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# Moving Towards an Integrated System for Environmental Protection

DR. CHARLES SHAW

*Dr. Shaw is the Latin American Director of McKinsey and Company. He represented Dr. Alistair Hanna at this seminar in Buenos Aires and interpreted Dr. Hanna's remarks at the White Plains seminar for the Argentine audience.*

Dr. Hanna reported on a survey that McKinsey completed in New York regarding the performance of that state's system for controlling land use. That survey, which involved experienced practitioners, revealed that the land use system is not adequately carrying out the purposes for which it was created. Both the land use system and the system of controlling environmental pollution are overly fragmented. They treat components of the land and the environment in isolation, instead of as parts of an integrated system. Perhaps their biggest failure is that the two systems are not connected with one another. In addition, the functions they delegate to local, state and national agencies are not coordinated by these agencies.

The environmental protection system was structured inefficiently, making it difficult for the system to adapt to technological change and to allow regulated companies opportunities to develop more cost-effective means of compliance with established standards. Dr. Hanna believes that by understanding how systems theories have changed in the scientific world, we can understand not only why the land use and environmental control systems are not working well, but also how they can be reformed. As a nuclear physicist, he understands that much of our current thinking about systems behavior is based on deterministic principles - the belief that events are predictable, and consequently, controllable. Many

of our legal systems, including our land use and environmental protection systems, are based on this understanding of the way the universe functions.

Today, however, scientists believe less in determinism and more in uncertainty, which teaches that events cannot be fully controlled or predicted. Scientists now understand that systems operate in a very complex fashion. Systems tend to self-organize themselves in response to the complex factors that affect them. That is, our systems operate efficiently through the rapid interaction of their components.

The problem today, according to Hanna, is that a great part of our regulatory system is based on a deterministic view; it is based on the premise that mankind knows how the environment works and can control it. When the first environmental laws were enacted, many ecologists believed that the behavior of natural systems could be understood through empirical observation and that we could measure and control its behavior. Consequently, they thought that pollution and exploitation of natural resources could be controlled by implementing rigid standards and specifying precisely how compliance with these standards was to be achieved. Pollution has been reduced as a result of this system, but the results have not been efficient. This is because the system was not designed to be adaptable to change. It is not flexible enough to allow multiple means of compliance and coordination to avoid costly redundancy.

In the United States today, many companies report that one of their major costs of doing business is the cost of environmental compliance. This should not be so. There are collaborative techniques that allow regulators and regulated companies to develop much more cost effective strategies and to use evolving technologies to implement these strategies. The legal system must be reformed to allow a high degree of adaptability and flexibility of this sort instead of resisting it. It is not enough, however, to build this collaborative approach into each isolated component of our fragmented system of environmental protection and land use control. Regulatory and permitting procedures need to be coordinated in order to eliminate the costly redundancy that these systems exhibit.

The proper ethic for this process of reform is the ethic of collaboration. Collaboration among systems, among levels of government, and between the public and private sectors will achieve the cost and environmental efficiency that the current system lacks. This ethic of collaboration should be the guiding principal behind the creation of framework laws to achieve sustainable development.