

ENFORCING ENVIRONMENTAL LAWS

By Kenneth Kakuru¹.

1. INTRODUCTION

Uganda like many other countries is taking action to protect the environment from degradation and to restore and protect its natural resources. The country has developed laws and regulations and management strategies to do this. Most environmental management strategies involve legal requirements that must be met by individuals and facilities that cause degradation or harm to the environment natural resources. These requirements are an essential foundation for environmental and natural resource protection, but they are only the first step. The second essential step is *compliance-getting* the groups that are regulated to fully implement the requirements. Without compliance, environmental requirements will not achieve the desired results. Compliance does not happen automatically once requirements are issued. Achieving compliance involves efforts to encourage and compel the behavior changes needed to achieve compliance.

Successful implementation of environmental requirements requires significant effort and forethought. Changes in behavior have always been difficult to accomplish on both a societal and personal level. There is no magic formula for achieving compliance. There is merely trial, evaluation, and response to what works and does not work in a particular setting. Nevertheless, a reliable framework for designing enforcement programs has emerged based on the experience of countries such as the United States, the Netherlands, Canada, Norway, Sweden, and others.

WHAT IS COMPLIANCE?

Compliance is the full implementation of environmental legal requirements. Compliance occurs when legal requirements are met and desired changes are achieved, e.g., processes or raw materials are changed, work practices are changed so that, for example, encroachment on forest reserves is stopped, reclaiming forests ceases, reduction in pollution, good management of solid wastes and soil erosion control.

The legal requirements are well-designed, then compliance will achieve the desired environmental results. If the requirements are poorly designed, then achieving compliance and/or the desired results will likely be difficult.

ENFORCEMENT

Enforcement is the set of actions that governments or its agencies and other stakeholders take to achieve compliance within the regulated community and to correct or

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halt situations that endanger the environment or public health. Enforcement by the government usually includes:

- ❖ Inspections to determine the compliance status of the regulated community and to detect violations.
- ❖ Negotiations with individuals or facility managers who are out of compliance to develop mutually agreeable schedules and approaches for achieving compliance.
- ❖ Legal action, where necessary, to compel compliance and to impose some consequence for violating the law or posing a threat to public health or environmental quality.

Enforcement may also include:

- ❖ Compliance promotion (e.g., educational programs, technical assistance, subsidies) to encourage voluntary compliance.

Nongovernmental groups may also become involved in enforcement by detecting noncompliance, negotiating with violators, commenting on government enforcement actions, and where the law allows, taking legal action against a violator for noncompliance or against the government for not enforcing the requirements. In addition, certain industries such as the banking and insurance industries may be indirectly involved in enforcement by requiring assurance of compliance with environmental requirements before they will issue a loan or insurance policy to a facility.

In some countries, societal norms of compliance have been a powerful force compelling compliance with any form of legal requirement. A system that relies on social norms for enforcement may not be effective in every situation and may become vulnerable to abuse if societal norms break down over time. This possibility has stimulated new consideration internationally of the need for dedicated enforcement programs within government and nongovernmental organization. In Uganda, this is known as enforcing environmental law.

WHY ARE COMPLIANCE AND ENFORCEMENT IMPORTANT

An effective compliance strategy and enforcement program brings many benefits to the public. First, and most important, is the improved environmental quality and public health that results when environmental requirements are complied with. Second, compliance with environmental requirements reinforces the credibility of environmental protection efforts and the legal systems that support them. Third, an effective enforcement program helps ensure fairness for those who willingly comply with environmental requirements. Finally, compliance can bring economic benefits to individual facilities and to the general public.

COMPONENTS OF A SUCCESSFUL ENFORCEMENT PROGRAM

An effective enforcement legal program involves several 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.
- ❖ Public participation
- ❖ Access to information
- ❖ Access to justice

These components form a framework within which to consider issues pertinent to any enforcement program, no matter what its stage of development. The response to these issues may differ depending on the nature and extent of the problem. 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.

WHY ENVIRONMENTAL ENFORCEMENT PROGRAMS ARE IMPORTANT

- ❖ **To Protect Environmental Quality and Natural resources.** Compliance is essential to achieving the goals of protecting the environmental natural resources envisioned by environmental laws. Natural resources 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 legal requirements as necessary and meaningful 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. The greater the public participation in enforcement.
- ❖ **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 all parties affected by environmental requirements are treated fairly. The people will be more likely to comply if they perceive that they will not be economically disadvantaged by doing so. E.g. Solid waste disposal, noise and air pollution control and treatment of effluents.
- ❖ **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 clean up 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.

- ❖ Create a culture of compliance through public participation.
- ❖ Enhance environmental democracy.

HOW PROGRAMS MAY EVOLVE IN DIFFERENT CULTURES AND COUNTRIES

Anyone involved in designing an enforcement program will face certain issues: How should a program begin? What elements are most important? How can the full range of responsibilities be handled with limited program resources? How should the program evolve over time as the program moves to new stages, as policymakers evaluate the success of previous strategies, and as technological and economic developments suggest new solutions? There are no standard answers. Each program must answer these questions for itself based on program resources and culture. This text provides a broad range of possibilities for the different elements of an enforcement program. Policymakers can select from these possibilities to design or modify a program so that it best serves the desired goals within the available resources.

Resources often limit choices. For example, ideally inspectors would be well-trained before they start to inspect. Due to limited resources and/or program priorities, many programs rely initially, if not predominantly, on on-the-job training. The challenge for every program is to make the most effective use of the resources that are available. This text presents many ideas for leveraging program resources to achieve broad results.

Finally, the effectiveness of an enforcement program will depend in part on the degree to which environmental quality is a national, regional, and local priority. Achieving compliance sometimes requires hard economic choices. Public and government concern for environmental quality provide an important foundation for enforcement programs.

CLARIFYING ROLES AND RESPONSIBILITIES

As already noted above, enforcement frequently involves many different groups, including government agencies, citizens groups and nongovernment organizations, and industry associations. A key element in any enforcement 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 technical program staff and lawyers be integrated within a single organization?

DIVIDING RESPONSIBILITIES AMONG GOVERNMENT LEVELS

A basic issue in developing enforcement programs is to what extent to centralize responsibilities for enforcement at the national level or decentralize them at more local levels. There are advantages and disadvantages to both centralization and decentralization. A national presence in enforcement helps ensure that at least minimum standards for environmental requirements are met; that the program is consistent and fair throughout the country; and that national resources are available to support enforcement programs. Involvement of provincial and local governments in enforcement is important because these levels are closest to the actual environmental problems and best able to efficiently identify and correct them.

Most environmental enforcement programs in different countries are decentralized to take advantage of (1) local knowledge of facilities and their operations, and (2) the greater information and knowledge about the problem available at the local level. Despite this bias toward decentralization, some programs are centralized because of a clear need for national involvement, e.g., to handle transboundary pollution problems, or where local competition to create favorable conditions for industry may lead to lax enforcement at the local level or where unique expertise concentrated at the national level is needed to implement the program. E.g. forest resources.

Roles and relationships between the central government and local governments can develop in many different ways, ranging from decentralization to centralization to various combinations of both approaches.

Parallel Responsibility with the Primary Role Delegated

Most environmental programs in Uganda establish a relationship between the central and local governments. Usually, the central government formally approves the local environmental laws as meeting established standards for implementation. From this point on, the local government has the primary role for implementing the enforcement program, but the central government retains parallel authority and responsibility and can intervene if the state program is not meeting certain criteria, laws do not allow the national government to delegate responsibility to the states.

Advantages of parallel system

This system of parallel responsibility with the primary role delegated has several advantages:

- ❖ Program Quality. The system maintains a continuous national presence. This helps ensure that certain minimum program standards are met across the country regardless of the resources and capabilities of the individual districts.
- ❖ Technical Capabilities. Because it is a national government agency, NEMA can often provide districts with technical capabilities that are not available at the district level.
- ❖ National Consistency. Involvement at the national level helps ensure that enforcement is practiced fairly and consistently across the country.
- ❖ Deterrence. Knowledge that the central government can and does become involved in certain enforcement actions helps contribute to deterrence.
- ❖ Fostering Competition. The central government routinely monitors and reports on progress and success in individual districts through State of Environment Reports published every two years. Results in individual states can easily be compared. This has resulted in a healthy sense of competition among some districts that has improved program success. Improved Program Effectiveness. Those closest to a problem are most likely to spot the problem and correct it in a timely manner. Shifting the primary responsibility for compliance monitoring and enforcement from the central to a more local district level helps improve program effectiveness. Sharing the Financial Burden. Delegating to district and local governments also relieves the government of substantial financial burden for enforcement programs.

Disadvantages

- ❖ Parallel authority may lead to duplication of effort and confusion of roles.

Clarifying Roles and Responsibilities

In order to avoid this, NEMA has to have a clear criteria for evaluating performance of its own and districts.

Most programs must:

- ❖ Clearly identify the regulated community and establish priorities for enforcement.
- ❖ Have clear enforceable requirements.
- ❖ Monitor compliance accurately and reliably.
- ❖ Maintain high or improving rates of compliance.
- ❖ Respond in a timely and appropriate way to violations.
- ❖ Use penalties and other sanctions appropriately to create deterrence.
- ❖ Maintain accurate records and provide accurate reports.
- ❖ Have sound overall program management.

ROLE OF OTHER GOVERNMENT INSTITUTIONS

Several government institutions can have significant impact on the design and operation of enforcement programs. Most significant are the legislative (lawmaking), executive (management and budget), and judicial (legal) institutions, as well as any agencies that have programs in areas related to the environment. The particular institutions and the nature of their impact will depend on the governmental infrastructure of each country.

Institutions with an impact will be those that:

- ❖ Identify the need for legislation.
- ❖ Create environmental laws.
- ❖ Determine budgets.
- ❖ Track program progress and success.
- ❖ Bring legal action.
- ❖ Oversee activities related to environmental management.
- ❖ Identify violators of the laws.

Legislative Institutions

The legislative institutions probably have the greatest impact on program development. They create the laws that define the environmental goals to be met, the authority and flexibility to meet those goals, and the level of funding. Legislative institutions can become involved in policy and implementation decisions by issuing amendments to laws that impose certain duties on the executive institutions. The legislative institution can impose deadlines that executive institution must meet.

Executive Institutions

The executive institutions are often responsible for identifying the need for legislation and for enforcing the legislation once it has been enacted. The executive institution is usually the environmental agency of the country or region. This agency may have its own administrative law judges. They provide an internal mechanism for enforcing administrative orders and appealing agency actions.

An executive institution may also supply the lawyers responsible for taking legal action against violators. If this institution is not the environmental agency itself, an interagency agreement can be important to define the conditions for services between the two executive institutions.

Judicial Institutions

The judiciary is the institution responsible for interpreting the laws. They may also impose requirements on the executive, for example, by requiring that it use certain rulemaking procedures if it wants those rules to be upheld in court. Courts provide a forum for taking enforcement action, for prosecution, and for enforcing administrative

orders (if the court is so authorized). Courts can also play a significant role in assessing sanctions.

Agencies with jurisdiction in Areas Related to Environmental Management

Many government agencies may have authority in areas that affect or will be affected by environmental management. These include:

- ❖ Health-related agencies responsible for food safety, occupational health and safety, consumer products, pesticide use, etc.
- ❖ Natural resource management agencies, responsible for water, energy, minerals, forests, etc. Development of these resources can significantly effect pollution abatement.
- ❖ Land use planning agencies, responsible for community development, industrial siting, transportation, etc.
- ❖ Agencies that regulate industry and commerce.
- ❖ Agricultural agencies.
- ❖ Criminal investigation and enforcement agencies.
- ❖ Customs. (For example, in the Netherlands, Rwanda, the Customs Department is helping the Environmental Inspectorate by watching for and taking samples from imported materials that may violate the law such as prohibiting use of cadmium as a pigment or stabilizing agent in plastic.

Competition or conflict between two government agencies because of overlapping authorities can dilute the impact of both programs. Conversely, constructive cooperation can strengthen both programs through increased efficiency and by identifying gaps in regulatory programs. Approaches to achieving integration among related agencies include;

- ❖ Ad hoc joint efforts such as joint research programs.
- ❖ Formal review of each agency's proposals by the other.
- ❖ Review of proposals by reference.
- ❖ Establishing special councils that are independent of each agency.
- ❖ Establish an independent government entity or commission.

Police

The police and other government personnel involved in identifying and apprehending criminals can be a valuable resource for detecting violations of environmental laws. The local police are serving as the inspection and enforcement arm of enforcement programs. To serve in this role, the police must be appropriately trained, provided with the necessary sampling equipment and have the technical support of environmental specialists as needed. The police should be responsible for surveillance and, in the case of simple environmental crimes, investigation. They can also play an important role in containing and fighting more serious environmental crimes, including organized environmental crime. Use of local police as inspectors has been very successful: the number of prosecutions has increased substantially in recent years, and the

public image of the police has substantially improved.

ROLE OF NONGOVERNMENT GROUPS

Several private organizations can have a critical influence on program success and efficiency. These groups may directly or indirectly influence enforcement. These groups can be valuable allies in efforts to improve environmental quality. Government enforcement programs will benefit by working with these groups wherever possible and appropriate.

Industry Associations

Industry or trade associations such as UMA and National Chamber of Commerce and small scale industries track and publicize developments that may affect their members. They may try to influence environmental legislation or programs as they are being developed. They may also serve as valuable channels for disseminating information on requirements, methods of complying, and compliance activities. Their dissemination channels include newsletters, journals, databases, and conferences. Associations of firms that make pollution monitoring equipment or control devices have strong economic incentives to disseminate information about environmental requirements.

Associations of Government Officials

These associations are nongovernment entities that provide a forum for government officials (e.g., mayors, governors) to work together in solving issues of mutual concern. Like industry associations, these groups track and publicize developments that may affect their members. These associations provide a resource for disseminating information and a forum for comment and recommendations concerning environmental management programs.

Professional and Technical Societies

Specialized professionals advise both government officials and the regulated communities on compliance issues. Their societies therefore have a strong incentive to track and disseminate information on regulatory developments. They may also try to influence regulatory decisions and compliance strategies they disagree with. In the United States, some of these societies independently develop industry standards.

Trade Unions and Workers' Councils

Enforcement programs can have substantial impact on workers. For example, workers are generally members of the local community and would benefit by the improved environmental quality that may result from enforcement actions. Conversely, enforcement actions that result in substantial process changes or shut down of an operation may result in some unemployment. Consequently, workers will have strong feelings and opinions in some enforcement situations. Most countries have associations or groups that represent the interests of workers. The participation of Workers' Councils

or other groups that represent workers at a particular facility will be important to success of enforcement actions at that facility. Trade unions or other organizations that represent workers at a regional or national level may become involved in development of requirements and policy for enforcement. Individual workers may also report violations by their facilities to authorities.

Universities

Some universities are important centers for environmental professionals and may function much like the professional societies described above in supporting and influencing enforcement programs.

Insurance Companies

In many countries, private citizens can sue industry for personal injury or property damage caused by certain types of environmentally related activities. In theory, insurance companies that end up paying the cost of the suit should have an incentive to educate their clients about environmental requirements and assist them in compliance. These companies are therefore a potential ally for government agencies running enforcement programs.

Public Interest Groups

Citizens can play a major role in shaping and implementing environmental enforcement programs. With a stake in environmental quality, citizens may seek to influence environmental legislation and enforcement programs through lobbying efforts. Usually these efforts are coordinated by public interest groups. These groups may collect and publicize data on environmental quality and compliance levels in an effort to influence program priorities. If monitoring data collected by the program are made publicly available, these groups may track the data and, if the law allows, file citizen suits against the environmental agency for not doing its job, and/or against individual violators for violating the law.

Public interest groups also play an important role in disseminating information to regulated communities and to citizens who are concerned about environmental quality. Citizens may also play an important role as environmental watchdogs, spotting violations occurring on a local level that may escape notice by enforcement officials. Public interest groups can be an important means of enlisting citizen involvement.

Use of Independent Contractors to Supplement Government Personnel

Private firms may be able to provide more faster and cost-effective services than government agencies. Enforcement officials may therefore contract some of their responsibilities to private firms. One issue in using contractors is ensuring the quality of their work.

Private companies have proven to be a valuable resource for inspection in the Netherlands during personnel shortages and work backlogs. Clear agreements are made

about how the activities are to be carried out and how violations will be reported and responded to. Any official action in response to a violation is taken by authorized government inspectors. This combined public/private approach has often been effective, and efficient, and can produce faster results than a solely public approach. Dutch government officials have been careful to provide adequate, competent leadership and to clearly define the "private" inspectors' authority. This approach is also used in many U.S. programs.

THE BASIS FOR COMPLIANCE AND ENFORCEMENT

One of the primary goals of an environmental enforcement program is to change human behavior so that environmental requirements are complied with. Achieving this goal involves motivating the regulated community to comply, removing barriers that prevent compliance, and overcoming existing factors that encourage noncompliance.

Many factors listed and described below, affect compliance. Which factors are operating in any particular regulatory situation will vary substantially depending on the economic circumstances of the regulated community, on cultural norms within the community and nation as a whole, and sometimes on the individual personalities and values of managers within the regulated community.

In any environmental situation several of the factors described below will influence the behavior of the regulated community. For this reason, environmental enforcement programs generally will be most effective if they include a range of approaches to changing human behavior. The approaches described in this text fall into two categories: (1) promoting compliance through education and incentives, and (2) identifying and taking action to bring violators into compliance. In some cultures, these two approaches are referred to as "carrot" and "stick." Different programs will place different emphasis on these two approaches depending on the culture and the particular regulatory situation. However, experience with enforcement programs does suggest that some form of enforcement response may ultimately be essential to achieve widespread compliance.

FACTORS AFFECTING COMPLIANCE

Deterrence

In any regulatory situation some people will comply voluntarily, some will not comply, and some will comply only if they see that others receive a sanction for noncompliance. This phenomenon - that people will change their behavior to avoid a sanction - is called *deterrence*. Enforcement deters detected violators from violating again, and it deters other potential violators by sending a message that they too may experience adverse consequences for noncompliance. This multiplier or leverage effect makes enforcement a powerful tool for achieving widespread compliance. Studies of and experience with enforcement show that four factors are critical to deterrence:

- ❖ There is a good chance violations will be detected.
- ❖ The response to violations will be swift and predictable.

- ❖ The response will include an appropriate sanction.
- ❖ Those subject to requirements perceive that the first three factors are present.

These factors are interrelated. For example, to create an appropriate level of deterrence, a more severe sanction may be needed for violations that are unlikely to be detected. Conversely, a less severe sanction may be sufficient if violations are likely to be detected and response can therefore be relatively swift.

Because perception is so important in creating deterrence, *how* enforcement actions are taken is just as important as the fact that they are taken. History has many stories of small armies that successfully beat larger forces by giving the impression that they were a formidable fighting force. Similarly, enforcement actions can have significant effects far beyond bringing a single violator into compliance if they are well placed and well publicized.

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FACTORS AFFECTING COMPLIANCE

FACTORS MOTIVATING COMPLIANCE

BARRIERS TO COMPLIANCE AND FACTORS ENCOURAGING NONCOMPLIANCE

ECONOMIC

- ❖ Desire to avoid a penalty.
- ❖ Desire to avoid future liability.
- ❖ Desire to save money by using more cost-efficient and environmentally sound practices.
- ❖ Lack of funds.
- ❖ Greed/desire to achieve competitive advantage.
- ❖ Competing demands for resources.

SOCIAL/MORAL

- ❖ Moral and social values for environmental quality.
- ❖ Societal respect for the law.
- ❖ Clear government will to enforce environmental laws.
- ❖ Lack of social respect for the law.

¹Another major goal of an enforcement program is to correct any immediate and serious threat to public health or the environment posed by pollution (e.g., a chemical spill that is contaminating a drinking water supply, discovery of toxic or explosive chemical wastes in an area accessible to the public).

²*Sanction* is used in this text to mean any adverse consequence imposed on a violator.

- ❖ Lack of public support for environmental concerns.
- ❖ Lack of government willingness to enforce.

PERSONAL

- ❖ .Positive personal relationships between program personnel and facility managers.
- ❖ Desire, on the part of the facility manager, to avoid legal process.
- ❖ Desire to avoid jail, the stigma of enforcement, and adverse publicity.
- ❖ Fear of change.
- ❖ Inertia.
- ❖ Ignorance about requirements.
- ❖ Ignorance about bow to meet requirements.

MANAGEMENT

- ❖ Jobs and training dedicated to compliance.
- ❖ Bonuses or salary increases based on environmental compliance.
- ❖ .Lack of internal accountability for compliance.
- ❖ Lack of management systems for compliance.
- ❖ Lack of compliance training for personnel.

TECHNOLOGICAL

- ❖ Availability of affordable technologies.
- ❖ Political will and commitment
- ❖ Inability to meet requirements due to lack of appropriate technology.
- ❖ Lack of political will.
- ❖ Technologies that are unreliable or
- ❖ Political interference.

Change may also be motivated by economic considerations. The regulated community may be more likely to comply in cases where enforcement officials can demonstrate that compliance will save money (e.g., achieving compliance by recycling valuable materials instead of discharging them to the environment may yield a net profit), or when the government provides some form of subsidy for compliance. Conversely, the higher the cost of compliance, the greater may be the resistance to compliance in the regulated community. Some facility managers that may want to comply might not do so if they feel that the cost of compliance would be an economic burden to their operations.

To remove economic incentives to violate the law, the monetary penalty for a violation would, ideally, at least equal the amount a facility would save by not complying. This deters deliberate economic decisions not to comply, and it helps treat compliers and noncompliers equally.

Institutional Credibility

Each country has its own social norms concerning compliance. These norms derive largely from the credibility of the laws and the institutions responsible for

implementing those laws. For example, the social norm may be noncompliance in countries where laws have historically not been enforced, either because the law is unenforceable or because the institutions responsible for enforcement have lacked the political power or resources to enforce. There may also be a resistance to enforcement in countries where recent regimes have imposed laws against the will of the citizens. It may take longer for enforcement programs to build credibility in these countries.

Strategies to build credibility will vary. In some cultures, aggressive enforcement will provide credibility. In others, it may be important to have an initial period of promotion and encouragement to create a spirit of cooperation, followed by a well-publicized shift to more aggressive enforcement to signal that there will be consequences for noncompliance. In other cultures, a mixed approach at the outset may be most successful.

The government's will to enforce environmental laws - that is, to affirmatively promote voluntary compliance and identify and impose legal consequences on those who do not comply voluntarily - indicates and influences social values. Not enforcing a law tends to express a value that compliance is not important. A goal on the part of the government to bring a majority of the regulated community into compliance sends a message that compliance is important and helps build a social norm of compliance.

Social Factors

Personal and social relationships also influence behavior. Moral and social values may inspire or inhibit compliance. For example, in some situations, facilities may voluntarily comply with requirements out of a genuine desire to improve environmental quality. They may also comply out of a desire to be a "good citizen" and maintain the good will of their local communities or their clients. Facility managers may also fear a loss of prestige that can result if information about noncompliance is made public. Conversely, compliance will likely be low in countries where there has been little or no social disapproval associated with breaking laws and/or damaging the environment.

Successful personal relationships between enforcement program personnel and managers of regulated facilities may also provide an incentive to comply. On the other hand, a desire to avoid confrontation may prevent program personnel from pursuing the full range of enforcement actions they may need to take to ensure compliance. Also, an enforcement official's objectivity may be compromised if he or she becomes too familiar with the facility's personnel and operations. Oversight visits by an independent enforcement official can help monitor for and prevent this potential problem. The relationship factor can be incorporated into a compliance strategy through such means as providing technical support to regulated groups and enhancing the interpersonal skills of compliance personnel. Social respect for environmental requirements can be improved by finding industry leaders who agree to set a well-publicized example of compliance, and by firm and visible enforcement of environmental requirements (particularly if the initial focus is to correct noncompliance that is posing significant and clear risks to the environment and/or public health).

Psychological Factors

Several psychological factors, common to human nature, may affect compliance rates. One of these is fear of change - the belief that familiar ways of operating are safe and new ways are risky. Closely related to this is inertia. Many people tend to naturally resist change because of the perceived effort it will require to enact the change. Both promotional efforts to publicize the benefits of compliance and the perception and reality of consequence for noncompliance play an important role in overcoming inertia.

Knowledge and Technical Feasibility

Besides being motivated to comply, regulated groups must have the *ability* to comply. This means they must know they are subject to requirements, they must understand what steps to take to create compliance, they must have access to the necessary technology to prevent, monitor, control, or clean up pollution, and they must know how to operate it correctly. A lack of knowledge or technology can be a significant barrier to compliance. This barrier can be removed by providing education, outreach, and technical assistance.

IMPACT ON PROGRAM DESIGN

As mentioned earlier, which of the factors described above will influence behavior in a particular environmental situation will depend on the culture and situation. An environmental enforcement program will be most effective if its design is based on an understanding of the factors that are operating. Such understanding will enable policymakers to determine the optimal strategy to motivate and enable compliance, and to discourage noncompliance. For example, in cultures where there is a tendency to ignore both requirements and requests for voluntary behavior changes, creating deterrence may be the most important component of program design. Conversely, in countries where there is a social norm of compliance, activities to promote voluntary compliance may be very effective. In situations where financial constraints are the main barrier to compliance, some form of economic support or advantage to the regulated community would likely have great impact.

Whatever factors are influencing behavior, they will almost certainly change over time. Thus, flexibility to review and revise the program design is key to long-term effectiveness.