

TOXIC TRADE: INTERNATIONAL KNOWLEDGE NETWORKS & THE DEVELOPMENT OF THE BASEL CONVENTION

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ABSTRACT

The international trade in hazardous waste – particularly from wealthy industrialised nations to developing countries – had costly ecological, public health, economic, legal and political consequences. The result was a global campaign to create an international regime capable of regulating the trade in toxic waste, culminating in the creation of the Basel Convention in 1989. Five years later a comprehensive ban on transfers of nearly all hazardous waste from OECD to non-OECD countries was added as an amendment to the treaty. This paper argues that epistemic communities, through the creation and diffusion of expert knowledge, provide the essential link between localised issues with global implications, such as third-world toxic dumping, and international public policy solutions like the Basel Convention. By examining the position of epistemic communities in knowledge formation and international policy, and looking at the role played by these communities in the creation of the Basel Convention, this paper connects the creation of the Convention to the broader discourse on transnational knowledge networks in global governance.

Keywords: Basel Convention; environment; epistemic community; globalisation; hazardous waste; international public policy

THE VOYAGE OF THE *KHIAN SEA*

The United States incinerates nearly forty million tons of waste each year.¹ What to do with such enormous amounts of incinerated material, in the form of ash that often contains poisonous dioxins and heavy metals, is an increasingly urgent question as landfills close and disposing of the waste becomes progressively more expensive.² One solution for advanced industrial nations was to export the incinerator ash to developing countries, where environmental laws are often lax or non-

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¹ Clean Air Council, “Waste Facts & Figures,” available online: <http://www.cleanair.org/Waste/wasteFacts.html> (accessed 20 February 2007). The Clean Air Council, an American non-governmental organisation, compiled figures estimating that 108,234 tons of waste is incinerated per day in the US.

² “Rubbish; Burning Question,” *The Economist*, World Politics & Current Affairs, 28 May 1988, p. 45.

existent, and disposal is significantly cheaper. This practice resulted in incidents with costly ecological, public health, economic, legal and political consequences.

One of the most notorious cases occurred in 1986, and involved the *Khian Sea*, a cargo ship laden with 14,000 tons of municipal incinerator ash from Philadelphia, Pennsylvania. With permission to unload “soil fertilizer,” the ship dumped between two and three thousand tons of the ash on a beach near Gonaives, Haiti, before authorities there ordered it to leave. The *Khian Sea* spent the next two years attempting to unload its cargo on five different continents, changing its name and country of origin several times. The ship finally arrived in Singapore in 1988 with an empty hull; the captain later admitted to dumping the waste in the Indian Ocean.³ The toxic ash remained on the Haitian beach for more than a decade before eventually being returned to Philadelphia.⁴

Similar incidents are of course not confined to the ash of US waste incinerators. It is estimated that between 1989 and 1994 member nations of the Organization for Economic Cooperation and Development (OECD) shipped about 2.6 million metric tons of hazardous waste to poorer, non-OECD countries.⁵ The international transfer of all types of hazardous material,⁶ and several high-profile debacles like the *Khian Sea*, resulted in a global campaign to create an international regime capable of regulating the trade in toxic waste. This resulted, in 1989, in thirty-five states and the European Community signing the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal. Five years later a comprehensive ban on transfers of nearly all hazardous waste from OECD to non-OECD countries was added as an amendment to the treaty.⁷ One hundred and sixty-nine countries are currently parties to the Convention.⁸

What is the connection between toxic ash left on a Haitian beach and a global ban on international hazardous waste transfers? How does information regarding incidents such as the *Khian Sea*, scientific data about the environmental and health impacts of exposure to certain types of waste, and the work of advocacy groups result in the creation of a waste management regime? This paper argues that epistemic communities, through the creation and diffusion of expert knowledge, provide the link between localised issues with global implications and international public policy solutions. The first section examines the position of epistemic communities in knowledge formation and international policy. The second section looks at the role played by epistemic communities in the creation of the Basel Convention. Finally, the conclusion connects the creation of the Convention to the broader discourse on transnational knowledge networks and summarises the function of expert knowledge in global governance.

THE ROLE OF EPISTEMIC COMMUNITIES IN INTERNATIONAL POLICYMAKING

With “the intensification of worldwide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa,” to bor-

³ M. Williams, “Well-Traveled Trash,” *Newsweek*, 22 July 2002, p. 8; and H. Anderson, “The Global Poison Trade,” *Newsweek* 7 November 1998, p. 66.

⁴ B. Geiselman, “Full Circle; Well-traveled ash will rest in peace near its PA birthplace,” *Waste News*, 24 June 2002, p. 3.

⁵ K. Kummer, *International Management of Hazardous Wastes: The Basel Convention and Related Legal Rules* (Oxford: Clarendon Press, 1995), p. 7.

⁶ For the purposes of this essay, “hazardous” and “toxic” waste are used synonymously, and refer to any waste material, whether the by-product of industrial processes, the result of transportation, or products deliberately created and used (e.g., pesticides), etc., that can cause or are suspected to cause harm to humans, animals, or the environment. For a comprehensive list of hazardous wastes and their characteristics, see Annexes I, II, III and VIII of the Basel Convention.

⁷ It should be noted, however, that as of 12 December 2006, the Ban Amendment to the Basel Convention had not yet been ratified by enough countries to enter into force.

⁸ Secretariat of the Basel Convention, “Parties to the Basel Convention,” UNEP, available online: <http://www.basel.int/ratiff/convention.htm> (accessed 21 February 2006).

row Anthony Giddens' description of globalisation,⁹ even localised policy matters increasingly involve issues of global concern. Transnational communities of knowledge elites, or epistemic communities, have emerged to deal with this new spatial pattern of social relations.¹⁰ These communities shape how information becomes knowledge, and facilitate the diffusion of that knowledge from the local to the global level, which then influences international policymaking. The dissemination of knowledge takes place through many different channels, including direct contact with decision-makers, consultation during policy meetings, publications in academic journals, participation in ad hoc working groups and conferences, and providing expertise to various media outlets.

The direction of this knowledge's movement is crucial: partly because of the lack of a global government and partly because of increased economic and social integration resulting from globalisation,¹¹ policy change in the international arena is primarily a bottom-up process.¹² Thus issues such as the proliferation of small arms and light weapons,¹³ anti-personnel landmines,¹⁴ and the transfer of hazardous waste from the developed to developing world – all problems formerly overlooked or ignored by global governance regimes and institutions – are shifted from the local to global agenda with the help of epistemic communities. Since “control over knowledge and information is an important dimension of power” that can “lead to new patterns of behavior,”¹⁵ outlining what exactly epistemic communities are is particularly important.

An epistemic community is a loosely connected network of experts informally bound by a shared belief in the cause of a particular problem and the correct approach to solving it.¹⁶ Members of such a community do not necessarily come from a single discipline; in fact, with cross-disciplinary issues such as climate change, terrorism, or, as will be seen below, the hazardous waste trade, it is beneficial for epistemic community members to be drawn from different areas of expertise. For example, in his study of the role of epistemic communities in the creation of the Mediterranean Action Plan, Peter Haas identified United Nations Environmental Programme (UNEP) officials, members of powerful agencies such as the World Health Organization, regional government officials, ecologists and marine scientists as participating in the Plan's regional development and implementation.¹⁷ Haas attributes the success of the Plan to the involvement of such a wide array of participants.

Epistemic communities are distinct from other networks like interest groups and global policy advocates, which can also play important roles in shaping international public policy. Epistemic communities, as the name implies, are concerned with an empirical production of knowledge that relies on accepted notions of validity – brought about through “debate, retesting and peer review” – to achieve a consensual perspective on social and physical phenomena.¹⁸ The knowledge produced by epistemic communities is highly appealing to policymakers because it is perceived to be more scientific and rational than information provided by groups with ideological or political biases.

⁹ A. Giddens, *The Consequences of Modernity* (Stanford: Stanford University Press, 1990), p. 64.

¹⁰ D. Stone, “The ‘Policy Research’ Knowledge Elite and Global Policy Processes,” in *Non-State Actors in World Politics*, ed. Daphne Josselin and William Wallace, p. 117 (London: Palgrave, 2001).

¹¹ *Ibid.*, p. 116.

¹² W. Reinicke, “The Other World Wide Web: Global Public Policy Networks,” *Foreign Policy* vol. 117 (1999), p. 44.

¹³ See: K. Krause, “The Challenge of Small Arms and Light Weapons,” 3rd International Security Forum, Kongresshaus Zurich, Switzerland, 1998, available online http://www.isn.ethz.ch/3isf/Online_Publications/WS5/WS_5D/Krause.htm (accessed 21 February 2007).

¹⁴ See: R. Price, “Reversing the Gun Sights: Transnational Civil Society Target Land Mines,” *International Organization* vol. 52 no. 3 (1998), pp. 613-644.

¹⁵ P. Haas, “Epistemic Communities and International Policy Coordination,” *International Organization* vol. 46, no. 1 (1992), pp. 2-3.

¹⁶ *Ibid.*, p. 3.

¹⁷ P. Haas, “Do Regimes Matter? Epistemic Communities and Mediterranean Pollution Control,” *International Organization* vol. 43, no. 3 (1989), pp. 384-385.

¹⁸ C. Dunlop, “Epistemic Communities: A Reply to Toke,” *Politics* vol. 20, no. 3 (2000), p. 139.

Epistemic communities enjoy a perception of legitimacy that networks founded on ideological beliefs – like interest groups – find difficult to achieve. Epistemic communities' input into the policy process is therefore seen as apolitical and value-neutral, and important because rationality is seen as a virtue in policymaking.¹⁹

This is not to imply that there is a perfectly clear distinction between epistemic communities and other actors in the policy process. Because of the global nature of many of the policy areas with which epistemic communities are involved, including trade, economics, security and regulation, actors routinely work across state and organisational boundaries in horizontal transnational networks.²⁰ Members of epistemic communities can be involved in a variety of international groups simultaneously. What distinguishes epistemic communities is a commitment to empirical inquiry that, according to Haas, requires them to withhold policy advice “if confronted with anomalous information.”²¹ Despite a perceived apolitical approach to knowledge creation, members of epistemic communities can be found within groups that maintain ideological biases – especially as interest groups became more sophisticated in their advocacy of specific policies.²² The knowledge produced by an expert or scientist working for an advocacy group will simply not be utilised if it contradicts the policy position of the organisation, although it may emerge in other contexts, such as publications and conferences, or in support of different policy positions.

The importance of epistemic networking is largely the product of the reorganisation of societal relations that has occurred as a result of globalisation. Policymakers of the traditional nation-state now face highly technical and complex problems that are seldom purely domestic in nature, and require “the formation of important operational links between different groups of non-governmental actors” across state boundaries.²³ The expertise required to address such problems is often beyond the skill set of the average career bureaucrat.²⁴ Deference to the knowledge provided by epistemic communities is one way to remedy this information asymmetry. The consequence is a “de-hierarchisation” of governance structures, especially in the international arena. The formation of horizontal networks is also made easier by the rapid evolution of communication technologies and the ease of international travel.

Thus it is no longer particularly useful – if it ever was – to think of states and their policy-making mechanisms as something akin to Weberian bureaucratic machines, wherein problems are inserted and policy solutions are disgorged. Anne-Marie Slaughter describes an international system of “disaggregated states,” composed of interacting legislative, judicial and regulatory bodies.²⁵ Each of these bodies is composed of different informal networks of epistemic communities, and each has an influence on domestic and international policy. Functioning less like the cogs of a machine and more like the neural networks of the brain,²⁶ these communities utilise localised information, personal and professional experience, and scientific knowledge in order to frame policy debates, articulate problem causality, and suggest policy solutions.²⁷ The aetiology of this knowledge formation is what drives all scientific inquiry: a desire to rationally understand observed social

¹⁹ T. J. Kallio, et al., “‘Rationalizing Sustainable Development’ – a Critical Treatise,” *Sustainable Development* vol. 15 (2007), pp. 41-51.

²⁰ A. Slaughter, *A New World Order* (Princeton: Princeton University Press, 2004), pp. 12-15.

²¹ P. Haas, *Saving the Mediterranean – The Politics of International Environmental Co-operation* (New York: Columbia University Press, 1990), p. 55.

²² A good example of this is the experts coordinating with Greenpeace, an environmental interest group, as discussed in greater detail in the next section.

²³ K. D. Wolf, “The New Raison d’État as a Problem for Democracy in World Society,” *European Journal of International Relations* vol. 5, no. 3 (1999), pp. 339-340.

²⁴ Haas (1992), pp. 8-9.

²⁵ Slaughter, p. 5.

²⁶ See, for example, U. Brandes, et al., “Explorations into the Visualization of Policy Networks,” *Journal of Theoretical Politics* vol. 11 no. 1 (1999), pp. 75-106.

²⁷ Haas (1992), p. 2.

and physical phenomena. Epistemic communities simply put that understanding at the service of international policymakers.

It is difficult to overstate the importance of transnational epistemic communities in international policymaking. Thomas Risse-Kappen, for instance, convincingly gives epistemic communities – or what he identifies as a “liberal internationalist community” – at least partial credit for the peaceful demise of the Soviet Union.²⁸ He distinguishes four epistemic groups (the American arms control community, European peace researchers, liberal European policymakers, and Soviet scientists and policy analysts) that cooperated through transnational exchanges of knowledge to help formulate Mikhail Gorbachev’s accommodationist foreign policy and the United States’ response to it, both of which helped bring about the end of the Cold War.²⁹

Epistemic communities and the expert knowledge they produce and disseminate are deeply involved with issues ranging from global health initiatives to climate change, economic policies to water management.³⁰ Despite what some scholars have argued is a democratic deficit in epistemic communities and the institutions of global governance in which they often play a vital part,³¹ the technical authority of such communities is generally accepted because of their perceived non-partisan nature and their effective synthesis of empiricism and norms.³² The espoused rationality of epistemic communities, which makes them appealing to policymakers, also makes their authoritative knowledge more legitimate to a modern public that prioritises a scientific worldview.

This is not to imply that the role of epistemic communities in international public policy is unreservedly positive. Epistemic communities help to create a dominant form of knowledge, and other – especially underprivileged – groups may find challenging that discourse to be difficult or impossible.³³ Additionally, it has been pointed out that the immense output of knowledge by different epistemic communities can result in “incoherence, conflict and gridlock.”³⁴ Scientific findings, after all, are rarely unambiguous in their policy implications. As will be illustrated in the next section, all these concerns come into play when formulating international policy. The development of the Basel Convention is a useful illustration of the role that epistemic communities play in policy formation, as their role in the Convention was unprecedented and highlights both the advantages and disadvantages of the involvement of such networks in policymaking. The drafting of the Convention is also interesting as a precursor to the heavy involvement of epistemic communities in international issues such as weapons regulation and global warming.

EPISTEMIC COMMUNITIES AND THE BASEL CONVENTION

Prior to the early 1980s, international hazardous waste transfers from advanced industrial countries to poorer developing countries did not attract much policy interest at the global level.³⁵ This changed with several highly publicised incidents that occurred in the 1980s, including, *inter alia*, the voyage of the *Khian Sea*; the storage of thousands of drums of toxic polychlorinated biphenyls (PCBs) by an Italian businessman in the port of Koko, Nigeria, which caused workers

²⁸ T. Risse-Kappen, “Ideas do not Float Freely: Transnational Coalitions, Domestic Structures, and the End of the Cold War,” *International Organization* vol. 48, no. 2 (1994), p. 186.

²⁹ *Ibid.*

³⁰ Reinicke, pp. 48-51.

³¹ Wolf, p. 334; and J. Whitman, “Global Governance as the Friendly Face of Unaccountable Power,” *Security Dialogue* vol. 33, no. 1 (2002), p. 46.

³² T. Porter, “The Democratic Deficit in the Institutional Arrangements for Regulating Global Finance,” in *The Global Governance Reader*, ed. Rorden Wilkinson, p. 242 (London: Routledge, 2005).

³³ L. Ford, “Challenging Global Environmental Governance: Social Movement Agency and Global Civil Society,” *Global Environmental Politics* vol. 3, no. 2 (2003), p. 126.

³⁴ Stone, p. 118.

³⁵ Kummer, p. 38.

handling the waste to be hospitalised with severe injuries; and the 6,000-mile journey of the *Mobro*, a New York barge carrying more than 3,000 tons of solid waste, as it unsuccessfully attempted to offload its cargo in various countries.³⁶

Another trend occurring around the same time was the grassroots – and largely female – activism within the United States that attempted to bring attention to the domestic dumping of toxic wastes and its negative health effects.³⁷ Cases in towns such as Love Canal, New York³⁸ and Woburn, Massachusetts³⁹ highlighted the environmental and health impacts of hazardous waste dumping. What is striking about these cases is that the mainly experiential and highly localised knowledge of a marginalised population (i.e., women), when broadly diffused through activism and network-building, was able to shape the national debate and eventually influence long-term policy creation in the US.⁴⁰

Initially a NIMBY (Not In My Backyard) movement, American toxic waste activism helped lead to the increasingly strict environmental restrictions on domestic waste dumping that contributed to the international transfer of hazardous waste to poorer countries.⁴¹ This national NIMBY perspective shifted in the mid- to late-1980s to a global NIABY (Not in Anyone's Backyard) movement and illustrated “a concrete recognition that toxic waste should not be produced, or at least that any production should be substantially reduced, dealt with at source and disposed of properly,”⁴² in addition to an identification of the spatial connection between local and global policy concerns.

Factors in this normative shift in perception were primarily the international incidents mentioned above, as well as the sheer increase in the amount of hazardous waste produced and consequent concerns over its disposal;⁴³ prohibitions on hazardous waste importation imposed unilaterally by many countries throughout the 1980s;⁴⁴ and UNEP's creation of ad hoc working groups – themselves comprising epistemic networks, as discussed below – to create a framework for the development of international environmental law.⁴⁵ The call for an international hazardous waste regime resulted in negotiations for the Basel Convention beginning in 1987, with the objective of minimising the production of hazardous waste and regulating its transboundary movement,⁴⁶ especially from North to South.

From the initial Convention meetings in late 1987, an epistemic community of international experts was involved in the drafting and negotiating of the treaty. Given the succinct name of The Ad Hoc Working Group of Legal and Technical Experts with a Mandate to Prepare a Global Convention on the Control of Transboundary Movements of Hazardous Wastes,⁴⁷ the group was instrumental in contextualising highly technical information regarding complex industrial processes, waste disposal and recycling procedures, the chemical compositions of waste materials, and the intricacies of interstate trade and international customary law. Prominent NGOs such as Greenpeace

³⁶ Greenpeace, “The Basel Ban – The Pride of the Basel Convention: An Update on Implementation and Amendment,” available online: <http://archive.greenpeace.org/comms/97/toxic/bbp.html> (accessed 22 February 2007).

³⁷ P. Brown and F. Ferguson, “‘Making a Big Stink’: Women's Work, Women's Relationships, and Toxic Waste Activism,” *Gender and Society* vol. 9, no. 2 (1995), pp. 168-169.

³⁸ See: E. Beck, “The Love Canal Tragedy,” *EPA Journal*, US Environmental Protection Agency, available online: <http://www.epa.gov/history/topics/lovecanal/01.htm> (accessed 22 February 2007).

³⁹ See: D. Kennedy, “Civil Inaction,” *The New Republic*, 15 March 1999, p. 13.

⁴⁰ Brown and Ferguson, pp. 156-159.

⁴¹ Ford, pp. 127-128.

⁴² *Ibid*, p. 127.

⁴³ J. Krueger, “What's to Become of Trade in Hazardous Wastes? The Basel Convention One Decade Later,” *Environment* vol. 41, no. 9 (1999), p. 12.

⁴⁴ Greenpeace, “The Basel Ban.”

⁴⁵ UNEP Governing Council Decision 9/19A, UNEP/GC.9/19A, 26 May 1981.

⁴⁶ Article 4 of the Basel Convention.

⁴⁷ Kummer, p. 40.

were involved in the negotiations to an atypical extent, networking with scientists and activists to provide large amounts of data on the hazardous waste trade for the working group and to influence the drafting of the Convention during the two-year negotiation process.⁴⁸ Greenpeace was aligned closely enough with communities of waste experts, toxicologists and other environmental scientists to gain a reputation for “unmatched expertise” in the international hazardous waste trade.⁴⁹

Reports of the working group meetings show that during the two years of the Convention’s development, “[e]xperts from ninety-six states participated in one or more of the sessions, and representatives of over fifty international organisations and NGOs attended as observers.”⁵⁰ International trade experts, for example, attempted to formulate restrictions on the waste trade within the General Agreement on Tariffs and Trade (GATT) framework, while toxicologists presented findings on human and animal hazardous waste exposure. This extensive participation continues to the present meetings of the Basel Convention’s governing body. At the Conference of the Parties (COP) to the Basel Convention in 2006, the participants and observers from specialised UN bodies and agencies, international organisations, governmental and non-governmental organisations, and the private sector and business groups far outnumbered the state representatives.⁵¹ Without getting into thorny issues of the hegemony of global environmental governance and the cooptation of the environmental justice movement,⁵² which lie beyond the scope of this paper, it is sufficient to conclude that epistemic networks utilising expert knowledge had a profound influence on the formation and maintenance of a comprehensive hazardous waste trade regime.

The role that epistemic communities played in the creation of the Basel Convention, however, is not unproblematic. The concerns noted at the end of the previous section are certainly evident in the workings of different networks of experts. For instance, even before the international hazardous waste trade was on the global agenda, female activists working within the United States in the late 1970s to highlight the public health hazards of domestic toxic dumping were often using their experiential knowledge to work against epistemic communities of professional scientific experts who discredited activists as “hysterical housewives.”⁵³ The dominant discourse was very difficult to challenge, especially by marginalised non-experts. This difficulty is also apparent with toxic waste trade experts attempting to place the Basel Convention within the legal framework of the World Trade Organization (WTO), which in principle prohibits any restrictions on international trade for reasons defended by the WTO’s neoliberal policymaking elite as crucial to the world economy.⁵⁴

The creation of a dominant discourse by epistemic communities requires ignoring other issue areas and alternative approaches to a policy problem, or highlighting what fits best within a conceptual framework, at the expense of other relevant knowledge.⁵⁵ For instance, almost entirely neglected at the Basel Convention negotiations was the fact that the vast majority of hazardous waste transfers occur between highly developed countries. According to OECD figures, in the late 1980s the US exported only about one percent of its hazardous waste, and the majority of it (85 percent) was sent north to Canada.⁵⁶ Attempting to ban all transboundary movement of hazardous waste thus appears to mainly affect industrialised countries that require little of this type of regulation.

⁴⁸ Ford, p. 130.

⁴⁹ J. Clapp, *Toxic Exports: The Transfer of Hazardous Wastes from Rich to Poor Countries* (London: Cornell University Press, 2001).

⁵⁰ Kummer, p. 40.

⁵¹ Section IV(A) of the Report of the Conference of the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal on its eighth meeting, UNEP/CHW.8/16, 5 January 2007.

⁵² Ford, p. 130.

⁵³ Brown and Ferguson, pp. 151-152.

⁵⁴ J. Puckett, “When Trade is Toxic: The WTO Threat to Public and Planetary Health,” working paper, Asia Pacific Environmental Exchange and Basel Action Network, October 1999, pp. 21-23.

⁵⁵ Stone, p. 119.

⁵⁶ Kummer, p. 8.

Also largely overlooked is the fact that in certain poor areas, the recycling of waste or the recovery of useful metals from otherwise hazardous waste can be an engine for regional economic growth.⁵⁷ A call for a complete prohibition on interstate waste transfers reveals a breaking point in the rationality of the sustainable development discourse,⁵⁸ and undermines the moral superiority implied by the North in condemning an industry that provides livelihoods – however insufficient – to many thousands of people.

In addition, disagreements among the various groups participating in the Convention have meant that more than fifteen years after the implementation of the treaty, a definition of what exactly constitutes hazardous waste has still not been conclusively decided.⁵⁹ Varying definitions obviously have different consequences for which waste materials may be transported and the countries that trade in them, and a lack of specific global standards results in confused and possibly ineffective policymaking. While it is unclear if the Basel Convention has been a success from the perspective of those who helped bring it about,⁶⁰ it is generally considered a good start in the regulation of the hazardous waste trade. In addition, both the Convention's difficulties and achievements usefully ground some of the lofty academic debates surrounding global governance.

When examining the impact of epistemic communities in international public policy, it is necessary to address the above concerns as these communities proliferate and their influence in the policy arena increases.⁶¹ As the problems confronting the international community become increasingly technical and complex, one can expect a greater reliance on experts in formulating policy solutions. It is vital to recognise that these epistemic networks and the expert knowledge they provide to policymakers, whether scientific, technical, professional or otherwise, perform a complex but fundamental function in global governance.

LANDMINES, WASTE DUMPS AND EXPERT KNOWLEDGE

The international transfer of hazardous waste is an issue unlike traditional environmental concerns such as climate change or fishery depletions – which are largely abstract concepts for most people and thus difficult to conceptualize and locate within a particular frame of reference.⁶² The issue is more akin to the problem of anti-personnel landmines in places like Southeast Asia, as toxic dumping and dangerous weapons are both concrete and highly local concerns. Pictures of legless Burmese children or illicit hazardous waste dumps outside Abidjan reveal the very tangible local consequences of processes that ultimately function within a global policy framework.

These issues exemplify the idea that globalisation “embodies a transformation in the spatial organization of social relations and transactions,” in that what was traditionally a local phenomenon is shifted to the international arena.⁶³ Epistemic communities acquire localised information, such as scientific data regarding PCBs, and, through loose network connections, contextualise that information into knowledge; i.e., that high levels of PCB exposure have very negative effects on human

⁵⁷ P. Srinivasan, “The Basel Convention of 1989: A Developing Country’s Perspective,” working paper, Liberty Institute, Delhi, India, 24 September 2001, p. 11. One example of problematic waste recycling is the practice of “ship-breaking,” in which old ships are dismantled for their valuable steel, but which often contain hazardous materials such as PCBs, asbestos and lead paint. For a Pulitzer Prize-winning account of ship-breaking in India, see: W. Englund and G. Cohn, “A Third World dump for America’s ships?” *The Baltimore Sun*, 9 December 1997: p. 1A.

⁵⁸ Kallio, et al.

⁵⁹ Srinivasan, p. 6.

⁶⁰ L. Elliott, *The Global Politics of the Environment* (New York: NYU Press, 2004), p. 64.

⁶¹ Stone, p. 129.

⁶² Ford, p. 128.

⁶³ D. Held, et al., *Global Transformations: Politics, Economics and Culture* (Cambridge: Polity Press, 1999), p.

health.⁶⁴ This then informs a policy prescription: PCB-containing waste should not be dumped in open-air landfills. Decision-makers, who receive this knowledge through a variety of different channels, can then defer to the specialised expertise offered by epistemic communities to construct effective public policy.

Through a similar process, landmines were transformed from conventional pieces of military hardware into human rights violations;⁶⁵ the trade in toxic waste, once a necessary outcome of industrialisation and powerful market forces, is now a closely monitored and circumscribed, if necessary, practice that is regulated by the Basel Convention. Landmine use and the toxic waste trade also politicise policy areas that were once considered apolitical and at least partially outside the public realm,⁶⁶ such as military expenditures for landmines and industrial processes for hazardous waste. Thus the expert knowledge provided by epistemic communities – because it is perceived as empirical and apolitical – is even more vital to the international policymakers who must deal with these contentious issues.

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⁶⁴ For instance, see: R. Seegal, “The Neurotoxicological Consequences of Developmental Exposure to PCBs,” *Toxicological Sciences* vol. 57, no. 1 (2000), pp. 1-3.

⁶⁵ R. Price, “Reversing the Gun Sights: Transnational Civil Society Targets Land Mines,” *International Organization* vol. 52, no. 3 (1998), pp. 617-619.

⁶⁶ Ford, p. 127.

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