Network, (Sept. 18, 2003), at: (http://www.ban.org/ban_news/press_rel_CA_waste_bill.html; "Green Activists Intend to Sue to Prevent Export of Ships", Recycling Today.com (Sept. 9, 2003), at: (http://www.recyclingtoday.com/news/news.asp?ID=4585/); "Toxic Trash From New Zealand Mocks Global Agreement to Stop Trade in Hazardous Waste - Pollutes Local Communities in the Process", Greenpeace Southeast Asia, (July 2, 2003), at: (http://www.greenpeacesoutheastasia.org/en/seanews54.html); "Thailand Must Ban all Imports of Toxic Waste and Ratify Global Ban", Greenpeace Southeast Asia (Feb. 17, 2003), at: (http://www.greenpeacesoutheastasia.org/en/seanews37.html).

> Greenpeace, who have no direct accountability for their actions, especially to those whose environment and health they ostensibly seek to protect…The current actions of the Basel Convention, as perceived by a developing country like India, clearly indicate that it is possible for groups with no accountability…to significantly influence international treaties and laws that significantly affect the economies of the developing and least developed countries. *Such detrimental economic effects will also have detrimental environmental effects and effects on human well-being in such countries*. This is clearly unacceptable" (emphasis added). [166]

C. The Ban Amendment and the Convention's Broad Definition of Hazardous Waste Would Impose Significant Burdens on Developing Country Reclamation and Recycling Industries

"The most controversial aspect of the Ban Amendment is the ban on exports [from OECD/EU countries] of wastes intended for recovery and recycling, such as scrap metal..." Environmentalists readily acknowledge that "the veto coalition and…some developing countries…[have significant] economic interests…in maint[aining] a lucrative trade in wastes for recycling…"[167] Yet, they ignore how the amendment would impose higher costs on developing country industries to secure scrap metals and how that, in turn, would trigger revenue and earnings losses and result in reduced technological innovation without any concomitant environmental benefit being realized.

> "The Basel Convention is an international agreement intended to prevent the illegal dumping of hazardous waste in poor countries – *an attempt to impose uniform global waste management standards*…The difficulty in defining 'hazard' led to the inclusion of some metals intended for recycling, amongst other things. *The result has been an increase in the cost of moving used metals, including zinc and lead, to countries in the developing world with highly developed metals recycling facilities such as India.* As a result, developed countries have to do more of the recycling themselves (something in which they would not have a comparative advantage) *and developing countries lose out, with no environmental benefit*" (emphasis added). [168]

Commentators have argued that if the Basel Convention were so amended it would pose "a very real problem for businessmen in developing countries…Many developing countries can only obtain recyclable materials from international markets…[Even] Greenpeace campaigner Jim Puckett admits that the trade ban will damage industries in poorer parts of the world. However, he told the *Economist* that "*the small harm done* will be more than outweighed by the environmental and health benefits of a strict ban'" (emphasis added). [169]

Indeed, in several developing countries, inputs for production have included scrap metal and metal wastes. For example, obsolete ships that arrive at developing countries for scrapping

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[166] Prasanna Srinivasan, "The Basel Convention – A Developing Country's Perspective, at p. 16.
[167] Porter, Brown and Chasek, Global Environmental Politics 3rd Ed., at p. 108. "The debate had centered on the question of which wastes were defined as 'hazardous' for the purposes of recycling and recovery. To help remedy this situation, a Technical Working Group was assigned the task of drawing up a list of banned (and exempt) wastes and to report to the fourth Conference of the Parties (COP-4) which was held in February 1998. At COP-4, parties accepted the lists that the Technical Working Group had created: List A (wastes characterized as hazardous and subject to the ban, List B (wastes exempt from the ban), and List C (wastes not yet assigned to Lists A or B). The Technical Working Group [has been] working on categorizing the List C wastes, which include polyvinyl chloride (PVC), among other wastes." Ibid.
[168] "Waste", Sustainable Development Network, at: (http://www.sdnetwork.net/waste.htm).
[169] James M. Sheehan, at p. 6, fn 39, citing "Muck and Morals", The Economist, September 2, 1995, p. 61.

provide metal for steel recycling. If the scrap metal were truly *waste,* as some countries would define it under the treaty, then it would have no further economic value. However, this is not the case at all.[170]

> "A large majority of the materials…define[d] as 'hazardous wastes' are in fact valuable materials destined for recycling, recovery, and re-use. *The decision to ban exports of many recycling materials from rich to poor nations would needlessly terminate a lucrative and mutually beneficial trading relationship. Recycled scrap provides several countries with supplies of aluminum, lead and zinc.* The United States exports 9 to 10 million tons of scrap iron and steel per year, which many countries use as a feedstock to make steel. *If trade in secondary materials is banned, many countries will lose access to global markets for secondary raw materials, scrap metals and textiles*…The OECD nations provide the rest of the world with much of its available aluminum, lead, zinc, copper, paper and plastics. International markets are a vital industrial source of secondary raw materials and energy for…*South Korea*…[and] developing countries such as…*Indonesia, China, Malaysia, Thailand and India*" (emphasis added). [171]

Commentators have also claimed that the difficulty with the Convention's broad definition is that ships destined for disposal can be classified as 'hazardous waste'. And, this can run counter to how developing country national laws define the term hazardous waste for purposes of implementing the Convention. "An expert committee in India, working under instructions from the Supreme Court, discovered that [only] about 1% of a ship's physical constituents comprise hazardous substances *as per existing definitions of the Convention*. Similarly, there are several products and by-products that contain varying degrees of toxic or 'hazardous' substances that are *not* inherently hazardous wastes" (emphasis added).[172]

Similarly, the Basel Convention "defines as *hazardous[,]* 'operations which may lead to resource recovery, recycling, reclamation, direct re-use or alternative uses', including any material which can be used as a fuel, a solvent, a metal, or metal compound, an organic substance, or 'other inorganic materials'. If a transported material contains *any quantity* of copper compounds, zinc or lead, for example, it is automatically defined as hazardous, even though such materials may be important feedstocks for industrial production. International shipments of metals, used car batteries, used computers, and second-hand clothing could be affected by this definition" (emphasis added). [173]

D. The Ban Amendment and the Convention's Broad Definition of Hazardous Waste Would Prevent Developing Countries from Evolving Industrially and Thereby Stymie Their Economic and Technological Progress

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[170] Prasanna Srinivasan, "The Basel Convention of 1989 – A Developing Country's Perspective", at p. 6.
[171] James M. Sheehan, "Trashing Free Trade: The Basel Convention's Impact on International Commerce", at pp. 2 and 5. Of the five importing nations mentioned, only China and Malaysia have ratified the Ban Amendment. See: Secretariat of the Basel Convention, United Nations Environment Program, "Status of Ratifications, Updated October 17, 2003", at: (http://www.basel.int/ratif/ratif.html).
[172] Prasanna Srinivasan, "The Basel Convention of 1989 – A Developing Country's Perspective", at p. 6, fn 5, citing, "Report of the High Powered Committee on Management of Hazardous Wastes, pursuant to writ petition No: 657/95, Supreme Court of India. Research Foundation for Science, Technology and Natural Resource Policy vs. Union of India and others, Page 83.
[173] James M. Sheehan, "Trashing Free Trade: The Basel Convention's Impact on International Commerce", at pp. 5-6.

One of the more credible arguments made in favor of not adopting a complete ban against hazardous waste shipments destined for recovery and/or recycling in developing countries focuses on the link between economic growth, technological innovation and environmental protection.

> "*Trade controls [that] cut off developing countries from international markets for important materials supplies, [will result in the] loss of economic growth opportunities [and will have] profound [and adverse] implications for environmental quality*. Economic growth is essential for the creation of wealth, which provides the resources necessary for environmental protection…Impoverished populations and stagnating economies are much less likely to be able to afford cleaner energy resources, and have less money to spend on improving environmental amenities…Trade restrictions prevent countries from competing with each other on the basis of comparative advantage. The maintenance of trade barriers thwarts efficiency gains which free trade generally brings to the economy. With economic growth, market economies as a whole tend to become more resource-efficient (less resource-intensive) over time. Countries which compete in international markets are better able to integrate technological innovations to reduce waste. Trade regulation interferes with this vital process, doing greater damage to environmental quality in the end…*Some developing countries resent this kind of treatment as a form of ecological imperialism*" (emphasis added). [174]

Another worthy argument has cited the need for developing countries to proceed through the same process of industrial evolution, technological progress and self-enlightenment, (i.e., learning by doing), as had many of the OECD countries during the late nineteenth and early twentieth centuries.

> "*The developed countries and industrialized economies have gone through a natural process of evolution* that: 1) Created a scale for production; 2) Made heavy use of natural resources and products often with dirty technologies; 3) Through a combination of public nuisance and competitiveness pressures worked on waste reduction and hazardous waste handling; and 4) As a result of greater prosperity attached higher values to human health and well being to reach its current state of environment well being. The USA is replete with instances of small and unorganized recycling industry functioning in the late 19th century and the early 20th century prior to any serious laws on environment. *Such unorganized industry eventually created industrial 'loops' wherein the waste produce or by-products of one industry became inputs for another…Much of this waste recycling has happened due to natural market processes rather than legislated environmental policies* (emphasis added)." [175]

E. The Ban Amendment and the Convention's Broad Definition of Hazardous Waste Would Threaten Industries that Recycle Electrical and Electronic Wastes ('E' Waste), Lead Acid Batteries, and Other Waste Materials - These Industries Are Major Employers in Southeast Asia

A number of Asian countries are generally considered to be the main importers of electrical and electronic wastes "e-wastes" generated around the world.[176] They include, among

[174] Ibid.
[175] Ibid., at pp. 12-13.
[176] Environmental groups "say the rapid obsolescence of computers, combined with limited domestic recycling infrastructures in the West [and strict environmental regulations], contribute to the growing problem of E-waste exports to developing nations." A report issued by the environmental group Basel Action Network

others, China, Thailand, the Philippines, India, Sri Lanka, Malaysia, Singapore and Vietnam. Importing countries can earn significant income from refurbishing used PCs and disassembling obsolete PCs, monitors and circuit boards and then recovering the gold, copper and other precious metals. End-of-life PCs as well as printers and other related equipment are made of highly sophisticated blends of metals, plastics and other materials.[177] "Scrap merchants extract a plethora of precious metals from shipments, including gold, platinum, silver, copper and palladium. A trader breaking up a single motherboard can extract US$2 worth of metals; but he may still lose out." [178]

While a number of Asian countries have ratified the Basel Convention, only three have ratified the proposed Ban Amendment.[179]

> "Few of the Asian countries that are taking in the waste have ratified the [Ban Amendment]… Indonesia, Pakistan, India, Thailand, Singapore, South Korea, Cambodia, Laos, Myanmar and the Philippines have abstained, and Japan has signed …[only the Convention]. *China has ratified the complete Basel package, and last month began to ban imported products that contain six heavy metals and toxic chemicals*, with a specific watch on communications equipment, computers, computer accessories, meters and electronic instruments. *As a model, Beijing adopted guidelines that were approved by European Union* members in February for the phasing out of the same six substances - including mercury, lead and cadmium - from electronic goods by July 2006. [The truth be known,] *many governments view toxic imports as a valued revenue stream and are loath to interfere in recycling activities that keep tens of thousands of unskilled workers in steady employment*" (emphasis added). [180]

Notwithstanding ENGO protestations, many Asian country recycling and waste disposal practices have continued to defy the provisions of the Ban Amendment. In particular, the government of the Philippines has "allowed the [importation] of hazardous materials for recycling or reprocessing despite having ratified the original Basel Convention in 1992 - though not its later amendment."[181] Investigations conducted by one environmental organization have disclosed that at least one Philippine lead smelting plant, Philippine Recyclers, Inc., located in Marilao, Bulacan, has imported used lead acid batteries for recycling from New Zealand on multiple occasions. "In 2000, New Zealand exported about 738 metric tons of used lead acid batteries (ULABs) to PRI, which was followed by 2,500

(BAN), based in Seattle, U.S., states that "a group of villages in Southern China have become inadvertent repositories of the West's hazardous computer waste…The villages are located on the outskirts of Guiyu, a town in Guongdong province near Hong Kong…Trucks loaded with electronic wastes [were observed] arriving by the hundreds from the nearby port town of Nanhai. The local economy around Guiyu appears wholly dependent on recycling imported electronic scrap"… These activities apparently take place without health or environmental controls…" See: Charles Schmidt, "Exported E-Waste Results in 'Environmental Wasteland'", NewScientist.com, (Feb. 25, 2002), at: (http://www.newscientist.com/news/news.jsp?id=ns99991968).

[177] Ibid.

[178] Alan Boyd, "IT Revolution's Dirty Secret: E-Waste Exports", Asia Times Online, (August 8, 2003), at: (http://www.atimes.com/atimes/Asian_Economy/EH08Dk01.html).

[179] The following Asian developing countries ratified the Basel Convention: Bangladesh, Cambodia, China, India, Indonesia, Malaysia, Pakistan, Philippines, South Korea, Singapore, Sri Lanka, Thailand and Vietnam. Only China, Malaysia and Sri Lanka have ratified the proposed Ban Amendment. See: (http://www.basel.int/ratif/ratif.html).

[180] Alan Boyd, "IT Revolution's Dirty Secret: E-Waste Exports".

[181] Ibid.

MT in 2001. More recently, in November and December of 2002, PRI imported ULABs from New Zealand totaling 720 MT and 210 MT respectively. Import permit figures from the Environmental Management Bureau also reveal that the country has been importing scrap batteries from other countries like Romania, Singapore, Thailand and Sri Lanka.[182] In addition, it has been revealed that "the Thai ports of Klong Toey in Bangkok, and another private port in Samut Prakan province have been the recipient of about 20 tonnes of hazardous computer and electronic waste, unspecified amounts of hazardous battery and medical wastes, and about 1,000 old tires."[183]

Environmentalists are concerned about these incidents because they are occurring "*despite* [what they thought was] *an international consensus* that prohibits the export of hazardous wastes from highly industrialized countries to developing countries" (emphasis added).[184] They must believe that there is the potential for a domino effect among Asian nations, should they seek to compete with one another for the highly prized recycled e-waste revenues. "Many of these shipments come from neighboring countries such as Singapore and Thailand, presenting another potential obstacle, this time a diplomatic one, as Asia scouts its own dumping grounds for unwanted goods. [Shipments have also been identified as coming from] Hong Kong, Taiwan and Japan…though they could all be eclipsed eventually by China."[185]

According to two recent Wall Street Journal articles, this has already likely occurred. "In 2001, China overtook South Korea and Turkey to become the world's largest scrap-steel importer."[186] These articles discuss how China's fast economic growth has fueled its need for raw materials and placed strains on the global raw material supply chain. They note, in particular, how China has been unable to obtain enough inexpensive scrap metal from which to produce steel and other products requiring steel inputs (e.g., autos and construction). As a result, it has found it necessary either to engage in the domestic extraction and/or mining of these raw materials or to import all that it could locate within other countries. In the process, it has managed to substantially drive up global market prices for such commodities.

> "This year [2003], China will import 150 million tons of iron ore…[partly] from Brazil and Australia…[which is a] crucial material used in making the steel for the auto and construction industries….Because of its fast growth…China 'is starting to place severe strains on the global raw-materials supply chain.' Those strains are driving commodity prices sharply higher…In the past year and a half, the cost of aluminum, used to make aluminum, and nickel, which is used to make standard

[182] "Toxic Trash From New Zealand Mocks Global Agreement to Stop Trade in Hazardous Waste - Pollutes Local Communities in the Process", Greenpeace Southeast Asia, at: (http://www.greenpeacesoutheastasia.org/en/seanews54.html).
[183] "Some of this waste has been traced to the UK and is now in the process of being returned. However most of the waste has no traceable origin and will likely not be able to be returned, and will remain to be disposed of in Thai territory at Thai expense." See: "Thailand Must Ban all Imports of Toxic Waste and Ratify Global Ban", Greenpeace Southeast Asia, at: (http://www.greenpeacesoutheastasia.org/en/seanews37.html).
[184] "Toxic Trash From New Zealand Mocks Global Agreement to Stop Trade in Hazardous Waste - Pollutes Local Communities in the Process".
[185] "Thailand Must Ban all Imports of Toxic Waste and Ratify Global Ban". "But like most of the Third World, China lacks a legal framework capable of enforcing the embargo, while it could also be liable for retaliatory action under World Trade Organization rules if it tries to unilaterally keep imports out on strictly environmental grounds." Ibid.
[186] Adam Minter, "China's Huge Hunger for Scrap", The Wall Street Journal (March 25, 2004), at p. A15.

> steel, has doubled…Though it is the world's largest steel producer, steel-hungry China can't get enough scrap metal, contributing to a world-wide rise in steel scrap prices… World-wide inventories are at their lowest level ever, because big metal suppliers were reducing their capacity due to the economic slowdown in the U.S., Japan and Europe. But now, these companies are rushing to fill China's voracious needs…
>
> China's auto and construction craze is underpinning the global metals buying. Aside from iron ore, the country is so starved for copper that Chinese companies are importing French francs and melting them down…Even old computers are being picked clean of components and melted down for copper, gold and platinum. China's imports of scrap copper, which can be used in air conditioners, have increased 40% in the first eight months of the year…In part, China's surging commodity imports are a reflection of its booming exports, as factories import raw materials to make their finished goods...China's imports of polyethylene are also growing as China's industry responds to the growing popularity of plastic products and plastic packaging. Polyethylene imports into Shanghai reached 150,000 tons in January." [187]

In the eyes of environmentalists, this type of fast-paced national production and consumption is not sustainable given the strains that it places on the global environment, notwithstanding the obvious economic and social benefits expressed in higher developing country standards of living. For example,

> "Li Shouyin is one of hundreds of thousands of migrants working in China's scrap industry. She takes apart appliances, generators, wires and cables and sorts the metal. A mother of two from Hunan province, she and her husband – a supervisor of a wire-stripping crew – have worked for nearly a decade at a Schenzhen yard…Each is paid $100 a month plus housing and meals, a fairly standard wage. *'It's hard work, but it's a better life than the village', Ms. Li says…*" (emphasis added). [188]

China aside, the growing number of shipments to other poor countries within Asia of waste materials threatens the intricate web of international environmental agreements that has been woven during the course of the past thirty years to address the disposal of hazardous wastes.

> "'The fact that both the New Zealand and Philippine governments have allowed this to happen demonstrates the glaring contempt which both countries have for the Basel Ban which seeks an end to the export of recyclable hazardous wastes from member states of the Organization for Economic Cooperation and Development (OECD) to non-OECD countries', said Von Hernandez, Toxics campaigner for Greenpeace in Asia." [189]
>
> "There are four related global conventions and protocols that collectively were designed to ensure the safe disposal of toxic materials and prevent indiscriminate dumping in the Third World…[They include]… the Basel Convention and an attached [BAN] amendment… the London Protocol… the Rotterdam Convention…and the Stockholm Convention. The US has not signed any of them, and heads a list of Western countries and business groupings that are specifically campaigning against the Basel Convention and its amendment. Others in this camp are Australia, Canada, the International Council on Metals and the Environment (ICME), the International Chamber of Commerce (ICC) and the United Nations Center for Trade and Development (UNCTAD)." [190]

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[187] Peter Wonacott, "China Saps Commodity Supplies", The Wall Street Journal, (Oct. 24, 2003), at pp. C1 and C9.
[188] Adam Minter, "China's Huge Hunger for Scrap".
[189] "Toxic Trash From New Zealand Mocks Global Agreement to Stop Trade in Hazardous Waste - Pollutes Local Communities in the Process".
[190] Alan Boyd, "IT Revolution's Dirty Secret: E-Waste Exports".

This concern was also reflected at the UN level, as expressed within the "Strategic Plan for the Implementation of the Basel Convention (to 2010) that was developed at the Sixth Meeting of the Conference of the Parties (COP-6) held in Geneva during December 9-14, 2002. Among the activities defined for the 2003-2004 period was the "development of joint activities with UNEP, UNIDO, National Cleaner Production Centers (NCPCs) and *the interim secretariats of the Stockholm and Rotterdam Conventions*"(emphasis added).[191] Initiatives so far undertaken include "the identification of opportunities and synergies and assessment of the contribution of NCPCs to the regional delivery of the Basel Convention Regional Centers (BCRCs) on waste prevention and minimization." [192]Additional activities for the 2003-2004 period include initiatives "promoti[ng] awareness and outreach of the Basel Convention, *its [Ban] amendment and protocol [Protocol on Liability and Compensation]*" (emphasis added).[193] They also entail

> "[I]nitiatives includ[ing] the preparation of national plans to reduce transboundary movements of hazardous and other wastes to the minimum consistent with their environmentally sound and efficient management taking into account regional specificities…with a view to improving coordination among Parties, *in developing standards or common approaches* to reduce export and import, as appropriate, and to exploring the regional recycling and recovery capacity for environmentally sound management. Action will be undertaken by the Parties to the Convention, the Secretariat to the Basel Convention, BCRCs, other regional bodies (e.g., Regional Seas Conventions & Action Plan, African Union, ASEAN, SADC, SPREP, CARICOM….Initiative partners [facilitators] include UNEP, other IGOs (e.g., FAO, UNIDO, World Bank, UN Social & Economic Regional Commissions, OECD, UNCTAD)"(emphasis added).[194]

Additional activities aimed at contributing to the development of BCRCs have also been defined for the period 2005-2010. They are to include "joint activities undertaken at BCRCs for the regional delivery of the Basel Convention *and other related MEAs (Multilateral Environmental Agreements), in particular, chemical-related MEAs*… regarding training on implementation, information exchange and enforcement…[and] pilot projects on environmentally sound management" (emphasis added). [195]

Notwithstanding the clear economic and social benefits and opportunities made available by these activities, however, the EU, UN and environmental groups such as BAN and Greenpeace endeavor to portray the workers as victims. They emphasize that these products often contain hazardous substances such as lead, cadmium and mercury, and that,

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[191] "Strategic Plan for the Implementation of the Basel Convention (to 2010)", Sixth Meeting of the Conference of the Parties, Third Cluster, Field (f) 'Further Development of the Basel Convention Regional Centers for Training and Technical Transfers', Geneva, Switzerland (12/9-12/14/02), at p. 15, at: (http://basel.int/meetings/cop/cop6/stplan.pdf).

[192] Ibid.

[193] Ibid, Fourth Cluster, Field (g) 'Enhancement of Information Exchange of Education and Awareness-Raising in All Sectors of Society', at p. 17; Strategy Summary, at p. 3.

[194] Ibid, Second Cluster, Field (c) 'Further Development of Transboundary Movements of Hazardous & Other Wastes Subject to the Basel Convention, Taking into Account the Need for Efficient Management, the Principles of Self-Sufficiency and Proximity, and the Priority Requirements of Recovery & Recycling', and Field (d) 'Prevention and Monitoring of Illegal Traffic', at p.11.

[195] Ibid, Field (f) 'Further Development of the Basel Convention Regional Centers for Training and Technical Transfers', at p. 15.

consequently, workers in "e-waste" operations may face dangerous working conditions where health, safety and environmental standards may be compromised.

> "'Although it is hardly well known, e-waste contains a witches' brew of toxic substances such as lead and cadmium ... mercury ... and polyvinyl chloride (PVC) cable insulation that releases highly toxic dioxins and furans when burned to retrieve copper from the wires,' the BAN-SVTC report warned…'The health and economic costs of this trade are vast and, due to export, are not born by the Western consumers nor the waste brokers who benefit from the trade.'" [196]

This point was emphasized at a conference hosted in China by UNEP during November 2002 that discussed how to address the environmental consequences arising from e-waste. Eight Asian countries attended, including government representatives from China, India, Malaysia, the Philippines, Singapore, Sri Lanka, Thailand and Vietnam.[197] Shortly thereafter, during December 9-13, 2002, the sixth meeting of the Convention of the Parties (COP-6) took place. At least one commentator believes that there will now be a movement "to ban trade in plastic and electronic goods waste and certain chemicals."[198]

According to one recycling consultant who was quoted, "'While imports of used, functional electronics *do benefit developing countries*…the shipments are often accompanied by tonnes of unusable scrap. And unfortunately, a lot of this material winds up in countries where environmental recycling and disposal standards are either non-existent or ignored...*Finding ways to increase domestic recycling is at the top of the list of potential solutions to the problem*'" (emphasis added).[199]

F. The Ban Amendment and the Convention's Broad Definition of Hazardous Waste Would Threaten the Recycling of Obsolete Ships – The Ship-Breaking Industry Provides Many Local Benefits to Asian Developing Countries

[196] Ibid.

[197] "Asian Governments Launch Action to Tackle 'E-Wastes'", UN Information Service, Press Release, ENV/DEV/710, (Nov. 21, 2002). "A variety of potential solutions…[were]…discussed at the Tianjin meeting. For example, dismantling can be made easier and safer by incorporating these concerns at the design stage. Manufacturers can be given responsibility for managing the wastes resulting from the equipment they sell. National capacities and legislative frameworks for monitoring and controlling transboundary movements of this priority hazardous-waste stream can be strengthened…*The Asia-Pacific Regional Scoping Workshop on the Environmentally Sound Management of Electronic Wastes* is the first intergovernmental meeting to be held on the "e-wastes" problem in Asia. [It was]organized at the initiative of the Basel Convention Regional Centre in Beijing" (emphasis added). Ibid.

[198] Prasanna Srinivasan, "Let the Trade in Waste Continue". At COP-6 new guidelines were adopted and prepared. See: "Technical Guidelines For the Identification and Environmentally Sound Management of Plastic Wastes & For Their Disposal", UNEP/CHW.6/21; "Technical Guidelines For the Environmentally Sound Management of Waste From Lead Acid Batteries", UNEP/CHW.6/22; and "Preparation of Technical Guidelines for the Environmentally Sound Management of Persistent Organic Pollutants (POPs) as Waste", UNEP/CHW.6/24; Implementation of Basel Declaration on Environmentally Sound Management of Priority Waste Streams: Electronic and Electrical Wastes, UNEP/CHW.6/INF/15, Documents of the Sixth Meeting of the Conference of the Parties, Basel Convention, Geneva, Switzerland, (12/9-12/13/02), at: (http://www.basel.int/meetings/frsetmain.php?meetingId=1).

[199] Charles Schmidt, "Exported E-Waste Results in 'Environmental Wasteland'".

Even the United Nations Environment Program (UNEP) has acknowledged that ship-breaking[200] is an important industry in several Asian countries.

> "[S]hip breaking contributes significantly to local and national economies. Most ships are about 80-90% steel, which can be sold as scrap metal for reprocessing. Other valuable components, such as engines, electrical equipment, furniture, pumps and valves, and much more can also be profitably recycled. Because ship breaking is so labour intensive, the industry has established a strong presence in several Asian developing countries, which also provide eager markets for the recycled parts. India breaks 42% of the vessels that are dismantled every year, Bangladesh 7%, Pakistan 6%, China 4%, and the rest of the world 41%." [201]

The environmental group Greenpeace readily admits the significance of this industry.

> "Shipbreaking happens in poor countries. Mainly Asian countries. Beaches in India, Bangladesh, Pakistan and Turkey have been turned into ship graveyards…These four countries and China scrap around 90% of the ships from rich industrialised countries. Most of them in India: 60%. Bangladesh and Pakistan get the largest vessels…There is a demand for recycled steel and a use for re-rolled steel. Workers are desperate for a job…shipbreaking in Aliaga, Turkey…[on] the Aegean coast…began in mid 70's and officially in 1984 when the import of ship-for-scrap was allowed according to liberalisation measures of that time….The majority of ships scrapped on Pakistani beaches are oil tankers. Pakistani breakers are specialised in large tonnage vessels. In 1999 the country was the third largest shipbreaking nation but recent years have seen a decline in the industry in the area… since September 2001 some very large crude oil tankers have sailed to the scrapping beaches of Pakistan… Bangladesh is dependent on shipbreaking for its domestic steel requirements… In China shipbreaking looks less dramatic than on Indian or Bangladeshi beaches. Vessels are broken up in docks with more cranes and machinery." [202]

With the growing size of this industry in mind, the UNEP, under the auspices of the Basel Convention, began finalizing on June 19, 2001 an international set of guidelines for the environmentally safe dismantling of obsolete ships.[203] While the UNEP through its guidelines may not expressly state that it is seeking to ban the economic activity of ship

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[200] Ship-breaking is essentially the dismantling of obsolete ships. "After 25-30 years ships are at the end of their sailing life. These 'End of Life Vessels' are sold and dismantled to recover the valuable steel. About 95% of the ship consists of steel… *In the 1970s shipbreaking was concentrated in Europe*. Performed at docks, it was a highly mechanised industrial operation. But the costs of upholding environmental, health and safety standards increased. So the shipping industry moved to poorer Asian countries… Every year around 600-700 larger sea vessels are taken out of service and brought to Asia for scrap. In the 1990s they had an aggregate tonnage of around 15 million dwt a year. However, the scrap market increases and will increase substantially the following years. In 2001 the total number of vessels (608) sold for scrap already totalled a figure of 28 million dwt. This marks a year on year growth of nearly 25%…The other reason for the growth of the scrap market is the increase of the world fleet (> 100 gt) during the last decades. In 1960 there were around 15,000 ships with an aggregate dwt of 84 million. In 2000 there were around 62,000 ships with an aggregate dwt of 828 million" (emphasis added). See: "ShipBreaking", Greenpeace, at (http://www.greenpeaceweb.org/shipbreak/whereare.asp).

[201] "Ship Dismantling Industry Set to Go Green", United Nations Environment Program – Environment for Development, Press Release, (June 19, 2001), at: (http://www.unep.org/documents/default.asp?documentid=204&articleid=2873).

[202] "ShipBreaking", Greenpeace, at (http://www.greenpeaceweb.org/shipbreak/whereare.asp).

[203] Ibid. These guidelines have since been finalized. See: "Technical Guidelines for the Environmentally Sound Management of the Full and Partial Dismantling of Ships", UNEP/CHW.6/23, Documents of the Sixth Meeting of the Conference of the Parties, Geneva Switzerland, (12/9-12/13/02), at: (http://www.basel.int/meetings/frsetmain.php?meetingId=1) .

breaking, at least not until the Ban Amendment has gone into force, it does expressly seek to drastically alter that industry.

> "The decommissioning of a large vessel may involve the removal of many tonnes of hazardous wastes, including Persistent Organic Pollutants such as PCBs, heavy metals such as mercury and lead, asbestos, and oil and gas. Dismantling can also result in the release of dioxin and sulphur fumes. Workers, local communities, coastal and ocean biodiversity, groundwater and air are all at risk. *The 89-page Guidelines seek to minimize or eliminate these risks by introducing universally applied principles for the environmentally sound management of ship dismantling.* They detail procedures and good practices for decommissioning and selling obsolete ships, dismantling them, sorting the parts (for reuse, recycling and disposal), identifying potential contaminants, preventing toxic releases, monitoring environmental impacts, and responding to emergencies and accidents. They also address the design, construction and operation of ship dismantling facilities" (emphasis added).[204]

NGOs, such as Greenpeace and BAN, however, are aggressively misrepresenting through their public campaigns that the Ban Amendment has already entered into force. They are also attempting to shape public opinion and hopefully government action by defining ship-breaking as a 'hazardous waste' activity within the meaning of the Basel Convention, knowing full well that such definition has not yet been conclusively established by consensus of the Conference of the Parties.

> "Specifically, under the auspices of the Basel Convention, the international community has *banned* the export of hazardous wastes for any reason, including recycling as of January 1, 1998, from OECD countries to non-OECD countries. By any reading of the definitions of hazardous waste covered under the scope of the Basel Convention, it must be concluded that ships destined for scrapping are first considered wastes, and second considered hazardous wastes subject to the Basel Convention and the Basel Ban. Under the Basel Convention, OECD countries are prohibited from exporting obsolete ships for scrapping unless they have been decontaminated to the extent where they do not have any hazardous characteristics as defined by the OECD and Basel regimes" (emphasis added).[205]

The Asian ship-breakers are justifiably concerned that they will lose this important business if the Basel Ban Amendment goes into force and is implemented by the Convention's Parties. It has been known, since at least 2001, that "the EU [has been] studying the feasibility of dismantling ships in Europe", given its concern "that the practices at major breaking yards violate the Basel Convention's provisions". If the EU is indeed exploring the possibility of developing more cost-effective technology to once again undertake ship-breaking activity within its growing regional borders, developing countries, as a result, would lose the opportunity to acquire such know-how indigenously. Although Asian ship-breakers also suffered in the past when "the US [unilaterally] prohibited the export of government-owned vessels to the major breakers and considered its own disposal capacity", the Bush Administration is now currently exploring new options with Congress.[206]

> "In December 1997 the *Baltimore Sun* published a series of articles highlighting the conditions in the ship-scrapping yards of Asia, which led the Clinton Administration to adopt a moratorium on the export of U.S. government ships in 1998. That moratorium stood for five years until it was overturned

[204] Ibid.
[205] "Shipbreaking: Toxic Waste in Disguise – The China Connection", Greenpeace Special Report.
[206] Ibid.

late last year [2002] by Congress when they provided MARAD with funds for a pilot project to explore export options." [207]

G. Maintaining the Waste Trade is Critical to Sustaining Indian Labor Markets, Economic Security and National Sovereignty

Indian government and private representatives alike have repeatedly emphasized that India has developed a relatively thriving recovery and recycling industry that provides important throughputs to its domestic lead, steel and silver sectors. These critical industry inputs allow India to avoid the use of her primary natural resources and the environmental problems associated with their extraction and refining. It also provides Indians with opportunities to grow their economy and to improve their livelihoods.

> "The domestic lead industry in India uses up to 50% of its needs through imports of recyclable waste…Similarly, shipbreaking contributes about 25% of the input raw materials for the steel industry in India…[The] recycling of photographic film also has long been an unorganized sector practice in India. There is silver recovery from the photographic film while the recycler makes profits from the plastic recovered from the process. It is a thriving cottage industry in India….
> [Lead and steel] could potentially be covered by a ban…[A]…ban on trade of these two commodities will only increase the use of primary resource in India…[For example, an additional amount of ore would need to be mined for the steel industry without the inputs from recycled ship steel.[208]]…This will eventually create a greater pool of waste material that has to be disposed of, given the lack of access to international trade…Increased primary resource use [therefore] would work against the Convention's stated objectives…*The Basel Convention fails to recognize that recovery from waste is an inherent part of poor, developing economies and that economic growth will eventually support good environmental and public health practices. The Convention instead favors measures such as trade bans that will impede economic activity and livelihoods [and] that will work contrary to improvement of environment and public safety*" (emphasis added). [209]

Furthermore, Indian representatives have spoken about the expertise they have developed in their domestic recycling industries from both imported and domestically created waste. This expertise was acquired, however, only because the quantities of waste dealt with were large enough and the price cheap enough to justify the design and manufacture of the necessary technologies and machinery. "Waste products typically provide cheaper inputs for production in a variety of industries. The development of technologies to increase waste recovery…is linked to the availability of the resource on which the technology is

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[207] "Green Activists Intend to Sue to Prevent Export of Ships", Recycling Today.com. "The U.S. government had not sold a vessel to overseas markets for scrapping since 1994. Such practice had been…suspended under the Clinton administration. As an alternative four pilot projects for domestic scrapping were initiated…[I]n November 2002, the United States Congress…passed a decision…[as part of]…the 2003 Defense Authorization Act…that called for the exploration, thorugh another pilot program, of the feasibility of exporting the…fleet of obsolete naval vessels in the National Defense Reserve Fleet under the jurisdiction of the U.S. Maritime Administration. The bill allocated up to $20 million for the pilot program, while another $11 million was obtained from another budget for 2003 alone. President Bush signed the Act on December 2, 2002." "Needless Risk: The Bush Administration's Scheme to Export Toxic Waste Ships to Europe", the Basel Action Network (BAN) (Oct. 20, 2003), at p. 32.

[208] Prasanna Srinivasan, "The Basel Convention of 1989 – A Developing Country's Perspective", at p. 20.

[209] Ibid., at pp. 10-11; "ENVIS – Environmental Information System, Gov't Industry Partnership, Multilateral Environmental Agreements & India, Basel Convention", at: (http://www.govtindustry-environment.com/envis.asp?link=8).

applied."[210] If, therefore, the export of wastes to developing countries such as India is banned or severely restricted, there would not be enough domestic waste available to justify domestic industry's investment in the recycling equipment needed to sustain the industry itself and adequately protect the environment.

> "Garbage recycling in India, vis-à-vis segregation of waste and their eventual sale to recyclers have been a long-standing practice that has provided employment to thousands for several decades. The technologies employed in recycling are compatible with the price line for such waste inputs in the market place… Handling and working circumstances of people in the trade would not meet developed countries' standards of 'health and environment'. About a decade ago, DANIDA funded a project in India on urban waste recycling using machinery that had to be abandoned. The quality of the waste was found unsuitable. This was because all recyclable materials had been removed through the indigenous network of waste collectors.
>
> [T]he smaller waste quantities generated in a developing country like India would not justify machine intensive 'safe' technologies in many product categories. For example, the high power committee in India found that the environmentally friendly lead smelters would [not] be viable for the quantities handled by the sector in India. The availability of large-scale waste eventually permits development of better technologies that are machine-intensive, with better labor and environmental conditions. By legislating 'developed market' conditions in a 'less developed' economy, the outcomes are either that the market goes underground thus offering even less protection for labor, or that it dies and significant employment is lost…." [211]

Moreover, Indian representatives have argued that the imposition of a process ban prohibiting developing countries from gaining access to industrial country waste under the guise of unacceptable hypothetical environmental hazard is tantamount to veiled protectionism. Such a ban not only guarantees industrialized countries a competitive technological advantage, but also denies developing countries the opportunity to develop their own indigenous technological capacity, thereby fostering continued North-South dependency.

> "The ban on access to recyclable waste materials under the garb of being hazardous will restrict access of such waste in developing countries while increasing access in developed countries…[which] by virtue of their own laws will not be able to export the waste…For example, the US Government ha[d] a ban on export of ships owned by it for disposal. There are no domestic buyers for the used ships…[A]n estimated [150-]180 ships of the US government are lying around awaiting disposal…The prevalence of large quantities of waste that have no competitive value (as they cannot be traded) or domestic value (due to strict environment laws) will create a circumstance of government subsidized development of safe disposal technologies in developed countries…*In the long run, developed countries will own 'safe disposal' technologies because of such trade interference. Developing countries will yet again have to acquire these technologies from developed countries…Consequently, by denying poor countries access to industrial wastes, the [Basel] Convention is reducing their ability to develop appropriate technologies*" (emphasis added). [212]

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[210] Prasanna Srinivasan, "The Basel Convention of 1989 – A Developing Country's Perspective", at p. 15.
[211] Ibid., at pp. 11-12. "Recycling is a small scale and domestic industry for the most part. Most small producers do not have resource to invest in large 'environmentally' safe technologies. The few large producers that exist…are unable to compete successfully with the domestic sector in assessing the small and distributed quantities of waste and will now be starved of imports due to the ban." Ibid., at p. 13. See, also: "ENVIS – Environmental Information System, Gov't Industry Partnership, Multilateral Environmental Agreements & India, Basel Convention".
[212] Prasanna Srinivasan, "The Basel Convention of 1989 – A Developing Country's Perspective", at p.15.

Lastly, Indian advocates claim that the Convention and the Ban Amendment violate their right to national sovereignty.

> *"[T]he Basel Convention seeks to circumvent the sovereign rights of a developing country to import hazardous substances under regulation as critical inputs to domestic industry*…[I]n some cases, such as ship-breaking, the key issues appears to be labor conditions in the industry, rather than the fundamentally hazardous nature of ships imported for breaking…Developing countries such as India with democratically elected governments and some levels of monitoring institutions can monitor to a fair degree, the usage, movement and handling of hazardous wastes. The legal frameworks and existing laws are by and large acceptable from a domestic point of view. As with most developing countries, enforcement is often the issue" (emphasis added). [213]

It is arguable that, while "there are localized pollution problems…these affect the people living and working in the region – who are also capable of making that trade-off on their own terms." [214] In other words, commentators have argued that the Convention's broad definition of 'hazardous waste' and the Ban Amendment's recycling and waste ban, both championed by the EU, together constitute a new form of European colonialism – 'Eco-colonialism'.

> "Basel puts into international law a view of the developing world *reminiscent of the European colonial period* and which still permeates the mindset of European NGOs, i.e., that the interests of developing countries are better understood and managed by the developed world" (emphasis added). [215]

H. The Ban Amendment and the Convention's Broad Definition of Hazardous Waste Would Threaten Both the Ship-Breaking and Lead Acid Battery Recycling Industries Which are Significant to India

As indicated above, ship-breaking and lead acid battery recycling provide India's steel and lead industries with significant material inputs that provide a number of social, economic and environmental benefits. A brief description of each of these activities follows.

> "Shipbreaking in India expanded after the early 1980's. This trend has accompanied the growth of the domestic iron and steel industry as well as the availability of surplus ships following the second oil shock in 1979-1980. Shipbreaking was recognized as a manufacturing industry in India in 1979. While shipbreaking activities are carried out at various places on the India coast, the largest concentration of shipbreakers lie on the West Coast at Alang, Gujarat. There are about 141 active plots along a 10km coastline, and represents the single largest concentration of shipbreaking industry in the world. Shipbreaking provides direct and indirect employment to about 40,000-50,000 people. About 60% of the ships broken are dry cargo ships while wet cargo, tanker and specialized ships constitute the rest." The primary materials obtained on ship breaking are recyclable steel, engineering and spare parts, appliances, wood, cables, lead acid batteries, oil, and glass wool and thermocole. It is estimated that the recyclable steel accounts for about 20-25% of inputs to the steel and foundry industry in India…Daily wage earners at these shipbreaking yards earn about U.S.$2 or roughly 100

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[213] Ibid., at p. 14.
[214] Roger Bate, "How Precaution Kills: The Demise of DDT and the Resurgence of Malaria" (2002), In: Michael Gough (Ed.), (2003), Politicizing Science: The Alchemy of Policymaking, George C. Marshall Institute, at p. 73.
[215] "Waste", Sustainable Development Network, at: (http://www.sdnetwork.net/waste.htm).

> rupees per day. This qualifies very favorably compared to any semi-skilled daily wage earner in India most of whom are employed in the unorganized or informal sector. This is several times the daily wage of workers in rural agricultural belts such as in Orissa, Andhra Pradesh, etc. where daily wages, besides being seasonal, are closer to 10-20 rupees per day. Consequently, many of the workers come from such interior regions to earn a living at Alang. They are able to send home a part of their earnings to support the families back home." [216]

Therefore, should the Basel Ban Amendment enter into force and be interpreted as prohibiting exports of obsolete vessels for ship-breaking, the livelihoods of 40,000 families in the weaker sections of society will be directly impacted, as will their larger dependant families in their home towns and villages.[217]

In addition, lead consumption in India has risen rapidly through the 1990's as the result of the country's greater industrialization and the expansion of the automotive sector. Lead acid batteries account for about 75% of the lead consumption in the country. About half of the estimated consumption of 29,000 (1996-1997) tonnes was from secondary markets.[218] Despite estimates of total annual lead production capacities provided by India's largest primary and secondary market producers, as well, as the total annual production capacity claimed by the unorganized sector and smaller plants[219], the Indian government has continued to predict significant shortfalls in lead supply. For example, during 2000-2001, estimated lead demand exceeded estimated lead supply by almost 30,000 tonnes per annum. Estimates prepared for years 2006-2007 reflect that lead demand will exceed lead supply by almost 120,000 tonnes per annum.[220]

Considering India's inability to produce domestically enough lead to keep pace with its rising consumption needs, a ban placed on the import of lead acid batteries from OECD countries would thus deal a devastating blow to India's industrial complex and to its economy at large.

> "The ban on import of used batteries will either result in increased production of primary lead in India and/or increased smuggling for lead. Lead acid batteries are collected through a fairly disaggregated system of automotive maintenance stations…The gov'ts' stipulations of end-user authorization for collection will render most of the smaller capacity units unable to comply with regulations. These will either close down or flourish illegally. Smaller availability of quantities domestically will discourage development of appropriate scale technology on handling, recycling, and disposal of lead/lead waste. Actions pursuant to the Basel Convention will actually harm the environment in the long run through greater use of primary lead plus illegal recycling of lead using

[216] Prasanna Srinivasan, "The Basel Convention of 1989 – A Developing Country's Perspective", at pp. 17-18.
[217] Ibid., at p.19.
[218] Ibid., at p. 20.
[219] "The primary producer of lead has a production capacity at multiple plants of 65,000 tonnes per year. The secondary market is estimated to have a capacity of about 52,000 tonnes per year. The primary producer in the secondary market has an annual production capacity of 24,000 tonnes per year. About 15,000 tonnes per annum of production capacity exists in the unorganized sector, with another 25,000 tonnes per annum capacity in the 'tiny/backyard' plants." Ibid.
[220] Ibid.

'banned technology' in the unorganized sector.[221] This would be contrary to what the Convention seeks to promote. It would also interfere with the market mechanisms that enable recycling of lead and lead batteries." [222]

I. The Proposed Revision to the EU Regulation on Waste Shipments Constitutes a Disguised Trade Barrier that Further Disadvantages Asian Developing Countries

The EU is concerned about the need to pursue global harmonization in the area of transboundary shipment of waste. According to recently proposed revisions to the EU regulations on shipments of waste, "It has…been the intention of the Commission to move towards maximum global harmonization in the area of shipments of waste without jeopardizing the overall purpose of protection of the environment. Implementing the provisions and principles of the Basel Convention is therefore also a priority in the proposal."[223] To this end, the Commission believes that the provisions of the proposed regulation governing "exports out of, imports into, and transit through the Community to and from third countries [constitute] rules which pursue an overall and general environmental objective, as well as, rules on international trade…[T]herefore… environmental rules also apply to the trade regime and are thus linked to it." [224]

According to the EU Commission,

> "The objective of the Waste Framework Directive is generally to promote the prevention and recovery of waste. *A number of instruments of EU legislation, including the Packaging Directive, the Waste Oils Directive, the End of Life Vehicles Directive [ELV], the Landfill Directive, and the Directive on Waste Electrical and Electronic Equipment [WEEE]*establish priorities and targets for recovery and recycling as well as other requirements regarding waste treatment which are binding on Member States. It is thus considered appropriate that the Regulation clarify that, where the waste concerned comes under such Community obligations, a shipment may be objected to in two cases. The first case is where technical requirements which are mandatory at EU level will not be complied with. The second case is where the waste concerned will not be treated in accordance with the waste management plans drawn up by Member States…This is consistent with the *6th Environmental Action Programme*, which calls for further measures to encourage recycling and recovery of waste in accordance with the guiding principles of the waste hierarchy" (emphasis added). [225]

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[221] For example, "while the Indian government has banned import of certain kinds of lead wastes, in compliance with the Basel Convention and the directives of national courts, up to 14,000 tonnes of lead are imported annually through various means (the black market) despite its best efforts." Ibid., at p. 21

[222] Ibid.

[223] "(Commission) Proposal for a Regulation Of the European Parliament and of the Council on Shipments of Waste", COM(2003) 379 final (6/30/03), 2003/0139 (COD), at p. 5. The Commission perceived a legal need for its revision of these regulations. "Recent developments under the Basel Convention, in particular the adoption of two detailed lists of wastes as new Annexes VIII and IX to the Convention in November 1998, provide the impetus to the OECD to revise its 1992 Decision in order to harmonize its lists and certain other requirements with the Basel Convention. This revision resulted in the adoption of OECD Council Decision C(2001)107 on 14 June 2001. In order to implement that amended Decision within the Community, a revision of the Regulation has thus become legally necessary." Ibid.

[224] Ibid., at p. 6. The Commission therefore concludes that its revised regulations have a legal foundation in Article 133 of the EC Treaty. Ibid.

[225] Ibid., at pp. 14-15. For a brief discussion of the ELV and WEE, See: "Looking Behind the Curtain: The Growth of Trade Barriers that Ignore Sound Science", at pp. 66-67; 78-79. The A*e*A reported during July 2003 that a variant of the WEEE directive (i.e., the WEEE/RoHS –Directive on Restrictions on Use of Hazardous Substances) has made its way to China. "The Chinese Government propose[d] regulations to

There are several instances in which the EU waste shipment regulation goes beyond what is called for in the Basel Convention, as currently written, and/or the 2001 OECD Decision dealing with shipments of waste, especially concerning shipments of waste for recycling and recovery.[226] Among other things, the proposed Regulation incorporates the more stringent provisions of the Ban Amendment even though it has not yet entered into force.

In one instance, the proposed EU regulation provides that written notification must be furnished to and written consent received from the appropriate competent authorities with respect to all shipments of "hazardous and semi-hazardous waste as listed in Annex IV and [mixtures of or otherwise] non-listed waste destined for recovery…On this point, the relevant OECD Decision requires [only] tacit consent and the possibility of written consent…"[227] Similarly, the Basel Convention seems to grant transit Parties the right to waive the written consent requirements in general or under specific conditions.[228]
A second instance in which the EU regulation goes beyond the mandate of the Basel Convention, as currently written, concerns the EU establishment of an administrative rule to govern shipments of waste containing, consisting of, or contaminated by persistent organic pollutants. It is within this provision that the EU expressly refers to the Stockholm Convention on Persistent Organic Pollutants (POPs) and invokes the *Precautionary Principle*.

> "It is proposed that waste consisting, containing or contaminated with the *chemicals listed in Annexes A, B and C of the Stockholm Convention or in Annex VIII to the Regulation*[229] be subject to the same provisions of waste destined for disposal. *Without prejudging the technical implementation of the Stockholm Convention*, this article will, in the shipment context, establish a clear administrative rule. It will be clear, in particular as regards the Community, that such shipments are prohibited unless they are destined for EFTA countries. In application of ***the precautionary principle***, it is important to strictly control *any* shipment of waste containing, consisting, or contaminated by POPs, in order to prevent inadequate management of these substances" (emphasis added). [230]

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eliminate the use of lead in electronics products…[the] draft regulations would [also] require…companies to…recycle waste electronics. These draft regulations entitled 'Management Methods for the Prevention and Control of Pollution of Electronic Information Products' referred to as 'China RoHS' [are] based on an early draft of a recently passed European law." Ibid., at pp. 68-73; See, also: Lawrence Kogan, "Unscientific 'Precaution': Europe's Campaign to Erect New Foreign Trade Barriers", at p. 54.

[226] See: Decision of OECD Council (2001)107.

[227] COM(2003) 379 final at p. 12. "Shipments of all waste destined for disposal, hazardous and semi-hazardous waste as listed in Annex IV, and non-listed waste destined for recovery are subject to prior notification *and* written consent (tacit from transit country)." (emphasis added). This would seem to indicate that in the case of a transit shipment through the European Community, the EU/member state competent authority may not need to issue written consent. The Commission provides several rationales for requiring written notification on all waste shipments, those destined for disposal, as well as, those destined for recovery.

[228] According to Article 6(4) of the Basel Convention entitled, "Transboundary Movement Between Parties", "[I]f at any time a [transit] Party decides not to require prior written consent, either generally or under specific conditions, for transit transboundary movements of hazardous wastes or other wastes, or modifies its requirements in this respect, it shall forthwith inform the other Parties of its decision…"

[229] Annex VIII of the Regulation is entitled, "Chemicals Listed in Annex A, B and C of the Stockholm Convention". As set forth in the Regulation, they include aldrin, chlordane, dieldran, endrin, heptachlor, hexachlorobenzene, mirex, toxaphene, DDT, PCB, PCDD, PCDF and PCBs, dioxins and furans. Ibid., at p. 178.

[230] Ibid., at pp. 16-17.

Perhaps the most important instance in which the EU proposed Regulation goes beyond the Basel Convention as currently written (which it seems already to have done in current regulations) involves its implementation of the not yet effective Ban Amendment with respect to waste destined for recycling and recovery.

> "[The] Basel Convention export ban as regards recovery – Annex V [of the proposed Regulation[231]]: On September 1995 the Conference of the Parties to the Basel Convention adopted Decision III/1, which introduced a new preambular paragraph 7 bis, a new Article 4A and a new Annex VII into the Basel Convention. The Decision aims to immediately prohibit exports of hazardous waste destined for final disposal from Parties to the Convention list in Annex VII to Parties not listed in Annex VII, and *to prohibit as of 1 January 1998 exports of hazardous waste destined for recovery* from Parties listed to Parties not listed in Annex VII. This ban is laid down in Community legislation in Articles 35 and 37 of the proposal (Articles 14 and 16 of the current Regulation). Article 35 contains the disposal part of the ban and *Article 37 contains the recovery part of the ban*. In relation to the recovery part of the ban…hazardous waste and mixtures of unlisted hazardous waste and waste which the country of destination has notified to be hazardous or has banned the import of are covered by the *prohibition*" (emphasis added). [232]

It remains questionable whether the recovery part of the ban covers exports of waste from lead acid batteries, electrical and electronic equipment and obsolete vessels exported for dismantling. The proposed Regulation seems to indicate, at least, that exports of lead acid batteries and obsolete ships may be exported out of the Community to non-OECD countries as long as these wastes do not fall within the provisions of Article 37. Article 37 sets forth six alternative rationales that the EU can rely on to prohibit the export of a hazardous waste shipment destined for recycling or recovery in a non-OECD country. Three of them involve the definition of hazardous waste itself[233] (which the Basel Parties have yet to define by consensus as including lead acid batteries and obsolete ships), and two of them depend on prior destination country action.[234] The last option falls within the discretion of the competent authority of the dispatch country – "waste which the competent authority of dispatch has reason to believe will not be *managed in an environmentally sound manner* in the country of destination concerned."[235]Only if a waste shipment avoids all six rationales can it be exported to a non-OECD country.

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[231] Annex V of the Proposed Regulation is entitled, "Waste Subject to the Export Ban in Article 37". It even provides that, "the fact that a waste is not listed as hazardous in this Annex, or that it is listed in part 1, List B, does not preclude, in exceptional cases, characterization of such a waste as hazardous and therefore subject to the export ban referred to in Article 37." Ibid., at par. 4. "Part 1 is divided into two sub-sections: List A, enumerating wastes which are classified as hazardous for the purposes of the Basel Convention and therefore are covered by the export ban, and List B, enumerating wastes which are not covered by the export ban…Only if a waste does not feature in either List A or List B of part 1, one has to check if it features among the hazardous waste of part 2 or in part 3, and if this is the case, it is covered by the export ban." Ibid., at par. 2.
[232] COM(2003) 379 final, at p. 19.
[233] Proposed Regulation Article 37(1)(a)-(c).
[234] Proposed Regulation Article 37(1)(d)-(e).
[235] Proposed Regulation Article 37(1)(f). Article 42(3) amplifies this language by stating that, "The competent authority of dispatch in the Community shall prohibit an export to third countries if it has ***any*** *reason to believe* that the waste will not be managed in an environmentally sound manner throughout the period of shipment and including final disposal or recovery in the third country of destination."

The 'environmentally sound manner' language appears also within Article 35. At first glance, this language appears to be different from the 'environmentally sound management' language found within Articles 36 and 39, although this is not clear.[236] The 'environmentally sound management' standard is defined by Article 42 and explained as follows:

> "The concept of environmentally sound management originates from and is defined in the Basel Convention [Article 2(8)]. Environmentally sound management is defined as taking *all practicable steps* to ensure that waste is *managed in a manner that will protect human health and the environment against adverse effects which may result from such waste*…[T]he requirement for environmentally sound management…may be assumed to be fulfilled *inter alia* if the treatment guideline listed in Annex IX[237] in respect of the waste stream concerned *is proved* to apply at the facility in the third country of destination. However, it must be emphasized that this assumption is without prejudice to the overall assessment of environmentally sound management throughout the period of shipment and including final disposal or recovery in the third country of destination…In addition, guidelines adopted by the OECD or adopted in the context of other bodies may be referenced in Annex IX, as amended. In so doing, care must be taken to ensure that the guidelines are concrete and not general. They should give specific guidance on various and preferred methods of disposal and be up to date both in terms of technical level and in terms of addressing environmental concerns…It must lastly be stressed that the requirement of environmentally sound management is without prejudice to the provisions of Articles 35 and 38, implementing the Basel Convention export ban on hazardous waste from OECD to non-OECD countries" (emphasis added). [238]

It is obvious that a considerable, perhaps insurmountable, burden has been placed upon the shipper/exporter/notifier. Assuming, first, that a shipment itself does not qualify as hazardous waste under the Basel Convention , applicable EU regulations, or the laws of the non-OECD destination country, and that it has not otherwise been banned by such country, the shipper/exporter/notifier must then prove (no standard of review has been defined) to the EU competent authority that it is taking all practicable steps (practicable is not defined) to ensure the protection (no level of protection is defined[239]) of human health and the environment against adverse effects (no definition of adverse effects) which may (though are not certain to) result from such waste. Alternatively, it is up to the shipper/exporter/ notifier to prove that one of the environmentally sound management guidelines identified in Annex IX applies to the waste stream concerned at a particular facility within the destination country. This would seem to require the establishment of not only a direct relationship between the shipper/exporter/ notifier and the third country facility, but also of the specific knowledge of that facility's operations. Given the small size, lack of resources and limited

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[236] A further legal analysis must be undertaken that compares the 'environmentally sound manner' language with the 'environmentally sound management' language.

[237] Annex IX of the proposed regulation is entitled, "Guidelines on Environmentally Sound Management (Article 42). They include 'Guidelines Adopted by the Conference of the Parties of the Basel Convention…, as amended: Technical Guidelines on the Environmentally Sound Management of Biomedical and Health Care Wastes, Technical Guidelines Guidelines on the Environmentally Sound Management of Waste of Lead Acid Batteries, and Technical Guidelines Guidelines on the Environmentally Sound Management of the Full and Partial Dismantling of Ships." All of these guidelines were adopted at the Sixth Conference of the Parties (COP-6), during December 9-13, 2002. See: infra.

[238] Proposed Regulation Article 42 (1)-(4), at pp. 84-85; pp. 20-21.

[239] The level of protection sought by the Commission has been referred to as follows: "…[T]he Commission acknowledges the need to establish a Community level playing field for recycling and to guarantee *a high level of environmental protection*…" (emphasis added). COM(2003) 379 final, at p. 15.

capacities of the many firms that comprise the cottage industries and informal sectors contributing to developing country economies, especially those directly and indirectly related to ship-breaking and e-waste and lead acid battery recycling, these requirements would appear to constitute a standard that is impossible to satisfy.

Recent environmental group campaigns tacitly supported by Brussels have even shown intolerance towards planned ship-breaking activities between developed countries. This more than suggests that the ultimate goal of these groups is to ban ALL dismantling of obsolete vessels globally - within, without or through the European Union - outside the country where the ships are moored. A recently prepared study from the Basel Action Network (BAN)[240] and a lawsuit recently filed by BAN and the Sierra Club in the U.S.[241] in connection with the Bush Administration's planned scrapping of obsolete naval vessels at a ship scrapping yard in the United Kingdom, is indicative of their strategy. It clearly shows the lengths to which these groups will go to exploit public fears, manipulate public perceptions and shape public opinion about the *possible* environmental damage that may result from what has become for developing countries a technologically rich, economically rewarding, socially sustaining and essential activity.

J. Conclusion

The Basel Convention's broad definition of 'hazardous waste', the Ban Amendment's prohibition against shipments of waste intended for recovery and recycling, and the proposed revision of the EU Waste Shipment Regulation, which invokes the *Precautionary Principle* and unilaterally implements the Ban Amendment, collectively impose EU environmental preferences on developing countries. These EU-centric standards are largely promoted by ENGOs, such as Greenpeace, BAN, the Sierra Club and Friends of the Earth,

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[240] See: "Needless Risk: The Bush Administration's Scheme to Export Toxic Waste Ships to Europe", Basel Action Network (BAN) (Oct. 20, 2003). The study argues that, "The U.S. Maritime Administration's (MARAD) proposed export of 13 badly deteriorated obsolete vessels laden with an estimated 698 tons of PCBs, 1,402 tons of asbestos, and over 3,300 tons of fuel oil on board to the United Kingdom for scrapping *represents a needless risk of immediate and irreparable injury to human health and the environment*" (emphasis added). Ibid., at p. 1. A recent news article drives home the essential point made in the study that, "We believe this export to UK is MARAD's way of testing the export waters, and setting unfortunate legal precedents, while looking all the while to export the bulk of these dirty ships to the infamous shipbreaking yards in Asia, where workers have few rights and little protection from asbestos and PCBs," says Basel Action Network (BAN) Coordinator Jim Puckett. "Green Activists Intend to Sue to Prevent Export of Ships", RecyclingToday.com, (9/9/02), at: (http://www.recyclingtoday.com/news/news.asp?ID=4585/).

[241] According to the news report, "The Sierra Club and the Basel Action Network (an activist group working to halt international toxic waste trade), have indicated their intent to seek judicial relief in order to prevent the Environmental Protection Agency (EPA) and the Maritime Administration (MARAD) from permitting the towing of 13 obsolete naval vessels, currently floating as part of the "ghost fleet" in the James River in Virginia, across the Atlantic to the United Kingdom. According to a press release issued by the organizations, the action sought would require the government to respect the letter of the Toxics Substances Control Act (TSCA), which forbids the export of polychlorinated biphenyls (PCBs), toxic persistent organic chemical compounds, that the ships are known to contain (along with considerable volumes of hazardous asbestos and old fuel oil). While the activists are strongly in support of removing the ships from the James River and recycling them as quickly and as safely as possible, they strongly object to the EPA's unilateral decision to exercise 'enforcement discretion,' bending the law to allow the Maritime Administration to export such vessels for dismantling abroad." "Green Activists Intend to Sue to Prevent Export of Ships".

which claim the moral high ground on matters of environmental protection and public health while disregarding market principles and the social and economic realities of developing countries.

Ship-breaking and e-waste recovery activities provide important scrap metal and other throughputs to the steel and reclamation industries within India and Pakistan and the countries of East and Southeast Asia. Materials recovered from these activities are also utilized to develop indigenous cutting-edge recycling technologies upon which local industries rely to remain environmentally efficient. This innovation cannot take place, however, unless sufficient volumes of developed country waste continue to be transported to these countries. These activities play an important social and economic role within such societies. To prohibit them would deny such countries and their industries the ability to exploit what is arguably a comparative advantage in terms of international trade.

IV. How the EU's Revised REACH Proposal for Global Chemicals Management Will Adversely Affect Developing Countries

A. The Revised EU REACH Regulation

On October 29, 2003, the EU Commission issued revised regulations "on testing chemicals for risks to health and the environment that could ban substances not registered by a certain date."[242] This revision, in some respects, reflected changes called for in comments the Commission had received from interested foreign stakeholders in response to its initial draft legislation, issued the previous May.[243] The Commission thereafter submitted its proposal to the European Parliament and EU Council of Ministers for amendment and approval with the hope of securing a finalized REACH (Registration, Evaluation and Authorization of Chemicals) regulation by the spring of 2004.[244] Disagreements within the committees of Parliament have since arisen, however, and the Parliament's review of the proposed regulation has been delayed.[245] As a result, "[t]he Parliament's first reading of the Commission's [revised] proposals for a new framework on chemicals policy (REACH) may well be postponed until the autumn [of 2004]". [246] With the upcoming May 2004 accession of ten new EU Member States, it is hoped by industry that the regulation review process will take on a new dynamic, and that the final outcome of REACH will be further altered.

Two previous NFTC studies discussed how different portions of the initial REACH proposal were unworkable and burdensome and potentially violated the WTO's Technical Barriers to Trade Agreement. They also addressed how the policy underlying REACH, namely the *Precautionary Principle*, unnecessarily exploits consumer fears and threatens company intellectual property rights by requiring, without scientific justification, the public disclosure of sensitive technical proprietary information about chemicals and finished products.[247]

The newly revised chemical regime continues to affect "all chemicals produced or imported into the EU in quantities of at least one ton per manufacturer or importer per year."[248] It

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[242] "FACTBOX-EU's Draft Chemicals Regulations", Reuters (10/29/03), Forbes.com at: (http://www.forbes.com/markets/bonds/newswire/2003/10/29/rtr1127225.html).

[243] See: "Commission Published [New] Draft Chemicals Legislation for Consultation", EU Press Release, DN: IP/03/646 (May 7, 2003); "REACH – New Chemicals Legislation" EU Press Room (May 7, 2003), at: (http://europa.eu.int/comm/press_room/presspacks/reach/pp_reach_en.htm). The stakeholder comments were received during an Internet Consultation period that was run from May 7 to July 10, 2003.

[244] "FACTBOX - EU's Draft Chemicals Regulations", Reuters.

[245] See: "Chances Of Early Reach Agreement Get Dimmer", Environment Daily, Edie Weekly Summaries (Jan. 16, 2004), at: (http://www.edie.net/news/Archive/7949.cfm); "Parliament On Chemicals Review: Vote Before Summer?", Chemicals Policy Review (REACH)", EurActive.com (Jan. 19, 2004), at: (http://www.euractiv.com/cgi-bin/cgint.exe/?714&1015=9&1014=ld_chem); "MEPs To Decide Which Committee Should Manage Chemicals", European Public Health Alliance (Jan. 20, 2004), at: (http://www.epha.org/a/1006).

[246] "Chances Of Early Reach Agreement Get Dimmer", Environment Daily, Edie Weekly Summaries; "Parliament On Chemicals Review: Vote Before Summer?", Chemicals Policy Review (REACH)", supra.

[247] See: "Looking Behind the Curtain: The Growth of Trade Barriers that Ignore Sound Science", at pp. 82-106, at: (http://www.nftc.org/default/white%20paper/TR2%20final.pdf); "EU Regulation, Standardization and the Precautionary Principle: The Art of Crafting a Three Dimensional Trade Strategy that Ignores Sound Science", at pp. 12-13, 15-17, 18-19, at: (http://nftc.org/default/white%20paper/WLFfinaldocumentIII.pdf).

[248] "FACTBOX - EU's Draft Chemicals Regulations", Reuters.

requires companies to prepare and submit "a description of the hazards of each substance, its intended use and details of the risks it poses to people and the environment."[249] The Commission expects "that around 80 percent of all substances will only have to be registered."[250] It is said that, "the final draft requires only limited data on chemicals produced in volumes of up to 10 tons a year and no chemical safety report. This would reduce the requirements for 20,000 out of the 30,000 chemicals likely to be covered by REACH."[251]

The revised regulation requires that certain chemicals also be subject to evaluation; regulation is not enough. Those include "chemicals of 'very high concern'…which number around 1,500…(those that can cause cancer, damage genes or have an effect on fertility - carcinogens, mutagens and reprotoxic – CMRs), *and* those that are persistent, bioaccumulative and toxic (PBT) *or* very persistent and very bioaccumulative (vPvB)" (emphasis added).[252] In addition, evaluation is also required for high volume chemicals (those produced or imported in volumes of "more than 100 tons per year), and for 'substances of equal concern'. These latter substances include, for example, "endocrine disruptors (chemicals that mimic the effects of hormones)."[253]Chemicals of very high concern must receive authorization as a condition to being granted market access. "Chemicals could receive authorization if the risk posed can be 'adequately controlled' *or* if the socio-economic benefits outweigh the risks, to be decided by the European Commission" (emphasis added).[254]

The revised proposal is said to offer certain concessions to industry in the form of narrow or conditional exemptions from registration for certain chemicals and finished articles, and otherwise simpler overall requirements for other chemicals. "Polymers (chemical chains of smaller 'building block' monomers) will be excluded. Intermediates (chemicals used in industrial processes to make other chemicals) will also be subject to simpler regulations than most other chemicals. 'Articles' – finished products like electrical goods or textiles – are only subject to REACH if the chemicals they contain are 'intended to be released' during use. If the substance is likely to leak out, manufacturers or importers have to notify this to the new Chemicals Agency which will decide if it needs to be registered."[255]

B. General Industry and Environmentalist Responses to the Revised REACH Regime

According to Norine Kennedy, vice president for environmental affairs at the United States Council for International Business (USCIB), "REACH still requires costly and burdensome pre-registration and extensive data gathering throughout the supply chain with questionable environmental or health benefits. It still burdens downstream users as well as chemical producers."[256]This view appears to run counter to that voiced by Judith Hackitt of the UK

[249] Ibid.
[250] Ibid.
[251] Ibid.
[252] Ibid.
[253] Ibid.
[254] Ibid.
[255] Ibid.
[256] "New EU Chemicals Initiative Meets Industry Opposition", USCIB.

Chemical Industries Association (CIA). Ms. Hackitt, though "a strong critic of REACH in the past, cautiously …welcomes the recent changes to the draft and denies allegations that industry had hoped to kill the directive at birth. 'We have always supported the policy review and the basic principles', Hackitt says. [Yet] the CIA still has doubts about workability."[257]

At least one environment-friendly periodical describes how European environmentalists are fretting about the changes made to the REACH. "Environmentalists…are deeply worried that the substitution provisions aren't strong enough and are disappointed with the reductions in scope. Others argue that much more should be done to reduce the need for animal testing – a hitherto neglected issue that can only grow in importance."[258]And a recent strongly worded press release prepared by five prominent European environmental organizations claims that "the European Commission plans to make 'far-reaching' concessions to industry" and calls for the Commission to 'stand up to' Member State interference and industry pressure."[259] This last statement is quite interesting considering, after all, that the European Union is comprised of Member States, whose individual interests are supposed to be represented, as well, within the Council of Ministers.[260]

Environmentalists have strenuously objected to such involvement precisely because it threatens the intended global reach of REACH. "The "REACH… is the first major test of the EC's commitment to sustainability and its determination to make Europe the most competitive knowledge-based economy in the world". To allay environmentalist concerns,

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[257] Simon Caulkin, "Chemical Reaction in Reach – Controversial New EC Legislation is Going Forward", The Observer, (Oct. 19, 2003).

[258] Ibid.

[259] "In a press conference today environmental and consumer NGOs reacted strongly [and] leaked Commission 'interservice' legislative texts on the new EU Chemicals Policy. The documents reveal that the European Commission *plans to make far-reaching concessions to industry*: granting businesses new and excessive confidentiality rights, with automatic anonymity to any company that registers its chemicals; cutting back the duty to provide safety data for two-thirds of all chemicals [– t]his is a major reduction in the same information required for chemicals produced in quantities of less than 10 tons per year (around 20,000 of the 30,000 chemicals on the market); excluding chemicals in consumer products from any effective control; and continuing to all the use of hazardous chemicals even when safer alternatives are available…*The organizations* – BEUC (the European Consumers Association), the European Environmental Bureau, Friends of the Earth, Greenpeace and WWF – *call on the European Commission to stand up to Member State interference and industry pressure* and take the necessary measures to protect European citizens, wildlife and the environment from harmful chemicals. The organizations urge the European Commission to reintroduce the necessary clauses" (emphasis added). Press Release, "NGOs Call on Commission to Stop Reversing on Chemicals Reform", European Environmental Bureau, (Sept. 25, 2003), at: (http://www.eeb.org/press/press_release_ngos_chemicals-25_09-03.htm).

[260] "The Council of the European Union, usually known as the Council of Ministers, has no equivalent anywhere in the world. *Here, the Member States legislate for the Union*, set its political objectives, coordinate their national policies and resolve differences between themselves and with other institutions. It is a body with the characteristics of both a supranational and intergovernmental organization, deciding some matters by qualified majority voting, and others by unanimity. In its procedures, its customs and practices, and even in its disputes, the Council depends on a degree of solidarity and trust which is rare in relations between States. *Its democratic credentials should not be in doubt. Each meeting of the Council brings together Member States' representatives, usually ministers, who are responsible to their national parliaments and public opinions*" (emphasis added). "Council of the European Union", Serving the European Union – A Citizen's Guide to the Institutions of the European Union, 2d ed., at p. 9., (1999).

EU Environment Commissioner Wallstrom has ensured them that "REACH is here, it's going to happen. Europe's citizens will benefit, and yes, we need an innovative sustainable chemicals industry too."[261] What Commissioner Wallstrom has failed to explain, however, is how the EU 'comfort factor' established by REACH will adversely affect industry throughout the world, particularly small and medium-sized businesses located in developing and least developed countries.

C. The EU REACH Regime Will Directly Impact Global Supply Chains, Threaten Developing Country Industrial Evolution and Preclude Sustainable Development

It is widely acknowledged that "developing countries are major suppliers in the world market of commodity chemicals, plastic resins, products made from plastics such as toys, chemical fibers, and textiles and apparel made from chemical fibers." Consequently, "developing country exporters will be particularly prejudiced if the new chemical regime micro-regulates uses, or reaches downstream articles."[262]This view comports with the conclusion of at least two international environmental law experts. In brief, they have found that the REACH would,

> "…[E]xtend the [current] EC chemical law's scope from chemical substances as such to products containing chemicals, require both laboratory testing and risk assessment, introduce use-specific registrations and authorizations, and **impose a broad duty of care**. Government authorities would be in a position to exercise significant control over the manufacture and use of chemicals from "cradle to grave." As such, the new regime would have significant implications not only for chemical producers but also for all users of chemicals and the general public. Thus, subject to limited exceptions, REACH will expand government control to cover *all* chemicals in *all* uses" (bold emphasis added) [263]

According to the International Council of Chemical Associations (ICCA), a global chemical management policy, even one that reflects or includes elements from national and regional regimes, such as REACH, must "support developing countries in strengthening their capacity for sound management of chemicals and hazardous wastes". And, this must be done within the larger context of ensuring that developing countries are able to achieve the ultimate goal of sustainable development. This means that,

> "A global strategy has to be practical and flexible in implementation and should provide a basis for more consistency and coherence in regulatory chemicals management systems/approaches…It must create regulatory efficiency and set the basis for sound and enforceable chemicals management decisions without creating bureaucracy and any excess burden making…*the strategy [must] provide means for bridging the gap in chemicals management between developed and developing countries*...[T]he global chemical industries Responsible Care program…Product Stewardship programs and other voluntary initiatives of the chemical industry…puts our industry in a rather unique position to contribute…It is our strong belie[f] that only the development of a sound,

[261] Simon Caulkin, "Chemical Reaction in Reach – Controversial New EC Legislation is Going Forward".
[262] Powell, Goldstein, Frazer & Murphy, "Trade Implications of the EU White Paper 'Strategy For a Future Chemicals Policy", Executive Summary, at p. 17, cited in "Looking Behind the Curtain: The Growth of Trade Barriers that Ignore Sound Science" at p. 105; "EU Regulation, Standardization and the Precautionary Principle: The Art of Crafting a Three Dimensional Trade Strategy that Ignores Sound Science", at p. 2, fn 4.
[263] L. Bergkamp and J.C. Hanekamp, "The Draft REACH Regime: Costs and Benefits of Precautionary Chemical Regulation", REACH Comment letter (2003).

> consistently applied strategic approach to international chemicals management will ensure that the global community will meet the WSSD target to achieve the minimisation of significant adverse effects on health and the environment, and that the strategy will contribute to all three pillars of sustainable development" (emphasis added).[264]

In this regard, it is important to note that the ICCA is expected to complete its on-going high-volume production assessment program and to incorporate the program's findings into parameters for assessing existing substances by 2004.[265]

The EU REACH regime, even as revised, may actually run counter to the goal of sustainable development, especially if it threatens the livelihood and existence of the many small and medium-sized companies that manufacture, process or import chemicals or that use chemicals in the manufacture of other products. The government of Japan (GOJ), for example, has argued that,

> "…[M]easures written in the draft of the REACH system *should be in conformity with the idea of sustainable development* that [the] EU reiterates as a principle of its environmental policy. Therefore, [the] EU should ensure a sound balance between the purpose of the REACH system and the scope and contents of the regulation lest the existence of the REACH system should unnecessarily impede economic activities, innovation of chemical products by companies and international trade and investment…GOJ considers that the REACH system has a possibility to impose excessive and unnecessary burdens on companies to comply with the new legislation. As *companies including small and medium-sized ones manufacturing, importing, or using many kinds of chemical substances are numerous and diversified*, the whole system proposed by the European Commission could not be implemented smoothly if the criteria…are not established at [a] rational level…"(emphasis added).[266]

D. The EU REACH Regime as Viewed by APEC Member Governments and Industry Groups

Many of the small and medium-sized enterprises (SMEs) described by the government of Japan are located in Southeast Asia. Indeed, it is arguable that comments critical of REACH submitted last spring (2003) by the member countries of APEC (Asia-Pacific Economic Cooperation) and the APEC organization itself were, at least, partly responsible for the softening of the EU Commission's position.

Clearly APEC deems the REACH proposal likely to threaten its developing member countries' economies, as well as the vitality and viability of its small and medium-sized enterprises ('SMEs'). Thousands of SMEs operate in the chemical industry that is evolving within Asia, as well as within the many related downstream sectors along the global chemicals supply chain.

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[264] ICCA Statement to the 1st Preparatory Committee Meeting on SAICM (Strategic Approach to International Chemicals Management, Bangkok, Thailand (Nov. 10, 2003).
[265] "Official Comments of the Royal Thai Government on the Proposed Strategy of the Future Chemicals Policy of the European Union", Mission of Thailand to the European Communities, Brussels, Belgium, No. 05001/704, (July 10, 2003) at p. 6.
[266] "Comment By the Government of Japan On the Draft Consultation Document Concerning The New Chemical Legislation – the REACH System", (July 10, 2003), at p. 1.

> "We remain concerned over the possible impact of the REACH system on APEC economies… *Europe is a major market, taking annually from APEC economies on average over $400 billion in goods; over $350 billion in manufactures; and $50 billion in chemicals*… Enhancing the level of environmental protection surrounding chemicals should be done in a way that *minimizes the impact on trade and industry and takes into account the financial implications for small and medium enterprises (SMEs)* in the chemical industry. In addition, special consideration should be made of *the potential impact on downstream industry sectors* that might be affected by *increased costs of inputs and product specification changes*. *We are concerned that the potential regulatory requirements of the REACH system could have a burdensome impact on APEC developing economies*. REACH regulations should be WTO consistent…[I]t is unlikely that any one jurisdiction or regional organization will be able to meet this challenge in a reasonable time-frame within its own resources…" (emphasis added). [267]

This concern is also reflected in the comments submitted by individual APEC member governments and trade associations, which focus on the economic and social repercussions that could follow from the financial and administrative burdens imposed on SMEs by REACH. Their comments also emphasize how the banning of chemical substances without first ensuring the existence of suitable and affordable substitutes would make product exports reliant on those chemicals more expensive and less globally competitive.

E. Concerns of the Thai Government and Thai Industry

According to the Thai Government,

> "In addition to [seeking] to regulate and standardize the complexity concerning chemicals [in order to] protect [the] safety of the public health and the environment…*it is also essential to take into account the economic and social well-being*…[T]he application of REACH…should be…non-discriminatory and [should] not im[pose] unnecessary obstacles to trade…Thailand is concerned…how [REACH will be applied.]…The practical solution [would] be to…avoid the far reaching impacts that extend beyond the chemical industry sector [to] cover every branch of industry, including all stakeholders [(users)] of the chemical products...[T]he proposed strategy *would [not only] have [a] significant impact on trade between Thailand and the EU, it would also adversely affect the revival of the Thai economy, particularly the small and medium enterprises*. Most of them are downstream [from]…the industries who will bear increasing costs of inputs and product specification changes. *Large number[s] of existing substances from the EU may not be available for Thai local industries, which would force them to switch to higher priced substances for production* catering to the EU market. *It will cause their products…[to be]…disadvantage[d] and non-competitive.*
>
> *…REACH regulations will become technical barriers to trade for the developing countries such as Thailand, particularly due to the proscriptions on production and process methods…[T]he system['s]…focus on data generation rather than risk management would lead to higher costs of production [for] exporters*…With inadequate funds and [a] limited level of economic development, the European Union should allow developing countries, including Thailand, an extended period of time to adapt before the EU measures and legislation come into effect...*Technical assistance on capacity building for developing countries such as Thailand remains crucial.* They should be equipped with technical and scientific laboratory facilities to perform the required testing and risk assessment of its products prior to entering the EU market...Regarding ***the precautionary principle***,

[267] Ambassador Piamsak Milintachinda, Executive Director, Asia-Pacific Economic Cooperation Secretariat, REACH Comment Letter.

> the European Union should not proceed, until these issues are taken up and resolved by appropriate international bodies such as the WTO" (emphasis added). [268]

REACH comment letters submitted by two anonymous Thai industry sources further highlight the economic and social hardships that will be faced by Thai SMEs as the result of the financial and administrative burdens imposed by REACH. In addition, they similarly admonish the EU not to invoke the *Precautionary Principle* as justification for its regulations until after its legal status has been resolved by the WTO.

> "*Thailand is a developing country whose business enterprises are mostly in the middle and small sizes…Small and medium sized enterprises in Thailand are still not well equipped with sufficient knowledge of such technical and scientific issue[s]. In addition, they also lack proper laboratory facilities required for testing assessment.* More training and education are required and the EU should consider providing *technical and expert and financial assistance for capacity building* to developing countries including Thailand so that they can be well prepared for the full implementation of the policy…" (emphasis added).[269]

> "The European Union's measures and legislation on Chemicals must be in accordance with the *internationally accepted standards* and must [be] base[d] on *reliable scientific grounds*… Regarding [the] ***Precautionary Principle***, the European Union should not proceed, until these issues are taken up and resolved by appropriate international bodies such as the WTO. *With inadequate funds and [a] limited level of economic development*, the European Union should allow developing countries, including Thailand, an extended period of time for adapting themselves before the EU measures and legislation are strictly taken. The extended period of time should be considered on a product-by-product basis. [M]oreover, *the European Union should also grant financial support as well as technical support for developing countries in order to improve their production to meet the EU standards*" (emphasis added). [270]

F. Concerns Expressed by Philippine and Malaysian-Based Companies and the Malaysian Government

The Chemical Industries Association of the Philippines has also weighed in on REACH on behalf of its predominantly SME membership.

> "[W]e share the concerns expressed by the APEC forum…We agree with REACH's objectives [which]…should be understood and appropriately managed within the framework of *sustainable development*. In fact, this coincides with the goals of 'RESPONSIBLE CARE' which we champion in the Philippines. Our membership's greatest fears [however] are *the distortions REACH might create adverse to SMEs which our chemical companies are*…[T]here is no doubt that EU importers will expect them to take care of, or assist them in complying with the Regulation. *On costs as a percent of revenues alone, our manufacturers will lose competitiveness to the big players* [high volume exporters]…[*O]ur members[']* *exports to [the] EU are small by total market share, but*

[268] "Official Comments of the Royal Thai Government on the Proposed Strategy of the Future Chemicals Policy of the European Union", at pp. 2-8.
[269] "X Comments on the EU White Paper on Chemicals", Anonymous REACH Comment Letter, (July 2003). The author of this letter identified itself only as "the only voice of the industrial community in Thailand.
[270] "Thai Private Sector's Positions Regarding the European White Paper on Chemicals" (2003). The author of this comment letter has not been disclosed.

> *substantial as a percent of their total business*, [and they] fear *serious adverse impact of REACH to their businesses*" (emphasis added). [271]

As with chemical companies and downstream users in the Philippines, Malaysian-based companies operating along the global chemicals supply chain are predominantly SMEs. Similarly, the value of chemical exports by SMEs to the EU is far exceeded by the value of their exports of finished products produced with or otherwise containing chemical inputs. In addition, for many SMEs, exports to the EU represent only a small part of the company's global sales.[272] According to comments submitted by the Malaysian Ministry of International Trade and Industry,

> "*Malaysia also registers it concerns that the proposed new [REACH] policy and legislation will have adverse effects on EU-Malaysia bilateral trade in terms of trade restrictions [and] increase[s] in costs, particularly to SMEs* and [will] negate harmonization efforts… Although in the chemicals and chemical products sector the value of exports is small, *the total trade involving other sectors which use chemicals such as E&E [electrical and electronic equipment] and textiles is about 70%...Chemicals [are] used in almost all sectors* such as consumer electronics (12%); semi-conductors (33%); medicines (84%), carpets and rugs (47%); clothing (28%); boots and footwear (35%); computer peripherals (13%) compact discs and tapes (44%); and plastic bottles (78%)…[The] value of chemical and chemical products exports to the world in 2002 totaled RM 16,731,000,000 [Malaysian Ringgits, or approximately U.S.$ 4.425 billion], [while] the value of chemicals and chemical products exports to [the] EU in 2002 amounted to RM 1,053,000,000 [Malaysian Ringgits, or approximately U.S. $ 278.6 million]…" (emphasis added).[273]

Like Thai chemical producers and downstream users, Malaysian producers and downstream users will encounter significant technical and capacity-related difficulties in satisfying the REACH requirements, particularly its 'duty of care'.

> "…*The duty of care*…requirement…to indicate…not only [the] producers'…own use [but also the] intended use by downstream users…[This is] unfair to manufacturers as they may not know all intended uses of a chemical…*Malaysian companies trading on the international market will have difficulties in obtaining adequate downstream user information, as the line of sale is often long and indirect*. [274] For these cases, the downstream user will have an obligation to register or access the chemical [itself]…therefore… imported products [will be put at a market disadvantage…"[T]he mandatory testing on health and environmental effects exceeds [their] existing laboratory

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[271] J.M. Mantaring, Jr. President, Samahan SA Pilipinas NG MGA Industyiang Kimika (Chemical Industries Association of the Philippines), Letter to Reinhard Schulte-Braucks, European Commission, Enterprise Directorate-General and Mrs. Eva Hellsten, European Commission, Environment Directorate-General, (July 5, 2003).

[272] This fact also exists with respect to SMEs operating along the chemicals global supply chain based in Singapore.

[273] "EU REACH System – Comments From Malaysia", Ministry of International Trade and Industry, Government of Malaysia, APEC Chemical Steering Group, Phuket, Thailand, 2003/SOM/III/CDSG/014, (Aug. 16-17, 2003), at pp. 2, and 5-6.

[274] REACH Comments submitted by the Singapore Chemical Industry Council (SCIC) also referred to this point. "Many non-EU manufacturers use *trading companies* rather than exporting directly. *The REACH system will impose significant restrictions on this type of trade business*. For example, if a manufacturer [switches] trading companies will the new trader have to complete Registration, despite trading the same product? Furthermore, data collection requirements may restrict the flexibility of international traders selling on the 'spot' market" (emphasis added). "Singapore Chemical Industry Council (SCIC) Comments on the EU REACH System", at p. 5, (Aug. 2003).

> capacity…[There is a]…*lack of capacity in resources, in terms of human, technical and financial, especially [in] developing countries* [to prepare the]…detailed technical dossier on chemical safety assessment…[275][The EU should]…provide more flexibility for manufacturers, especially SMEs, in developing countries…[and should] provide financial and technical assistance to developing countries and capacity building programs (seminar/workshop/briefing) to developing countries" (emphasis added).[276]

And, like the Thai government, the Malaysian government argued that the REACH proposal does not comply with international standards as is required by the TBT Agreement. "[The EU Chemicals Policy] can be interpreted as [a] movement away from [the] international regulatory harmonization system…REACH [needs] to adopt available international harmonized standards such as GHS, OECD, Responsible Care[277], ISO."[278] "REACH regulations are not WTO-consistent, nor [do they] harmonize with the UN Globally Harmonized System of Classification and Labeling of Chemicals (GHS).[279] Furthermore, they do not conform with the criteria set under the UNEP Stockholm Convention on Persistent Organic Pollutants (POPs)."[280]

G. Concerns Voiced by Singapore Industry Members and by the Singapore Government

The point previously made that REACH does not comport with international standards was emphasized as well by the Singapore Chemical Industry Council (SCIC).

> "*The EU Commission anticipates that Europe will have to impose the new system on the rest of the world* in order to make it economically viable. *Europe is imposing its standards [on] the rest of the world, without taking international standards and developments (OECD, HPV, SIACM, Responsible Care, Mutual Acceptance of Data, Mutual Acceptance of Notifications, etc.) into consideration*. *The Commission is not adopting the Globally Harmonized System for Classification and Labeling as part of its REACH regulation*. APEC economies have committed to implement GHS in their national systems by the end of 2006. [The] EU's lack of commitment to GHS is contrary to a globalization effort to better product safety, health and the environment by uniform hazard communication. The criteria established for PBTs differ considerably from those applied by other

[275] Similar arguments were made in comments submitted by Thai industry representatives, as noted previously, and by the Singapore chemical industry representative SCIC. See: "Singapore Chemical Industry Council (SCIC) Comments on the EU REACH System", at p. 6.
[276] "EU REACH System – Comments From Malaysia", at pp. 3-4.
[277] According to the global principles of Responsible Care, chemical plants must have state-of-the-art technology and meet the highest environmental standards. It is the chemical industry's commitment to continuous improvement in all aspects of health, safety and environment (HS&E) performance and to openness in communication about its activities and achievements.
[278] "EU REACH System – Comments From Malaysia", at p. 3.
[279] "In its adopted Agenda 21, more particularly in Chapter 19 regarding the environmentally sound management of toxic chemicals, the United Nations Conference on Environment and Development (UNCED) (3-13 June 1992, Rio de Janeiro, Brazil)…identified harmonization of classification and labelling of chemicals by the year 2000 as being one of the six action programmes…and…recommended that '...the International Programme on Chemical Safety (IPCS) should be the nucleus for international cooperation on environmentally sound management of toxic chemicals.'" "Globally Harmonized System for the Classification and Labeling of Chemicals (GHS) – Background", International Labor Organization, at: (http:// http://www.ilo.org/public/english/protection/safework/ghs/back.htm).
[280] "Official Comments of the Royal Thai Government on the Proposed Strategy of the Future Chemicals Policy of the European Union", at p. 4-6.

inter-governmental organizations and governments. *[The] EU does not use internationally accepted or commonly used definitions for various hazards*" (emphasis added). [281]

REACH Comments submitted by the Government of Singapore offer criticisms not too dissimilar from those prepared by other APEC members. In particular, they focus on how the disappearance of certain chemicals would likely threaten the viability of the many downstream users of such substances.

> "REACH places substantial regulatory burdens and costs not just on the chemical industry but also on downstream users of chemicals. *REACH could thus have adverse effects on a wide range of Singapore exports to the EU. In particular, the brunt of the cost impact appears to be on the SMEs, which typically have [fewer] financial resources*…The requirements of testing and registration are not only onerous but also add to the costs of the chemicals and their end-use products…This is not just in terms of the chemicals involved in REACH. *The disappearance of certain chemicals would have potentially adverse consequences on downstream users*, who will have to adjust to this…[Also]…there appears to be a *discriminatory impact* of REACH on WTO Members as it appears to favor domestic EU chemical manufacturers over foreign chemical imports …[282] *It is highly likely that, combined with the discriminatory application of REACH, many of our domestic chemical companies (especially the SMEs) would be unable to compete and would lose out on market share to the EU*" (emphasis added). [283]

In addition, the Singapore Government has argued how EU reliance on the *Precautionary Principle*, which is not accepted as a WTO norm, does not constitute a sufficient scientific justification for characterizing chemicals as inherently hazardous under REACH. As a result, the REACH violates the TBT Agreement, and thus, the EU's WTO obligations towards Singapore.

> "In addition, as there is currently no international standard denoting the hazardous nature of all the chemicals under REACH, we are concerned that the measures proposed by the EU may be more onerous than necessary to address the perceived threat to the health, safety and environment of the EU…The EU purports to use the *precautionary principle* to justify the taking of such measures. *However**, the precautionary principle** is not an accepted principle at the World Trade Organization…REACH, which is based on the precautionary principle, seems excessively onerous and unnecessarily trade restrictive.* It thus seems to be in contravention of the TBT Agreement provisions of Articles 2.2 and 2.5…*This could be an infringement of the EU's obligations towards Singapore at the WTO*" (emphasis added). [284]

One important additional argument proffered by the Singapore Chemical Industry Council (SCIC) with respect to the proposed REACH regime addressed the need for more industry

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[281] "Singapore Chemical Industry Council (SCIC) Comments on the EU REACH System", at p. 7, (Aug. 2003).

[282] The SCIC commented that the "REACH requirements suggest the potential for decisions on product (chemicals or articles) acceptability based on the raw materials used in manufacturing or the processes employed. Developing economies may use older technology or different manufacturing methods than their more developed competitors to produce the same end product, and be subject to discriminatory decisions. According to the WTO, governments cannot impose restrictions on the production or process methods by which similar products (chemicals or articles are made)." Ibid., at p. 5.

[283] "Government of Singapore's Comments on the EU REACH Regulation", Ministry of Trade and Industry, Government of Singapore, APEC Chemical Dialogue Steering Group, Phuket Thailand, 2003/SOM/III/CDSG/007, at pp. 5-6 (Aug. 16-17, 2003).

[284] Ibid.

self-responsibility. An example of this is the industry-based Responsible Care program which, as noted above, was referred to by the ICCA, the Chemical Industries Association of the Philippines, and the Malaysian Ministry of Industry and Trade. According to SCIC,

> "We support an increase in *industry self-responsibility*. However, we believe that the current draft text fails to create a well-balanced chemicals management system, in which industry and government play a joint role. *An effective management system should be composed of the right balance of regulations, co-regulation, self-regulation as well as voluntary programs*. We believe that this is the only way to meet the objective of enhancing the protection of human health and the environment" (emphasis added).[285]

H. Chinese Government Concerns About REACH

The Chinese Ministry of Commerce also submitted comments in regard to the proposed REACH regulation. These comments struck many of the same chords that the comments from Thailand, Malaysia, the Philippines and Singapore did. They concerned the need to realize sustainable development, the need to permit the many small and medium-sized enterprises that comprise the global chemicals supply chain to flourish, the need to encourage rather than discourage technological innovation and the need to acknowledge the considerable gap between developed and developing country capacity.

> "[The] Chinese government also attaches great importance to coordinating the relationship between economic development and the protection of [the] environment and human health for realizing *sustainable development*. However, it is our opinion that *a balance should be kept between environmental and human protection and economic and social benefits….Expensive registration cost[s] will place the small and medium-sized enterprises at an unfavorable position when competing with large ones*. Moreover, enterprises of developing countries, SMEs and downstream users are unable to submit the required information for registration timely. Expensive registration and testing cost *will also have an adverse impact on [the] innovative ability of chemical enterprises…This will seriously restrict R&D input for new products and weaken the innovative ability of chemical enterprises…in developing countries, especially SMEs*…
>
> [It is suggested that, the EU] provide special and differential treatment to developing countries and SMEs…*The Consultation paper hasn't taken into account…the big gap between developing and developed countries in their chemical production technology and technical levels*. *The REACH system fails to give a sufficient evaluation on the adverse effects on the chemical industry of developing countries*. [It is suggested that] the European Commission *reevaluate the possible effects on developing countries* once the REACH enters into force, and add to the REACH system provisions on special and differential treatment towards imported chemicals from developing countries. [F]or example, [the EU should] provid[e] a longer transitional period for developing countries to meet the requirements of REACH, and provid[e] both financial and technological supportive measures" (emphasis added). [286]

In at least one respect the Chinese government's criticism of REACH was more far reaching than the critiques submitted by the Malaysian and Singapore governments. Like Thailand, China argued that the EU's REACH regime even goes beyond the standards agreed to in the

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[285] "Singapore Chemical Industry Council (SCIC) Comments on the EU REACH System", at p. 9.

[286] "Chinese Comments on the EU REACH System", submitted by the Ministry of Commerce, P.R. China, General Administration of Quality Supervision, Inspection and Quarantine of P.R. China (AQSIQ), (2003), at pp. 2-4, and 6.

Stockholm Convention on Persistent Organic Pollutants (POPs), a multilateral environmental agreement that will go into force on May 17, 2004. [287]

> "*The scope of authorization under [the] REACH system has gone far beyond the definitions of categories 1 & 2 of CMR and POPs set in international treaties such as the Stockholm Convention*, and may pose high risk to human health and the environment. [It is suggested that the EU] provide [a] scientific basis for placing these chemicals under authorization" (emphasis added). [288]

These concerns corroborate the argument made in the NFTC's second study, namely that there is a significant potential for new chemicals to be added to the Annexes of the Stockholm Convention, and that such additions, unlike the 'dirty dozen' now listed, may adversely affect global industry.[289] These additions, which are alluded to within recent EU regulatory proposals administratively separated from REACH in order to facilitate quick EU ratification of the Stockholm Convention, are currently being formulated under the auspices of the POPs Protocol to the UNECE Convention on Long Range Transboundary Air Pollution ('LRTAP').[290] [291] Lest there be any doubt about the seriousness of the EU's global

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[287] "Stockholm Convention on Persistent Organic Pollutants (POPs) To Enter Into Force On May 17, 2004", United Nations Environmental Program Press Release (Feb. 18, 2004), at: (http://www.pops.int/documents/press/pr2-04SC.pdf). "The 90-day countdown to the treaty's entry into force was triggered on 17 February 2004 when France became the 50th state to ratify the agreement." Ibid.

[288] "Chinese Comments on the EU REACH System", at p. 5.

[289] See, e.g.: "Opinion of the Federal Environmental Agency (UBA) on EURO CHLOR's brochures titled, "The European Chlor-Alkali Industry – On the Move Towards Sustainable Development" of 16 August 2002 and "Chlorine Industry Review" of 28 August 2002, at: (http://www.umweltdaten.de/daten-e/chlor.pdf). "…Not only mercury but also numerous well-known chlorinated organic compounds are extensively finding their way into the global ecosystem. It is not by chance that all POPs covered by the Stockholm Convention are chlorine-containing chemicals and have been placed on a global prohibition list because of their long-term effects. *Other chlorinated organic compounds from the area of pesticides (endosulfan) could be added to the list in the coming years*" (emphasis added). Ibid., at p. 2.

[290] See: "EU Regulation, Standardization and the Precautionary Principle: The Art of Crafting a Three Dimensional Trade Strategy that Ignores Sound Science", at pp. 54-55, fn 166. "…[P]roposed EU rules intended to implement obligations that will be assumed under the Stockholm Convention on Persistent Organic Pollutants ('POPs') and the 1998 Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution ('LRTAP') when they enter into force…impose more stringent requirements than those called for by the treaties. [These rules] are grounded on the EU's broad interpretation of the *precautionary principle*. Although the *precautionary principle* appears within the Preamble to the Stockholm Convention, it is, nevertheless, expressly narrowed to the Rio Principle 15 definition. Precaution is only obliquely referred to again within Article 8(9) as a possible risk management tool, to be considered among others, following the performance of a detailed risk analysis procedure outlined in Article 8 and Appendix E. The risk analysis procedure, which is [supposed] to be grounded in sound science, must be performed before the Conference of the Parties can recommend that any chemical be added to the list of POPs as set forth in Annexes A, B or C of the Convention. Notwithstanding this process and other safeguards built into the Convention to prevent abuse, however, the EU endeavors to go beyond the mandate of the Convention in several ways that may ultimately impose economic and administrative burdens on future U.S. [and other non-EU] industry exports of chemicals, chemical products and articles containing [chemicals] not currently listed in the Convention" (emphasis added). See: "Proposal for a Council Decision concerning the conclusion, on behalf of the European Community, of the Stockholm Convention on Persistent Organic Pollutants", COM (2003) 331 (6/12/03), Explanatory Memorandum at par. 3, p. 2 and par. 4, p. 3; "Proposal for a Regulation of the European Parliament and of the Council", COM (2003) 333 final (6/12/03), Explanatory Memorandum, at p. 3, par. 6 at p. 10, par. 2 at p. 11, par. 2, at p. 12, pars. 2 and 6 at p. 14, par. 5, at p. 20; Statement of Environment Commissioner Margot Wallstrom, cited in "Persistent Organic Pollutants: Commission Urges EU to Ratify the International Agreements", EU Institutions Press Releases IP/03/842 (6/16/03).

convictions as regards the regulation of POPs, even in the context of disposal and reclamation, one need only refer to the EU's recently proposed Regulation on Shipments of Waste that is intended to implement the Basel Convention.[292]

I. Evaluating the Impact of REACH on the Evolving Chinese Chemical Industry

1. The Unique Dimensions of China's Chemical Industry

It is interesting how China can be viewed simultaneously as a developing country that has limited institutional capacity to protect human health and the environment and as a rapidly industrializing nation that is fast becoming one of the largest chemical producers in the world. Arguably, China is familiar with the production and formulation of chemicals and their use in finished products given the large number of chemical companies and downstream product manufacturers now operating within its borders.

In a nutshell, the size of China's chemicals industry is already considerable and continues to grow with the assistance of European and Taiwanese chemical and petroleum companies. For example, one recent news release announced that "the annual output of pesticides in China has hit 400,000 tons, second in the world in terms of annual output", of which "insecticides account for 60 percent of the total."[293]

Indeed, foreign companies continue to make significant capital investments in plant and equipment as they establish beachheads in China. These facilities are clustered in designated chemical industrial development zones located within reasonable proximity to major Chinese cities and ports.

For example,

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[291] A 2002 WWF-Washington, D.C. brochure entitled, "New Stockholm Convention to Protect Wildlife and People from POPs", published in the periodical "Sustainable Development International", discussed such additions. The brochure was prepared before the August 2002 WSSD. A passage in the brochure identifies a number of chemicals that WWF would like to see added to the Stockholm Convention, beyond the dirty dozen already listed. "Possible additions to the POPs treaty would include four chemicals listed in the regionally-focused United Nations Economic Commission for Europe (UNECE) Convention on Long-Range Transboundary Air Pollution's (LRTAP) Protocol on Persistent Organic Pollutants: 1) the insecticide chlordecone(kepone); 2) the pesticide hexachorocyclohexane (which includes lindane); 3) polycyclic aromatic hydrocarbons released in the burning of oil, coal and other organic materials; 4) hexabromobiphenyl, a fire retardant additive. Other chemicals or groups of substances which warrant immediate scrutiny for possible future inclusion in the POPs treaty include: 1) pentabrominated diphenyl ether, a flame retardant; 2) polychlorinated napthalenes used in capacitors, electrical insulators and as engine oil additives; 3) substances which break down into perfluoroctanyl sulfonate;4) ochtachlorostyrene, an unwanted byproduct; 5) endosulfan, an insecticide."

[292] See: "(Commission) Proposal for a Regulation Of the European Parliament and of the Council on Shipments of Waste", COM(2003) 379 final (6/30/03), 2003/0139 (COD), 'Background for the Revision', at pp 16-17. The proposed Regulation has created an administrative rule in favor of banning shipments of POPs for disposal and recovery purposes, as implemented by Annex VIII of the proposed Regulation, entitled, "Chemicals Listed in Annex A, B and C of the Stockholm Convention".

[293] "China's Pesticide Output Reaches 400,000 Tons", Eastday.com, (9/15/03), at: (http://www.ce.cei.gov.cn/enew/new_h1/nf_w.htm). These figures were released by the State Administration of Quality Supervision, Inspection and Quarantine on September 15, 2003. Ibid.

"*A special petrochemical industrial development zone* is taking shape in *Guandong's Zhuhai Special Economic Zone*…[There are]…more than 50 petrochemical companies from *Taiwan* now negotiating to set up firms, joint ventures and development and research centers in the Zhuhai Cross Strait Petrochemical Industrial Development Zone near Gaolan Port in the city. The zone, which focuses on attracting big-name petrochemical companies from Taiwan, will give priority to the development of downstream industries of ethylene and related sectors, including plasthetics and plastic industries…*Zhuhai is expected to become a new coastal petrochemical centre* in South China; and compete with Daya Bay in Huizhou, where *China's biggest foreign-funded Shell Petrochemical Project* is located" (emphasis added). [294]

Furthermore,

"Work started on January 29, 2003, on a 300-million-US-dollar polytetrahydrofuran project in *Shanghai's chemical industrial zone*, marking a new stage of the zone's rapid development. Also well underway at the zone are a batch of key projects with investment *by United Kingdom-based BP and Germany's Bayer and BASF*. The polytetrahydrofuran project, *reportedly the largest of its kind in the world*, is *funded by BASF* and [is] expected to be completed in 2004. The project will employ state-of-the-art production techniques and adopt technologies *provided by the German chemical giant* in product management to ensure the products will be environmentally friendly and safe, according to company officials. The project is also the first polytetrahydrofuran production facility in China. It will provide quality raw materials for downstream manufacturers and boost development of spandex-related light industrial and textile sectors in the country. Polytetrahydrofuran is the main raw material for spandex, which is used for producing panty-hose, swimming costumes and sportswear…Meanwhile, *Bayer* has finished construction of a polyisocyanate project, which is ready to come on stream in April this year. Another project *funded by the German company*, a 200,000-ton polycarbonate project, is under construction. *BP* is [also] working on a chemical project with a designed annual production capacity of 900,000 tons at the zone. [295]

Moreover,

"[The] *world's largest sodium sulfate anhydrons manufacturing base [is being] built in Jiangsu [Province]*. Dayang Chemical Limited Company, a joint-venture enterprise located in Xishunhe Town Hongze County, Jiangsu Province, [was] put into operation recently…[W]ith a joint investment of RMB 60 million yuan by *Dayang,* an *Indonesian* listed company and Hongze Yinzhu Chemical Group, the [new] company can annually turn out an output of 200,000 tons sodium sulfate anhydrous… So the completion of the joint-venture makes the annul sodium output in Hongze County to reach 800,000 tons, thereby *making the largest sodium production base in China to leap to the top of the world*…[Previously]…Jiangsu Nanfeng Chemical Co. Ltd. [was] formed jointly by Shanxi Nanfeng Group (China's largest Sodium sulfate anhydrous manufacturing enterprise) and

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[294] "Petro Zone Takes Shape in Zhuhai", China Daily, (9/02/03), at: (http://www.ce.cei.gov.cn/enew/new_h1/nf_w.htm). "In the next 10 years, the Zhuhai municipal government has decided to invest more than 120 billion yuan (US$14.46 billion) to develop petrochemical projects and improve the infrastructural facilities in the zone; of which 9 billion yuan (US$1.1 billion) will be used before the end of the year." Ibid.

[295] "Shanghai's Chemical Industrial Zone in Full Swing", People's Daily, (1/29/03), at: (http://www.ce.cei.gov.cn/enew/new_h1/nf_w.htm). "To date, total investment in the chemical industrial zone has amounted to more than eight billion yuan (963.85 million US dollars). A new round of infrastructure construction would start at the zone in the near future to further improve its investment [in] environment, according to an official with the management committee of the zone. Investment in the zone is expected to rise to 150 billion yuan (18.07 billion US dollars) in 2007, with the world's largest polytetrahydrofuran and isocyanate supply bases as well as China's biggest polycarbonate and PVC production bases established there." Ibid.

> Hongze Chemical Group*, a Spanish Sodium sulfate anhydrous manufacturing giant*…the project [was to] turnout…200,000 tons Sodium sulfate anhydrous annually…[Eventually] the annual output of Sodium sulfate anhydrous in Hongze came to 600,000 tons, making it…an important Chinese chemical base with the production and marketing quantities next to none in China" (emphasis added). [296]

2. The Chinese Chemical Industry's View of REACH

It would appear that both the government of China and Chinese industry recognize the growing significance of the chemical and related downstream industries to China's continued economic growth and its social stability. Clearly, both government and industry objections to REACH reflect the common concern that REACH would impair China's ability to maintain its expanding industrial base and demand for labor and thereby affect its ability to prevent unemployment, poverty and social unrest.

It is with the interests of the growing Chinese chemical industry and downstream manufacturing industries in mind, that the Association of Petroleum and Chemical Industries of China (APCIC) submitted its criticisms of the EU's REACH proposal. Its comments focused primarily on four broad issues. The first issue addressed how important the chemical industry was to China's goal of maintaining national economic growth and ensuring employment for the masses, and how the global reach of REACH would jeopardize these goals.

> "[…W]e regard…the White Paper…in some respects [as] a type of trade barrier and it will greatly affect chemical and related industries in the whole world. *The petroleum and chemical industries in China have occupied important positions in our national economy and any changes in this aspect would greatly affect the business of the downstream industries such as light industries, textile, mechanic-electric industries and building materials as well as the national financial income*. It would cause obstructions to the export of chemical products of our country. The implementation of the White Paper would greatly restrict trade from China to the EU and the chemical products exported to the EU would meet further restrictions…The implementation of the White Paper *would have an impact on all aspects relating to the import and export trade in chemicals*. It would create even greater trade barriers to the potential export of chemical products and its downstream processing industries such as textiles, light industries and household electrical appliances, etc…We presume that a half of the chemical products presently exported to the EU would gradually lose competitiveness following increase in costs on the registration of products, etc…[and would result in a]…decrease in the amount of funds [available] for development…*Thousands of firms would close due to the blockading of exports and there would be over 200,000 workers losing their jobs*. *With the expansion of the EU towards the east, the trading of chemical goods from China to the EU would see further restrictions*" (emphasis added). [297]

The second issue addressed in the trade association's comments concerned how the REACH constituted a unilateral action on the part of the EU to establish global health and environmental standards without first seeking international consensus, as required by the WTO Agreements.

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[296] "World's Largest Sodium Sulfate Anhydrous Manufacturing Base Built in Jiangsu", People's Daily, (6/27/03), at: (http://www.ce.cei.gov.cn/enew/new_h1/nf_w.htm).

[297] "Association of Petroleum and Chemical Industries of China Comments to 'The European Union Strategies on the Policies of Chemicals in Future'" (July 4, 2003).

> "The publication of the White Paper by the EU is a *unilateral action* and it is *against the principles of the WTO*. Various international organizations and different countries in the world have legislation regarding dangerous chemicals that could endanger human beings and the environment. The White Paper published by the EU *unilaterally* initiated strict procedures for approval, *unilaterally* raised the standards of the products, and would affect the structure of the production and trading of chemical industries in the world. The Association of Petroleum and Chemical Industries of China, The Japanese Association of Chemical Industries as well as the Korean Association of Petroleum Industries all believe that, *based on the principle of "unanimity through talks" of the WTO, the management of dangerous chemicals should be negotiated jointly by European and North American countries, where chemical industries have been well developed, with the countries in Asia. It is against the rules of TBT* as the EU would use their local legislated laws and rules as a kind of technical barrier for trading; and, it would be far more concealed and more widely applicable than those non-tariff barrier systems of quota and permits, etc" (emphasis added). [298]

The third issue that the APCIC comments focused on was how the REACH duplicates standards already existing within international environmental conventions and U.N. standards-based organizations, thereby resulting in unnecessary testing and registration obligations and the imposition of unnecessary costs, and wasted time and effort.

> "… *It is not necessary to repeat the examination/testing and approval with regard to the* substances already existing and those dangerous chemicals clearly defined by international conventions…Those chemicals which have already been approved and under management are subject to strict management systems in all countries of the world. This is the case for agricultural chemicals where the *Food and Agriculture Organization of the United Nations* has stricter rules on the trade of agricultural chemicals in the world based on the *"Rotterdam Convention"* which demands the provision of information on toxicology, chemical effect, residuals and environmental/ecological effects, etc. Further information on extra testing would be needed…[only]…for special purposes or special conditions. As a matter of fact, the information required for the registration of agricultural chemicals are more detailed than that are demanded by the approval stated in the White Paper. Therefore, those agricultural chemicals which are registered in a third country should be exempted from the procedures for registration, evaluation and approval when it is sold on the EU markets. Repeated testing and repeated evaluation can only waste resources and time"(emphasis added). [299]

The fourth issue that was discussed within the Chinese trade association's comments concerned how the REACH regulation establishes a bad precedent, both in law and in fact, justifying the creation of protectionist trade barriers that other nations, including the United States and Japan, might follow in the future.

> "… *The White Paper has a proliferation effect. The implementation of the White Paper is to protect the environment and advantages of the EU*; for the same reason the United States of America and Japan may prepare similar laws. For instance, in this year, Japan has reviewed and amended their "Law of Examination and Control of Chemical Substances" and the USA is going to amend their "Law of Control of Toxic Chemicals", etc. *If other countries are going to follow and copy these kind of policies and create trade barriers*, while China is a developing country and the legislative system in China is still to be perfected, China will receive even greater damage" (emphasis added). [300]

[298] Ibid.
[299] Ibid.
[300] "Association of Petroleum and Chemical Industries of China Comments to 'The European Union Strategies on the Policies of Chemicals in Future'".

J. How Latin American and the South African Governments View the REACH Regime

Among the many REACH comments received, several were from governments and/or industry members based in Latin America. For example, the Mexican government is already a party to a bilateral trade agreement with the EU (the Mexican-EU FTA). Since, Mexico is concerned mainly with its future ability to derive benefits from that arrangement, its REACH comment letter focused on two important principles that support the notions of free trade that underlie its FTA.

First, the Mexican government argued that a country or region's ability to enact regulations that implement national/regional health, safety and environmental objectives is circumscribed by established WTO rules that ensure that international trade flows are not impaired.

> "Mexico is aware of the importance of maintaining a safe environment, one in which consumers not only have access to quality products at competitive prices, but products that also meet the highest standards on safety and environmental [protection]…Nevertheless, *those objectives must be accomplished alongside the multilateral trade framework*, and governments must ensure that trade flows are not impeded through the establishment of onerous regulations. *The World Trade Organization (WTO) has established clear guidelines on market access, rules of origin, technical barriers to trade and technical cooperation, in order to guarantee the free flow of goods*…Mexico believes that the requirements and procedures that [the REACH system] would establish might prove harmful to international trade in chemicals. The proposed REACH legislation would create a new bureaucratic apparatus to deal with chemicals trade, and [it] would prove burdensome for exporters. Mexico, for example, exports U.S. $665 million worth of chemical products...Mexican industry considers that the [resulting] cost increases could prove to be prohibitive, thus hindering our export activity to the EU…*Mexico is concerned that the regulations established…[do not] take into full account the effects on prices, international competitiveness and employment*" (emphasis added). [301]

Second, it argued that REACH is so complex and administratively and technically burdensome, that it is extremely doubtful the EU will be able to employ enough skill, resources and balanced judgment to implement it fairly.

> "The difficult process for registration and approval, which must be cleared by every Member State, is of utmost concern to Mexico's firms. This may hinder the ability of Mexican products to enter the EU market *under the preferential access granted through the Mexico-EU FTA*. Since Member States have to approve the substances, some of which may pose little risk to health or the environment, our industry wonders what will happen when a substance is approved in one country but denied approval in another…*Mexico has serious doubts about the EU's ability to implement REACH, and questions whether the EU has the infrastructure, technical expertise and human resources to enforce the proposed REACH policy*. Our industry's assessment shows that the EU's testing capacity can only meet at most 30% of the required testing under this proposal over the first ten years." [302]

[301] "Comments of the Government of Mexico to the European Commission's proposal for the management of chemicals, referred to as Registration, Evaluation and Authorization of Chemicals (REACH)", Office of the Secretary of the Economy, (July 9, 2003), at pp. 4-5, 9.
[302] Ibid., at p. 8.

K. Latin American and South African Industry Concerns About REACH

Three interesting comment letters on REACH were prepared by industry-based sources within South Africa and Latin America, on behalf of companies engaged in the extraction of minerals (the mining industry). "Mineral extraction, including coal, diamonds, gold, and copper, is vital to the economy of Southern Africa, accounting for most of the $50 billion export of the region (about 1/4 of the GDP)."[303] "Latin America…has…resources and reserves of silver, copper, nickel, niobium, zinc, iron ore, manganese, bauxite, tin and gold…in addition to industrial minerals and fuels…The mining industry in Latin America…[particularly within Argentina, Brazil, Bolivia, Chile, Ecuador, Mexico, Peru and Venezuela]…was given…a strategic role since…the end of…the 1980's…to attract new technologies and foreign investment in the hope of achieving higher levels of social and economic development." [304] By the late 1990s, a number of Latin American countries were among the largest mineral producers in the world.[305]

According to U.N. sources, the mining industry is the world's fifth largest industry… [and]… has provided the raw materials for the construction and commodities of the modern world: tower blocks and airplanes, televisions and toothpaste…"[306] Mining has also been important to the agricultural fertilizer industry.[307] Minerals are "[t]raded globally but produced in intense local mining areas." A number of chemicals are used in mineral processing, some of which are toxic and negatively impact the environment.[308]

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[303] "A great challenge is how the mineral extraction can coexist with a sustainable natural resource base upon which Southern Africa is very dependent for agriculture and other forms of income... Are there sustainable technologies that can be developed to sustain the economically important mineral extraction industry while protecting the natural resource base?" See: Peter Fleming and John Andresen, "Sustainable Technologies for Resource Development – Draft White Paper", Penn State University, in support of the Alliance for Earth Sciences, Engineering and Development in Africa (AESEDA) Program, at: (http://www.ems.psu.edu/africa/symposium/Sustainable_Tech_draft.pdf).

[304] "During the period 1991-1997, [approximately] 24% of the capital [foreign direct investment] allocable to the Latin American region was applied to mineral exploration." See: Eduardo Vale, "Latin American Mining Industry: Highlights and Outlook", Bamburra Planejamento e Economia Mineral Ltda., at, pp. 3-4, at: (http://www.bamburra.com/Latin_outlook.pdf).

[305] See: "Population and Landuse Mineral Extraction", Chap. 4, AAAS Atlas of Population & Environment, Victoria Dompka, Ed., American Association for the Advancement of Science & the University of California Press, Publishers (2000) at pp. 2-3,at:(http://www.ourplanet.com/aaas/pages/population04.html).

[306] Furthermore, according to an article appearing in a publication related to the United Nations Environment Program, "Rising demand has driven technologists to find ways of extracting the more valuable materials from low-grade ores, with a resulting dramatic increase in the disturbance of the land. The copper industry increased production 22-fold in the 20th century…[as had]…the mining of iron,… manganese,… tungsten, zinc and gold….The 20th century also saw the rapid growth of new extraction industries Ð bauxite for aluminum, uranium for nuclear weapons and power, and petrochemicals for plastics…The extraction and refining of ores requires the use of toxic substances such as cyanide and mercury…" "Population and Landuse Mineral Extraction", Chap. 4, AAAS Atlas of Population & Environment, Victoria Dompka, Ed., at p. 2.

[307] See: "About Fertilizer", The Fertilizer Institute, at: (http://www.tfi.org/AboutFertilizer/index.asp).

[308] See: "Mining Chemicals", Chevron Phillips Chemical Company LP – CP Chem, at:(http://www.cpchem.com/specialtychem/products/mining/); "Clariant Mining Chemicals – Chemicals for Mineral Treatment", at: (http://www.mining_technology.com/contractors/chemicals/clariant/); "Cytec Specialty Chemicals, Mining Chemicals", at: (http://www.cytec.com/business/SpecialtyChemicals/miningchemicals.shtm).

In general, the three comment letters each focused on the significant costs and administrative burdens that would be imposed by the REACH system upon the SMEs that operate within their country's/region's respective mining sectors. In addition, they addressed how those costs will adversely affect the competitiveness of their products, the profitability and viability of their companies, their companies' ability to maintain employment levels, worker dislocation, their country's national income, and consequently, their country's ability to achieve sustainable development.

For example, according to one trade union representing the mining industry in South Africa,

> "Members of the Chamber of Mines of South Africa export metal-containing minerals, ores and concentrates to the EU. Including them [with]in the scope of the [proposed regulation] would impose a very large administrative burden (and therefore increased costs) on these mining companies with questionable benefit to the EU…As the *mining industry* is unable to set the price it receives for its products, the additional costs that would be imposed on the industry…would directly affect its profitability and therefore *the number of people it employs*. These numbers are high – *more than 400,000 people in South Africa alone, in addition to their many dependants*. The EU has made a commitment to assist Africa's *sustainable development*. This seems to be at odds with the current proposals" (emphasis added). [309]

In another example, a Peruvian non-ferrous product manufacturer argued that the increased material costs and product selling prices triggered by REACH would not only reduce the competitiveness of its products in the European market, but would also cause many business closures, unemployment, and possibly a return to the drug trade.

> "Our organization…is a Non Ferrous products manufacturer [that] exports…worldwide to more than 47 countries – directly to end-users, traders or through agents. *One of our main products is Zinc Oxide, and almost 35% of our production is exported to Europe*…(Belgium, the Netherlands, Germany, Spain, France, U.K., Ireland, Italy). Also we export to non-EU member states that also trade & distribute this raw material to EU members (such as Switzerland, Czech Republic, Poland, Norway)…[W]e think that…the REACH…will bring many problems not only to us but to all our customers, distributors and end-users in the EU…We would possibly have to sell our material at a much higher price due to the costs involved [in] registering your product. This could then…[make]…our prices…[non-]competitive in [the] European market and we could lose considerable business…*The registration costs will cause…[us]…to lose staff members and employees in order to cover the costs of registering*. Smaller manufacturers of certain products outside the EU could go out of business and large European manufacturers that can afford the registration costs would dominate the European market and increase prices to whatever level they wish[ed]…*It will [also] restrict free trade among foreign countries (Latin America, Andean Pact, Mercosur) with the EU, going against the WTO regulations*.
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> *The EU Regulation (White Paper) will not help Europe/Peru/Colombia/Bolivia [to] fight against the drug traffic*, since, many organizations in Latin America depend on their sales to the European market…[I]f their prices are not competitive, they will have to close and…people will be unemployed. *GSP granted from EU to our countries will have no sense to exist and will motivate more 'drug dealers' worldwide where Europe is a target market*" (emphasis added). [310]

[309] Chamber of Mines of South Africa, (Trade Union) REACH Comment Letter (2003).
[310] Javier Rivero, Managing Director, Zinc Industrias Nacionales S.A. – Zinsa, REACH Comment Letter (2003).

In the last example considered for purposes of this study, the Sociedad Interamerican de Mineria (SIM), an official group of Miners Associations of the Americas, expressed its deep concern about the social and economic consequences that would likely flow from the REACH regulation. SIM represents members from Colombia, Bolivia, Argentina, Ecuador, Mexico, Venezuela, Republica Dominicana, Nicaragua, Brazil, Peru, Canada and Chile.

> "[The REACH] system should be developed in a way that do[es] not affect to a critical extent the access of products and services to the markets, *but rather stimulate[s] free trade and sustainable development. Countries of the Americas are making serious efforts to progress in their economic, social and environmental development. In this regard, their exports to global markets are, in many cases, the principal source of income to finance such efforts. That is the case [for] countries which are highly dependent on its exports of minerals and metals where one of their most important markets, the European Union, is at risk by the future impact of the REACH system on their economies* as a result of the high cost to industry.
>
> …It is easy to appreciate that the additional costs that will be required for minerals and metals added to the already high costs of transportation due to the long distance from the sources to the European market, will severely increase the production costs and may lead to the loss of market share in the European Union and to higher product prices. *As a consequence, trade of minerals and metals from the Americas with European countries may decrease and surplus may result in the closing of mines and in high unemployment, frustration and poverty"* (emphasis added). [311]

As these comments clearly reveal, the ability of Latin American mineral companies to maintain their global competitiveness within highly valued export markets such as the EU is directly related to their ability to remain a going concern which can contribute meaningfully to local employment and social welfare. To the extent, therefore, that REACH compromises the economic 'health' and vigor of these enterprises, it is arguable that it will also likely jeopardize continuing national efforts to sustain indigenous economic growth.

L. Conclusion

The REACH regulation proposed by the EU as a template for global chemicals management fails to take into account the economic and social well being of other WTO members, particularly developing and least developed countries. Even in its current iteration, REACH will likely have a significant adverse impact on developing country trade and threaten the continued economic growth and stability of developing country societies, particularly those that have not yet fully emerged from the Asian financial crisis of the late 1990s.

Beyond impacting the profitability of multinational chemical companies, the costly REACH requirements will seriously undermine the competitiveness and vitality of the thousands of small and medium-sized enterprises (SMEs) operating within developing countries along the chemical products supply chain. The costs and burdens imposed by REACH, in many cases, far exceed the revenues derived by SMEs from chemical sales to the EU. Also, the EU's rejection of large numbers of existing chemicals integral to EU trade without ensuring the existence of suitable and affordable substitutes will deny local developing country SMEs

[311] Hernan Hochschild Alessandri, Chairman, Sociedad Interamericana de Mineria, REACH Comment Letter to Reinhard Schulte-Braucks, European Commission, Enterprise Directorate-General and Mrs. Eva Hellsten, European Commission, Environment Directorate-General, (July 8, 2003).

that rely on such substances as product inputs the ability to use them for their local or regional businesses. As a result, SMEs would be compelled to switch to more expensive but unproven chemical alternatives which will make their products less competitive in regional and global markets, and perhaps even pose other uncertain health and environmental risks. In addition, most SMEs lack the technical and scientific capacity and the laboratory facilities needed to satisfy the onerous information gathering and testing requirements imposed by REACH. Considering these limitations, it is thus fundamentally unfair to expect developing country SMEs to satisfy the broad duty of care that is called for (e.g., to identify/anticipate all of the intended uses of a chemical or substance).

Furthermore, by unilaterally imposing upon the developing world the REACH regime which, in large part, is justified by reference to the *Precautionary Principle*, a non-WTO legal norm, the EU is proceeding without both scientific foundation and foundation in international law. The extraterritorial and trade restrictive REACH regulation is based on neither international standards nor equivalent national standards of other WTO members. The EU has failed to adduce through a science-based risk assessment any evidence of specific hazards posed by the thousands of chemicals it intends to ban, and has also failed to employ a cost-benefit analysis to evaluate other potential risks or suitable options, as required by the TBT Agreement. As reflected in the many comments submitted by developing country governments, industry associations and SMEs, the EU has been admonished not to incorporate the *Precautionary Principle* into the REACH regulations until it has first been taken up and resolved by the WTO. [312]

[312] See, the comment letters submitted by the governments of Thailand and Singapore, at footnotes 271 and 287, supra.

V. CONCLUSION

This study has revealed how certain health and safety and environmental standards and regulations implemented unilaterally by the EU impede economic growth, social welfare and public health maintenance in developing countries. All three NFTC studies in this series confirm that politically influential European-based ENGOs are often behind the EU's promulgation and adoption of *precaution-based* regulations and product standards, as well as its drafting of *precaution-based* provisions within multilateral environmental agreements ('MEAs') that bind developing countries to EU societal preferences. Furthermore, they find that ENGO campaigns launched in developing countries (e.g., concerning Biosafety (GMOs), REACH, Basel and POPs) seek to alter consumer perceptions and generate public fears about uncertain risks associated with potentially dangerous substances, industrial processes and novel technologies, without resort to objective and scientifically relevant fact-finding. These campaigns, moreover, ignore the social, economic and health benefits that would otherwise be realized by developing countries had they been granted access to such substances, processes, or technologies in the first place.

This third study, in particular, shows how the *Precautionary Principle*, an inherently nonscientific touchstone without foundation in WTO law, has been employed within the Stockholm Convention and the EU's more stringent POPs implementing regulation to ban the shipment of DDT to and among African countries for purposes of indoor spraying. It also identifies how U.N. and EU sponsored donor programs ban funding for DDT malaria vector control, and how U.S. donor programs fail to promote DDT as one of several viable alternatives for malaria prevention, thereby contributing to an ongoing African health crisis. These prohibitions have been imposed on African nations without presentation of conclusive scientific proof that the possible environmental risks accompanying DDT indoor residual spraying outweigh the risks posed to public health, social welfare and economic productivity by failure to use DDT at all. In other words, these measures are justified by neither a science-based risk assessment (i.e., sound science) nor an economic cost/benefit analysis (i.e., equitable balancing).

Furthermore, this third study discloses how the activities of economically and socially vital developing country industries, such as chemical manufacturing, ship-breaking, e-waste recycling and recovery and their many related downstream industries are threatened by overly stringent EU regulations and overly broad EU interpretations of MEA provisions. For example, the *Precautionary Principle* has been invoked unilaterally as justification for: 1) adopting a broad non-consensus-based interpretation of the Basel Convention's definition of 'hazardous waste'; 2) imposing the Convention's not yet effective Ban Amendment; 3) applying the revised EU Waste Shipment Regulation; and 4) proposing the EU's REACH Regulation. Each of these measures are global in scope and place onerous and often insurmountable financial and administrative burdens upon small and medium-sized enterprises (SMEs) which comprise local cottage or informal sector industries that serve as a major source of employment and social stability within developing countries.

VI. LOOKING TOWARDS THE FUTURE

Although the essays within this study focus exclusively on health and safety and environmental measures targeting industrial product exports, EU environmental protectionism extends also to the natural resource-intensive and agricultural commodity-driven exports of developing countries. In the case of agricultural products a number of EU measures have imposed very low tolerance levels for toxicity and residues of natural as well as proscribed substances (e.g., pesticides, herbicides, aflatoxins, hormones, antibiotics, GMOs, minerals, etc.). "Europe… wants to raise food safety standards. European countries import many foodstuffs and raw materials, which are thus required to meet safety standards. This can cause problems for developing countries in particular, as they have difficulty in meeting these stricter conditions."[313] And, in the case of product inputs and exports derived from natural resource extraction (e.g., forest products, etc.), other EU measures besides stringent maximum residue limits apply. These include standards for product harvesting (certification), packaging, labeling and traceability.[314]

Of course, the EU and its Member States are not the only WTO members to impose stringent health and environmental standards that may actually constitute disguised restrictions on international trade. The U.S.[315], Canada[316] and Japan[317] are also guilty, from

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[313] "European Trade Barriers and Developing Countries", Op. Cit. at p. 65.

[314] See: "European Unilateralism – Environmental Trade Barriers and the Rising Threat to Prosperity Through Trade", Op. Cit., at p. 7.

[315] For example, the U.S. government previously imposed market access restrictions (via environmental conservation measures enacted pursuant to the U.S. Marine Mammal Protection Act) upon tuna imported from Mexico. The regulations distinguished between tuna products based on the manner in which they were processed, and were thus alleged by Brazilian and Venezuelan exporters to be discriminatory. The measures required Mexican fisherman to use more expensive and perhaps less efficient dolphin-safe fishing net technology that did not threaten the lives of dolphins. A GATT panel ruled that such measures constituted an illegal restriction on international trade, even though the restrictions applied to American tuna as well. The panel reasoned that the restrictions were, in essence, an illegal attempt to induce Mexico to change its environmental policies, as they conditioned access to U.S. markets upon either Mexico's adoption of a similar regulatory scheme or Mexican fishermen's adoption of such technology. In addition, it reasoned that the U.S. had failed to exhaust other less trade-restrictive alternatives, including diplomatic cooperation. See: United States – Restrictions on Imports of Tuna (1991) 30 I.L.M. 1594 ('Tuna-Dolphin I'), at pp. 1622-23; See: Michael J. Trebilcock and Robert Howse, The Regulation of International Trade, 2d ed. (Routledge © 1999), at pp. 406-409. In another example, a U.S. environmental regulation (under the Clean Air Act) previously required that conventional and reformulated gasoline sold in the U.S. conform to a minimum level of 'cleanness' established pursuant to an emissions baseline that was computed differently for domestic and foreign refiners and importers. The measure effectively imposed higher costs on foreign refiners without proof that it could achieve U.S. 'clean' air objectives. A GATT panel found that such measure did not constitute the least-trade-restrictive means of achieving U.S. environmental objectives of protecting life and health. It also found that the measure was not primarily aimed at conservation of exhaustible natural resources ('clean air') because other less trade restrictive alternatives could have been pursued (but were not) to attain the desired air quality without discriminating against imported gasoline. See: United States – Standards for Reformulated and Conventional Gasoline, Report of the Panel, WT/DS2/R (29 January 1996). The Appellate Body subsequently concluded that U.S. failure to seek cooperation with Brazilian and Venezuelan authorities on this matter revealed that the measure was unjustifiably discriminating in effect. It also concluded that the measure was a disguised restriction on international trade because the U.S. failed to eliminate costs for foreign refiners that it had apparently eliminated for domestic refiners. See: Michael J. Trebilcock and Robert Howse, at pp. 414-15.

[316] For example, the Canadian government previously imposed environmental restrictions requiring that all salmon and herring caught in Canadian waters by American fisherman were to be processed in Canadian fish

time to time, of imposing such protectionist regulatory barriers. What is different about EU-based health and environmental restrictions, however, is that they reflect a systematic attempt to employ on a global basis a *precaution-based* rather than a risk-based regulatory approach that is WTO-inconsistent. The NFTC studies are intended to scrutinize these measures and to unmask their use as disguised barriers to trade in order to promote meaningful dialogue about how to eliminate them. Undoubtedly, the ability of all developed nations to reduce the use and impact of restrictive national measures and related MEA provisions on developing country exports will go a long way towards facilitating the full participation of such countries within the WTO rules-based trading system, consistent with the Doha mandate.

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plants and subject to rigorous statistical reporting requirements before export. Canada had alleged that such measures were enacted as part of its West Coast fisheries resource management scheme to conserve exhaustible natural resources. A GATT panel found this to be a disguised restriction on international trade because conservation was not the primary aim of the regulation and other less restrictive means could have been used to compile statistical data without the need of imposing such an 'export ban'. Apparently, evidence revealed that less restrictive alternatives had already been used by Canada to gather information about other fish species, and official Canadian government literature had indicated that the export restriction was being utilized as a means to protect Canadian jobs. See: Canada – Measures Affecting Exports of Unprocessed Herring and Salmon, BISD 35S (1988) 98. A subsequent Canada-U.S. Free Trade Agreement dispute settlement panel found that Canadian 'landing and unloading' regulations that did not explicitly prohibit or restrict herring and salmon exports (to the U.S.) before processing also constituted an illegal restriction on trade. It reasoned that such measures disadvantaged American processors by requiring fish to be landed and unloaded in Canada and then repacked and unloaded again in the U.S. before processing. It also reasoned that other less restrictive means were available to achieve Canada's conservation objectives. See: In the Matter of Canada's Landing Requirement for Pacific Coast Salmon and Herring, Final Report of the Panel, 16 October 1989. See, also: Michael J. Trebilcock and Robert Howse, at pp.399-401.

[317] For example, Japan previously imposed costly and time-consuming quarantine and testing restrictions on U.S. (and Brazilian) exports of various fruit products (e.g., apples, cherries, peaches, apricots, plums, pears, nectarines, walnuts, etc.) pursuant to Japan's Plant Protection Law. The apparent aim of the measure was to protect plant health by preventing the potential introduction of the codlying moth. In order to lift the prohibition, the U.S. (and other exporters) were required to demonstrate that an alternative quarantine treatment (e.g., fumigation with methyl bromide) achieved the same level of protection. However, to do so required testing and verifying the effectiveness of the quarantine treatment for *each* variety of the product, which took as long as several years to accomplish (evidence showed that a number of varieties' applications had been pending for over ten years). A WTO panel concluded that there were other less trade restrictive alternative measures (e.g., the determination of sorption levels) that would have been equally effective without imposing similar costs and burdens. The Panel also concluded that Japan had failed to maintain the measure with sufficient scientific evidence, because it failed to adequately demonstrate that there was a rational or objective relationship between the varietal testing requirement with respect to apples, cherries, nectarines and walnuts, and the scientific evidence it submitted. While acknowledging that WTO members may impose provisional phytosanitary measures under certain strict conditions, the Panel, furthermore, concluded that Japan was unable to satisfy those requirements. See: Oliver Landwehr, "Decisions of the Appellate Body of the World Trade Organization, Japan – Measures Affecting Agricultural Products", WTO Panel Report and Appellate Body Report, adopted by Dispute Settlement Body, 19 March 1999, WT/DS76/R and WT/DS/AB/R, at: (http://www.ejil.org/journal/Vol10/No2/sr2.rtf).