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## **BUILDING INTERNATIONAL NETWORKS, COOPERATION, AND CAPACITY FOR ENVIRONMENTAL COMPLIANCE AND ENFORCEMENT: A PROGRESS REPORT**

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### **SUMMARY**

An international collaboration to build effective environmental compliance and enforcement programs is leaving a lasting legacy through a series of biennial international conferences, development of international workshops, published proceedings and studies, and support for ongoing networking and cooperation. The Fourth International Conference on Environmental Compliance and Enforcement to be held in Chiang Mai, Thailand, April, 1996, is significant both as an event and as demarcation of the progress that has been made in a little over a decade, including: 1) an international mandate and consensus on the importance of dedicated programs for environmental compliance and enforcement to the achievement of domestic and international environmental goals, sustainable development and free trade; 2) adoption of common definitions, principles and a framework for international exchange; 3) development of 12 international workshops, 6 technical and 6 capacity building support documents; 4) exchange of experiences of well over 65 country programs and expert views on over 25 special topics in widely disseminated conference proceedings; 5) exponential growth in networking supported by an accessible databank and years of research reflected in over 200 governmental and nongovernmental officials from 100 countries and international organizations invited and confirmed to attend the Fourth International Conference; and 6) emergence of new institutional arrangements for ongoing regional and international networking and cooperation.

This paper provides a brief overview of the importance of building capacity for environmental compliance and enforcement program success; what this international partnership has been able to achieve and what might be needed to continue this progress into the next century.

### **1 INTRODUCTION**

The series of four biennial international conferences on environmental compliance and enforcement has given a voice to what has for too long been the silent and difficult task of getting compliance with and enforcing environmental requirements. Achieving real results and changing behavior to meet environmental requirements is a daunting task. Serious threats to public health and the environment (e.g. from unhealthy air, unsafe drinking water, discharges of raw or partially treated sewage into our waterways, dumping of hazardous and toxic chemicals onto our land and into our waters, flooding from unchecked deforestation and unauthorized land management practices, loss of habitat, ecosystems, and biodiversity, and/or release of ozone depleting substances), continue unabated unless this job is done

and done well, and yet how to achieve compliance with environmental requirements is often ignored until well after problems are identified and laws or international agreements have been put in place. Overcoming obvious challenges and barriers to compliance is not a job for the faint hearted (See Figure A1-3). Nor is this job for those who would go charging at the problem without sound technical support or strategic sense, actions which have resulted in opposite and equal reactions, creating political backlash rather than support. Effective environmental compliance and enforcement requires the doggedness of a good journalist, the finesse of a statesman, and the understanding of a psychologist to meld together a balanced program which addresses the range of motivations and obstacles to get people and institutions to comply. While monitoring compliance and taking legal enforcement response to impose legal sanctions and consequences for violators is at the heart of any compliance and enforcement program, there is much more involved.

Networking has proved to be a powerful force internationally to help design and implement more effective compliance and enforcement programs. Ironically, while laws and cultures are so very different that many now seek harmonization and simplification, the elements of environmental compliance and enforcement strategy have resonated to common principles and frameworks which have human nature at their core. These common human threads have transcended the potential barriers to networking among governmental and nongovernmental officials from 117 countries and international organizations coming together over the course of a decade and learning from each other.

The multinational commitment to capacity building, networking, and cooperation has few parallels. A bilateral exchange between the United States' Environmental Protection Agency (U.S. EPA) and the Netherlands' Ministry of Housing, Spatial Planning and the Environment (VROM) in 1985 under a Memorandum of Understanding led to the First International Enforcement Workshop in Utrecht, the Netherlands in 1990. Since then, the Netherlands' Inspector General for the Environment and U.S. EPA's Assistant Administrator for Enforcement and Compliance Assurance continue to provide leadership, co-chairing and staffing the Executive Planning Committees for the conferences. The Executive Planning Committee and conference sponsors have steadily expanded. By the time of the second International Conference on Environmental Enforcement held in Budapest, Hungary, September, 1992, sponsorship had already expanded to include the European Commission, along with the gracious support from Hungary as host country. The Executive Planning Committee also included the United Nations Environment Program's Industry and Environment center (UNEP I/E), the Regional Environmental Center in Budapest, the governments of Poland, Hungary and what was then the Czech and Slovak Federated Republic (now two independent Republics) and the World Wildlife Fund, involving NGO's for the first time. The Third International Conference held in Oaxaca, Mexico, in April 1994, expanded its sponsorship further to include UNEP I/E as a full sponsor, the World Wildlife Fund (WWF) and Mexico's SEDESOL (now PROFEPA). The Executive Planning Committee included the sponsors plus Canada, Costa Rica, Chile, Venezuela, Jamaica, Nigeria, and Indonesia. The location of the Conference in Mexico highlighted the importance of reaching not only industrialized economies, and those in transition, but also those with developing economies.

The Fourth International Conference sponsors include not only VROM, U.S. EPA, and UNEP UNEPI/E serving as the three anchors, but also Thailand's Pollution Control Department, Environment Canada, the European Commission and the Environmental Law Institute, U.S. The Executive Planning Committee includes UNEP's Environmental Law Center, the United Nations Development Program (UNDP), the WWF, Canada, Mexico, Chile, Poland, Hungary, the United Kingdom, Nigeria, Egypt, South Africa, Thailand, Malaysia,

the Philippines, and the People's Republic of China. The location of the Conference in Asia adds new focus on countries with rapidly industrializing economies to those of industrialized, transitional, and developing economies highlighted at prior conferences.

In partnership, an international collaboration has been able to achieve what few if any countries or international institutions could achieve alone. The Executive Planning Committees for the succession of four international conferences have come to perform a role analogous to that of an Executive Board of Directors, guiding and catalyzing international capacity building efforts. The exchanges, networks, and cooperation have strengthened individual country programs, created the base of experience to support international and country commitments to environmental compliance and enforcement programs, put newly developing programs on a fast learning curve, and accelerated evaluation and learning from what works and does not for those wishing to enhance existing programs. Figure 1 is a telling portrait of this progress.

Since 1990, and every two years since, the number of countries and international organizations participating in the international conferences has doubled from Utrecht to Budapest, and from Oaxaca to Chiang Mai. We have shifted our locations to build a stronger regional as well as international networking capacity from Western Europe, to Central and Eastern Europe, to Latin America, and now Asia. Another shift was the presence, at the Budapest Conference and thereafter of nongovernmental organizations, both citizen groups and international industry organizations. Exponential growth in the numbers and representation of governmental and nongovernmental officials participating in the Conferences is directly related to the contacts and relationships established at previous conferences. All participants are personally invited based upon their ability to influence the design or enhancement of environmental compliance and enforcement programs.

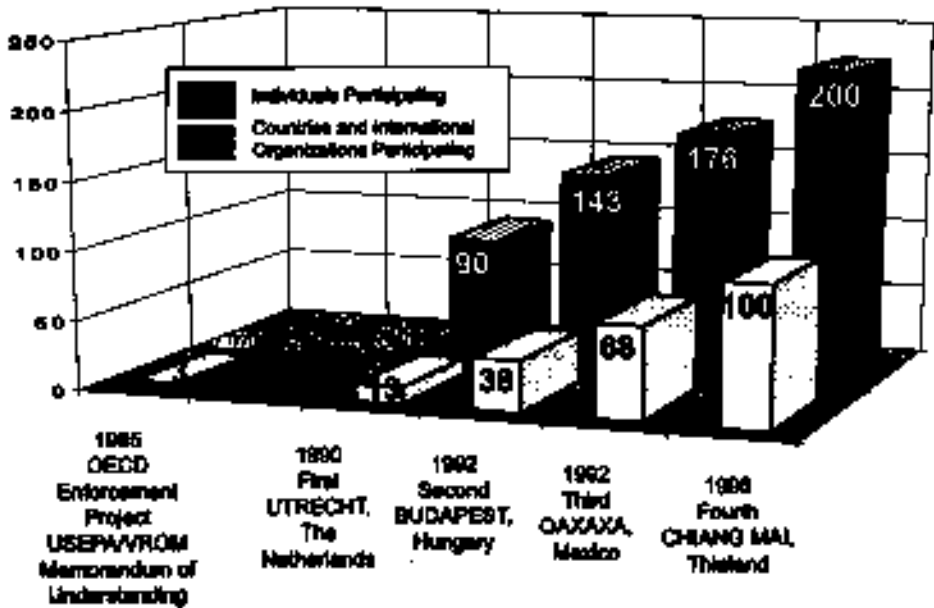
The development of improved environmental compliance and enforcement programs can be traced like stepping stones from one exchange to the next, each country and international organization benefitting from the experiences of the others, offering their own unique contribution to successes around the world.

## **2 INTERNATIONAL CONSENSUS ON THE IMPORTANCE OF ENVIRONMENTAL COMPLIANCE AND ENFORCEMENT PROGRAMS, NETWORKING AND COOPERATION**

Heightened global activity to advance environmental compliance and enforcement programs derives from four basic concerns: 1) a concern for environmental quality and protection of public health; 2) a concern for economic prosperity; 3) a concern about fairness; and 4) a concern for the credibility of our laws and institutions. (See Annex 1, figure 2). Over the past ten years, it is clear that successful environmental compliance and enforcement of environmental law are essential to achievement of domestic and international environmental goals, cleaner production, sustainable development and international free trade. Together with public demand for environmental accountability, these concerns are in turn driving enhancement of environmental enforcement. Concerns about pollution havens, economic pressure to reduce environmental protections, potential erosion of environmental quality in countries where institutions were not sufficiently developed to address environmental issues have been central to the debates not only on the North American Free Trade Agreement (NAFTA) among Canada, the United States and Mexico, but also within the European

## Building International Environmental Compliance and Enforcement Networks

### International Conferences Leave A Growing Legacy



Community and within the Asia-Pacific region as well. Clear signals are being sent that those countries wanting to engage in free trade, need to meet some minimum level of competency in establishing environmental standards and ensuring compliance with them.

### 3 ACCOMPLISHMENTS OF INTERNATIONAL CONFERENCES AND RELATED NETWORKING

#### 3.1 International mandate for environmental compliance and enforcement programs

One of the most important outcomes of the first International Enforcement Workshop in 1990 was the participant recommendation that enforcement appear on the agenda at the United Nations Conference on Environment and Development (UNCED), planned for Rio de Janeiro, Brazil in 1992. Although enforcement was not specifically a topic at the UNCED, a more significant result emerged in Agenda 21, Chapter 8, Section (e) 8.21. This established an international mandate to build compliance, compliance monitoring and enforcement capacity as an essential element of environmental management, starting with ensuring that laws and regulations be enforceable. Language in Agenda 21 also empowered UN organizations to more actively support compliance and enforcement institution building activities. Public accountability provided by such governmental compliance and enforcement programs was undergirded by support for a strong public role in decision making throughout Agenda 21. (See Figure 2).

**Agenda 21, Chapter 8, Section (e) 8.21, establishes an international mandate to build compliance and enforcement capacity as an essential element of environmental management:**

(e) Develop effective national programs for reviewing and enforcing compliance with national, state, provincial and local laws on environment and development

8.21. Each country should develop integrated strategies to maximize compliance with its laws and regulations relating to sustainable development. The strategies could include:

(a) Enforceable, effective laws, regulations and standards that are based on sound economic, social and environmental principles and appropriate risk assessment, incorporating sanctions designed to punish violations, obtain redress, and deter future violations;

(b) Mechanisms for promoting compliance;

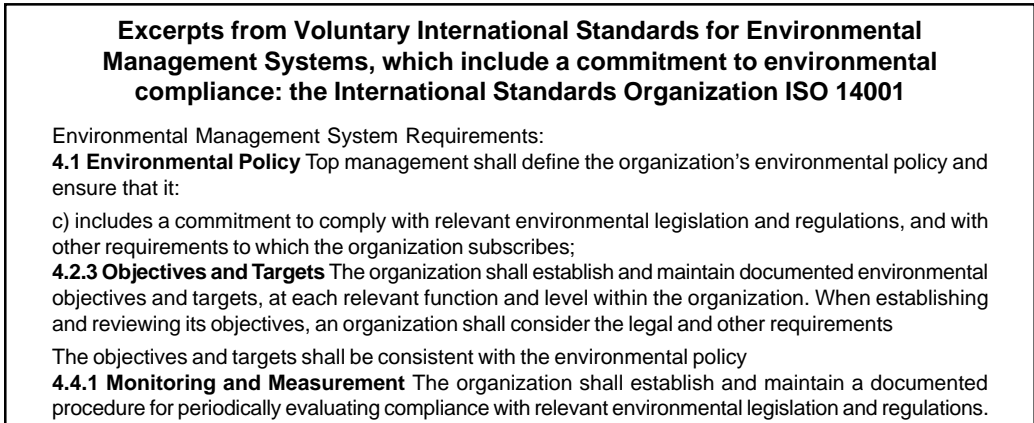
(c) Institutional capacity for collecting compliance data, regularly reviewing compliance, detecting violations, establishing enforcement priorities, undertaking effective enforcement, and conducting periodic evaluations of the effectiveness of compliance and enforcement programs;

(d) Mechanisms for appropriate involvement of individuals and groups in the development and enforcement of laws and regulations on environment and development.

**Figure 2. Agenda 21 Language on Environmental Compliance and Enforcement.**

Of perhaps equal significance are related voluntary initiatives by the business community to support compliance with environmental requirements. At the UNCED, organizations such as the International Chamber of Commerce and the Business Council for Sustainable Development presented consensus statements on the need for more effective environmental management. Indeed, the International Standards Organization's international

standards on environmental management systems, ISO 14001, are predicated on a commitment from top management to both environmental compliance and prevention of pollution. (See Figure 3).



**Figure 3. Excerpts From Voluntary International Standards for Environmental Management Systems**

### 3.2 Principles and frameworks for international exchange

A common international framework, definitions and principles for international exchange now provide a basis for international exchange after being introduced at the Second International Conference in Budapest, Hungary in 1992 with this purpose in mind. These principles emerged from the first International Enforcement Workshop held in Utrecht, the Netherlands, May 1990, based upon principles and frameworks used to describe the U.S. program. Participants recognized a common need to change human behavior to get results intended by environmental requirements that transcended differences in laws, customs, and legal systems. These frameworks were originally developed to better articulate a consistent philosophy and approach to inspire improved enforcement among the 50 states and numerous local government entities in the U.S. after a two-year decline in enforcement. At the beginning of 1991, Poland's Ministry of Environmental Protection, Natural Resources, and Forestry, represented at the first International Enforcement Workshop requested enforcement training and provided a unique opportunity to take these principles and frameworks out of a U.S. context, and to develop them for international use. Drawing on international experiences shared at the first international workshop, the text and course were developed to offer a rich menu of options for ways to develop programs. The "Principles of Environmental Enforcement" text and associated training exercises, role-playing and case-study materials were developed by U.S. EPA in cooperation with both Poland's Environment Ministry and the Netherlands's environment inspectorate (VROM) for enforcement training with broad international applicability. The Principles of Environmental Enforcement Training has now been offered in over 13 countries and translated into 9 languages.<sup>3</sup> The definitions, principles and framework are summarized in Annex 1 to this paper and the course is described more fully in Annex 2.

The framework covers seven elements:

- Creating requirements that are enforceable.
- Knowing who is subject to the requirements and setting program priorities.
- Promoting compliance in the regulated community.
- Monitoring compliance.
- Responding to violations.
- Clarifying roles and responsibilities.
- Evaluating the success of the program and holding program personnel accountable for its success.

The Executive Planning Committees for the Third and Fourth International Conferences included a one-day version of the training at the Conferences to provide a common basis for discussions. To ensure wider applicability, new case study subject areas were commissioned to augment the original case study concerned with air pollution from coal as an energy source and use in the coking process for steel fabrication. The new topics included mining, petroleum refining and petrochemicals, residential and industrial waste disposal, tourism, deforestation and transboundary illegal shipments. The broader subject matter of the new Principles of Environmental Enforcement workshops did much to blur some of the sharp lines dividing green and brown issues within the environmental community. It demonstrated a common framework within which one could learn from each other, whether the concern involves tourism and forest management or industrial and municipal pollution. Six stand-alone technical support documents for each of these new subject areas provide an overview of the kinds of environmental problems, pollution prevention and control options that are available to both address the public outreach issue and to enable officials throughout the world to begin tapping into the expertise available to address these problems. (See Figure 4.)

The problems portrayed in the fictitious case studies at the Third International Conference were echoed by real life examples described in the papers in the Fourth Conference Proceedings. These include papers from Barbados which mirror the tourism case study and technical support document, the paper from Guyana on compliance and enforcement problems, which mirrors the mining case study and support document, the experiences of Nigeria, China and the Netherlands in transboundary illegal shipments of hazardous waste, and the Dominican Republic in addressing deforestation.

### 3.3 Development of international workshops, technical and capacity building support documents

The Principles of Environmental Enforcement International Training was followed by a second and complementary set of training modules and workshop materials. In 1992, UNEP published "From Regulations to Industry Compliance: Building Institutional Capabilities". The report, two years in the making, was designed to provide government officials and other concerned actors with guidance on building institutional capabilities to implement their environmental laws with an integrated approach so that waste and pollutants are not simply transferred between media, e.g. air to water or water to land, but are actually reduced at the source. Ideas and concepts illustrate the importance of legally binding industrial facilities to established environmental standards and to check that they are meeting them. Examples of countries' experiences were selected to show the incremental steps that can be taken with even minimal personnel and resources when there is sufficient political will.

Requests of UNEP from officials in developing countries and transitional economies of East and Central European to help them apply the concepts and integrated approaches outlined in UNEP's publication resulted in the development of UNEP's Institution Building Workshops for Industrial Compliance. The workshops were developed with the Netherlands in cooperation with U.S. EPA with additional members of an Advisory Committee with members from Mexico, France, Egypt, and Poland to ensure the materials are helpful to developing nations and transition economies. A draft Manual and four case studies with facilitation materials were piloted at the Third International Conference on Environmental Enforcement, picking up where the Principles of Environmental Enforcement leave off, exploring in four different modules:

- Organization of permitting, compliance monitoring and enforcement programs.
- Human, financial and information resources for the above programs.
- Permitting processes for industrial facilities to enhance compliance.
- Compliance monitoring and enforcement capability.

#### **International Workshops and Related Technical and Capacity Building Support Documents:**

Principles of Environmental Enforcement International Training Course

- Principles of Environmental Enforcement Text
- Technical Support Documents:
  - Coal burning, iron and steel (first case/no support document);
  - Petroleum refining and petrochemicals;
  - Metallic ore and minerals mining;
  - Residential and industrial (solid) waste disposal;
  - Deforestation;
  - Tourism; and
  - Transboundary illegal shipments of hazardous waste, pesticides and contraband CFC.

UNEP Institution Building Workshops on Industrial Compliance: comprised of 4 Modules

- 1-Organizing permitting, compliance monitoring and enforcement programs, 2- Financing and budgeting resources for compliance and enforcement programs, 3-Enforceable Permitting Processes, 4-Compliance Monitoring and Enforcement

Capacity Building Support documents

- Organizing permitting, compliance monitoring and enforcement programs
- Financing and budgeting resources for compliance and enforcement programs
- Comparative study of source compliance self-monitoring requirements
- Comparative study of multi-media inspection protocols

Communications and Enforcement Workshop

- Communications Strategies for Enforcement

Inspector Training and related technical materials with process and prevention information

- Student text: Conducting Multi-Media Inspections
- Technical Information on Selected Industry Processes
  - Furniture finishing
  - Electroplating
  - Printed circuit boards
  - Wood Preservation
  - Rock Crushing and Cement Production
  - Injection Molding

**Figure 4. International Workshops and Related Technical and Capacity Building Support Documents**

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To reinforce the common basis for international capacity building, the overview to the manual is a summary of the "Principles of Environmental Enforcement."

The Executive Planning Committee for the Fourth International Conference also specifically commissioned several capacity building support documents to enrich the basis for exchange (See Figure 4). These build upon areas identified in the Principles of Environmental Enforcement and UNEP training workshops and other topics of interest at the international conferences. The capacity building support document on organizing programs compares 10 country programs and how they address issues such as the degree of centralization, placement in the hierarchy, degree of consolidation of functions, single or multimedia organization. The support document on financing and budgeting provides information on more than 60 country programs along with key concepts in budgeting and financing. The comparison of source compliance self-monitoring, reporting and record keeping requirements illustrates how over ten different countries leverage scarce inspection resources and ensure the regulated community has sufficient information to achieve compliance through self-monitoring and reporting requirements. It explores how each country considers technical feasibility, cost to medium and small business, and management of the information. The international comparison of multimedia (integrated) inspection protocols should help countries continue to explore the relative advantages and disadvantages of single and multimedia approaches. Finally, a new workshop and capacity building support document are available on communication strategies for enforcement. This is a particularly important topic given the importance of spreading the word about enforcement and gaining the support of an educated and supportive citizenry to make each enforcement action count.

3.4 Exchange of experiences of well over 65 country programs and expert views on over 25 special topics in published and widely disseminated conference proceedings

3.4.1 Creating a practical literature on environmental compliance and enforcement

Following each of the International Conferences, Volumes of the Proceedings are widely disseminated to enforcement and environmental officials in virtually every nation around the globe. The Proceedings contain papers by country and special topic experts, opening speeches, results of workshop discussions, conference evaluations and additional papers. These proceedings clearly reflect a realization of several goals of Conference organizers in the increasing number of country experiences profiled, the increasing number of topics around which experiences are summarized, and the increasing sophistication of the papers that are the subject of these communications. Papers are solicited to provide information on the evolution of a program or activity, what works and does not work, factors leading to success or failure, and clarity needed to be understood and potentially serve as a learning experience for others. For the Fourth International Conference in Chiang Mai papers from over 55 countries and international organizations will bring the total from four conferences to well over 67 country programs having been profiled. (See Figure 5.) Through papers and reports by rapporteurs at over 25 special topic workshops, the state of the art in official experiences in that topic is captured (See Figure 6).

<b>Countries and International Organizations with Participants at the International Conferences</b>	
#	Countries and Organizations by Region
17	<u>Africa:</u> Benin, Botswana, Cameroon, Egypt*, Ethiopia, Ghana, Kenya, Malawi, Nigeria*, Senegal*, Sierra Leone, South Africa, Tanzania*, The Gambia, Tunisia, Uganda*, Zimbabwe*
19	<u>Asia:</u> Australia, Bangladesh, Bhutan, Cambodia, Hong Kong*, India, Indonesia*, Japan*, Malaysia, Mongolia, Nepal*, New Zealand*, Pakistan, People's Republic of China*, the Philippines*, Sri Lanka, Taiwan, Thailand*, Vietnam
9	<u>Caribbean:</u> Aruba, Bahamas, Barbados*, Curacao, Dominican Republic*, Jamaica, St. Lucia, St. Maarten, St. Vincent
19	<u>Central and South America:</u> Argentina*, Belize, Bolivia*, Brazil, Chile, Colombia*, Costa Rica*, Ecuador, El Salvador*, Guatemala*, Guyana*, Honduras*, Nicaragua*, Panama, Paraguay, Peru*, Suriname, Uruguay, Venezuela
3	<u>North America:</u> United States*, Canada*, Mexico*
6	<u>West Asia and Middle East:</u> Bahrain, Israel*, Jordan, Kuwait, Oman, United Arab Emirates
12	<u>Western Europe:</u> Austria, Belgium*, Denmark*, Finland, Germany*, Greece, Italy, Norway*, Sweden*, Switzerland, The Netherlands*, United Kingdom*
16	<u>Central and Eastern Europe/ NIS:</u> Albania, Armenia*, Bulgaria*, Croatia, Czech Republic*, Estonia, Hungary*, Kazakhstan, Latvia, Lithuania*, Montenegro, Poland*, Romania*, Russia*, Slovak Republic, Ukraine*
16	<u>International Organizations:</u> Asian Development Bank, Commission of the European Communities*, Environmental Law Institute*, Global Environmental Management Initiative*, Inter-American Development Bank, International Chamber of Commerce*, INTERPOL*, North America Commission for Environmental Cooperation (NACEC), Organization of American States, Organization for Economic Cooperation and Development, Regional Environmental Center*, United Nations Environment Program, I/E*, UNEP ELI, United Nations Development Program*, United Nations Crime Unit*, World Bank*, World Wildlife Fund*
	* Indicates sources of papers in Conference proceedings

**Figure 5. Countries and International Organizations With Participants at the International Conferences**

### 3.4.2 Example conclusions from workshops and theme discussions

- **Challenges to initiating environmental compliance and enforcement programs**

Challenges to environmental enforcement are present whether one is establishing a national environmental enforcement program or enforcing at a regional level, whether starting from scratch or improving the implementation of an existing program. First, a catalyst is needed to break the inertia of inaction about compliance problems. Second, there is a constant search for funding and trained personnel. Third, interagency conflicts and provincial/federal jurisdictional conflicts must be resolved or they will impede progress. Fourth, political instability in particular plagues the advances in many programs. Fifth, creative and even courageous interpretation of laws are often necessary to begin constructive response to environmental problems. Finally, national commitments have to be supported by international cooperation and an involved public.

**Special Topics Addressed at Four International Conferences for which Papers and Discussion Summaries are available:**

- Automation and Enforcement: available support systems (4th)
- Strategic targeting for enforcement (4th)
- Strategies, tools and management systems (1st)
- Integrated permitting and enforcement (4th)
- Compliance monitoring (2nd, 4th)
- Role of police in enforcement (3rd)
- Promoting voluntary compliance: environmental auditing, outreach, incentive programs (3rd, 4th)
- Measures of success (1st, 4th)
- Communications and enforcement (2nd, 3rd, 4th)
- Public role in enforcement: How to go about creating and supporting effective citizen enforcement (2nd, 3rd, 4th)
- Criminal enforcement: INTERPOL, role of criminal enforcement (3rd, 4th)
- Enforcement of economic instruments (3rd, 4th)
- Take-back laws enforcement (4th)
- Creating enforceable permit programs and requirements (2nd, 4th)
- General, hazardous and solid waste (2nd)
- Focus on water pollution and contamination of drinking water supplies (4th)
- Transboundary illegal shipments/ imports and exports of hazardous waste, toxic chemicals, contaminated product, pesticides, contraband CFC (1st, 2nd, 3rd)
- Montreal Protocol: enforcement of CFC and related requirements (1st, 3rd, 4th)
- Enforcing domestic programs implementing international agreements (1st, 4th)
- Establishing international networks (3rd, 4th)
- Collaborative international targeting of enforcement (4th)
- Organizing Programs (2nd, 3rd, 4th)
- Financing Programs (2nd, 3rd, 4th)
- Intergovernmental enforcement relationships (1st)
- Enforcement policy and authorities (1st, 2nd, 4th)
- Field citation and related administrative enforcement programs (3rd)
- Enforcing the law at government owned or operated facilities (2nd, 3rd)
- Enforcing in economically depressed circumstances/areas (2nd, 3rd)
- Privatization as an opportunity to enhance compliance (2nd)

Numbers reflect proceedings from conferences in which the topics were discussed and papers and discussion summaries available.

**Figure 6. Special Topics Addressed at Four International Conferences**

- **Institution building**

The important message in institution building is to start. Many country examples are now available which suggest some common experiences that might be applicable in many different settings. Norway's experience suggests that it is best to create an independent enforcement and inspection function as their program evolved from an integrated permit and compliance program in which personnel had multiple roles to one with discrete functions to improve professionalism. Mexico's experience with extensive training programs for their inspectors is part of a larger effort to improve interagency coordination and decentralize enforcement. The Netherlands has established coordinating councils to organize response to violations among several agencies at different levels of government efficiently and to address all aspects of the problem.

- **Transboundary export/import of illegal shipments of hazardous waste, pesticides and ozone depleting substances**

If ever there were a need for networking and cooperation it is the transboundary shipments issue. Complicated to detect, and facing an increasingly cynical community which is creating ways to evade detection as quickly as they are discovered, several obstacles to gaining strong controls on the export and import of illegal shipments still exist. In particular, the search for a clear and consistent definition of hazardous waste continues to be a challenge, and detection requires extensive coordination of departments within governments and internationally. Exporting nations need to take more responsibility for promoting compliance given the lack of full understanding of international requirements. Lack of strong requirements in some developing countries, that are sufficient to protect them from improper disposal of hazardous waste is still a problem. To effectively control export and illegal import there is a need to continue the ongoing international efforts to share information and develop regulatory and institutional frameworks through Interpol, Basel Convention implementation and local regional cooperative arrangements . The Proceedings of the Fourth Conference offer Nigerian and Dutch views on tricks of the trade, U.S. tips for investigation strategies, and China's experience in assessing responsibility and working with the full range of actors to resolve problems.

- **CFC controls to implement the Montreal Protocol**

Several developed nations have begun aggressive enforcement programs aimed at implementing the goals of the Montreal Protocol. However, many developing countries and some developed countries have not yet begun to achieve the international goals set by the Montreal Protocol due to lack of support, lack of funding and lack of capacity. As CFC containing materials are banned, illegal exports, particularly to developing countries, are increasing and there is a particular need for cooperation and transfer of knowledge.

- **Government owned and operated facilities**

It is essential for the credibility of compliance and enforcement programs and achievement of environmental goals that government owned and operated facilities be held accountable for compliance in the same manner as private sector facilities. Although there is significant public support for the idea that governments should live up to the environmental standards they set for their citizens, legal and political barriers make this idea very hard to implement. A variety of approaches and institutions are necessary to produce environmental compliance and cleanup at government facilities. Most important are an independent judiciary, funding for compliance and cleanup, public awareness and involvement, and enforceable requirements.

- **Enforcement of economic instruments**

Worldwide experience with economic instruments for environmental protection is still quite limited although a wide range of economic instruments have been used in developing as well as developed nations. Experience to date indicates that some types of economic instruments, especially the more complex ones such as tradeable permits, can require at least as much enforcement and monitoring as do the more traditional command-and-control regulations. Economic approaches in fact require good information and monitoring systems which can also raise costs for regulated entities. There is real interest in the potential of economic instruments to address environmental issues more efficiently. However, this interest is tempered with caution, particularly in developing countries, given the difficulty of implementation and the fact that a firm regulatory and enforcement base is often required.

- **Role of communications**

There is widespread agreement that an informed and supportive citizenry is essential to achieve the political support for enforcement, and communication of enforcement actions is essential to gain the deterrent impact of enforcement response.

- Public disclosure: led to major pollution prevention efforts instead of cleaning up pollution at the end of the pipe. The press can be a major ally in helping to improve compliance and implement enforcement programs.
- Citizen enforcement: plays a critical role in making enforcement effective in achieving compliance. Public support and an educated citizenry are essential to support enforcement. This can be accomplished through disclosure to the public of information on releases. Governments need to support NGO participation in the enforcement process.

- **Enforceable requirements**

A major theme at the second international conference was how to establish enforceable requirements. Criteria, checklists, and country experiences are now available in Conference proceedings, and results reported, particularly in regard to hazardous and solid waste. Shared problems with definitions, and confusing requirements mingled with the need for improved waste management approaches and waste minimization were discussed and described in conference papers. The Fourth International Conference continues to explore this topic with a focus on safe drinking water.

- **Voluntary compliance**

Voluntary compliance programs (i.e. programs to encourage and promote compliance, not compel compliance through legal process) are important to achieving compliance, especially as a complement to a regulatory framework and strong enforcement program. Countries which are just

developing their regulatory and enforcement framework may only be able to begin with voluntary compliance efforts, but such initiatives are strongly encouraged, even though their effectiveness will be far greater once enforcement and regulatory frameworks are in place. Approaches need to examine all aspects of compliance, using all motivations, particularly public pressure and concern for market share. The role of media is important in raising public awareness.

For small or economically marginal business, the goal of voluntary programs might be compliance with the law, whereas large or more profitable businesses can be encouraged to go beyond compliance to reduce waste and prevent pollution. There are significant benefits to promoting environmental auditing by companies and policies should avoid discouraging self audits. Environmental education can change behavior in early years, establish environmental values, and provide for public pressure for compliance.

- **Enforcement policies and authorities**

Conference papers and workshops have explored the use of administrative, civil judicial and criminal enforcement, their relationships, and relative strengths, human resource requirements and program implementation.

- Creative new authorities to balance risk, compliance and ability to pay considerations: Polish and Czech officials have recently developed enforcement response policies and authorities which they are calling “compliance programs” to better take into account harsh economic realities while maintaining the rule of law and commitment to compliance based in part on experiences in the U.S. reported at the First International Workshop. The U.S. employed negotiated compliance schedules to address compliance by the iron and steel industry faced with economic hardship in depressed economic areas, tough environmental standards to meet quality goals in the heavily polluted iron and steel belt. The new approaches also seek risk based pollution prevention and control which may go beyond what is required to comply, employing models similar to those used in the U.S. on a selective basis in creative enforcement settlements which included supplemental projects to prevent pollution beyond mere compliance in exchange for somewhat reduced penalties.
- Field Citations: Empowerment of inspectors or field officers to take complete enforcement action when confronting certain types of environmental violations was widely viewed as a desirable feature of an enforcement program. Field citations were felt to have a great deal of potential for streamlining lengthy administrative enforcement procedures which have proved to be very frustrating to enforcement officials around the world. There were a wide variety of approaches among countries to the authorities given to field officers, ranging from

assessment of a small fine to closure of the facility. Field officers can include a variety of personnel including inspectors, park rangers and police officers.

- Criminal enforcement: Countries employ criminal enforcement very differently, some reserving it for the worst offenses, while the majority of environmental offenses are criminal in other countries. Most countries recognize the particular deterrent value of criminal enforcement in the potential and actual application of jail terms to violators. Education of judges and hearing officers can be a key factor in the successful prosecution of environmental crimes. Criminal enforcement mechanisms can deliver a full range of potential sanctions and consequences for responding to environmental violations, and not just jail terms and fines. It is increasingly being viewed as an important enforcement tool best utilized in an enforcement scheme which contains multiple response options.

- **Compliance monitoring**

The backbone of any compliance and enforcement program, compliance monitoring raises many issues including the role and training requirements for environmental inspectors, relationships to civil and criminal investigators, relationships to legal staffs, and issues related to potential roles in promoting compliance, providing assistance, and in enforcement response. Norway described its experience which led to separation of the permitting and inspection functions and the use of inspection fees for inspections augmented by payments to third parties to conduct audits in the absence of government inspection. Conference exchanges have also explored issues related to single versus integrated or multimedia inspections, source self-monitoring record keeping and reporting, and the use of third party audits. Key results of these discussions include:

- Training and developing expertise: The United States has reviewed its establishment of the National Enforcement Training Institute, federal requirements for inspector training and a National Enforcement Investigations Center which supplements the work of state and regional inspectors and investigators. In response to a request by the government of Mexico, the U.S. EPA developed training programs with Mexico for Mexican inspectors and customs officials which are equally beneficial to U.S. EPA.
- Third party audits: Several countries have explored ways to augment their own inspector resources through third parties. For the First International Workshop, Norway described its experience with the use of inspection fees for inspections augmented by payments to third parties to conduct audits in the absence of government inspection. For the Fourth Conference, the Mexican government describes an environmental audit program to augment its limited compliance monitoring resources, which may provide the basis for a more formal third party system.

- Role of police: Police offer significant potential to serve as additional eyes and ears for detecting environmental violations given their significant number and distribution and a lack of sufficient resources in environmental departments. Police may play a particularly valuable role in uncovering and solving environmental crimes and some countries have developed specialized police to investigate this sort of criminal activity. Training is essential to make police aware of environmental infractions, civil and criminal, and to enhance appreciation of their significance as crimes. Given the need for technical skills and know-how, the role of police must be carefully coordinated with that of the environmental department, using different means applicable to respective countries. The Dutch reliance on their police corps to investigate and bring criminal enforcement action inspired outreach within the U.S. to Chiefs of Police and a program of training and awareness in the State of New Jersey which was adapted for national use to augment a corps of civil inspectors and criminal investigators for environmental crimes.
- Source self monitoring and reporting: were identified as key ingredients for success at the second International Conference where costs were affordable, as it ensured greater accountability by the regulated community, provides more complete and timely information, and shifts some of the cost burden from the government. A new study comparing country approaches will help further discussions on the subject.

### 3.5 Emergence of new institutional arrangements for regional and international networking and cooperation

The Conferences already have spawned several new institutional arrangements for regional and international networking and cooperation. IMPEL, the European Enforcement Network of the European Commission and member states, ( which stands for Implementation and Enforcement of Environmental Law), was largely inspired by exchanges at the first International Enforcement Workshop on efforts to build the federal/state relationship within the United States. Several papers have been prepared for the Proceedings of the Third and Fourth International Conferences on cooperative projects on enforcement to prevent illegal transboundary shipments of hazardous waste and on notification of new substances. Following the second Conference in Budapest, Hungary, in 1992 the Regional Environmental Center helped to foster further exchanges among governmental and nongovernmental officials within Central and Eastern Europe.

At the Third Conference regional enforcement cooperation was described for North America under NAFTA. The historic North American Free Trade Agreement and its environmental side agreements have established an unprecedented level of international cooperation and mutual support in enforcing environmental laws. A plenary program panel on international networking and cooperation was presented to stimulate interest to foster ongoing exchanges and capacity building both regionally and globally based upon natural partnerships and common environmental challenges. Spontaneously during informal sessions, participants from the Americas developed the Oaxaca Declaration, committing themselves to work together to establish a network for helping to build programs. Subsequently the Summit of the Americas has led to more formalized efforts.

There is enormous activity now in Central and Eastern Europe to enhance environmental enforcement. Interpol has been strengthened as an institutional mechanism for exchange of information on environmental crime. The Caribbean basin is coordinating efforts to protect the Gulf of Mexico and its fragile ecosystems and Central American nations have joined to enhance and harmonize their environmental laws to achieve sustainable development goals.

In November of 1994, UNEP and the People's Republic of China's National Environmental Protection Agency organized an Asia regional workshop on industrial compliance using its draft UNEP workshop materials with representatives from 8 nations in attendance.

#### **4 A LASTING LEGACY: INSTITUTIONAL ARRANGEMENTS FOR ONGOING REGIONAL AND INTERNATIONAL NETWORKS AND COMMUNICATIONS**

To leave a lasting legacy from the series of conferences it is important not only to develop and disseminate the proceedings, workshop materials, and related documents — all tangible products -- but also to develop regional and international mechanisms for continued exchange — leading to appropriate mechanisms for cooperation and shared progress globally across regions that transcend the biennial conferences.

##### **4.1 Regional networks**

The Fourth Conference provides fertile ground and opportunity for participants to adopt the most appropriate approaches for their own countries and regions. Reports on regional meetings among officials from Africa, the Americas, South Asia, Southeast Asia and the Pacific, Central and Eastern Europe, West Asia and Middle East, and Western Europe will summarize country programs' status and progress, shared problems and challenges, institution building need and opportunities for support and exchange, proposals for regional and international networking and cooperation. Both the Principles of Environmental Enforcement definitions and frameworks and the UNEP workshop materials provide a foundation for discussions.

Each region will report out at the Plenary session discussions on the last day on these issues. Whatever the subject or avenues of exchange, the Conference organizers are looking toward an ongoing mechanism which can result in even greater progress reported at the Fifth International Conference.

##### **4.2 Joining the World-Wide Web**

In the interim, steps have and will be taken to create vehicles for exchange which will be both more effective and less costly than the biennial conferences. By the time of the Fourth International Conference, a homepage will be ready for use keyed off of Earth 1, U.S. EPA's homepage. It will sport the Conference logo and logos of its sponsors. It will provide cross-links to sponsors' homepages to take advantage of materials they have to offer and provide in electronic form all of the proceedings, technical and capacity building support documents and workshop manuals created by the international collaboration for widespread use. As a part of the homepage, there will be an ability to make inquiries, request assistance or send comments to the Executive Planning Committee and staff on the materials and issues related to environmental compliance and enforcement.

## ANNEX 1

This annex provides a brief synopsis of the "Principles of Environmental Enforcement" text reprinted in its entirety in the Proceedings of the second International Conference on Environmental Enforcement held in Budapest, Hungary, September 1992. It offers definitions of compliance and enforcement, principles, a general framework, and range of options for addressing each element of the framework for establishing effective compliance and enforcement strategies and programs in any international setting. It considers the full range of motivations and barriers affecting compliance behavior, and offers reasons for concern about effective compliance and enforcement efforts tailored to the specific circumstances and problems presented.

### 1 DEFINING COMPLIANCE AND ENFORCEMENT

One of the most difficult challenges for international exchange and enhancement of compliance and enforcement is finding the proper translation for the terms "compliance" and "enforcement" in different languages. The following definitions are used:

#### 1.1 Compliance

Compliance is a state in which environmental requirements are met and maintained<sup>1</sup>. Environmental management decisions to address environmental problems include many different choices, ranging from voluntary programs to traditional regulatory approaches, from economic approaches to liability schemes where individuals or groups are accountable for consequences of their actions, or involving combinations of these approaches (see Figure A1-1). Compliance is a concern only where requirements are a part of a management scheme to achieve environmental goals, whether it involves traditional regulatory approaches or economic-based requirements, such as the payment of fees.

#### 1.2 Enforcement

Enforcement refers to the use of legal tools to assist in and compel compliance with environmental requirements, and in some contexts to establish liability or responsibility for harm to the public or environment from polluting activities<sup>2</sup>.

For simplicity, "environmental enforcement" has sometimes been used, (for example, in the title for the international conferences and for the "Principles of Environmental Enforcement" text and training course), as a shorthand for the term "compliance and enforcement programs". In this use of the term it encompasses the full range of "carrot and stick" approaches to gaining compliance, going beyond the above definition to include inspections and other forms of compliance monitoring (e.g., to find information needed to determine compliance status and to identify violations) in addition to legal actions to impose some consequences for violating the law and would also include compliance promotion activities such as technical assistance and subsidies. Some may prefer to speak in terms of "compliance and enforcement programs" to ensure that this broader meaning is clear.



Figure A1-1.

### 1.3 Compliance and enforcement program

A compliance and enforcement program is an organization, management systems, and human and financial resources dedicated both to encouraging and compelling compliance. The terms “compliance program” or “enforcement program” also may be used, although the most common uses of these terms describe efforts to encourage and compel compliance, respectively<sup>3,4</sup>. These programs are exclusive of efforts to define environmental requirements through laws, regulations, and permits, but include relationships to ensure that the design and language for requirements are enforceable.

## 2 IMPORTANCE OF COMPLIANCE AND ENFORCEMENT CONCERNS

Once environmental requirements are established, we depend upon compliance with those requirements to achieve their intended benefits. To achieve actual changes in behavior, governments must devote resources to encourage compliance, overcome barriers, and ensure that consequences for violations of those requirements exist. Without this commitment to enforce the law, governmental agencies lose credibility and leverage to achieve more widespread compliance, signaling the public that compliance is not a priority. Further, long-term economic health often depends on environmental protection that may not seem to be economically advantageous in the short run, causing inefficient short-run decision-making. Finally, enforcement provides an element of fairness for those who comply with requirements where it reduces or eliminates the economic advantages that might be lost to those who choose to violate the law, particularly where sanctions are at least as high as the economic noncompliance. (See Figure A1-2).

## 3 MOTIVATING COMPLIANCE BEHAVIOR

Many factors affect whether compliance behavior results from the adoption of environmental requirements for industrial sources, such as social, moral, and personal influences, the level of technical sophistication, familiarity with the requirements, and economic factors. No one can predict human behavior, and a successful compliance strategy must address all of these factors to overcome the barriers to compliance. Figure A1-3 lists some of these factors.

Enforcement by government programs seeks to correct violations and create an atmosphere in which the regulated community is stimulated to comply both because the government has demonstrated a willingness to act when noncompliance is detected and because of the consequences such actions bring to bear. Deterrence is a principle that is fundamental to all enforcement programs. “Deterrence” is the creation of an atmosphere in which many choose to comply rather than violate the law. Four interrelated elements are needed to create deterrence:

- A credible likelihood that a violation will be detected.
- A swift and certain response by government or others.
- Appropriate consequences in the form of sanction or penalty.
- The perception that the above conditions exist.

### Why Are Environmental Enforcement Program Important?

- **To Protect Environmental Quality and Public Health.** Compliance is essential to achieving the goals of protecting public health and environmental quality envisioned by environmental laws. Public health and the environment will be protected only if environmental requirements get results. Enforcement programs are essential to get these results.
- **To Build and Strengthen the Credibility of Environmental Requirements.** To get results, environmental requirements and the government agencies that implement them must be taken seriously. Enforcement is essential to build credibility for environmental requirements and institutions. Once credibility is established, continued enforcement is essential to maintain credibility. Credibility means that society perceives its environmental requirements and the institutions that implement them as strong and effective. Credibility encourages compliance by facilities that would be unlikely to comply if environmental requirements and institutions are perceived as weak. The more credible the law, the greater the likelihood of compliance, and the likelihood that other government efforts to protect the environment will be taken seriously.
- **To Ensure Fairness.** Without enforcement, facilities that violate environmental requirements will benefit compared to facilities that voluntarily choose to comply. A consistent and effective enforcement program helps ensure that companies affected by environmental requirements are treated fairly. Facilities will be more likely to comply if they perceive that they will not be economically disadvantaged by doing so.
- **To Reduce costs and Liability.** Though compliance is often costly in the short-term, it can have significant long-term economic benefits to both society and the complying facility. The healthier environment created by compliance reduces public health and medical costs, as well as the long-term cost to society of cleaning up the environment. Compliance benefits industry by reducing its liability and long-term cleanup costs. Industry may also realize immediate economic benefits if compliance involves recycling valuable materials or increasing the efficiency of its processes. A strong enforcement program may also encourage facilities to comply by preventing pollution and minimizing waste, rather than installing expensive pollution control and monitoring equipment.

Figure A1-2.

Each element of a compliance and enforcement program relates to these aspects of deterrence. Inspection programs are established in large part to ensure a credible likelihood of detection. There are other possible purposes for inspections such as educating the regulated community, or establishing compliance statistics. The enforcement response part of an enforcement program is designed to ensure swift and sure response and appropriate sanction. There is also an important communications component to any enforcement effort to ensure that there is a general public awareness about the consequences of violating the law and that there is a strong possibility of being detected. These factors are interrelated. The less likely a violation is to be detected, the greater the consequences must be to establish effective deterrence when violations are detected.

Other theories of human behavior appropriate to enforcement are provided by economic and behavior theory, but a basic principle of enforcement is that no one motivating factor can predict human behavior. A compliance strategy must therefore anticipate the full range of motivations that may be operative for a given situation. Another basic principle is that a well-designed program, using these elements of deterrence, can leverage scarce program resources to affect a broad regulated community with well-targeted activities.

**4 THE GENERAL FRAMEWORK FOR COMPLIANCE AND ENFORCEMENT**

The “Principles of Environmental Enforcement” text offers a general framework for compliance and enforcement with seven elements:

- Creating requirements that are enforceable.
- Knowing who is subject to the requirements and setting program priorities.

<b>FACTORS MOTIVATING COMPLIANCE</b>	<b>BARRIERS TO COMPLIANCE AND FACTORS ENCOURAGING NONCOMPLIANCE</b>
<b>ECONOMIC</b>	
<ul style="list-style-type: none"> <li>• Desire to avoid a penalty.</li> <li>• Desire to avoid future liability.</li> <li>• Desire to save money by using more cost-efficient and environmentally sound practices.</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of funds.</li> <li>• Greed/desire to achieve competitive advantage.</li> <li>• Competing demands for resources.</li> </ul>
<b>SOCIAL/MORAL</b>	
<ul style="list-style-type: none"> <li>• Moral and social values for environmental quality.</li> <li>• Societal respect for the law.</li> <li>• Clear Governmental will to enforce environmental laws.</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of social respect for the law.</li> <li>• Lack of public support for environmental concerns.</li> <li>• Lack of government willingness to enforce.</li> </ul>
<b>PERSONAL</b>	
<ul style="list-style-type: none"> <li>• Positive personal relationships between program personnel and facility managers.</li> <li>• Desire on the part of the facility manager to avoid legal process.</li> <li>• Desire to avoid jail, the stigma of enforcement, and adverse publicity.</li> </ul>	<ul style="list-style-type: none"> <li>• Fear of change.</li> <li>• Inertia.</li> <li>• Ignorance about requirement.</li> <li>• Ignorance about how to meet requirements.</li> </ul>
<b>MANAGEMENT</b>	
<ul style="list-style-type: none"> <li>• Jobs and training dedicated to compliance.</li> <li>• Bonuses or salary increases based on environmental compliance.</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of internal accountability for compliance.</li> <li>• Lack of management systems for compliance.</li> <li>• Lack of compliance training for personnel.</li> </ul>
<b>TECHNOLOGICAL</b>	
<ul style="list-style-type: none"> <li>• Availability of affordable technologies.</li> </ul>	<ul style="list-style-type: none"> <li>• Inability to meet requirement due to lack of appropriate technology.</li> <li>• Technologies that are unreliable or difficult to operate.</li> </ul>

**Figure A1-3. Factors Affecting Compliance**

- Promoting compliance in the regulated community.
- Monitoring compliance.
- Responding to violations.
- Clarifying roles and responsibilities.
- Evaluating the success of the program and holding program personnel accountable for its success.

These components form a framework within which any government at any level must consider issues pertinent to designing a compliance and enforcement program, no matter what its stage of development. The response to these issues may differ among countries, among regions or localities within countries, and among different programs over time. Important to the success of all programs, however, is the need to address all elements of the framework. Each element is part of an interconnected whole and thus can influence the success of the whole program. The framework also calls for a dynamic process, one which evaluates and adjusts to the successes and failures of proposed compliance strategies. The full text provides a range of alternative approaches to meet the needs represented by the elements of the framework.

#### 4.1 Creating environmental laws and requirements that are enforceable

Once a management approach is selected which includes requirements, enforcement concerns begin and are addressed at requirements' design stage, not only after the requirements are put into effect. Without clear definition of who is required to do what by when, how both the regulated community and enforcement officials will be able to credibly detect violations and establish compliance status, and what the consequences of noncompliance will be, the achievement of widespread compliance is unlikely.

There are several implications for program design. First the need for clear and enforceable requirements may suggest a preference for tailored permitting of industrial activities in order to adapt and interpret general regulations to the particular processes and circumstances at the facility. It also suggests a need to establish appropriate linkages between those organizations responsible for developing regulatory and permit requirements with those responsible for inspecting and enforcing requirements.

#### 4.2 Knowing the regulated community and setting priorities

A further principle of environmental enforcement that enforcement shares with other aspects of environmental protection is the need to establish priorities that will yield the greatest environmental and programmatic results. Various schemes for establishing priorities (i.e., for inspections, enforcement response, and compliance incentives or assistance) are offered based upon risk-reduction potential, the need to preserve the integrity of program reporting and related requirements, and the need to preserve the integrity of prior enforcement agreements or orders. Management and collection of information on the regulated community and its compliance status are critical to effective targeting.

No program can be everywhere at once to detect violations or to respond to each and every violation. Accordingly, priorities must be established based upon the environmental consequences of the violation, the need for consequences for the regulated community to encourage the desired behaviors given the level of sophistication of the regulated sources, and the barriers to and incentives for compliance. Information must be assembled and managed in a way that can help program managers decide how to focus resources: for example, who to

inspect and how often, how to balance resources between compliance promotion and enforcement in the most effective way given the nature of the compliance challenge and regulated sources, and which violations to respond to and how.

The process of profiling the regulated communities makes the regulated community aware of the requirements, aware that the enforcement program officials know who they are, and aware that they will be expected to comply. This contact with the regulated community is the first step in creating a perception of an effective enforcement program. Thus, the process of identifying the regulated community can be a form of compliance promotion.

Information that can be useful in designing a compliance strategy includes:

- Identifying information, e.g., the name of a facility.
- Geographic location, e.g., longitude and latitude, street address.
- Type of business or operation.
- Any existing license, permit, or product registration numbers.
- Types and quantities of regulated materials or emissions at the facility.
- Risk associated with the releases (if this has been calculated).
- Compliance status, schedules, violations, and status of responses.

The ability to analyze the information on a facility-by-facility basis is necessary in order to determine patterns of noncompliance.

The enforcement program needs to establish who in the organization is responsible for collecting, analyzing, and managing the information, for defining requirements for information, and for evaluating whether the information is accurate and useful. The program will need a system (computerized, if possible) to store, access, and analyze the information, as needed.

#### 4.3 Promoting compliance

*Compliance promotion* is any activity that encourages voluntary compliance with environmental requirements. Promotion helps overcome some of the barriers to compliance. Most compliance strategies involve both activities to promote and enforce requirements; policymakers need to determine the most effective mix of compliance promotion and enforcement response.

Experience has shown that promotion alone is often ineffective. Enforcement is important to create a climate in which members of the regulated community have clear incentives to make use of the opportunities and resources provided by promotion. However, experience in several countries has also shown that enforcement alone is not as effective as enforcement combined with promotion. This is particularly true, for example, when:

- The size of the regulated community far exceeds the program's resources for enforcement (e.g., when the regulated community consists of numerous small sources, such as individual gasoline stations).
- The regulated community is generally willing to comply voluntarily.
- There is cultural resistance to enforcement.

Thus, promotion is an important element of most enforcement programs. Compliance promotion includes:

- Providing education and technical assistance to the regulated community.
- Building public support.

- Publicizing success stories.
- Providing creative financing arrangements.
- Providing economic incentives.
- Building environmental management capability within the regulated community.

#### 4.4 Monitoring compliance

Monitoring compliance—collecting and analyzing information on the compliance status of the regulated community—is one of the most important elements of an enforcement program. Monitoring is essential to:

- Detect and correct violations both by government and the regulated community.
- Provide evidence to support enforcement actions.
- Evaluate program progress by establishing compliance status.

The four primary sources of compliance information are:

- Inspections conducted by program inspectors.
- Self-monitoring, self-recordkeeping, and self-reporting by the regulated community.
- Citizen complaints.
- Monitoring environmental conditions near a facility.

Additional information may come from reports from other national, regional, provincial, or local agencies that have related jurisdiction over the facility; requests for modifications to permits or licenses; and environmental audit reports provided by the facility.

Inspections are the backbone of most enforcement programs. Inspections are conducted by government inspectors, or by independent parties hired by and reporting back to the responsible agency. Inspectors plan inspections, gather data in and/or around a particular facility, record and report on their observations, and (sometimes) make independent judgments about whether the facility is in compliance. Inspections can be very resource-intensive; therefore, they require careful targeting and planning. By standardizing inspection procedures, enforcement officials can help ensure that all facilities are treated equally and that all the appropriate information is gathered. By specifying deadlines for preparing inspection reports, program managers can help ensure that reports are made available to enforcement personnel without delay if a possibility of noncompliance exists.

Policymakers need to consider many issues when designing an inspection program. For example:

- Selection of facilities for inspection.
- Announced versus unannounced inspections.
- Frequency of inspection.
- Inspector selection: government, contractors, third parties, etc.
- Legal authority: to gain access to the facility, to information and files, etc.

- Role of the inspector: whether the inspector will also be authorized to take an enforcement action in the field, provide technical assistance, and/or make judgments about compliance.
- Status that are communicated to the facility at the time of inspection.
- Comprehensiveness of the inspection: whether there will be sampling, how detailed the sampling will be, whether the sampling will be focused on one or all environmental programs and media, etc.
- Inspection of related activities.
- Ensuring the objectivity of the inspector.
- Documenting the violation.
- Inspector training.
- Data quality.
- Consistency of sampling and analytical procedures.
- In addition, the kind of equipment required to support an inspection varies depending on the type and purpose of inspection. Equipment needed may include:
  - Safety equipment, to protect the inspector from any hazards that may be encountered during the inspection.
  - Documentation equipment, including cameras, film, pocket calculators, tape measures, and logbook, to record information and evidence.
  - Sampling equipment, to take samples of soil, water, and/or air.
  - Analytical equipment, to analyze the environmental samples taken at the facility.

Source self-monitoring, recordkeeping, and reporting are three ways in which sources can be required to track their own compliance and record or report the results for government review. They are now recognized as essential to supplement and support inspections reflected in Concluding remarks from the Proceedings of the Second International Conference on Environmental Enforcement, Volume II, page 237, which concludes source self monitoring should be required more as a basis for compliance monitoring with due consideration of the costs to small and medium sized facilities. These activities can provide much more extensive information on compliance than can be obtained with periodic inspections, shifting some of the economic burden of monitoring to the regulated community. In addition, performing these activities educates the regulated community about their own compliance, increases the level of management attention devoted to compliance, and may inspire management to improve production efficiency and prevent pollution.

Reliable and affordable monitoring equipment must be available to the regulated community. Its successful use also relies upon the integrity and capability of the source to provide accurate data. Data will be misleading if the source either deliberately falsifies the information or lacks the technical capability to provide accurate data. Therefore, programs need to establish ways to help ensure accuracy, e.g., by requiring self-monitoring only in facilities with the appropriate technical capability, by developing quality control standards for monitoring and recordkeeping, and by providing penalties for false reporting. Program officials will need to provide guidance to the regulated community on what the standard procedures, methods, and instruments are for obtaining the data; how frequently data should be collected; and how the data should be recorded and reported.

Citizen complaints are an important way of detecting violations that are unlikely to be detected through self-reporting or inspections. These include violations that take place in isolated areas and illegal acts within an organization. Enforcement programs can help educate and train citizens to detect and report problems.

Information on compliance status can be gained by area monitoring, i.e., monitoring environmental conditions near a facility. Area monitoring includes ambient monitoring, remote sensing, and overflights. The main problem with ambient monitoring is that demonstrating that the pollutants measured came from a particular facility can be difficult. Ambient monitoring is most useful when a source is the only significant polluter in the area, or when its emissions have a characteristic composition that serves to “fingerprint” them.

#### 4.5 Enforcement responses to violations

Experience with environmental programs in many countries has shown that *enforcement is essential to compliance*. This is because, in any society, many people will not comply with the law unless there are consequences of noncompliance. Enforcement responses may also seek to correct and redress actual or potential harm caused by environmental pollution, whether or not the pollution violates a specific requirement.

Responses to violations can be quite varied depending upon the nature of violations, circumstances surrounding them, and the range of response options available. Principles of environmental enforcement include the need to ensure fairness and consistent and effective application of enforcement tools—through policies and training—all of which serve to establish and reinforce the credibility of environmental laws and the governmental institutions that implement them. Economic equity, in particular, can be achieved through enforcement where economic sanctions imposed on violators through enforcement actions are at least as high as the economic gain from noncompliance. Fundamental principles also call for escalation from less resource-intensive to more resource-intensive or severe response, and the imposition of consequences commensurate with the harm and behavior of the violator. It includes negotiations to ensure that correction is practical and realistic, that facts are correct, and that creative opportunities for a successful response are fully explored from the perspective of both the government and violators.

Government enforcement capabilities will generally be most effective if they are in place and used when requirements become effective. Delaying enforcement can undermine the credibility of the program and make it difficult to create an atmosphere of deterrence. Enforcement is often necessary throughout the life of a regulatory program to achieve initial compliance and to ensure that those who have achieved compliance maintain it.

Enforcement can be controversial because so much is at stake environmentally and economically. To be successful, enforcement requires support at all government levels and within all sections of the program.

A range of authorities and response mechanisms can be used for enforcement. Most countries with enforcement programs have some but not all of these authorities and mechanisms because they are developed over time to respond to new and different situations for which existing authorities prove to be inadequate. Each program must work within the possibilities offered by the legal system or systems under which the program operates.

Figure A 1-4 summarizes a range of authorities that may be useful for an enforcement program. This list is an amalgam of the authorities of several different enforcement programs in the United States and other nations.

## TYPES OF ENFORCEMENT AUTHORITIES<sup>1</sup>

### Remedial Actions

Authority to impose a schedule for compliance  
 Authority to permanently shut down part of an operation  
 Authority to temporarily shut down certain parts of operations or practices  
 Authority to permanently shut down an entire facility  
 Authority to temporarily shut down an entire facility  
 Authority to deny a permit  
 Authority to revoke a permit  
 Authority to require a facility to clean up part of the environment  
 Emergency powers to enter and correct immediate dangers to the local population or environment  
 Authority to seek compensation for damage caused by the violation

### Other

Authority to require specific testing and reporting  
 Authority to impose specific labeling requirements  
 Authority to require monitoring and reporting  
 Authority to request information on industrial processes  
 Authority to require specialized training (e.g., in emergency response to spills) for facility employees  
 Authority to require a facility to undergo an environmental audit

### Sanctions

Authority to impose a monetary penalty with specified amounts per day per violation  
 Authority to seek imprisonment (a jail term)  
 Authority to seek punitive damages or fines within specified limits  
 Authority to seize property  
 Authority to seek reimbursement for government cleanup expenses  
 Authority to bar a facility or company from government loans, guarantees, or contracts  
 Authority to require service or community work to benefit the environment  
 Limitations on financial assistance

<sup>1</sup> This list of enforcement authorities is a hybrid and does not appear in any one law or country. It is an example of the types of authorities that may be made available to enforcement officials through environmental laws. These authorities may be either direct authorities or the authority to seek a court order to impose the sanction.

**FIGURE A1-4. Types of Enforcement Authorities**

Enforcement mechanisms may be designed to perform one or more functions:

- Return violators to compliance.  
Impose a sanction.
- Remove the economic benefit of noncompliance.
- Require that specific actions be taken to test, monitor, or provide information.
- Correct environmental damages.
- Correct internal company management problems.

Response mechanisms generally are formal or informal, civil or criminal, administrative or judicial. Every nation has its own unique legal system, laws, and culture. However, common to all democratic institutions are processes to balance the rights of individuals with the government's need to act, often quickly, on behalf of the public. Several processes may be used to ensure fairness of enforcement responses: notice, appeals, and dispute resolution. In general, the more an enforcement action may deny an individual his or her rights, the more protections the enforcement process provides and the longer the process may take before final action is initiated.

Negotiation, an integral part of enforcement, enables both the facility and the concerned party or parties to consider the correctness of the facts, the circumstances of the case, and the variety of alternative responses. Negotiation provides an opportunity to obtain additional information and correct misinterpretations before pursuing legal action, as well as an opportunity to reach a solution that satisfies all parties. Enforcement actions create a stimulus and context for discussion and resolution, providing the framework in which solutions can be negotiated. Negotiation can enhance compliance by sending a signal to the regulated community that, while pursuing enforcement response, the government is willing to be responsive to the concerns and difficulties faced by the regulated community in achieving compliance and to work cooperatively to develop a satisfactory solution.

Two types of enforcement responses are usually not negotiated. One is a request by enforcement officials for information from the violator. This is usually not controversial and therefore does not require negotiation. The other is the exercise by the enforcement program of emergency powers to protect public health and the environment. In this case, there is no time to negotiate.

Enforcement response policies describe how various enforcement authorities will be used to respond to the many different types of violations and violation situations. Such policies are important to ensure fairness. Fairness is particularly important when assessing monetary penalties. The perception and fact of fairness is critical to the credibility of an enforcement program, and also helps otherwise reluctant staff make what are often difficult decisions to demonstrate government will and resolve to enforce environmental laws.

#### 4.6 Clarifying roles and responsibilities

Environmental enforcement requires clear assignment of roles and responsibilities and functioning mechanisms for coordination and cooperation among different disciplines and levels of government. It also requires accountability for results.

Enforcement frequently involves many different groups, including various government agencies, citizen groups, nongovernment organizations, and industry associations. A key element in any strategy is defining the roles and responsibilities of the various groups involved:

- How should responsibilities for enforcement be divided among the various levels of government (national, regional, provincial, and local)? To what extent should a program be centralized (i.e., run at a national government level) versus decentralized (i.e., run at local government levels)?
- Which government agencies will be involved (e.g., environmental agencies, health agencies)?
- Should there be separate enforcement programs for different environmental media (e.g., air, water, land), or one or more integrated programs covering several media?
- To what extent should a program make use of citizens and other nongovernment resources?

- To what extent should different types of staff be integrated within a single organization (e.g., scientists, engineers, policy and program analysts, attorneys)?

Regardless of the organization selected for the program, key principles that emerge are the need for clarity of roles, strong and supportive working relationships, and good communication among all of the key players given the different levels of expertise and roles that must be played to make any program work effectively. A balancing must occur between giving responsibility to those closest to the environmental problems and ensuring an element of fairness and national consistency in enforcement.

#### 4.7 Evaluating program success and establishing accountability

Finally, a fundamental principle of environmental compliance and enforcement programs is its dynamic nature. There is a need for constant reassessment and review based upon changing circumstances tailored to the nature of the regulated community and other social and economic influences.

Information can be a powerful and vital tool for successfully implementing an enforcement program. Information about program activities and results can ensure that the individuals responsible for pursuing enforcement are, in fact, doing so consistently and fairly using established procedures and strategies. Information can help managers adjust enforcement programs to changing conditions and lessons learned as the program is implemented. Periodic program evaluations to gather information about program activities and results serve many purposes:

- Evaluating program strategy.
- Internal accountability.
- Creating deterrence.
- Public accountability.

Measuring the success of an enforcement program is not easy. Program measures include (see also Figure 5):

- Environmental results.
- Compliance rates.
- Progress in returning significant violators to compliance.
- Measures of compliance monitoring.
- Number of enforcement responses.
- Timeliness of enforcement responses.
- Monetary penalties assessed.
- Measures of technical assistance.

Each of these measures has advantages and disadvantages. Several measures must be used to gain a meaningful assessment of program effectiveness. Key questions to ask when considering which measures to use include:

- How accurate is the measure?
- What resources are needed to obtain the necessary data?
- How frequently should data be collected?

- Who will collect the data?
- How should the data be reported, and to whom?
- Who will analyze the data? What will they analyze for?
- Where will the data be stored?
- Will the data be computerized?

Collecting and processing reliable information on compliance and enforcement can be a constant challenge. For example, all personnel involved in gathering or analyzing data need to clearly understand exactly what data should be reported. Problems can arise if different individuals within a program have different interpretations of what data are needed.

Another challenge is that different levels of an enforcement program may have different data needs. Local personnel, for example, may prefer to focus their resources on data they consider valuable for evaluating program performance. Program personnel at a national level may have different priorities. National data systems will benefit if they are designed from the bottom up. Because local personnel collect the data, they will have a greater incentive to gather accurate data if they believe the data will be useful to them.

Mechanisms will be needed to gather and store the data, and to transfer it at appropriate intervals to other program levels that will analyze the data. A schedule for issuing reports of the analysis will also be needed. Policymakers may also wish to conduct special studies to analyze program strategy and success and to recommend improvements.

## **5 DESIGNING COMPLIANCE AND ENFORCEMENT PROGRAMS**

The principles of environmental enforcement are the foundation upon which compliance and enforcement programs are built. To make them function properly requires the priority and commitment of government managers at the highest levels. Proper functioning also requires the consideration of many factors that enter into their design and implementation of these programs.

The Principles document identifies design issues in establishing a program, including:

- Personnel: roles, staffing levels, training, and use of third parties.
- Information management systems: planning issues.
- Program funding: review of various sources.
- Evolution of enforcement programs: where do they start?

One of the most important principles of environmental enforcement is just to start doing it — no matter how inadequate the resources or legal tools. Compliance and enforcement programs will evolve and improve over time, environmental improvements cannot be made without taking these first steps.

The UNEP Institution Building Workshops for Industrial Compliance pick up where the Principles of Environmental Enforcement leave off, exploring in more depth:

- Organization.
- Human, financial, and information resources and management.
- Inspection and enforcement response capability.
- Permitting processes for industrial facilities to enhance compliance.

## ENDNOTES

1. This means that facilities, processes, owners or operators of polluting facilities or regulated activities exhibit the appropriate or desired behaviors, for example, when appropriate processes, raw materials, and/or work practices are used; when hazardous waste is disposed of at approved sites or in the appropriate manner; when appropriate tests are performed and/or reported on new products or chemicals before they are marketed; when environmental releases are within acceptable limits, etc.
2. These activities may include the application of legal authority to compel compliance, to compel remedies to environmental noncompliance or hazards, to impose sanctions for violating the law/requirements, or to compel the development of information essential for determining compliance or the appropriate means of achieving compliance. It may also include the use of legal tools to protect public health and environment in the absence of requirements, where there is legal authority to address, for example, imminent hazards or accidents. It is meant to include the full range of responses, from informal administrative actions to formal administrative processes of the filing of court suits.
3. The most common use of the term "enforcement program" includes at least inspection activities and legal enforcement response. In these instances, compliance promotion and assistance activities may be carried out by the same or different organizations.
4. The most common use of the term "compliance program" includes those activities designed to encourage or assist compliance. However, the term also is used more broadly to describe the full range of activities to encourage and compel compliance.

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## **ANNEX 2**

### **PRINCIPLES OF ENVIRONMENTAL COMPLIANCE AND ENFORCEMENT TRAINING COURSE**

#### **1 SUMMARY OF COURSE**

The “Principles of Environmental Enforcement” text and associated training exercises, and role-playing and case-study materials were developed in 1991 by the U.S. EPA in cooperation with Poland’s Environment Ministry and the Dutch Ministry to assist policymakers in any international or domestic setting to develop the institutional capacity for designing and implementing effective programs for compliance with environmental requirements.

The training is designed as a three-day course. The first day consists of a series of exercises that introduce participants to basic concepts and a range of options. Participants explore:

- environmental goals, desired behavior change to achieve those goals, and the range of environmental management approaches to achieve them;
- what factors motivate and/or create barriers to achieving behavior change, definitions of compliance, enforcement and deterrence, and why compliance and enforcement concerns are important;
- drafting of enforceable requirements, where appropriate, and what makes requirements clear and effective;
- compliance monitoring information needs and approaches from the perspectives of the regulated community and government officials;
- the range of enforcement responses, their applicability to a range of situations and the need for predictable policies;

The second day provides an opportunity for participants to design their own environmental management approach, draft enforceable requirements, and design elements of compliance and enforcement strategy for a fictitious community and environmental problem. Participants explore:

- the application of different environmental management approaches to a particular problem;
- the drafting of enforceable requirements where applicable;
- designing compliance promotion strategies;
- balancing compliance promotion and enforcement resources;
- designing compliance monitoring strategies and establishing the frequency and type of inspection;
- anticipating potential violations and designing enforcement response policies;
- evaluating results and revising strategies.

The third day involves an enforcement negotiation settlement role-play, where participants act out different roles and consider an enforcement problem from different perspectives.

## 2 DESIGN CHARACTERISTICS OF THE COURSE

- 2.1 The enforcement training is philosophically neutral and generic (i.e., not geared to any specific requirements)

Because environmental programs in Poland were undergoing radical changes, the course had to transcend debates about the mix of “command and control,” “market based,” or “voluntary” approaches to pollution control, as well as legal authorities and systems. The course participants themselves select an environmental management approach to a particular environmental problem; only from that vantage point do they then gain experience in drafting enforceable requirements, where they are appropriate, for designing compliance strategies covering promotion, compliance monitoring, enforcement response policies, and evaluation of results.

- 2.2 The course can be delivered by in-country trainers in order to reach a highly diverse and decentralized audience

Any training had to be replicable and readily adaptable for Poland to train its own people at the local government level. Because of the severity of the area’s environmental problems and because it possessed a very capable staff, the Katowice Ecology Department was recommended by the Ministry as the primary location for a first offering of the training. The course has now been “handed off” to trained in-country facilitators in Poland, Hungary, and Turkey.

- 2.3 The training offers a rich menu of options and ideas so that key policy makers can design the program best suited to their culture and legal systems

The course needed to be based on something broader than U.S. experience, particularly because Poland and other Central and Eastern European nations were interested in closer ties with Western Europe as well as the United States. We decided to seek active participation from the Netherlands as well as broader international contributions to make the course useful internationally. The contacts developed through the first International Enforcement Workshop became the basis for the cooperation and consultation involved in developing an international course and included, in addition to the Netherlands, Canada, Sweden, Norway, the United Kingdom, Hungary, and others. Representatives from Poland’s national inspectorate also participated, supplemented by a team of future facilitators who were consulted during course development.

The framework for compliance and enforcement programs and strategies involves seven basic elements:

- ensuring environmental requirements are enforceable;
- setting priorities;
- promoting compliance;
- monitoring compliance;
- responding to violations;
- clarifying roles and responsibilities for implementation; and
- evaluating and establishing accountability for results, taking into consideration the range of human behavior that transcends differences in legal systems and culture.

#### 2.4 The target audience of key policy makers is broadly defined

Government officials, academics, nongovernment organizations, industry representatives, and even journalists are all involved in some fashion in reshaping existing programs and policies. The course is designed to include all these groups as potential participants.

#### 2.5 No one model is offered as the only approach to gaining compliance

Although the text was drafted based upon a modified U.S. framework offered in Utrecht, concepts and examples were broadened to accommodate a range of situations and experiences. The framework is used only as a point of departure from which all nations can improve and build their own unique, and hopefully successful, enforcement approaches.

#### 2.6 The course is facilitated. The participants learn from their experiences within the course and from each other, with a facilitator helping guide these experiences and exercises.

A facilitated course has the advantage of creating interaction among participants to enable them to start to build their own ideas, dialogue, and consensus on the kind of enforcement programs and approaches that would work best in their regions.

#### 2.7 The course introduces the roles that negotiation may play in reconciling tough economic, social, and environmental issues while preserving a credible and fair enforcement presence in fashioning a response to violations

One of the three days of the course is devoted to a role-playing exercise during which different interests are brought to bear in the resolution of an enforcement action against a violator. The exercise presents an opportunity for participants to see the interplay between the need for firm and fair enforcement and adherence to policy and competing demands on officials to address economic and social concerns. Experience with these very real pressures within the safety of role-playing can enable officials to deal with some of their real fears in taking on environmental enforcement concerns when problems seem intractable.

### **3 THE INTERNATIONAL COURSE AND ITS DELIVERY**

The course has now been delivered in Poland, Hungary, Turkey, the Ukraine, Mexico, Russia, Bulgaria, the Czech Republic, Chile, Thailand, Malaysia, Taiwan, Nigeria, and is planned for delivery in El Salvador, Indonesia, potentially Egypt and South Africa. Participant response has been very favorable and enthusiastic. In all of these settings, the course has been designed to be handed off to in-country facilitators. The course materials consist of the text, course exercises, and the facilitator's manual.

The course text is available to any nation wishing to use it. The U.S. EPA's Office of Enforcement and Compliance Assurance is prepared to consider requests by other governments to train key officials and their own facilitators to offer it within their countries. For countries in Central and Eastern Europe in particular, efforts are being made to ensure ongoing delivery through the Environmental Management Training Centers being established by U.S.

EPA and local governmental or nongovernmental organizations. The enforcement training is one of several modules offered in various aspects of environmental management. (The course is part of the training offered through the U.S. EPA's National Enforcement Training Institute.)

#### **4 FUTURE PLANS FOR THE TEXT AND COURSE**

Additional case studies have been developed for delivery at the International Conferences and elsewhere so that facilitators can select from among seven subject areas of environmental problems most likely faced by a country.

The ideas generated at the International Conferences on Environmental Enforcement and by course facilitators and course participants will help shape the future of the course, in terms of its content, usefulness, and distribution worldwide. We welcome continued input and ideas for the future of what is now called the Principles of Environmental Compliance and Enforcement course and suggestions for additional steps we can take to spread the enforcement message.