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## **THE PRINCIPLES OF ENVIRONMENTAL ENFORCEMENT AND BEYOND: BUILDING INSTITUTIONAL CAPACITY**

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### **SUMMARY**

This paper offers definitions of compliance and enforcement, principles, and a general 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 compliance and enforcement efforts tailored to the specific circumstances and problems presented. Based upon the "Principles of Environmental Enforcement" text by the same author (which is printed in its entirety in the Proceedings of the Second International Conference on Environmental Enforcement, held in Budapest, Hungary, September 22-25, 1992), the paper provides a brief synopsis of that text for easy reference.

The paper also reviews historic developments leading up to a geometric growth in international exchange on environmental enforcement, adoption of the "Principles of Environmental Enforcement" as a framework for international exchange, and finally of the international mandate recognizing the importance of compliance and enforcement to environmental management expressed in Agenda 21 of the United Nations Conference on Environment and Development. The paper reviews the genesis of international workshops, in particular the five new Principles of Environmental Enforcement Training workshops and four complementary United Nations Environment Program (UNEP) workshops on institution building for industrial compliance and enforcement programs which are being launched at the Third International Conference on Environmental Enforcement.

### **1 INTRODUCTION**

Participants at the Third International Conference in Oaxaca, México, will come from about 80 countries and international organizations to explore the application of fundamental principles of environmental compliance and enforcement to common environmental problems, common design issues in building enforcement capacity, and special topics in small workshop settings. Developments over the past nine years have enabled us to speak from a common framework and definitions, and to move beyond discussions over *why* environmental enforcement might be essential to the success of our environmental objectives, to *how* we can best organize and implement effective programs and strategies.

### **2 DEFINING COMPLIANCE AND ENFORCEMENT**

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

#### **2.1 Compliance**

Compliance is a state in which environmental requirements are met and maintained (1). 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 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.

## 2.2 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 (2).

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.

## 2.3 Compliance and enforcement program

A compliance and enforcement program is an organization with a management systems and human and financial resources dedicated to both 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 (3). These programs do not include responsibilities to define environmental requirements through laws, regulations, and permits, but include relationships to ensure that the design and language for these requirements are enforceable.

# 3 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 gain from noncompliance. (See Figure 2).

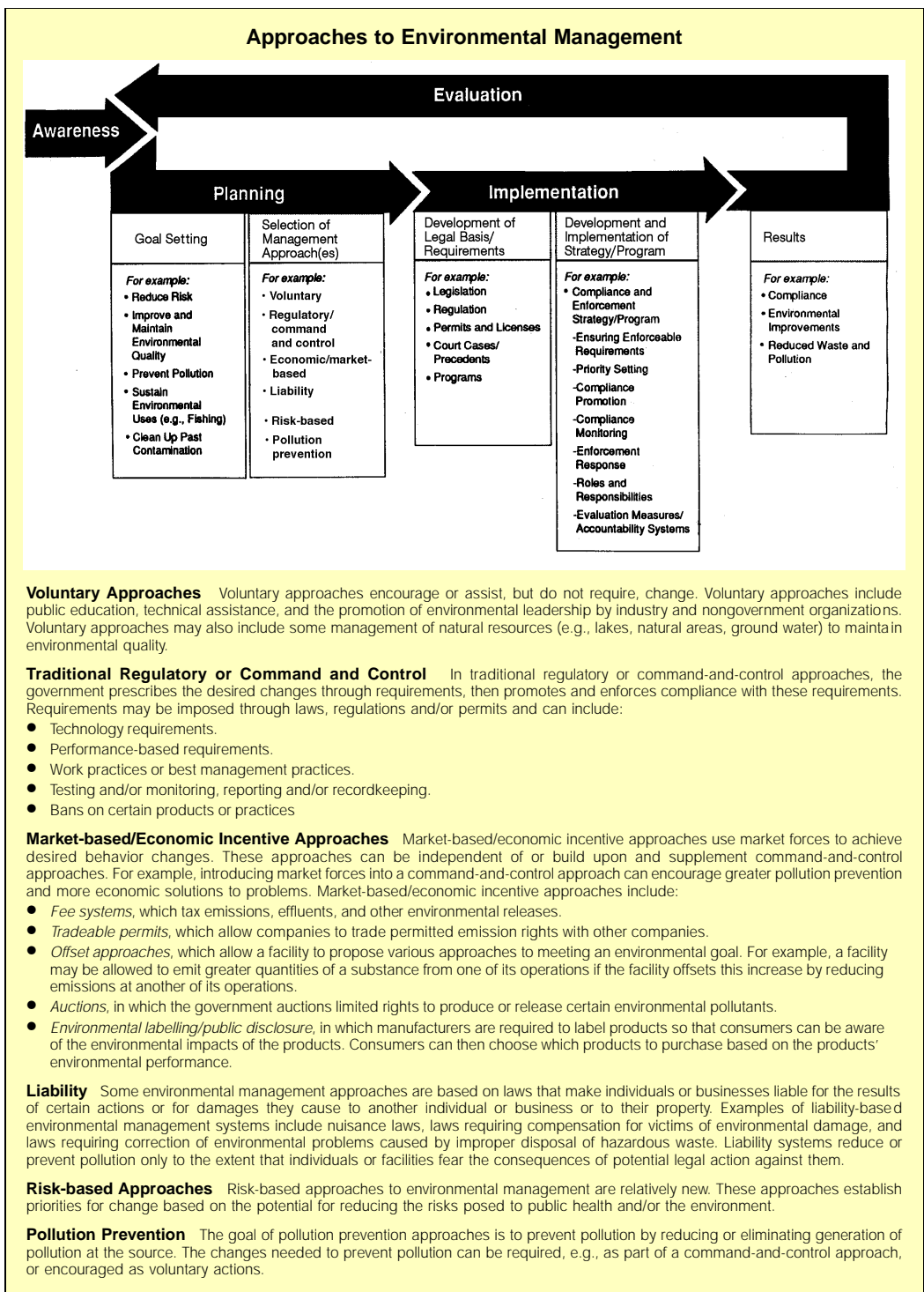


Figure 1.

### Why Are Environmental Enforcement Programs 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 with 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 2.

## 4 MOTIVATING COMPLIANCE BEHAVIOR

Many factors affect whether compliance behavior results from the adoption of environmental requirements (such as social, moral, and personal influences), the level of technical sophistication, familiarity with the requirements, or 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.

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 that 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; and,
- The perception that the above conditions exist.

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 that ensures 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. Figure 3 lists some of these considerations. 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.

## **5 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.  
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 full text provides a range of alternative approaches to meet the needs represented by the elements of the framework. Attachment1 provides an overview.

Within this framework, enforcement concerns begin and are addressed at the requirements design stage, not only after the requirements are put into effect. This is because, if requirements are not "enforceable," (i.e., clear about who is required to do what by when, how they and the government can establish whether they are in compliance, and what are the consequences of non-compliance), there is little basis for effective enforcement and achievement of desired behavior change. The framework also calls for a dynamic process, one which evaluates and adjusts to the successes and failures of proposed compliance strategies.

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

<b>Factors Affecting Compliance</b>	
<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>• Desire to achieve competitive advantage.</li> <li>• Competing demands for resources.</li> <li>• Greed.</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 government 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 requirements.</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 requirements due to lack of appropriate technology.</li> <li>• Technologies that are unreliable or difficult to operate.</li> </ul>

**Figure 3.**

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.

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.

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.

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.

## **6 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 consideration of many factors that enter into the 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.

## **7 HISTORIC PROGRESSION OF THE INTERNATIONAL FRAMEWORKS, EXCHANGES AND WORKSHOPS ON ENVIRONMENTAL ENFORCEMENT**

Starting from the first International Enforcement Workshop in Utrecht, the Netherlands, 1990, and its predecessors in 1985, to the Third International Conference on Environmental Enforcement in Oaxaca, México, 1994, international exchanges on environmental enforcement have progressed geometrically, as reflected in the extraordinary growth in the number of participants, countries, and shared experiences. Far more impressive, however, is the extent to which nations have shifted from debates about the merits and need for environmental enforcement to an international commitment

to build the capacity for compliance and enforcement as an essential element of environmental management. Equally impressive is the speed with which we have moved across the great divides of culture, language, and tradition—which in 1985 had yielded wholly different definitions and concepts of what constituted environmental enforcement—to a common set of definitions and a framework for exchange (see Figure 4).

### 7.1 First steps: The 1985 OECD project and the bilateral U.S. EPA/VROM Memorandum of Understanding

In 1985, two events took place that provided a foundation for the first International Enforcement Workshops and Conferences. First, the Organization for Economic Cooperation and Development's Group of Economic Experts commissioned three national case studies (using the United States, the Netherlands, and the United Kingdom) on improving the efficiency and effectiveness of compliance monitoring and enforcement of environmental policies. The ensuing discussions in Paris and discussions over the final report made it clear that few nations examined the extent to which they had achieved compliance with environmental policies and requirements. Furthermore, even the term "enforcement" had widely different meanings, some including within their definition *any* acts involving implementation of the legislative scheme, including issuing permits and/or offering subsidies. In few instances did these programs focus on efforts to change behavior once requirements were established, whether through legislation, regulations, or permits. Nevertheless, the three national case studies received wide circulation and led the way to further exchanges.

In that same year, the U.S. EPA and the Netherlands' Ministry of Housing, Spatial Planning, and the Environment (VROM) entered into a Memorandum of Understanding (MOU) to promote mutual exchange of information and ideas. Environmental enforcement was singled out for exchange. The Dutch government was particularly eager to address how to get real results from its environmental policies because officials realized that they were not getting the benefits they needed from their existing environmental legislation to secure their long-term environmental goals. This MOU led to a series of seminars within the United States for several delegations of Dutch officials from all levels of government and several different national agencies; the United States had been implementing environmental enforcement programs in earnest for at least a decade. The Dutch government used these exchanges to reach consensus on improved structures for environmental enforcement.

### 7.2 1990: The first International Enforcement Workshop

The first International Enforcement Workshop, held in Utrecht, the Netherlands, represented the first attempt by U.S. and Dutch governments to broaden their bilateral exchanges. Representatives from 13 countries and international organizations attended what was still an extension of these bilateral talks. Papers in the Workshop Proceedings captured developments in Sweden, Germany, and Poland, as well as the European Community, in addition to continued exchanges between the U.S. and the Netherlands.

At the Workshop, a strategic framework for compliance and enforcement, developed within the United States in 1984, was used to describe the U.S. enforcement program. This framework had been developed to provide a basis for new compliance and enforcement strategies to reinvigorate enforcement after a two-year decline and to better articulate a consistent philosophy and approach to inspire improved enforcement among the 50 states and local government entities.

The framework had a positive reception at the Workshop. The general reaction of those in attendance supported the proposition that key concepts such as *deterrence* as well as the general framework seem to have their roots less in particular cultures than in the nature of human behavior.

### Building International Environmental Enforcement Networks

*International Conferences Leave A Growing Legacy*

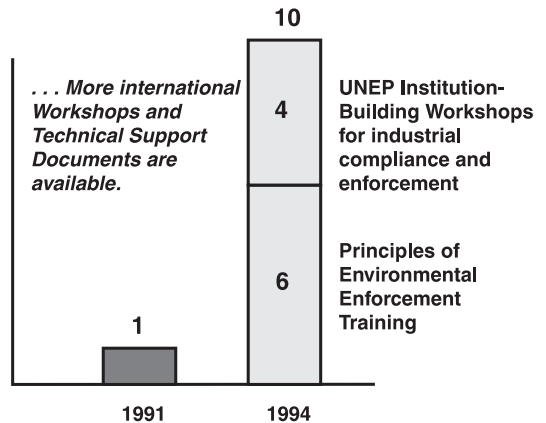
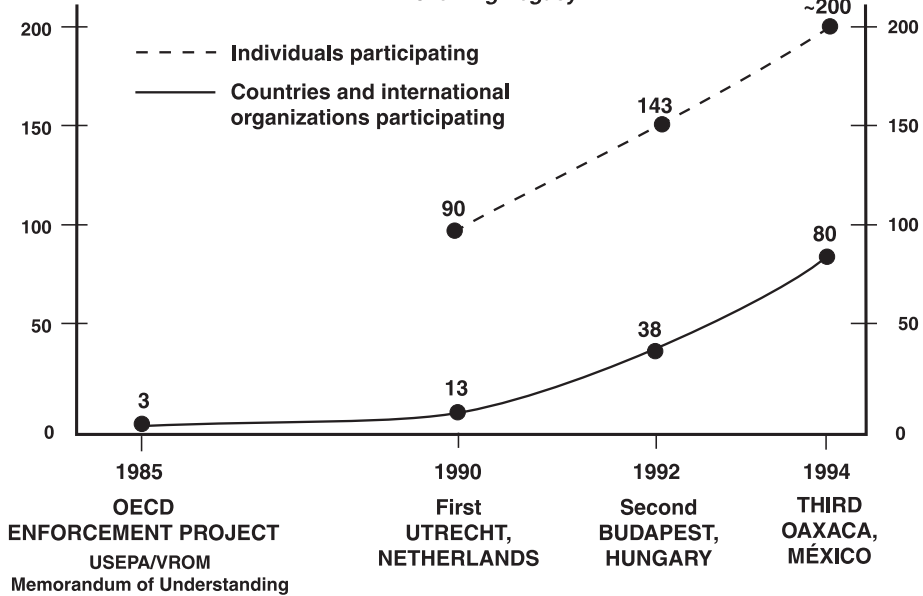


Figure 4. Building International Environmental Enforcement Networks

7.3 1991: Request for enforcement training by Poland: Origins of the Principles of Environmental Enforcement as an international training course

At the beginning of 1991, Poland's Ministry of Environmental Protection, Natural Resources, and Forestry requested U.S. EPA's help to improve Poland's environmental programs and, specifically, to offer enforcement training. U.S. EPA's team, which included this paper's author and Mr. Tom Maslany of U.S. EPA's Philadelphia Regional Office, decided to develop enforcement training with broad international applicability in order to accommodate the changing circumstances within Poland and, most importantly, to empower the Poles with the capacity to design their own programs.

The resulting enforcement training has several attributes, each of which is detailed in Attachment 2.

7.4 1992: The Year of Environment: A watershed for environmental enforcement

Two recommendations from participants at the first International Enforcement Workshop were implemented in 1992. The first was a recommendation that we take immediate steps to ensure that enforcement appear on the agenda at the United Nations Conference on Environment and Development (UNCED), planned for Brazil in 1992. The second was that we hold a second international enforcement conference in two years, with broader sponsorship and participation.

7.4.1 Agenda 21: An international mandate for building compliance and enforcement capacity as an essential element of environmental management

Although enforcement was not specifically a topic at the UNCED, a more significant result emerged in Agenda 21, Chapter 8, Section (e) 8.21, which took the goal one step further and established an international mandate to build compliance and enforcement capacity as an essential element of environmental management:

(e) Develop effective national programmes 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 programmes;

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

The mandate for environmental compliance and enforcement was introduced as a direct result of the consensus at the International Enforcement Workshop, which gave the participants the confidence to move toward this very important international statement.

#### 7.4.2 Second International Conference and Principles of Environmental Enforcement acceptance as a framework for exchange

The second International Conference on Environmental Enforcement, held in Budapest, Hungary, September 22-25, 1992, implemented a second recommendation to hold another conference within two years with broader sponsorship and participation. Representatives from over 40 countries and international organizations participated, and sponsorship was broadened to include not only the U.S. EPA and VROM but also the Commission on the European Communities as well as the gracious support of Hungary as host country. The Executive Planning Committee included the United Nations Environment Program, the Regional Environmental Center, Poland, Hungary, and then Czechoslovakia. The increased level of exchange is reflected by formal presentations and papers from 20 countries and international organizations.

Because of the positive reception at the first International Workshop and the success of the Principles of Environmental Enforcement Training Course within Central and Eastern Europe, the "Principles of Environmental Enforcement" definitions, framework, and principles were offered and accepted as a basis for international exchange. Indeed, the conference participants in Budapest were virtually unanimous in pushing for a third international enforcement conference that presupposed the principles of environmental enforcement and focused on opportunities to explore, in small group discussions, the applications of those principles, as well as institution-building assistance in setting up or improving programs. The outcome of the discussions in Budapest also stressed the importance of an educated citizenry that can understand and support environmental enforcement and the need for actions to protect the environment.

#### 7.4.3 UNEP's publication on Industrial Compliance

By 1992, UNEP recognized that most countries had environmental laws and regulations to provide at least minimum environmental standards for industry. While they believed that the environmental performance of companies should be encouraged to go above and beyond these standards, they also saw a strong need for government to make sure that all companies, local or multinational, are equally complying with these standards to ensure the effectiveness and equity of environmental protection laws. In 1992, UNEP produced the publication "From Regulations to Industry Compliance: Building Institutional Capabilities." The publication provides government officials and other concerned actors with some guidance on building institutional capabilities to implement their environmental laws with an integrated approach so that waste and pollutants are not simply transferred between air, water and land, but are actually reduced at the source. It offers some ideas and concepts that can be adapted to local social, economic and political situations to legally bind industrial facilities to establish environmental standards and to check that they are meeting them. It shows, through examples of some countries' experience, that incremental steps can be taken with even minimal personnel and resources when there is sufficient political will.

#### 7.5 1994: Beyond the Principles of Environmental Enforcement to institution building: The Third International Conference on Environmental Enforcement, and UNEP workshops

The Third International Conference on Environmental Enforcement, to be held in Oaxaca, México, April 25-28, 1994, promises to have participants from almost 80 countries and international organizations. The sponsorship has broadened to include the U.S. EPA, VROM, the United Nations Environment Program, IE/PAC, the World Wildlife Fund, and U.S. and México's SEDESOL. The Executive Planning Committee includes the sponsors plus Canada, Costa Rica, Chile, Venezuela, Jamaica, Nigeria, and Indonesia. The published Proceedings will benefit from formal exchange of expertise from almost 80 countries and international organizations.

Under the guidance and review of the Executive Planning Committee, preparations for the Third International Conference on Environmental Enforcement include a shortened delivery of the

Principles of Environmental Enforcement Workshops with the introduction of five new case study subject areas for wider applicability in other settings. In addition to issues related to poor air quality resulting from coal burning and iron and steel operations, which were the subjects developed for the Polish training, the new case studies address:

- petroleum refining and petrochemicals,
- mining,
- residential and industrial waste disposal,
- deforestation, and
- tourism.

The new case studies stress pollution prevention and land use options as well as traditional pollution control. In addition, technical support documents will now accompany the case studies on these topic areas to 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.

The United Nations Environment Program (UNEP) also is launching four closely related workshops at the Conference that have been designed to take its program of industrial compliance, initiated in 1992, and to pick up where the Principles of Environmental Enforcement training leaves off; that is, to address the following questions: How do you establish an effective organization for environmental enforcement to address the need to both promote and monitor compliance and to respond to violations? How do you develop the human, financial, and information resources needed? How do you design effective working relationships between inspection, compliance monitoring, and enforcement response functions? How do you design an industrial permit processes that leads to enforceable requirements? The UNEP workshops are being developed with the Netherlands in cooperation with U.S. EPA, along with additional members of an Advisory Committee with members from México, France, Egypt, and Poland to ensure the materials are helpful to developing nations and transition economies.

UNEP Advisory Committee members explored the variations in definitions and key concepts used in the Principles of Environmental Enforcement and within the European Community's new enforcement network, as well as practical applications within developing countries and transition economies. The UNEP workshop development effort reinforced the desire of all nations to establish a common language and set of principles to guide the delivery of mutual assistance and exchange. Out of this dialogue have come modest adjustments to the definitions used in the Principles training that clarify the use of the term "environmental enforcement" in both its narrow context and as a convenient umbrella term for what might more specifically involve compliance promotion, monitoring, and enforcement response.

## **8 CONCLUSION**

The seriousness with which most nations are now addressing their environmental future as an integral part of efforts to sustain the economic and social well-being of their citizens requires real environmental results from our efforts, and real results require effective compliance and enforcement programs. Changing human behavior is no small task, and no nation on earth has found all the answers to effective environmental enforcement. The need to dedicate resources to this end coupled with the scarcity of those resources demands that we seek the most effective means of developing and organizing compliance and enforcement programs and strategies. The international exchanges that have been taking place over the past nine years have made it possible for the community of nations to share and improve upon their own experiences to achieve this goal.

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**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; or when environmental releases are within acceptable limits.
2. These activities may included 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 the 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.

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.

**ATTACHMENT 1****THE FRAMEWORK FOR SUCCESSFUL COMPLIANCE AND ENFORCEMENT PROGRAMS AND STRATEGIES**

- Effective compliance and enforcement programs and strategies involves seven components: 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.

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.

**1 CREATING ENVIRONMENTAL LAWS AND REQUIREMENTS THAT ARE ENFORCEABLE**

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.

**2 KNOWING THE REGULATED COMMUNITY AND SETTING PRIORITIES**

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.

### **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 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 that 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.

## **5 ENFORCEMENT RESPONSE 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.

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 5 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.

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's will and resolve to enforce environmental laws.

### **Types of Enforcement Authorities<sup>\*</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 clean-up 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.
- Authority to impose limitations on financial assistance.

<sup>\*</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 environment laws. These authorities may be either direct authorities or the authority to seek a court order to impose the sanction.

**Figure 5.**

## **6 CLARIFYING ROLES AND RESPONSIBILITIES**

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.

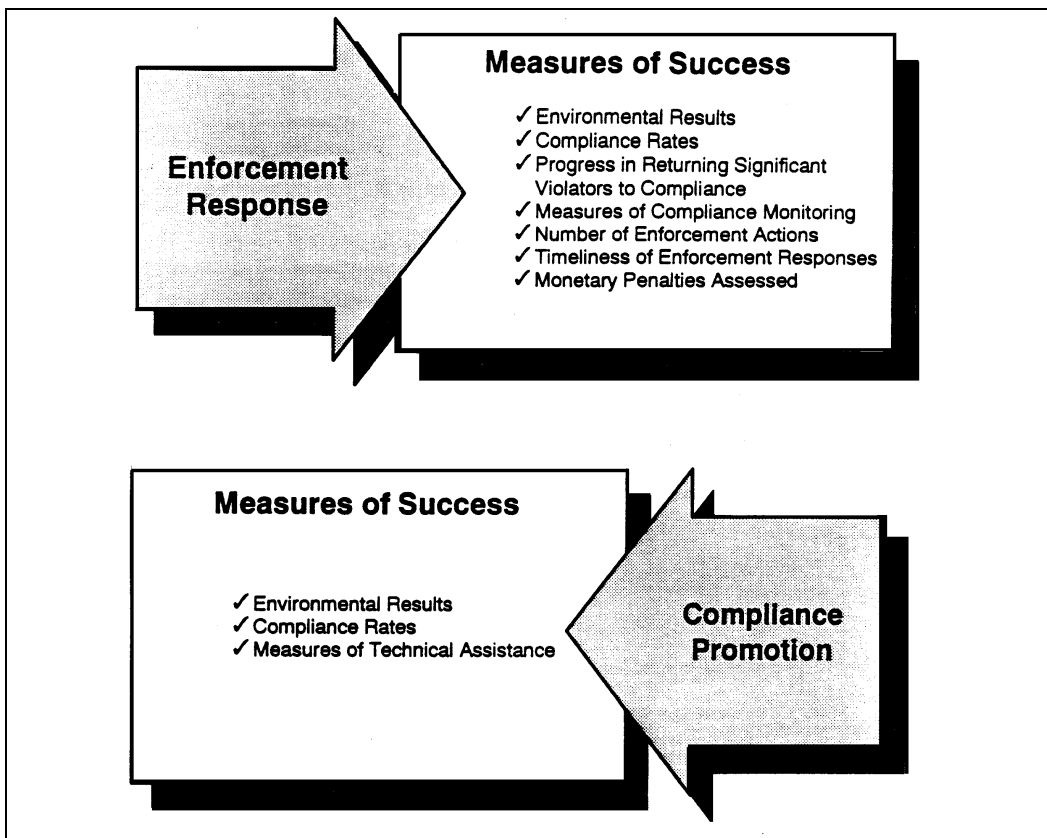
## **7 EVALUATING PROGRAM SUCCESS AND ESTABLISHING ACCOUNTABILITY**

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:

- 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.



**Figure 6.** Measures of success in compliance promotion and enforcement response.

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.

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**ATTACHMENT 2****PRINCIPLES OF ENVIRONMENTAL 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 the basic principles of environmental enforcement 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; and
- 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; and
- 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 (interactive). 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, Ukraine, Thailand, Malaysia, and the United States, and is planned for delivery in México, Bulgaria, and Russia. 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 U.S. EPA's Office of Enforcement 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.)

This training, and the five new case studies, are also being supplemented with the development of the four new UNEP training workshops mentioned in the paper, section 7.5. UNEP has been receiving requests from government officials and other concerned actors in developing and East and Central European countries to help them in applying the concepts and integrated approach outlines in UNEP's recent publication "From Regulations to Industry Compliance: Building Institutional Capacities." Training documentation is being developed and will be tested at the Third International Conference on Environmental Enforcement, including a training Manual, and four case studies with facilitation materials.

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

Five additional case studies have been developed for delivery in México and elsewhere so that facilitators can select from among six 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 world-wide. We welcome continued input and ideas for the future of the Principles of Environmental Enforcement course and suggestions for additional steps we can take to spread the enforcement message.