

International Governance on Environmental Issues

Edited by

Mats Rolén, Helen Sjöberg and Uno Svedin



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INTERNATIONAL GOVERNANCE ON ENVIRONMENTAL ISSUES

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Preface

During the last years international cooperation on environmental issues has increased, especially after UNCED in Rio de Janeiro in 1992. The efforts made by the United Nations or groups of states to solve more or less global problems through negotiation has brought up a number of questions of interest for the research community. How are international agreements achieved? Which roles do governments, ministries, diplomats, researchers, experts and NGO's play? Is the negotiation-process of today effective or would we get better results through regional, national or local actions? How should we understand the interplay between the different societal levels where environmental 'governance' is created? And what constitutes a successful implementation of a convention or bilateral agreement in practical policy?

The Swedish Council for Planning and Coordination of Research (FRN) has since the early 1980's initiated and funded environmental research, and in particular for research problems with a focus on the interplay between humans—society—natural resources. In order to get a picture of on-going research with relevance to an understanding of international environmental governance, and to stimulate the research community towards addressing new issues, the FRN arranged an international workshop for August 17–19, 1994 at Krusenberg Manor, near Uppsala. The workshop could also be seen in the context of FRN's long term interest in the issues of 'the Human Dimensions of Global Environmental Change', including the activities of the Human Dimensions Programme (now IHDP) at the international level.

The participants in the workshop were researchers, diplomats, experts and representatives from NGOs. The papers that were presented stimulated the participants to interesting and valuable discussions about the process of international environmental negotiations, the implementation of conventions and protocols and the importance for the environment of all these diplomatic efforts.

The workshop was planned by Professor Uno Svedin, FRN, Chair, Professor Erik Arrhenius, Stockholm University, Professor Anders Hjort af Ornäs, Linköping University, Dr. Richard Moss, the liason IGBP/HDP-Secretariat in Stockholm, Associate Professor Gunnar Sjöstedt, Swedish Institute of International Affairs, Associate Professor Mats Rolén, FRN, and Helen Sjöberg, Research Associate at Stockholm University, Scientific Secretary.

We wish to express our gratitude to the authors that have contributed with articles to our book. The formal editing and the layout has been performed by Mr Bo Heurling to whom we express our appreciation.

Stockholm, December 1996

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List of Acronyms

BCSO	Business Council for Sustainable Development
CBD	Convention on Biological Diversity
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CSD	Commission for Sustainable Development
EC	European Community
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
EU	European Union
FAO	Food and Agricultural Organization
FCCC	Framework Convention on Climate Change
FGGE	First Global GARP Experiment
GARP	Global Atmospheric Research Program
GATT	General Agreement on Tariffs and Trade
GEF	Global Environment Facility
GNP	Gross National Product
ICSU	International Council of Scientific Unions
IFC	International Finance Corporation
IGO	Intergovernmental Organization
ILO	International Labor Organization
IMF	International Monetary Fund
INCD	Intergovernmental Negotiating Committee for the Convention to Combat Desertification
IPCC	Intergovernmental Panel on Climate Change
ITTA	International Tropical Timber Agreement
IUCN	International Union for the Conservation of Nature (World Conservation Union)
IWC	International Whaling Commission
JOC	Joint Organizing Committee
MBDs	Multilateral Development Banks

NGO	Non-Governmental Organization
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
RDBs	Regional Development Banks
SAR	Second Assessment Report
SPM	Sustainable Project Management
TNCs	Transnational Corporations
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNCLOS	United Nations Conference on the Law of the Sea
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNCHE	United Nations Conference on the Human Environment
WCRP	World Climate Research Program
WMO	World Meteorological Organization
WTO	World Trade Organization
WWF	World Wide Fund for Nature

Political Dimensions of International Environmental Governance Issues

BY GÖREL THURDIN

Görel Thurdin is presently Deputy Speaker of the Swedish Parliament and was formerly Minister of Physical Planning and the Environment.

The UNCED Conference in Rio 1992 confirmed the strong link between the environment and development. Ecosystems are as sensitive in large as in small countries – and in cities as well as in the countrysides. It holds true in what is called the ‘North’ as well as in the ‘South’. The ‘governance’ of these issues is indeed of key importance.

As the environmental problems take many forms it is necessary to find a flexible international governance structure. For example, the level of toxic emissions must be reduced drastically. Such challenges have social, economic and environmental aspects calling for actions at local, national, and global levels.

Every region in the world must specify its own environmental principles in a comprehensive programme of action which includes historical, cultural, ecological, social, and economic aspects. Such programmes or agendas are fundamental for safeguarding a sustainable long-term management of natural resources in all regions of the world. In such programmes the geographical perspective of physical planning must be combined with an ecocycles approach, thereby forming the basis for a sustainable development.

A Long-Term Strategy

Such programmes of action must take the point of departure in the needs of people. Planning must have an end-use perspective. In order to get a bottom-up approach to be successful it is needed that the signals from the state and local authorities are consistent and are pointing in a sustainable direction.

In order for such a programme to work, we need new methods for planning, including new planning instruments. It is necessary to create a long-term strategy for the entire range of the decision making chain. Such a strategy must be flexible and adaptive. In order for this to happen, there is a need for government interaction with many sectors of society, including the public at large. Governance must gradually become more local in character based on increased public awareness about the issues involved. As part of that process, good examples should be made more visible. Local leaders and entrepreneurs, who have shown possibilities, need to be supported in their not always easy work.

A sustainable development requires closing the loops between the urban and the rural areas. Both depend on each other, but the relationship very often turns out to be environmentally problematic for the hinterland. The new paradigm of more closed ecocycles needs to be put in practice for the entire system, not only for a part of it.

Such considerations should also be raised when planning for new large infrastructure projects. One example concern the important adjustments of new forms of transport systems in a sustainable direction.

The planning paradigm must be changed from the old ‘functionalism’ to the new ‘ecologism’. This include considerations also in the planning process in terms of making the activity transparent and open.

The Local Neighbourhood Perspective

Leaders should strengthen the capacities of each individual to adopt and develop a lifestyle, which is friendly to the local environment. Without such a structural support it is difficult to use the full capacity of the individual to face the new eco-social responsibilities of a citizen. The individual should be encouraged to make use of the particular history and tradition of her or his region in order to understand the forms of ways of life that are congruent to a sustainable path in that local setting.

The local neighbourhood perspective is thus of great importance, also discussing overriding governance issues at 'higher levels' of management, e.g. at international or at state levels. It is at the local level that the everyday qualities of life are most visible and determine the quality of the human environment. Matters related to local control, public participation, job opportunities, architectural qualities, access to green space and other living conditions need local solutions.

We need visions which are simple and good enough to be understood and supported by the public. We need to formulate goals and design methods to show that things are getting better. New indicators have to be designed which give correct credit for 'win-win' solutions providing multiple benefits when put in practice. An improved dialogue between scientists, policy-makers and planners may pave the way for such a development of the creative paths.

To make all this possible, there is a need for a high level of citizen participation and a continuous development of sustainable economic policies. All these visions must touch all segments of society. However, most important of all is the involvement of youth in this creative endeavour. It is their future we all together are planning for.

Politics and the Question of Responsibility

Governance has to do with political will and structures of responsibility. Are ethics and spiritual values, which intrinsically relate to responsibility, of any concern to scientists interested in the issues of environmental governance? Why do I face you with this provocative question?

We politicians are supposed to make wise decisions, at least we were. We are supposed to be experts about peoples' living conditions, based on some sort of knowledge about different factors which influence life. To live up to this we must rely upon knowledge, experience, and scientific evidence. Without dialogue, there will be no such input to the political decision making.

My experience from political life is that we have high walls not only between different sectors and agencies in the administrative systems connected to political governance. We also have walls between sectors and agencies within the educational systems of our universities, including the way in which science is organized. We also have the different worlds of politicians and scientists. I have listened to people from

different countries, and they seem to have the same experience, more or less.

Many times I have heard the following expression: "Science and scientists must be free, untied by any demand from society." If this is a reasonable description of dominant moods in the scientific community, I have already made the remark that we politicians in such a situation would not get all the information we need to make wise decisions. We have to be able to ask for scientific work as well as getting the results from it. At the same time I feel that many scientists, who are working with sustainability issues, including the problems of societal governance, think that we the politicians do not listen to scientists sufficiently, when facing the day to day realities of unsustainable conditions.

There is another aspect which is very important and that keeps us from wise decisions, and that is the prestige of individual politicians, administrators and scientists. To be wise you need an open mind, and you also need to be humble.

"To really live is to have the courage to choose your own views rather than to be forced to choose your reality."

I have tried to translate these words from Harry Martinson, a Swedish author.

He also wrote the great poem *Aniara*, which is a visionary warning of what happens when technology is out of order and so complex that it gains autonomy over humankind. What we need today within politics and science is courage: courage to choose the sustainability path; courage based on knowledge including that which is based on scientific experiences and insights; courage based on spiritual values.

The Rio Process

Let us start with the follow-up of the Rio conference.

Everyone at Rio said *yes* to the Rio-declarations and thus the encoded principles as well as to the Agenda 21. For the first time the industrial leaders, which were gathered, also supported the ideas of ecologically based thinking and the solutions emerging from these. They called their view *The Changing Course* and established the Business Council for Sustainable Development Something new did really happen in Rio. As is indicated by this important example, the Rio conference was no longer a discussion exclusively for diplomats, experts, scientists, and director

generals. It suddenly became a discussion platform for people in general encouraging them to take part in all these important matters. It became a matter for all of us, because the issue so obviously concerns the survival and the future of us all. This is what environmental governance at the world level as well as at the individual level is all about.

What the world really needs now is politicians and policy-makers who show in practice that they want to materialize all the ambitions written down in all those documents. Why did we sign them anyway? Was it just to demonstrate our ethical and spiritual values but disconnected to political will?

What we need now are political decisions based on visions, strategies, and actions plans. We need 'rights' channelled to people through the various forms of legislation available to us. We need capacity building in terms of physical, financial, and also cultural and spiritual systems, which can support the will, ambition, and work of people. This should be done jointly. We have indeed to cooperate in order to see these visions become realities through our efforts in planning and building the society for the future.

Development and Politics

Development goes nowhere without someone who wishes it to do so. We can influence the direction of development. Thus, we can even reach a sustainable world, provided we do many things in a right way, making sure that e.g. in every new investment situation we try to follow the appropriate path as closely as possible.

The world of politics plays an important role. Politicians have to formulate the demands on the structure, i.e. setting the stage for the rules of governance. The politicians even sometimes have to decide without the help of experts, just drawing the conclusions from a good sense of what is required from the application of the precautionary principle and from an assessment of what is good for people in general.

We cannot turn the ship all at once. We have to mobilize all knowledge available. We also need new ways of thinking, new ways of analysis, and new processes supporting the decision making activities.

As former minister of Environment and Physical Planning in Sweden, I noticed that when the politicians in various municipalities were forced to use an open process and to act democratically, the result was good.

When people start to trust the processes leading up to the decisions, then they also start to trust politicians. And it is only when people trust you that you have the power, which is needed for the transformation of society.

Without values and visions, however, it is difficult to find the directions needed for the design of an appropriate governance structure aiming at a sustainable world.

Introduction: The Challenge of Global Environmental Governance

BY HELEN SJÖBERG

Helen Sjöberg is with the Department of Natural Resource Management at Stockholm University, Sweden. Her educational background is in the fields of international affairs and biology. She has worked for a variety of international organizations, including the Global Environment Facility, the World Bank, and the Carnegie Council for Ethics and International Affairs.

Global environmental interdependencies have put issues of governance at the heart of our future. A consensus exists that current environmental trends are unsustainable, and that the global environmental condition calls for concerted and deliberate change, i.e. governed change. The task ahead goes beyond setting up specific mechanisms for specific environmental problems; environmental governance is about reorienting our collective habits to take place within the boundaries of nature's systems. While there is global agreement on the goal of sustainable development, there is considerable uncertainty as to how it can be reached. In focusing on environmental governance, this book aims to shed some light on how we, as a world community, can steer from here to there.

Governance in a Changing Global Setting

The process of setting societies across the globe on a sustainable course is complex and fraught with difficulties. One complicating factor is that governance toward environmentally sustainable practices must take place in an international setting that itself is in a process of change. The increased density of transnational links is in the process of connecting the parts of the world novel and more fluid ways. The various aspects of the economic system – finance, production, and trade – have been on the road to globalization for some time. With the new information tech-

nology, time and space are no longer barriers to communications; personal contacts, ideas, and knowledge can be transmitted across the globe at a moment's notice.

The globalization changes the conditions for governance. In the emerging web of transnational links, old forms of collective decision-making are weakened, and new forms become possible. The striking growth in numbers and influence of transnational non-governmental organizations is one example of this development. But while novel forms of organizations emerge, old governance structures are not abandoned. Governments continue to be the main provider not only of collective stability and security, but also of collective direction. Even as transnational links become more fluid, the nation state remains the centerpiece of world organization. It is beginning, however, to look more and more like a product of an earlier era. The nation state is territorial in a world less bound by place and distance. It is formal, hierarchical, and oriented towards legal rules where new forms of organization are informal, flexible, and often beyond regulation in practice.

In those areas where interdependencies make national borders increasingly porous, efforts by single governments are becoming less effective, both when it comes to solving problems and managing change. Albert Bressand has described the situation as one where "national decision-makers are revealed as sailors on the open sea, taking the utmost care to adhere to the course of their choosing when in fact currents, winds and swirls are carrying them in the opposite direction". If individual governments are not capable of handling a number of serious problems on their own, one consequence is that they have to work together, through strengthened international cooperation.

There is agreement in principle on the need for increased intergovernmental cooperation. However, cooperative processes between sovereign countries with conflicting interests have always been exceedingly difficult, and cooperative outcomes are frequently perceived as weak. To increase the effectiveness of inter-governmental processes and institutions is a matter that calls for urgent attention. The fact is that governments are no longer the only influential actors on the international scene further complicates the picture, but also provides new opportunities. It is clear that in a world where communications, finance, production, science, and even civil society move with ease across borders, it is no longer productive to think of international governance as a matter exclusively

for and between governments. In a complex world of multiple global interdependencies, the question that confronts us is: how can forms of governance emerge that are better suited to the problems of today?

The Challenge of Environmental Governance

The general governance problems apply with force to the environmental area. The environment is characterized by global interdependencies in a double sense: through natural as well as human systems. Via interdependent ecological systems, local environmental disturbances add up to become global effects. Environmental issues are also intimately connected with social and economic systems, which are increasingly global in character. These linkages between the local and the global, operate both ways. Even the most obviously global environmental problem, such as climate change, is the aggregate result of multiple activities that take place local social and economic settings. And conversely, the individual decisions of how to utilize impact the environment are – directly or via national policies – influenced by international social and economic realities.

The complexity of environmental governance begins to emerge when we contemplate the disaggregated sources of the problems and the linkages to economic and social conditions. A major difficulty arises from the close connection between the environment and ordinary human activities, such as the way we produce and consume the things we need or want. What people do to earn their living, how we get to work, how our food is grown, how many children we have – all decisions that are part of a normal life – are acts that, taken together, determine the environmental condition. The link between the environment and the livelihood of ordinary people means that the conflict between the long term interest in the protection of the environment and the short term interest in economic well-being is not just an issue for states or big corporations, it exists on an individual level. And change to ensure environmental health may be resisted not only for reasons of greed or comfort, but also for reasons of survival.

It follows that the resolution of most environmental problems stands and falls with the ability to change the behavior of individuals and firms all over the world. These patterns of behavior display an enormous variation across the globe, but they are all embedded in institutional frameworks which determine what kinds of activities make social and

economic sense in a particular setting. Institutional change is therefore a central feature of environmental governance. With few remaining exceptions, today's institutions have evolved based on the premise that nature would continue to provide life-supporting services independently of the way humans used and controlled it. As a result, the environment is external to the system of social institutions that govern our normal way of living. As we have now come to a point where nature's functions cannot be taken for granted, the reintegration of environmental considerations into our institutional frameworks is urgently needed.

The challenge of global environmental governance can be simply stated: social institutions all over the world need to be altered in such a way as to promote actions that are compatible with environmental health, and dissuade those that are not. In practice, however, the difficulties are enormous. Efforts at environmental governance have now been underway for some twenty-five years. During this time, the concern for environmental issues have increased tremendously. An impressive range of activities are being undertaken in all parts of the world. On the international level, an impressive number of multilateral environmental agreements have been negotiated. As signs of commitment these are encouraging developments. And yet, most indicators of environmental health point to a continued deterioration.

It is time to take stock of the efforts to date, and assess how the effectiveness of these processes can be enhanced. And if we take seriously how governance can be improved, the question of agency follows. 'Who' is capable of instituting changes? And given the interdependent nature of the problem, at what level and in what area should efforts be focused? The easy – and essentially correct – answer is that everyone needs to be involved, at all levels, in all areas. It is not, however, an answer that provides much practical guidance. The ambition here is therefore to look for answers that are harder to come by.

An Overview of the Book

The authors of the chapters have extensive experience with environmental governance. The goal was to include a broad range of perspectives, and hence the contributors include not only academics, but also diplomats, scientists, and representatives of non-governmental organizations. They were asked to draw on their respective areas of expertise when

contributing their views on the lessons learned so far, and assessing the prospects for environmental governance in the future.

The book begins with Professor James Rosenau's comprehensive treatment of the dynamics of governance in a changing global context. It is followed by two authors who focus primarily on governmental efforts at the international level. Professor William Zartman provides an analysis of how governments cooperate to build international regimes. His theoretical perspective is followed by an insider's account of one specific agreement, as Ambassador Bo Kjellén, Chairman on the International Negotiating Committee for the Convention to Combat Desertification, assesses the development and significance of the Desertification Convention.

The next chapters center on how international agreements become translated into national actions. Professors Harold Jacobson and Edith Brown Weiss evaluate and compare the effectiveness of a number of international agreements in terms of national compliance and implementation. A closer look at one country's experiences with implementing an international agreement is provided by Johan Bodegård, of the Swedish Ministry of Environment, who investigates the Swedish model for implementing the Biodiversity Convention. He finds considerable promise in dialogue oriented approaches for bringing concerned actors on board. The importance of participation in the implementation process is also shared by Katarina Eckerberg. By investigating the connection between national policies and local implementation, she concludes the journey from the lofty heights of international agreements via national implementation to the level where change takes place in practice.

It has been clear from the outset that environmental governance does not take place by governmental authorities alone. While a number of the contributions above stress the importance of non-governmental actors, the concluding section of the book is devoted specifically to the roles played by three such groups: science, business, and environmental non-governmental organizations. Bert Bolin, Chairman of the Intergovernmental Panel on Climate Change, discusses the cooperation between the scientific community and governments in developing an international response to climate change. Hugh Faulkner draws on his experiences with the Business Council for Sustainable Development (BCSD) to assess the role of private business in relation to governmental authorities. Finally, Matti Wuori, former Chairman of Greenpeace International,

discusses the role of environmental non-governmental organizations today and in the very different future he anticipates.

Conceptual Difficulties in Times of Change

To grasp the opportunities for improved environmental governance in a changing global context is a challenge that is analytic and conceptual before it is practical. Several authors stress the inherent difficulty of understanding on-going change in order to see the new forms that are emerging. To Rosenau the complexity is such that “to anticipate the prospects for global governance of the environment is to discern powerful tensions, profound contradictions, and perplexing paradoxes. It is to search for order in disorder, for coherence in contradiction, and for continuity in change.” And Wuori begins by stressing that we live in a time of great uncertainty that heralds paradigmatic change. To understand the “barely perceptible” possibility for novel patterns “one must be sensitive to the very faint new dialects, scarcely audible in the cacophony of the Babel of postmodernity”.

A related problem is that our analytic lenses are necessarily conditioned by the past, and hence constrain our ability to focus on that which will be relevant in the future. The words and images we use as tools are problematic. Wuori points out that we “will not see the new if we remain hostages to the old context and its image of reality. It is therefore important that we stretch our imagination, and take a critical look at the conceptual apparatus that governs our thinking.” The word ‘governance’, for example, conjures up images of hierarchy and controlling directives while the discussion clearly concerns a much more complex and multi-facetted process. Similarly, the word ‘international’ reflects a time when interactions across borders were between nations; in today’s world it would be more appropriate to describe many global interactions as taking place in a non-territorial extra-national realm. A number of words that are central to the context have ambiguous meanings. ‘Institutions’, for example, connotes formal organizations to some people while to others it can also be a cluster of informal norms and shared expectations.

In order to overcome the constraints of old terminology, the authors make an effort to develop new images that better illustrate on-going processes. For example, Rosenau and Zartman both use the image of a river to describe their thinking. Rosenau sees the interactions between

nature and human activities as a “causal stream” that late in the 20th century has become a fast-paced “rushing river” while Zartman uses the analogy of “waterways flowing through space and time” to illustrate interactions between international regimes and other political levels.

Despite these problems of expressing the complex processes of environmental governance, a number of themes can be distinguished in the contributions.

Pushing Authority Upwards: Building Instruments at the International Level

The apparent inadequacy of individual nation states in the face of global governance leads to a search for alternative mechanisms. The most obvious solution is for states to cooperate in building regimes at the international level. By acting in concert states can build the capacity to match the scope of transnational problems. The principal instruments of formal international cooperation are international organizations and legal multilateral agreements. In the environmental area, there is a pronounced preference for the method of creating multilateral agreements. More than a hundred such agreements have been created in the last two decades – quantitatively an impressive achievement of international cooperation. However, sluggish improvement of the environmental problems covered in the agreements has led to scepticism about the effectiveness of this method.

Collective action problems are notoriously difficult to resolve at the international level. The essence of a collective action problem is that even if actors agree on a mutually desired outcome, systemic factors may prevent its realization. The absence of a central authority above the nation state makes the international realm a self-help system. And since there is no guarantor of agreements, states are reluctant to cede control to multilateral mechanisms in sensitive areas. In game theoretic terms the situation is commonly illustrated as a Prisoner’s Dilemma; ecologists recognize the same structural problem in the ‘tragedy of the commons’. It is difficult to institute new rules, policies, and institutions if these are expected to significantly constrain the activities of states. For this reason, multilateral agreements are often weak and vague when it comes to demanding specific or costly changes of behavior.

Zartman's chapter focuses on the process of negotiating inter-governmental regimes. He faults the academic community for excessive attention to *why* states cooperate at the expense of focusing on *how* co-operation takes place. He then sets out to correct this imbalance by a thorough conceptual analysis of regime building. Among the topics he investigates are strategies used by states in negotiations, the importance of power relations, the role of coalitions and consensus, and the problem of evaluating effectiveness of regimes. He argues that regime building should be viewed as a form of negotiated problem-solving, and concludes that the "process of regime creation does not stop with its initial act". Instead, regimes are living organisms that evolve through continued negotiations.

Kjellén shares Zartman's conviction that regime building should be viewed as an on-going process. As the Chairman of the Negotiating Committee for the Desertification Convention, Kjellén gives an insider's perspective on a specific empirical case, and uses this experience as a basis for discussing broader issues of environmental governance. The Desertification Convention is the most recent of the global environmental agreements. As an international instrument, the Convention is inherently a 'top-down' instrument, but Kjellén emphasizes the conscious efforts to structure the Convention in such a way as to incorporate and support efforts at other levels. To this effect, the Convention aims to allow for regional variations via a number of regional annexes. It relies on the development of national action programmes, and aims to make implementation bottom-up, with a strong emphasis on local initiatives. In other words, the approach of this 'soft' international instrument is less to institute regulations, and more to enable and coordinate practical activities at other levels.

Linking International Agreements with National Implementation

International cooperation is a necessary component for global environmental governance. But in order for international agreements to be useful instruments, they must be implemented at the national level. As more multilateral agreements have come into existence, more efforts are directed at improving implementation. The issue is not only the willing-

ness of governments to comply with the letter and spirit of the agreements. It is also a matter of their institutional capacity to do so. The problem of an implementation ‘gap’ can be expected to grow worse as stronger measures are required, as the number of agreements increase, and as developing countries – with less institutional and financial resources – enter the processes in large numbers. The importance of the issue is captured by Faulkner: “The challenge of governance today lies with implementation.”

Jacobson and Brown Weiss provides a much needed empirical study of the factors that influence national compliance with international agreements. Their study cover efforts by eight countries and the European Union to implement five international agreements. The factors they investigate include the international environment as well as characteristics of the activity, the accord, and the country. Their findings suggest that the two most important factors that determine the level of activity at the national level are the strength and health of the national political-economic systems and a deep public commitment.

The issue of national implementation of international accords is the focus also of Bodegård’s chapter. He provides an in-depth case study of the efforts of one country (Sweden) to implement one agreement (the Convention for Biological Diversity). It provides an interesting continuation of the previous chapter in that Bodegård investigates a country that by most standards rates high on the factors deemed essential by Jacobson and Brown Weiss: Sweden has both a well developed political-economic system and a strong public commitment to environmental issues. This commitment, Bodegård argues, is strengthened by international agreements, which provides a rationale for initiating concerted national efforts. Bodegård focuses on the specific processes which Sweden has established to implement the Convention. His discussion of the cooperation at the national level parallels many of the concerns about international cooperation discussed elsewhere in the book, and Bodegård also believes there are lessons from the Swedish experience that can be applied to the international context. Among them is the institutionalization of a mechanism for a ‘permanent dialogue’, through which stakeholders can be involved, and activities coordinated.

The importance of participation for successful implementation is also stressed by Eckerberg. In probing why national programmes sometimes fail, she takes the analysis one step further towards the local level where

practical implementation takes place. Investigating the role of social and economic incentives, appropriate technology, and the structure of property rights, she finds that implementation is crucially dependent on active support at the local level. Such support requires a degree of local autonomy, self-sufficiency, and open communication. “Two-way communication throughout the formulation and implementation of environment/development policy, from the local to the national level – and vice versa – may help politicians and administrators in their efforts to design effective strategies to cope with environmental degradation and mismanagement.”

The authors of these chapters all emphasize that global environmental governance depends on bringing all levels of society into the process. There is a striking lack of faith that this can be accomplished via top-down regulation. Instead, the focus is on increasing motivation of the actors at all levels, and establishing inclusive institutional mechanisms where communication and coordination can take place.

Beyond the Governmental Realm

The need for linkages between actors applies not only upwards and downwards between hierarchical levels, but also ‘sideways’ to non-governmental actors. There is agreement that non-governmental actors play crucial roles, but the view of the appropriate relation between the governmental and non-governmental spheres differs.

Bolin’s discussion of international scientific networks focuses on the interface between the scientific and political processes. In the case of climate change, governments supported the formation of a formal process through which scientists studying different aspects of climate change could come together under the umbrella of the Intergovernmental Panel on Climate Change. In this way, governments played an enabling role when it came to furthering the technical scientific process. However, as more economic and political aspects of climate change were brought into the process, political considerations increased. Bolin notes that the scientists in the IPCC have a dual role: on the one hand, they are asked to deliver objective, scientific assessments of climate change to the IPCC, and on the other hand, they are involved in developing national strategies. Despite these complications, Bolin describes the relation between science and politics as essentially symbiotic: governments support the

scientific process, and the scientific assessments are necessary to strengthen the political process.

In discussing the role of business in environmental governance, Faulkner stresses the division of responsibility between private business and governments. “Let there be no misunderstanding”, he says, “*business is about business* – costs, prices and profits, about risks and rewards.” The role of private business in governance is important but subordinate. Faulkner underlines that “governments – not business – are, and must remain the true architects of change”. If substantial reform is to take place governments need to be clear about their objectives. But while it is the role of governments to set the strategic course, and introduce instruments of change, business have a legitimate interest in how they are applied. Echoing Eckerberg’s and Bodegård’s argument that participatory processes lead to better solutions, Faulkner argues that “it is in the interest of all parties that business is included in a dialogue about how to employ available instruments”. Involving business early in the process, will not only improve the chances for cost-effective approaches, but it will also contribute to breaking down business resistance to change.

Few would dispute the influence of environmental non-governmental organizations when it comes to “raising the alarm bells” as Wuori puts it, and catalyzing awareness into movement. Non-governmental organizations today are active at all levels of society – from local efforts at implementation to global conferences on policy. In discussing the current and future role of non-governmental organizations, Wuori seizes on their role as expressions of an emerging transnational civic society. “We cannot assign a specific role for them, but we can see in them a potential for catalysing change now taking place. In this sense, non-state actors like Greenpeace or Amnesty International are the designated conscience of the world, Global Moral Lobbies as they have been called, or agents for global opinion.” The task ahead, Wuori says, is to go “beyond putting oneself between the whale and the harpoon” and focus on helping along the process of cultural transformation. In part, this involves a continuation of current efforts, but it may also bring closer involvement with governmental actors and business. Such partnerships have been advocated elsewhere in the book, but Wuori also sees a danger in this development. “It requires, however, balancing a fine line not to become part of the established power structures.” In his view, non-governmental organizations derive their main strength from its moral authority, which needs

to be protected by remaining “autonomous and independent of both local, national, and transnational establishments”.

The book is concluded by Svedin, who summarizes the discussion at the Conference which was the starting point for the efforts published here. Svedin re-emphasizes that environmental governance involves a whole set of challenges. It tests our ability to treat nature and society within the same frame of reference. It requires finding appropriate ways of connecting local practices with global agendas. It suggests we take a fresh look at the relation between the capacity of governments and the influence of other actors, such as science and non-governmental environmental organizations. It prompts us to review and renew the institutional framework to ensure that the environmental interests are integrated alongside economic and other interests. Finally, it calls for ways of mobilizing individual responsibility, social visions, and political will.

Global Environmental Governance: Delicate Balances, Subtle Nuances, and Multiple Challenges¹

BY JAMES N. ROSENAU

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People, communities, states, and the world as a whole are today faced with the tough question of whether environmental threats can be brought under sufficient control to facilitate their management. The challenge of how to achieve and maintain sustainable development in which life on earth is improved without long-term damage to the environment is in reality a complex of multiple challenges, each of them serious, and all of them overlapping such that they are global in scope.

¹This Chapter was originally prepared for the Conference on International Environmental Governance: Lessons, Patterns, and Prospects, sponsored by the Swedish Council for Planning and Coordination of Research (Stockholm, August 17–18, 1994). Parts of this discussion are drawn from my recent book, *Turbulence in World Politics: A Theory of Change and Continuity* (Princeton: Princeton University Press, 1990) and from four more recent papers: “Environmental Challenges in a Global Context” in Sheldon Kamierechi (ed.), *Environmental Politics in the International Arena: Movements, Parties, Organizations, and Policy* (Albany: SUNY Press, 1993), pp. 257–74; “Environmental Challenges in a Turbulent World;” in Ronnie D. Lipschutz and Ken Conca (eds.). *The State and Social Power in Global Environmental Politics* (New York: Columbia University Press, 1993), pp. 71–93; “Governance in the 21st Century”, *Global Governance*, Vol. 1, No. I (forthcoming); and “Enlarged Citizen Skills and Enclosed Coastal Seas: Notes on the Delicacies of Governance and the Complexities of the Environment”, a paper presented at the Second International Conference on the Environmental Management of Enclosed Coastal Seas, sponsored by the Governor of the State of Maryland and the Institute for Philosophy and Public Policy of the University of Maryland (Baltimore, November 11, 1993).

The challenges are so diverse, so disaggregated, that the burdens of governance are likely to be performed by instruments of authority that are widely dispersed, that are located at all levels of collective activity, and that may take new as well as traditional forms.

To conceive of environmental challenges as posing solely an international problem is to run the risk of addressing just a part of the overall dilemma. The interaction of humankind and its natural environment is too extensive, too pervaded with interdependence for the tasks of management to be lodged exclusively with states and their international system. What is needed is a global perspective which allows for long-established institutions as well as innovative, previously unknown practices that can encompass the full range of challenges that need to be pondered. "It will not help, the way it sometimes does, to break the problem into smaller, more manageable, pieces. Only a comprehensive global approach to managing environmental resources and coordinating sustainable development will work."²

On a Global Scale

An insight into the full scope of the environmental governance problem can well start with stressing the interactive foundations of environmental and social systems. It is clear, for example, that even as the processes of nature provide contextual limits and opportunities for the conduct of social, economic, and political life, so do human situations serve as context for the natural environment.³ More than that, the two are so profoundly interactive that oft-times both nature and humankind blend together into a single causal stream. People consume resources, thereby transforming nature; in turn, nature's transformations alter the conduct of community and world affairs, leading to changed patterns of consumption and a continuing cycle of interaction. Late in the twentieth century this cycle is distinguished by its fast pace. The causal stream has become a rushing river, swollen by the melting snows and bursting dams of endlessly dynamic technologies. And as the pace of interactive change

²Lawrence E. Susskind, *Environmental Diplomacy: Negotiating More Effective Global Agreements* (New York: Oxford University Press, 1994), p. viii.

³See, for example, Andrew Goude *The Human Impact on the Natural Environment* (Cambridge: MIT Press, 1990), and Joy Tivy and Greg O'Hare, *Human Impact on the Ecosystem* (New York: Longman Inc., 1981).

accelerates, so do the tasks of governance become ever more delicate and the processes of nature ever more threatening.

My approach to the tough question of whether humankind can come to terms with the environmental dangers that lie ahead springs, perforce, more from a broad conceptual perspective than an acquaintance with specific empirical materials. I am not an environmental specialist and thus cannot draw on either a deep scientific knowledge or a wide range of historical cases to address the question. Rather, my work has focused on the dynamics of governance as these shape and are shaped by the profound transformations presently at work in world politics. Accordingly, here my approach is twofold: first, to note central features of the processes of governance and, second, to identify the multiplicity of environmental challenges and to suggest how singly and together they both provide opportunities and pose obstacles that are in continuous tension and that, taken together, demand daring, diligent and disciplined governance if the future is to be marked by success in moving toward sustainable development.

Anticipating the central thrust of what follows, the analysis is rooted in contradiction: the opportunities for improvement are judged to have never been better and the obstacles to progress are assessed to have never been greater! And what is the key to whether improving or worsening patterns will unfold in the coming decades? Relevant as both may be, the answer involves neither the vagaries of nature nor the pressures of change; rather, the key determinants will likely be found in the processes of governance through which people collectively confront the multiplicity of environmental threats that loom on the horizon. Whatever may be the interactions between humankind and nature that our grandchildren inherit, the key to whether their lives will be marred by continuing environmental degradation or enhanced by a progressive trend toward effective environmental management depends on how well the challenges of global environmental governance are met.

The Nuances of Global Governance

To anticipate the prospects for global governance of the environment is to discern powerful tensions, profound contradictions, and perplexing paradoxes. It is to search for order in disorder, for coherence in contradiction, and for continuity in change. It is to confront processes that mask both growth and decay. It is to look for authorities that are obscure, boundaries that are in flux, and systems of rule that are emergent. And it is to experience hope embedded in despair.

This is not to imply the task is impossible. Quite to the contrary, one can discern patterns of environmental governance that are likely to proliferate, others that are likely to attenuate, and still others that are likely to endure as they always have. No, the task is not so much impossible as it is a challenge to one's appreciation of nuance and one's tolerance of ambiguity.

In order to grasp the complexities posed by the multiplicity of challenges, we need to start by drawing a nuanced set of distinctions among the numerous processes and structures that fall within the purview of global environmental governance. Perhaps most importantly, it is useful to reiterate that the processes of global governance involve not only the formal institutions and organizations through which the management of international affairs is or is not sustained. The United Nations system and national governments are surely central to the conduct of global governance, but they are only part of the full picture. Or at least in the ensuing analysis global environmental governance is conceived to include systems of rule at all levels of human activity – from the family to the international organization – in which the pursuit of environmental goals through the exercise of control has transnational repercussions. The reason for this broad formulation is simple: while the cooperation of states and their international institutions will doubtless be crucial to the success of efforts at environmental management, it seems a mistake to confine the analysis to formal institutions at the national and international levels in an ever more interdependent world where what happens in one corner or at one level may have consequences for what occurs at every other corner and level. In the words of the Council of Rome,

We use the term governance to denote the *command* mechanism of a social system and its actions that endeavor to provide security, prosperity, coherence, order and

continuity to the system. Taken broadly, the concept of governance should not be restricted to the national and international systems but should be used in relation to regional, provincial and local governments as well as to other social systems such as education and the military, to private enterprises and even to the micro-cosm of the family.⁴

Governance, in other words, encompasses the activities of governments, but it also includes the many other channels through which ‘commands’ flow in the form of goals framed, directives issued, and policies pursued.

Command and Control

But the concept of commands can be misleading. It implies that hierarchy, perhaps even authoritarian rule, characterize governance systems. Such an implication may be descriptive of many forms of governance, but hierarchy is certainly not a necessary prerequisite to the framing of goals, the issuing of directives, and the pursuit of policies. Indeed, a central theme of the ensuing analysis is that many of the environmental challenges are such that often the practices of governance evolve with a minimal dependence on hierarchical, command-based arrangements. Open-ended mechanisms for participation, procedures for reaching consensuses without resort to voting, and wide consultations in pre-negotiation periods exemplify techniques of governance that do not require hierarchy for the achievement of compliance.

Accordingly, while preserving the core of the Council of Rome formulation, here we shall replace the notion of command mechanisms with the concept of control or steering mechanisms, terms that highlight the purposeful nature of governance without presuming the presence of hierarchy. They are terms, moreover, that are informed by the etymological roots of ‘governance’, a label that “derives from the Greek ‘kybenan’ and ‘kybernetes’ which means ‘to steer’ and ‘pilot or helmsman’, respectively (the same Greek root from which ‘cybernetics’ is

⁴Alexander King and Bertrand Schneider, *The First Global Revolution: A Report of the Council of Rome* (New York: Pantheon Books, 1991), pp. 181–82 (italics added). For other inquiries that support the inclusion of small, seemingly local systems of rule in a broad analytic framework, see John Friedmann, *Empowerment: The Politics of Alternative Development* (Cambridge, MA: Blackwell, 1992). and Robert Huckfeldt Eric Plutzer, and John Sprague, “Alternative Contexts of Political Behavior: Churches, Neighborhoods, and Individuals”, *Journal of Politics*, Vol. 55 (May 1993), pp. 365–81.

derived). The process of governance is the process whereby an organization or society steers itself, and the dynamics of communication and control are central to that process.⁵

To grasp the concept of control one has to appreciate that it consists of relational phenomena which, taken holistically, comprise systems of rule. Some actors, the controllers, seek to modify the behavior and/or orientations of other actors, the controllees, and the resulting patterns of interaction between the former and the latter can properly be viewed as a system of rule sustained by one or another form of control. It does not matter whether the controllees resist or comply with the efforts of controllers; in either event, attempts at control have been undertaken. But it is not until the attempts become increasingly successful and compliance with them increasingly patterned that a system of rule founded on mechanisms of control can be said to have evolved. Rule systems and control mechanisms, in other words, are founded on a modicum of regularity, a form of recurrent behavior that systematically links the efforts of controllers to the compliance of controllees through either formal or informal channels, through voluntary cooperation as well as hierarchically compelled agreement.⁶

It follows that systems of rule can be maintained and their controls successfully and consistently exerted even in the absence of established legal or political authority. The evolution of intersubjective consensus based on shared fates and common histories, the possession of information and knowledge, the pressure of active or mobilizable publics, and/or the use of careful planning, good tuning, clever manipulation, and hard

⁵Steven A. Rosell et al., *Governing in an Information Society* (Montreal: Institute for Research on Public Policy, 1992), p. 21.

⁶Rule systems have much in common with what has come to be called the 'new institutionalism'. See, for example, Robert O. Keohane. "International Institutions: Two Approaches", *International Studies Quarterly*, Vol. 32 (December 1988), pp. 379–96; James G. March and Johan P. Olsen. "The New Institutionalism: Organizational Factors in Political Life", *American Political Science Review*, Vol 78 (September 1984). pp. 734–49; and Oran R Young. "International Regimes: Toward a New Theory of Institutions", *World Politics*. Vol 39 (October 1986), p. 104–22 For an extended discussion of how the concept of control is especially suitable to the analysis of both formal and informal political phenomena, see James N. Rosenau, *Calculated Control as a Unifying Concept in the Study of International Politics and Foreign Policy* (Princeton: Research Mongraph No 15. Center of International Studies, Princeton University, 1963).

bargaining can – either separately or in combination – foster control mechanisms that sustain governance without government.⁷

Interdependence and Proliferation

Implicit in the broad conception of governance as control mechanisms is a premise that interdependence involves not only flows of control, consequence, and causation within systems, but that it also sustains flows across systems. These micro-macro processes – the dynamics whereby values and behaviors at one level get converted into outcomes at more encompassing levels, outcomes which in turn get converted into still other consequences at still more encompassing levels – suggest that global governance knows no boundaries, geographic, social, cultural, economic, or political. If major changes occur in the structure of families, if individual greed proliferates at the expense of social conscience, if people become more analytically skillful, if crime grips neighborhoods, if schools fail to provoke the curiosity of children, if racial or religious prejudices become pervasive, if resources get consumed faster than they are replenished, if defiance comes to vie with compliance as characteristic responses to authority, if new trading partners are established, if labor and environmental groups in different countries form cross-border coalitions, if cities begin to conduct their own foreign commercial policies – to mention only some of the more conspicuous present-day dynamics – then the consequences of such developments will ripple across and fan out within provincial, regional, national, and international levels as well as across and within local communities. Such is the crazy-quilt nature of modern interdependence. And such are the staggering challenges of global governance.

And the challenges continue to intensify as control mechanisms proliferate at a breathtaking rate. For not only has the number of U.N. members risen from 51 in 1945 to 184 a half-century later, but the density of nongovernmental organizations (NGOs) has increased at a

⁷Cf. James N Rosenau and Ernst-Otto Czempiel (eds.). *Governance Without Government: Order and Change in World Politics* (Cambridge: Cambridge University Press. 1992). Also see the formulations in Peter Mayer, Volker Rittberger, and Michael Zurn, “Regime Theory: State of the Art and Perspectives”, in V Rittberger (Ed.), *Regime Theory and International Relations* (Oxford University Press 1993), and Timothy J. Sinclair, “Financial Knowledge as Governance”, a paper presented at the Annual Meeting of the International Studies association. Acapulco, March 23–27, 1993.

comparable pace. More accurately, it has increased at a rate comparable to the continuing growth of the world's population beyond 5 billion and a projected 8 billion in 2025. More and more people, that is, need to concert their actions to cope with the challenges and opportunities of daily life, thus giving rise to more and more organizations to satisfy their needs and wants. Indeed, since the needs and wants of people are most effectively expressed through organized action, the organizational explosion of our time is no less consequential than the population explosion. For organizations provide decision points through which the steering mechanisms of governance can be carried forward, just as they may also operate as sources of opposition to any institutions and policies designed to facilitate governance. Nor has the organizational revolution been limited in its geographic scope: hastened by dynamic technologies that have shrunk social, economic, political and geographic distances and thereby rendered the world ever more interdependent, expanded by the advent of new global challenges such as those posed by a deteriorating environment, an AIDS epidemic, currency imbalances, and drug trafficking, and further stimulated by widespread authority crises within existing governance mechanisms,⁸ the proliferation of organizations is pervasive at and across all levels of human activity – from neighborhood organizations, community groups, regional networks, national states, social movements, and transnational regimes to international systems.⁹

Put in still another way, if it is the case, as many (and this author) argue, that global life late in the 20th Century is more complex than ever before in history, it is because the world is host to ever greater numbers of organizations in all walks of life. And it is this complexity, along with the self-interested and competitive impulses which lead some organizations

⁸For a discussion of the breadth and depth of the world's authority crises, see James N. Rosenau. "The Relocation of Authority in a Shrinking World: From Tiananmen Square in Beijing to the Soccer Stadium in Soweto via Parliament Square in Budapest and Wencelas Square in Prague", *Comparative Politics*, Vol. 24 (April 1992), pp. 253-72.

⁹A vivid picture of the organizational explosion in the nongovernmental world is presented in Lester M. Salamon, *The Global Associational Revolution: The Rise of the Third Sector on the World Scene* (Baltimore: Institute for Policy Studies, Occasional Paper #15. 1993). As for the world of governments, a similar explosion here is compellingly described in Edward W. Soja. *The Political Organization of Space* (Washington D C.: Association of American Geographers. Resource Paper No 8, 1971), p. 45.

to defy steerage, resist cooperation, and resort to violence, that make the tasks of governance at once so difficult and so daunting. On the other hand, it is the very same organizational explosion that has encouraged many environmental NGOs to form and affirm decent visions of the future, hold governments to account, and allow us to dare to hope that the tasks of governance will be performed effectively and with compassion.

Disaggregation and Innovation

An obvious but major conceptual premise follows: namely, there is no single organizing principle upon which global governance rests, no emergent order around which communities and nations are likely to converge. Whether it be directed at environmental or any other set of issues, global governance is the sum of myriad – literally millions – of control mechanisms driven by different histories, goals, structures, and processes. Perhaps every mechanism shares a history, culture, and structure with a few others, but there are no characteristics or attributes common to all mechanisms. This means that any attempt to assess the dynamics of environmental governance will perforce have multiple dimensions, that any effort to trace a hierarchical structure of authority which loosely links disparate sources of governance to each other is bound to fail. In terms of governance, the world is too disaggregated for grand logics that postulate a measure of global coherence.

Put differently, the continuing desegregation that has followed the end of the Cold War suggests a further extension of the anarchic structures that have long pervaded world politics. If it was possible to presume that the absence of hierarchy and an ultimate authority signified the presence of anarchy during the era of hegemonic leadership and superpower competition, such a characterization of global governance is all the more pertinent today. Indeed, it might well be observed that a new form of anarchy has evolved in the current period – one that involves not only the absence of a highest authority, but that also encompasses such an extensive disaggregation of authority as to allow for much greater flexibility, innovation, and experimentation in the development and application of new control mechanisms. Accordingly, “it is necessary to acquire a full understanding of the increasingly global context of political interaction, not conceived as simply ‘world-wide’, but rather as the relationship between local issues addressed in a global context and global

issues addressed in a local context – local environmental problems (land, water, air pollution) may demand a global strategy, and global environmental problems (ozone depletion, the greenhouse effect, and climate change) may demand local action".¹⁰

Emergence and Evolution

Underlying the growing complexity and continuing disaggregation of modern governance are the obvious but often ignored dynamics of change wherein control mechanisms emerge out of path-dependent conditions and then pass through lengthy processes of either evolution or decline. In order to acquire the legitimacy and support they need to endure, successful mechanisms of environmental governance are more likely to evolve out of bottom-up than top-down processes. As such, mechanisms that manage to evoke the consent of the governed are self-organizing systems, steering arrangements that develop through the shared needs of groups and their acceptance of shared instruments of control.

But there is no magic in the dynamics of self-organization. Environmental governance does not just suddenly happen. Circumstances have to be suitable, people have to be amenable to collective decisions, tendencies toward organization have to develop, habits of cooperation have to evolve, and a readiness not to impede the processes of emergence and evolution has to persist. The proliferation of organizations may stimulate felt needs for new forms of governance, but the transformation of these needs into established and institutionalized control mechanisms is never automatic and can be marked by a volatility that consumes long stretches of time. Yet, at each stage of the transformation, some form of governance can be said to exist, with control mechanisms evolving somewhere on a continuum that runs from nascent to fully institutionalized mechanisms, from informal modes of framing goals and pursuing policies, to formal instruments of decision making, conflict resolution, and resource allocation.

No matter how institutionalized rule systems may be, governance is not a constant in these turbulent and disaggregated times. It is, rather, in a continuous process of evolution that fluctuates between order and

¹⁰Hugh C. Dyer, "Environmental Ethics and International Relations", *Paradigms*, Vol. 8 (Summer 1994). pp. 61–62.

disorder as conditions change and emergent properties consolidate and solidify. To analyze environmental challenges by freezing them in time is to insure failure in comprehending their nature and vagaries, not to mention the potential for effective governance as nature's threats become ever more immediate.

Opportunities and Obstacles

To appreciate why the prospects for effective environmental management teeter between being more favorable and more horrendous, it is necessary to highlight the various contexts in which the dynamics that link natural and human systems are located. Each type of system serves as a source of change for the other, but each is also responsive to other transformations at work in the world which serve as boundary conditions. One obvious condition, for example, is the state of the global economy. As it fluctuates back and forth from booms to busts, so do the resources available for addressing nature's challenges move back and forth from larger to smaller amounts.

A useful distinction can be drawn between three enduring contextual dimensions that derive from the nature of environmental phenomena external to the processes of governance, and three changing political dynamics that sustain these processes and circumscribe any issue on the global agenda. Table 1 (pp. 26–28) summarizes the ensuing discussion of the opportunities and obstacles posed by these attributes. Viewed as a whole, the table highlights the contexts within which the tasks of environmental governance must be undertaken and allows for comparisons of the opportunities they provide and the obstacles they pose.

Table 1. Attributes of Environmental Issues and World Politics That Pose Opportunities and Obstacles for Global Environmental Governance

Attributes Unique to Environmental Issues	OPPORTUNITIES	OBSTACLES
Scientific Foundations of Environmental Challenges	Studies of nature's changes tend to be authentic and thus increase the chances of persuading publics to alter their behavior	Appreciation and comprehension of scientific findings is not easily acquired; publics may resist adapting to them; scientists may disagree on the meaning of findings
Temporal Foundations of Environmental Challenges Threats posed by environmental uses and abuses normally evolve slowly in small increments across long stretches of time; they are recognized by experts long before the public, and long before they become immediate problems	There is plenty of time to frame policies and educate publics before the long-term challenge becomes a short-term threat; also, experts and politicians can proceed relatively free of harassment by aroused publics	Politicians, political systems and publics are oriented toward short-term problems and thus to avoid hard choices and postpone action; immediate environmental crises may be required to arouse short-run concerns and mobilize remedial actions
Disasters as Contexts Ecological events (e.g. Three Mile Island, Bhopal, and Chernobyl) periodically surface with such force as to be widely perceived as disastrous and quickly become global events	Disasters offer a glimpse into the future, a chance to perceive how long-term processes can culminate in short-term horrors, and thus an opportunity to educate elites and publics alike on the need for environmental diligence and an early confrontation of long-term threats	The implications of disasters can be so threatening as to evoke either excessive or head-in-the-sand responses; they can also lead to exaggerated forecasts and thence to public apathy
Changing Attributes of World Politics	Publics and elites will increasingly have respect for scientific findings, long-term processes, and the fact that what is distant is also proximate, thus making them more ready to adapt to environmental necessities	Being better able to see where they fit in global, regional, and community processes, people may become more aware of their self-interests and more ready to perceive them in selfish ways that have little regard for their consequences for society
Authority Crises Fostering (A) Weakened Governments and Diminished Sovereignty National governments can still evoke compliance by resorting to coercion, but they are less and less capable of framing effective policies and maintaining their sovereign prerogatives	It has become increasingly evident that national governments can no longer go it alone with respect to ecological issues: their diminished capacities thus require an increased readiness to cooperate with counterparts abroad	Being caught up in stalemate, if not paralysis, states are less and less able to make or implement financial and diplomatic commitments needed to carry out negotiated international ecological agreements

	OPPORTUNITIES	OBSTACLES
(B) Authority Redistributed Upward to Supranational Levels The advent of transnational or interdependent issues requiring intergovernmental cooperation has led to a proliferation of IGOs and international regimes	Since many ecological issues are boundary-spanning in scope, it is only at supranational levels that they can be addressed, thus giving IGOs and regimes a potential for effectively dealing with ecological challenges that regularly extend across the borders that separate states	While governments are ready to conclude international ecological agreements, the authority they thereby cede to IGOs and regimes may not invoke their compliance when the agreements are implemented
(C) Authority Redistributed Sideward to Societal-Level Institutions The spread and increased capabilities of social movements, NGOs, multi-national corporations, and other transnational entities has fostered a further relocation of authority and decentralization of the global system	NGOs and the environmental movement stimulate concern, provide technical studies, offer alternative policies, foment grass roots activism, and otherwise heighten the salience of ecological issues, with the result that they "have affected the political cultures of almost every nation"** and made possible the coordination of diverse interests at such gatherings as the Rio Global Forum in 1992	Some NGOs and some parts of the environmental movement turn to extremism in their demands and actions, thus complicating the processes through which ecological negotiations are sustained
(D) Authority Redistributed Downward to Subnational Entities A vast proliferation of organizations and sub-groups has further weakened state authority and contributed to the disaggregation of global politics and governance	Both local governments and NGOs have avenues through which they express and act on their environmental concerns, thus bringing ecological issues closer to the level at which their resolution will ultimately be either improved or worsened, i.e., to the level of citizenries	Prodevelopment groups and officials at the local level are able to voice opposition to conservation policies and engage in organizational activities that inhibit or prevent meeting ecological challenges
Bifurcation of Global Politics Where world affairs were once managed by an anarchic system of states, today this state-centric world has been paralleled by a multi-centric world consisting of a wide variety of other actors whose interactions are patterned and structured	As indicated by the parallel conferences at Stockholm (1972) and Rio (1992), the bifurcation of global structures into two worlds of world politics provides a structure for spreading involvement and responsibility with respect to efforts to address diverse ecological problems; it facilitates keeping the state-centric system in close touch with thinking and aspirations in the private sector	The decentralization represented by the bifurcation of global structures may make it more difficult for regimes in the state-centric world to frame and carry out ecological agreements; diverse interests will have to be accommodated and opposition groups will have to be heard

*Ron Eyerman and Andrew Jamison, *Social Movements: A Cognitive Approach* (Cambridge: Polity Press, 1991), p. 77.

	OPPORTUNITIES	OBSTACLES
<i>Ever Expanding Degrees of Global Interdependence</i> Dynamic communications and transportation technologies continue to shrink geographic and social distances, rendering peoples and events everywhere in the world ever more subject to what happens in every other part of the world	Citizens will be able to feel increasingly in touch with the consequences of their own environmentally relevant behavior as they realize that the actions of others in distant places affects their own well being; groups and social movements will increasingly benefit from the shrinkage of physical and social distances as their members and activities are ever more closely linked across national boundaries	Individuals and groups with noxious goals (such as crime syndicates) will be better able to maintain their coherence and thwart efforts at governing them
<i>Growing Tensions Between Globalizing and Localizing Dynamics</i> The centralizing and decentralizing forces at work on a global scale are profoundly interactive (if not dialectically linked) with each increment of the one tending to foster an increment of the other	Citizens will be increasingly faced with choices between proximate and distant preferences, thus adding to their analytic skills and their grasp of the dynamics of world affairs; local communities will be increasingly inclined to reach out to counterparts for information and support	Some individuals, communities and states will resolve the tensions by withdrawing and establishing more rigid lines dividing them from outside influences; globalization is seen as pervaded with threats rather than opportunities; some states may intensify stress on sovereign rights

Environmental Contexts

Although many dimensions of the environment are relevant to the interaction between nature and humankind, three seem especially salient. One involves the large extent to which our understanding of the dynamics of environmental change derive from the application of scientific methods. Another is the unique time frame within which environmental issues get identified, addressed, and resolved. The third pertains to the important ways in which disasters can shape the salience of environmental challenges and the readiness of polities to consider them. Let us begin with the first of these contexts.

The Scientific Context

Notwithstanding the ever increasing degrees of complexity that distinguish the post-industrial era in all walks of life and at every level of politics, environmental issues are perhaps more fully pervaded by complex technical dimensions than other issues on the global agenda. Rooted

in the processes of nature and its responses to human intervention, environmental issues are inescapably embedded in a scientific context. Unlike economic, educational, housing, labor or other conventional foci of controversy, the outcomes of environmental issues are located in the ups and downs of nonhuman processes rather than in the behavior of people. What people do or fail to do, of course, shapes nature's processes, but ultimately the latter adhere to their own laws and not to those of organized society. Consequently, they give rise to objective outcomes in the sense that what happens is not vulnerable to the vagaries of motivation, chance encounters, institutional lapses, or any of the other uncertainties that attach to social dynamics. In short, environmental issues may be rife with uncertainties, but these derive as much from the mysteries of nature as from the variability of human affairs.

Environmental issues, therefore, turn centrally on the scientific method and its applications. Politicians cannot exercise control over environmental outcomes without recourse to scientific findings. They may claim that the findings are not clear-cut or remain subject to contradictory interpretations, but they are nonetheless dependent on what the practices of science uncover about the laws of nature.

It follows that criteria of proof are at the heart of environmental politics, that the outcomes of environmental issues depend as much on the persuasiveness of evidence as on the various dimensions of power – e.g. superior resources, greater mass support, skill at coalition formation – that sustain or resolve other types of issues. To be sure, the exercise of power is not irrelevant to the conduct of environmental politics, and it is surely the case that deft politicians can manipulate support in favor of one or another environmental policy, but ultimately the outcomes will be shaped by the proofs that are brought to bear on the dictates of nature.¹¹ Development-minded groups – and the scientists affiliated with them – can argue for the exploitation of nature for only so long if that exploitation continues to lead to discernible and measurable deterioration; at some point the data become too telling to ignore and interest-group politics is compelled to yield ground to the politics of science. How long it takes for nature to unfold in these ways, for scientists to converge

¹¹For an extensive discussion of the role of scientific proof in the conduct of global affairs, see James N. Rosenau. *Turbulence in World Politics: A Theory of Change and Continuity* (Princeton University Press. 1990). pp. 198–209 and 425–429.

around shared consensuses as the implications of the findings, and for the findings then to force change in the conduct of politics is, of course, an open question. Indeed, it is itself a political question that serves as another, contextual factor worthy of notation.

The Temporal Context

Another obvious characteristic of environmental issues derives from the fact that the changes and threats posed by the uses and abuses of the environment normally evolve slowly in small increments across long stretches of time. Leaving aside for the moment large-scale disasters, most of the world's environmental challenges involve cumulative processes that in the absence of corrective measures, are likely to be increasingly detrimental over the long term. As a result, environmental politics tends to be organized around a continuous struggle between the few experts who recognize the need for corrective measures to offset the long-term dangers, and the many producers, consumers, and citizens who are concerned with maximizing short-term gains and minimizing short-term losses. That is, more often than not, the political processes of communities and nations tend to be loaded against the long-run. People and politicians readily reason that long-term outcomes are too uncertain and too distant to worry about when the current scene is so pervaded with immediate needs and difficulties. The impulse to avoid hard choices and postpone action is deeply embedded in the structure of environmental politics. All concerned are aware that their generation will be followed by others, and that their children will grow to have children, but somehow the problems of unborn grandchildren seem minimal compared to those that beset people seeking to preserve or improve their welfare today.

It follows that the politics of the environment is by its very nature temporally different from the politics of the economy, the politics of governance, or the politics of agriculture. The collapse of a stock market, the ouster of a regime, or the failure of a crop are, so to speak, instantaneous events with enormous and obvious immediate consequences that cannot be ignored, that require unqualified responses, and that quickly come to dominate the concerns, headlines, and agendas of the day. Environmental developments, on the other hand, are easily relegated to peripheral status. With the rare exception of when they connote disaster (see below), such developments do not pose a need for instant reactions,

or altered policies. Usually they are developments in the sense that a government agency has issued a report or a nongovernmental organization has called attention to an ominous trend, events which tend to neither capture headlines nor place the implications high on the relevant agenda. Only as interest groups keep environmental issues alive, therefore, do they come before the public. Otherwise their long-term horizons consign them to short-term oblivion.

Politicians and publics anxious to protect or enhance the quality of the environment are thus destined to be mired in an uphill struggle. Using tentative findings, they face the difficult task of delivering disturbing and onerous messages that are neither immediately relevant nor easily rejected. They have to press policy options that require altered processes of production, revised modes of consumption, and a host of other sacrifices to which the body politic is not accustomed.¹² And perhaps most difficult of all, they cannot promise early and satisfying benefits in exchange for the sacrifices. Inescapably, therefore, support for sound environmental politics is bound to be fragile and reluctant, ever susceptible to erosion and distortion.

Disaster as Context

But there is one condition under which the widespread predispositions to postpone or avoid the implications of environmental degradation are disrupted and replaced with a restless urgency that swiftly moves such issues from the periphery to the center of the political stage: namely, when environmental threats become realities and collapse into a single, dramatic, unexpected, and devastating disaster. Each marginal increment in a detrimental trend can be easily rationalized as just a temporary blip in an otherwise benign or murky pattern. But even the most adroit politician cannot evade the fall-out of environmental disasters. Chernobyl, Three Mile Island, Bhopal, and other such disasters thus become turning points in politics. They are profoundly transformative. They arouse those who survive to make demands and undertake actions that are shrill, insistent, and durable. Nor are the fears engendered by disasters confined to those immediately exposed to them. Such events can be readily imagined by

¹²For a good example of an effort to cope with this dilemma, see Sam Fulwood III. "Study Urges 'Revolution' Dedicated to Global Cleanup", *Los Angeles Times* (January 12, 1992). p. A4.

people everywhere as occurring at comparable facilities near their homes. As a consequence, major disasters quickly become globalized and thereafter deeply embedded in the memory banks on which future officials and publics draw for guidance in conducting their affairs.

To be sure, some individuals in communities far removed from the site of disasters may manage to remain oblivious to them; others may soon repress, forget, or otherwise act as if they never occurred; and still others may uneasily reason that such lightning never strikes twice. Memories can be short in politics as immediate needs press for attention. From a systemic perspective, however, things are never quite the same again. The consequences of the disaster pervade the speeches of politicians, legal precedents get adopted by courts, parties pledge 'never again' in their platforms, editorial pages take note of the disaster's anniversary, interest groups remind followers and adversaries alike of its portents, and so on through all the channels whereby societies adapt to systemic shocks.

Chernobyl is perhaps the quintessential example of how disasters stand out as exceptions to the temporal processes that sustain environmental threats as peripheral problems. The collapse of the Soviet Union was, of course, the product of a number of dynamics, but a good case can be made for the proposition that the system's downhill slide began, or at least received a 'powerful impetus', when the reactor at the Chernobyl plant blew in 1986. That event "began to attract [to rallies sponsored by marginal protest movements] impressive crowds of people who were becoming aware of the carelessness with which bureaucrats had adulterated their food, poisoned their air, and contaminated their drinking water. The authorities were acutely embarrassed by the protests ... It was difficult to deny the facts of ecological degradation, and environmental health is like motherhood: you can't be opposed to it."¹³

The conscious-raising effects of disasters, however, are not necessarily salutary. The very real repercussions they initiate can lead to distortions as well as correctives in the political process. Knowledge that a disastrous situation can quickly convert long-run uneasiness into short-run urgency may tempt pro-environment activist groups to over-interpret available data as indicating that ominous circumstances lie just ahead or, worse, to torture (i.e., manipulate) the data so that the likelihood of such circum-

¹³Geoffrey Hosking, "The Roots of Dissolution", *The New York Review of Books*, Vol. XXXIX (January 16, 1992), pp. 35–36.

stances developing seems beyond question. And the more activists yield to these temptations, the more likely are publics to become apathetic, much like the reactions to the boy who cried wolf too often. Similarly, given the potential disasters have for precipitating reform, it is tempting to develop a dispirited cast of mind in which one begins to hope that a major calamity will befall a community or region, a calamity that causes so much havoc as to transform the temporal context and permanently elevate environmental issues to the top of the global agenda.

Political Contexts

Still another set of contextual factors, perhaps the most pervasive of all, involves the conditions under which environmental developments and problems are perceived, framed, and managed at every level of politics. For even as the scientific and temporal dimensions of the physical environment shape political structures, so is it the case that the latter operate as crucial determinants of how environmental opportunities are seized and environmental constraints heeded or ignored. There is in other words – in addition to the situation-specific variables – a larger political context, a set of structural constraints within which the interaction of human and nonhuman dynamics occurs.

Just as aspects of both the environment and the political arena can operate as independent and dependent variables, so can some dimensions of both be viewed as constants, as parametric boundary conditions that enhance and/or limit the management of nature's processes. Some resources in the environment are finite and others require centuries to replenish. Some processes of degradation feed on themselves and others are reversible. Such fundamental dimensions of the environment serve as inescapable backdrops to the variability through which nature impacts the course of events. In a like manner, some basic structures that mark local, national, and international politics in any era of history cumulate at an invariable setting within which efforts to respond to environmental conditions are sustained. Orientations toward authority, cooperation, and power exemplify political phenomena that serve to bound and shape the conduct of environmental politics.

Three parameters appear especially central as structural conditions that shape how publics and officials throughout the world experience and cope with the diverse challenges posed by environmental issues.

The three are differentiated by the kinds of political phenomena they aggregate. The most encompassing – what I shall refer to as the macro parameter – consists of the overall structure of world politics, those power distributions and orientations that underlie the hierarchical arrangements through which world affairs are conducted. The least aggregative – the micro parameter – pertains to the predispositions and skills of individual citizens. Between these two extremes of aggregation lies the macro-micro parameter, which involves the authority structures through which macro collectivities and micro individuals are joined together.

While these parameters that make up the larger political context are normally invariant as boundary conditions (else they would be variables), they can undergo change if viewed from an era-long rather than an annual or decadal perspective. Elsewhere I have argued that, due to the historical convergence of a wide variety of dynamics, such changes have occurred late in the Twentieth Century and that the cumulative impact of the transformation of each of the three parameters has introduced substantial degrees of turbulence into the overall context of world politics.¹⁴ More precisely, not only have the transformations been interactive, with each parametric shift fostering and reinforcing changes in the other two parameters, but the transformations have also been so thoroughgoing as to bring about the first turbulence in world politics since the Treaty of Westphalia in 1648.¹⁵ Where the macro parameter has for centuries involved dominance by the anarchic system of nation-states, lately the overall structure of world politics has undergone a bifurcation in which a multi-centric system of diverse types of actors has emerged to rival the state-centric system. The transformation of the macro-micro parameter has involved movement of authority structures from being in place to being in crisis. As for the micro parameter, it is conceived to have undergone changes wherein the analytic skills of citizens have expanded substantially.

Skills as Context

In order to trace how these transformative and interactive processes are likely to condition the conduct of environmental governance at local,

¹⁴A lengthy discussion of each parameter and the transformation it has undergone can be found in Rosenau, *Turbulence in World Politics*, Chaps. 8–14.

¹⁵For an elaboration of this historical interpretation and the definition of turbulence on which it rests, see Rosenau, *Turbulence in World Politics*, Chaps. 4 and 5.

Table 2. Transformation of Three Global Parameters

	<i>from</i>	<i>to</i>
micro parameter	individuals less analytically skillful and emotionally competent	individuals more analytically skillful and emotionally competent
macro-micro parameter	authority structures in place as people rely on traditional and/or constitutional sources of legitimacy to comply with directives emanating from appropriate macro institutions	authority structures in crisis as people evolve performance criteria for legitimacy and compliance with the directives issued by macro officials
macro parameter	anarchic system of nation-states	bifurcation of anarchic system into state- and multi-centric subsystems

national, and international levels, it is necessary to elaborate on their sources and consequences. The transformation of the micro parameter is, as noted, to be found in the growing capabilities of citizens everywhere. Individuals have undergone what can properly be termed a skill revolution. For a variety of reasons ranging from the advance of communications technology to the greater intricacies of life in an ever more interdependent world, people have become increasingly more competent in assessing where they fit in international affairs and how their behavior can be aggregated into significant collective outcomes.

Put differently, it is a grievous error to assume that citizenries are a constant in the processes of governance, that the world has rapidly changed and complexity greatly increased without consequences for the individuals who comprise the collectivities that interact on the global stage. As long as people were uninvolved in and apathetic about world affairs, it made sense to treat them as a constant parameter and to look to variabilities at the macro level for explanations of what happens in world politics. Today, however, the skill revolution has expanded the learning capacity of individuals, enriched their cognitive maps, and elaborated the scenarios with which they anticipate the future. It is no accident that the

squares of the world's cities have lately been filled with large crowds demanding change.

It is tempting to affirm the impact of the skill revolution by pointing to the many restless publics that have protested authoritarian rule and clamored for more democratic forms of governance. While the worldwide thrust toward an expansion of political liberties and a diminution in the central control of economies is certainly linked to citizens and publics having greater appreciation of their circumstances and rights, there is nothing inherent in the skill revolution that leads people in more democratic directions. The change in the micro parameter is not so much one of new orientations as it is an evolution of new capacities for cogent analysis. The world's peoples are not so much converging around the same values as they are sharing a greater ability to recognize and articulate their values. Thus this parametric change is global in scope because it has enabled Islamic fundamentalists, Asian peasants, and Western sophisticates alike to better serve their respective orientations.

Equally important, evidence of the skill revolution can be readily discerned in trend data for education, television viewing, computer usage, travel, and a host of other situations in which people are called upon to employ their analytic and emotional skills. And hardly less relevant, a number of local circumstances – from traffic jams to water shortages, from budget crises to racial conflicts, from flows of refugees to polluted air – are relentlessly confronting individuals with social, economic, and political complexities that impel them to forego their rudimentary premises and replace them with more elaborate conceptions of how to respond to the challenges of daily life.

This is not to say that people everywhere are now equal in the skills they bring to bear upon world politics. Obviously, the analytically rich continue to be more skillful than the analytically poor. But while the gap between the two ends of the skill continuum may be wide, the advance in the competencies at every point on the continuum is sufficient to contribute to a major transformation in the conduct of world affairs. More important for present purposes, world affairs today rests on increasingly relevant micro foundations – on individuals who cannot be easily deceived and who can be readily mobilized on behalf of goals they comprehend and means they approve. The issues of environmental politics are thus waged in a more inclusive context than has ever prevailed previously. Elites are increasingly constrained by publics who

follow their activities and are ever ready to demand appropriate performances in exchange for support.

This trend has profound implications for environmental politics. In the first place, it means that the scientific context in which such issues as pollution, waste, resource depletion, and global warming will seem increasingly less mysterious and remote to the body politic. Many people will doubtless continue to feel in awe of the experts who issue findings and make pronouncements about nature's tendencies, but their ability to absorb information, discern contradictions, and play out scenarios is likely to grow. In the face of a skill revolution at mass levels, it can reasonably be hypothesized that the locus of environmental politics is likely to shift, encompassing more alert and attentive citizens who press their leaders more vigorously and effectively. Recent polls indicate that such a shift may already be underway (see below).

While this is not to say that time horizons will be greatly narrowed and the long-run substantially collapsed into the present, it is to suggest that opponents of conservation and environmentally-sensitive policies are likely to find it increasingly difficult to dismiss the contentions of those who stress the dangers inherent in the prevailing practices of production and consumption.

Authority Relations as Context

Historically, authority structures have been founded upon a traditional criteria of legitimacy derived from constitutional and legal sources. Under these circumstances individuals were habituated into compliance with the directives issued by higher authorities. They did what they were told to do because, well, because that is what one did. As a consequence, authority structures remained in place for decades, even centuries, as people unquestioningly yielded to the dictates of governments or the leaderships of the other organizations with which they were affiliated. For a variety of reasons, including the expanded analytic skills of citizens noted above, the foundations of this parameter have also undergone erosion. Throughout the world today, in both public and private settings, the sources of authority have shifted from traditional to performance criteria of legitimacy. As a result, structures of authority have entered a period crisis, with the readiness of individuals to comply with governing directives being very much a function of their assessment of the performances of the authorities.

As a consequence of the pervasive authority crises, states and governments have become less effective in confronting challenges and implementing policies. They can still maintain public order through their police powers, but their ability to address substantive issues and solve substantive problems is declining as people find fault with their performances and thus question their authority, redefine the bases of their legitimacy, and withhold their cooperation. Such a transformation is presently being played out in every region of the world, albeit the crises take different forms in different countries. In some countries the authority crisis is rooted in linguistic, cultural, and constitutional issues, while in others it has led to violence and civil war. In still others it has generated uneasy stalemates as governments have proven incapable of bridging societal divisions by undertaking the decisive actions necessary to address and resolve intractable problems.

The relocating of authority precipitated by the structural crises of states and governments at the national level occurs in several directions, depending in good part on the scope of the enterprises people perceive as more receptive to their concerns and thus more capable of meeting the preoccupation with adequate performances. In many instances this has involved 'downward' relocation toward subnational groups – toward ethnic minorities, local governments, single-issue organizations, religious and linguistic groupings, trade unions, and the like. In some instances the relocating process has moved in the opposite direction toward more encompassing collectivities that transcend national boundaries. The beneficiaries of this 'upward' relocation of authority range from supranational organizations like the European Community, to intergovernmental organizations like the International Labor Organization, from nongovernmental organizations like the Greenpeace to professional groups such as Médecin sans Frontier, from informal international regimes like those active in different industries to formal associations of political parties like those that share conservative or socialist ideologies – to mention but a few types of larger-than-national entities that have become the focus of legitimacy sentiments. Needless to say, these multiple directions in which authority is being relocated serve to reinforce the tensions between the centralizing and decentralizing dynamics that underlie the turbulence presently at work in world politics.

The transformation of the micro-macro parameter obviously has wide implications for environmental governance. With authority crises

besetting governments, their voices and policies on environmental issues are likely to be undermined and, correspondingly, the findings and interpretations of science seem bound to acquire greater legitimacy. To be sure, the counter-culture and post-modern perspectives are expressive of reactions against the excesses and failures of science in recent decades¹⁶, but for most segments of the public, science is one arena that has yet to be engulfed by the pervasive cynicism in which governments, corporations, universities, and most other societal institutions have become embedded. Thus it can be anticipated that politicians and bureaucracies will be ever more eager to turn to relevant scientific communities both for the guidance and, even more, the legitimacy necessary to frame and sell their environmental policies. Such efforts may well serve to insulate environmental politics from the destabilizing effects of the transformative dynamics of the micro-macro parameter.

Equally noteworthy, weakened governments are likely to undertake efforts to manage environmental problems by reaching out to counterparts abroad. That is, since the processes of nature tend to span political jurisdictions as quickly as currents carry pollution downstream, the built-in need for cooperation on environmental issues is likely to be augmented by the lessened authority of states and governments. For the same reason it can be anticipated that increasingly environmental issues will be centered in international organizations and other transnational actors which, while not necessarily endowed with sufficient authority to resolve the issues, will at least have the scope to address the cross-border foundations of such problems.

As for the ways in which the context of authority crises may affect the repercussions of disasters, it seems reasonable to assume that the probability of calamitous environmental events will be increased as governments and their bureaucracies become weaker and unable to frame effective policies. To a large extent disasters of this sort are rooted in administrative laxity that cumulates across time and that weakened governments lack the capacity to recognize, the will to address, or the authority to correct.

At the same time the repercussions of disasters seem likely to erode further the authority of national governments inasmuch as occurrences

¹⁶Pauline Marie Rosenau, *Post-Modernism and the Social Sciences: Insights, Inroads, and Intrusions* (Princeton: Princeton University Press, 1992).

of the former are likely to be ascribed, at least in part, to poor performances on the part of the latter.

In short, the linkages between domestic authorities and international environmental challenges seem bound to become unraveled in the years ahead. The closer environmental issues climb to the top of political agendas, the greater is the likelihood that national governments will be eclipsed by transnational organizations and movements that are not so burdened by crises of authority.

Global Structures as Context

For more than three centuries the overall structure of world politics has been founded on an anarchic system of sovereign nation-states that did not have to answer to any higher authority and that managed their conflicts through accommodation or war. States were not the only actors on the world stage, but traditionally they were the dominant collectivities who set the rules by which the others had to live. Depending on how many states had the greatest concentration of power, at different historical moments the overall system was varyingly marked by hegemonic, bipolar, or multipolar structures.

As noted, however, today the state-centric world is no longer predominant. Due to the skill revolution, the worldwide spread of authority crises, the impact of dynamic technologies, and many other factors, it has undergone bifurcation.¹⁷ A complex multi-centric world of diverse, relatively autonomous actors has emerged, replete with structures, processes, and decision rules of its own. The sovereignty-free actors of the multi-centric world consist of multinational corporations, ethnic minorities, subnational governments and bureaucracies, professional societies, political parties, transnational organizations, and the like. Individually, and sometimes jointly, they compete, conflict, cooperate, and otherwise interact with the sovereignty-bound actors of the state-centric world.¹⁸

Table 3 delineates the main differences between the multi-centric and the state-centric worlds.

¹⁷A full analysis of the diverse sources of the bifurcation of global structures can be found in Rosenau, *Turbulence in World Politics*, Chaps. 10–15.

¹⁸For an explanation of why the terms ‘sovereignty-free’ and ‘sovereignty-bound’ seem appropriate to differentiate between state and nonstate actors, see Rosenau, *Turbulence in World Politics*, p. 36.

Table 3. Structure and Process in the Two Worlds of World Politics

	<i>State-centric World</i>	<i>Multi-centric World</i>
Number or essential actors	Fewer than 200	Hundreds of thousands
Prime dilemma of actors	Security	Autonomy
Principal goals of actors	Preservation of territorial integrity and physical security	Increase in world market shares, maintenance of integration of subsystems
Ultimate resort for realizing goals	Armed force	Withholding of cooperation of compliance
Normative priorities	Processes, especially those that preserve sovereignty and the rule of law	Outcomes, especially those that expand human rights, justice, and wealth
Modes of collaboration	Formal alliances whenever possible	Temporary coalitions
Scope of agenda	Limited	Unlimited
Rules governing interactions among actors	Diplomatic practices	Ad hoc, situational
Distribution of power among actors	Hierarchical by amount of power	Relative equality as far as initiating action is concerned
Interaction patterns among actors	Symmetrical	Asymmetrical
Locus of leadership	Great powers	Innovative actors with extensive resources
Institutionalization	Well established	Emergent
Susceptibility to change	Relatively low	Relatively high
Control over outcomes	Concentrated	Diffused
Bases of decisional structures	Formal authority, law	Various types of authority, effective leadership

Sources: Reproduced from James N. Rosenau, *Turbulence in World Politics: A Theory of Change and Continuity* (Princeton: Princeton University Press, 1990), p. 250.

The transformation of the macro parameter highlights far-reaching consequences for environmental governance. The bifurcation of global structures and the expanded autonomy of actors in the multi-centric world means that environmental groups have wider opportunities to be active on the world stage, to mobilize support for and exert pressure on behalf of their goals. It is no mere coincidence, for example, that the environmental movement gained momentum during the very decades that the decentralizing dynamics in world politics weakened states and strengthened subnational, transnational groups, and other actors whose legitimacy claims derived from conspicuous performances not encumbered by the responsibilities of formal authority. Inchoate and disparate as environmental groups may still be, their evolution into a discernible and influential social movement can be traced to the transformation of the macro parameter.¹⁹ Indeed, it can easily be argued that the spreading momentum of the environmental movement also served as a stimulus to the processes of bifurcation whereby states ceded some of their space on the global stage to counterparts in the multi-centric world.

Stated differently, the decentralized structures of world politics and the lessened control of states allows greater leeway for linkages among diverse types of environmental groups in different parts of the world to be established. Presumably these processes of coalition formation will be speeded up as scientific findings reveal distant environmental threats to be moving closer to present-day realities.

The Challenge of Global Environmental Governance

While the foregoing discussion makes it clear that successful management of the myriad environmental challenges will depend on effective governance at the local, national, regional, and global levels, there remains the question of whether control can be established over those environmental issues that are truly global in scope. Thus far the analysis suggests that it is misleading to separate out the international dimension because it is inextricably tied to developments at other levels of collective

¹⁹For cogent discussions of the many other sources that have stimulated the growing relevance of 'critical' social movements, see R.B.J. Walker, *One World, Many Worlds: Struggles for a Just World Peace* (Boulder: Lynne Reiner Publishers, 1988), and Ron Everman and Andrew Jamison, *Social Movements: A Cognitive Approach* (Cambridge: The Polity Press 1991).

action. But suppose we relax this premise, and hold constant all those variables that are not operative on a global scale. What can we say then about the prospects for international environmental governance? What can we say about the possibility of a system of rule at the international level comprised of United Nations agencies, international regimes, NGOs, and other relevant actors achieving effective governance over such truly global situations as ozone depletion, ocean pollution, loss of biodiversity, and potentially devastating climate change? And hardly less important, given the many recent efforts to assess the prospects for international environmental governance and those that are still underway²⁰, what can we say that is new and useful?

My answer to the last of these questions is simple. Yes, there is danger of overlap and repetition, but the more different groups within and outside the halls of governments engage in assessments along this line, the better. The issues are too crucial for any effort to be deemed unuseful. There is surely plenty of room for both creative and disciplined reflection upon what has been accomplished and what can be done.

My response to the earlier questions draws on a sample of literature that addresses them. In that literature the response is an ambivalent mix. On the one hand, it is marked by a pervasive sense of gloom and doom, by a long parade of horribles which seem to imply that things can only get worse. The components of this parade are diverse and numerous: states fall back on their sovereignty when they oppose control measures, or they approve the measures but either do not comply with them or falsely report compliance; the money and resources needed to address the challenges are not available; national leaders attach higher priority to stimulating their economies than to environmental management; multi-lateral aid programs have not stressed sustainable development and thus are marked by failure; the North-South divide continues to be deep and unbridgeable; most developing countries lack the staff, information, and equipment to monitor environmental practices and enforce environmental standards; the United Nations and its agencies have yet to demonstrate a capacity to grab hold of the challenges, much less to ameliorate them; compromises lead to deadlocks or, worse, to watered-

²⁰A summary of some recent efforts can be found in Susskind, *Environmental Diplomacy*, Chap 7, whereas a major assessment still underway is that of the Commission on Global Governance headquartered in Geneva.

down common denominators that neither protect the environment nor clearly identify threats; key treaties on the environment have yet to be ratified and those that have do not seem to have induced substantial reductions in environmental deterioration; and perhaps most discouraging of all, prior efforts to institute effective control mechanisms have come to naught as the international system remains immune to alterations of its anarchic ways.

Despite these severe and huge obstacles, on the other hand, the literature is also upbeat, pervaded with suggestions for reform, and marked by an optimism that can be quite infectious. One observer vigorously contends that the various accounts of the obstacles are all exaggerated²¹; another sees a growing role for NGOs that is bound to be beneficial²²; a third devotes five chapters to parading the horribles, only to amplify in the last chapter the ten recommendations for reform of the international governance process made by the Salzburg Initiative in 1991²³; a fourth anticipates the emergence of a new set of ethics to enable people to work through the dilemmas posed by environmental issues²⁴; a fifth notes that increasingly "national leaders are aware of the need to reduce pollution and use resources more efficiently while spurring the economy"²⁵; a sixth stresses the growing importance of international environmental governance, noting that both new institutions and institutional reforms (including an agreement to institutionalize procedures for monitoring compliance with treaty obligations) flowed from the 1992 UN Conference on Environment and Development (UNCED)²⁶; and a seventh discerns a "new international environmental politics" emerging since the Rio meeting of 1992, that is founded on more informed and committed publics, a proliferation of environmentally-minded NGOs, and a greater readiness on their part to monitor governments, "a shift in the burden of proof for international

²¹Christopher D. Stone, *The Gnat Is Older than Man: Global Environment and Human Agenda* (Princeton: Princeton University Press, 1993).

²²Kal Raustiala, "States, Civil Actors, and Participation in International Efforts for the Environment", a paper presented at the 1994 Meeting of the International Studies Association (Washington D.C., March 1994).

²³Susskind, *Environmental Diplomacy*.

²⁴Dyer, *Environmental Ethics and International Relations*.

²⁵The World Resources Institute, *World Resources, 1994-95* (New York: Oxford University Press, 1994), pp. 235.

²⁶The World Resources Institute. *World Resources, 1994-95*, pp. 223-26.

environmental protection”, a convergence of environment groups from the North and the South under the banner of sustainable development, and the advent of new UN agencies such as the Commission on Sustainable Development (CSD) and the Global Environment Facility (GEF) which may more effectively address the challenges than did other, differently structured agencies in the past.²⁷

How to evaluate these contradictory lines of thought? Do the optimistic assessments derive from that strain of the human spirit which has to plough ahead despite insurmountable odds? Or are there subtle bases for anticipating that the gloom and doom perspective is premature and that many, if not all, challenges of international environmental governance will ultimately be met?

I would like to suggest four bases for avoiding a premature pessimism. One is rooted in the relative rapidity with which environmental issues have climbed high on the global agenda. A second is linked to a focus on sovereignty as a behavioral variable rather than as a cherished principle. A third reconsiders the skill revolution in the light of the Earth Summit. The fourth reverses again the premise which holds constant the local and regional levels and stresses that developments at these levels may facilitate the tasks of governance at the global level.

The Salience of Environmental Issues

Despite the difficulties of achieving wide consensus on a long list of environmental issues, there can be little doubt that the challenges inherent in humankind's interactions with nature have become a central concern in the politics of communities and nations everywhere. This is not a trivial development. Issues at the top of political agendas are there because of deep-seated and not peripheral concerns. They are there because both citizens and their officials relentlessly perceive problems requiring resolution. And they remain at the top of agendas because the resolutions are either slow to evolve or are deemed insufficient. Being high on the list of priorities means, moreover, that the talents and energies of the groups affected by the issues will be engaged and that the public can be mobilized on behalf of proposed solutions. High salience also means that the level of citizen awareness is likely to be much greater

²⁷Peter M. Haas, “International Environment Politics after Rio”, a paper presented at the ACUNS/ICRA Symposium (Tokyo, January 7–9, 1993).

than is the case for most issues on the agenda, and this awareness means, in turn, that politicians cannot long avoid seeking ameliorative policies and areas where compromises can be reached.

When issues are at the top of political agendas, the momentum is in favor of policies being adopted. Thus it is not surprising that, ever since their lunge to near the top in 1972, environmental issues have been the focus of frequent studies, recommendations, disputes, and policy innovations in local communities, nationally, and at the international level. And in the absence of clear-cut resolutions of the major issues, there is every reason to anticipate the momentum to continue to mount. The importance of this continuing build-up can be readily glimpsed if one pauses to imagine what circumstances would be like if, somehow, environmental issues were to slip back to a peripheral place on – if not off – political agendas.

Some part of the momentum and the salience it fosters stems from an attribute of environmental issues that derives from their proximity to the core of human needs and wants. It is reasonable to presume that this proximity underlies a tendency for observers of the environmental realm not to hesitate in giving voice to their visions of a better tomorrow, and to do so with more than a little creativity in the search for concrete changes and practical solutions that would inch the world toward sustainable development. Both hard-nosed environmentalists and committed developers share a readiness to think afresh about policy alternatives, and this readiness helps sustain the momentum in favor of attending to environmental challenges.

The high salience of environmental issues – the notion that, like motherhood, everyone supports some form of progress toward resolution – has another attribute worthy of noting. It allows for the politics of shame to be employed to good advantage. Much as politicians may be disinclined to devote time and energy to environmental matters, and much as they might want to adopt delaying tactics, the nature of the issues makes them vulnerable to being shamed into addressing them. President Bush's clear preference not to attend the 1992 Earth Summit in Rio, followed by his reluctant three-day appearance there, offers a good example of how the politics of shame can evoke behavior that would not otherwise occur. NGOs and others eager to sustain the salience of environmental issues can hardly lose if they counter bureaucratic inertia and political stonewalling by resorting to shame as a means of exerting pressure.

Sovereignty as a Variable

To be high on the world's agenda is not, of course, to assure that progress toward sound and global environmental policies will follow. The momentum in this direction is encouraging, but it does not guarantee successful outcomes. For success to occur, other factors must be in place that are conducive to the momentum. Happily, a good case can be made that changes in the sovereignty principle can lessen the capacity to redirect or reverse the momentum.

By all accounts, sovereignty is a prime barrier to progress in developing collective responses to environmental challenges. States have the exclusive right, it is alleged, to reserve to themselves the final say on any proposed policies and, accordingly, they can veto any internal or external proposals with which they disagree. That is their sovereign right derived from their recognized membership in the society of nations. And, so it is said, the fact that they have and exercise this right means that policies designed to meet environmental challenges can succeed only to the extent that the policies do not violate the minimal interests of the states involved. For if they do run counter to state interests, the policies will fall victim to the exercise of the state's sovereign right to reject them. As one observer put it, 'when the crunch comes' the individual state will resort to an insistence on its sovereign privileges and thereby prevail over the collective will.²⁸

Formally and legally speaking, this formulation is sound and insightful. But considered informally and nonlegally, it is deeply flawed and highly misleading. It is a perspective which treats sovereignty as a dichotomous variable – either sovereignty exists or it does not – rather than as a continuous variable encompassing many diverse types of actions that can be regarded as expressive of sovereign behavior. Put differently, push rarely comes to shove, and the key questions thus involve the reasoning and behavior by which states accept intrusions upon their sovereign rights while also retaining the right to have the ultimate judgment. The widespread inclination to dichotomize sovereignty, to treat it as a principle that is or is not adhered to, makes it difficult to appreciate that there are many points on the sovereignty continuum between its presence and its absence.

²⁸Kenneth Waltz. *Theory of International Politics* (Reading, MA: Addison-Wesley, 1979), p. 91.

One way to stress the subtle difference between sovereignty as a dichotomous and a continuous variable is to distinguish between an at-the-convenience-of-states perspective and a states-are-obliged-to-go-along orientation. The former is the classic formulation of the sovereignty principle. It emphasizes that states have the final say when push comes to shove, that they agree to treaties or support policies only at their own convenience. The states-are-obliged-to-go-along orientation, on the other hand, stresses that while states can ignore dictates originating in international organizations, pressed by other states, or demanded by NGOs, they may well conclude that the better part of wisdom is not to exercise their sovereign privileges and, instead, to bargain their way through to a satisfactory or sacrificing conclusion. To the extent this orientation has replaced the classic one – and the evidence along this line is considerable, ranging from the many instances in which the UN Secretary General has used the politics of shame to get his way with member states, to the even more numerous instances in international regimes where member states feel obliged to go along rather than be responsible for scuttling a policy – the alleged barriers to sound environmental policies posed by the sovereignty principle are weakened, if not fully ignored. Put differently, the many ways in which states have converged around common policies in the environment field – including the more than 113 environmental treaties that have been adopted since 1972²⁹ – could never have happened if the classic conception of the sovereignty principle still held sway.

This is not to imply, of course, that the orientational shift is so pronounced that states will never again call upon their sovereignty to block policies they deem to be threatening. Obviously, the existence of the classic conception renders it ever-available. But there is a huge difference between possessing an acknowledged privilege and adhering to a pattern of its nonuse. Recent history suggests that as states have become weaker relative to the demands made upon them, so have they become increasingly ready to adhere to the pattern even as they affirm the privilege.

²⁹Hillary E. French "After the Environmental Summit: The Future of Environmental Governance", *Worldwatch Paper No. 107* (Washington, D.C.: Worldwatch Institute, 1992), p. 6.

The Skill Revolution Revisited

The continuing evolution of analytic skills at the micro level of citizenries appears to be another factor that is falling into place as conducive to the momentum favoring environmental issues. A revisit to its dynamics in the context of recent developments suggests that people are increasingly sensitive to such issues, that they are ever readier to perceive the ways in which the environment may impact their well being. A 1992 opinion poll conducted by the Gallup organization in 22 Northern and Southern countries, e.g. “demonstrated increasing widespread concern about environmental contamination, in both the North and South, and growing demands for international action. Most striking is the universal doubling in the percentage of respondents who felt that their own health was more seriously affected by environmental contamination than ten years ago”.³⁰ Remarkably similar results were uncovered in an earlier poll conducted by the Louis Harris Organization for the United Nations Environment Programme (UNEP). Although the samples were not large, this poll found that concern with environmental problems has become global in scope. A majority – and, in some cases, a large majority – of people in thirteen countries perceived a worsening of their environments over the previous ten years. Only in Saudi Arabia did a majority report it had gotten better, and one suspects this finding might be quite different if the Saudis had been polled subsequent to the environmental degradations unleashed by the Iraqis over Kuwait and in the Gulf. More important, most respondents anticipated that the processes of environmental degradation would worsen and thus looked to their governments to attach higher priority to the need for environmental protection. Indeed, huge majorities of 75 to 100 percent in each surveyed country agreed that more should be done by national and international organizations to address environmental problems. And perhaps most notable of all, as Harris put it, “alarm about the deterioration of the environment and support for much tougher environmental programs are not confined to Western countries, but are found in the East and West, in the South and North, and in the rich and poor countries of the world”.³¹

³⁰Quoted in Haas, “Environmental Politics After Rio”, pp. 7–8.

³¹For discussions of these data and alternative interpretations of the openness of publics to learning about environmental challenges, see Lester W. Milbrath, “The World Learns About the Environment”, *International Studies Notes*, Vol. 16 (Winter 1991), and Symposium, *Environmental Problems, a Global Threat* (Muscatine, Iowa, The Stanley Foundation, 1989), pp. 6–7 (the Harris quote is reproduced from p. 6).

Growth in the number, membership, and resources of environmental NGOs is so pronounced as to also suggest the presence of greater involvement and skills with respect to such issues. It is not a random statistic that more than 1,400 environment groups sent representatives to the 1992 Earth Summit and Global Forum meetings in Rio, a statistic that reflects how "their membership and resources grew dramatically" in the late 1980s, so much so in fact that "many larger groups became increasingly professionalized by hiring scientists and lobbyists. Greenpeace International's annual budget of 100 million dollars is well in excess of that of UNEP's!"³²

A perusal of reports on "the status of programme implementation" of the Global Environment Facility (GEF) small grants to diverse communities in some 15 countries provides additional bases for encouragement as to the involvement and spread of relevant environmental skills to individuals at the micro level.³³ The accounts of how each of 127 projects (selected out of applications more than triple the number of funded projects) allows for broad participation and, for very little money, focuses on specific challenges relative to global warming, destruction of biological diversity, pollution of international waters, or depletion of the stratospheric ozone layer, land degradation (particularly desertification and deforestation) are warming to an idealist's heart. To be sure, the GEF's small-grants programme is not without its critics and self-acknowledged faults³⁴; and it is also the case that the perused reports were prepared by the programme itself; but even after allowance is made for a full array of criticisms and the distortions inherent in self-reported accounts, the potential for transforming environmental situations and attitudes at local levels throughout the world seems very impressive indeed. The accounts of 127 projects in 15 countries on every continent convey a clear sense that environmental challenges can be addressed, that citizens and their leaders in local communities can be trained and

³²Haas, "Environmental Politics After Rio", p. 8.

³³United Nations Development Programme (UNDP), "Global Environment Facility: The Pilot Phase and Beyond. Working Paper Series Number 1", May 1992; United Nations Development Programme (UNDP), "The GEF NGO Small Grants Programme. Progress Report, 1992", January 29, 1993; and United Nations Development Programme (UNDP), "The GEF NGO Small Grants Programme. Progress Report No. 3", October 29, 1993.

³⁴The World Resources Institute, *World Resources, 1994-95*, p.229-31.

mobilized to shoulder the tasks of environmental management, and that such work at the grass roots need not be unduly expensive. Consider this apparently typical report from the host NGO in Nepal:

Dealing with over 300 NGOs scattered through the length and breadth of the geographically difficult country is a unique experience that no other NGO has so far gone through. As such, it is the feeling that in spite of great difficulty in transport and communication the programme is satisfactorily proceeding. A number of NGOs receiving GEF funding are already demonstrating their ability to achieve their goals with very little resources. The greatest lesson that those of us who are involved with the GEF/SGP in Nepal is that this type of small-scale efforts by local NGOs is the solution both to global problems and to the problem of environment and sustainable development in the country. The resources provided under the programme are really very small compared to the zeal with which projects are undertaken and the communities are mobilized for achieving specified goals.³⁵

In sum, there are reasons to believe that the bumper sticker which urges people to “think globally and act locally” is more than a vacuous slogan. Those five words appear to be descriptive of an ever-widening experience in ever-wider areas of the world.

The Relevance of Local and Regional Efforts at Environmental Management

As the GEF experience makes clear – if it was not otherwise self evident – our attempt to hold constant environmental developments at local and regional levels is ill-founded. It is a procedure that encourages a focus on international and global governance, but maintaining such a focus is difficult as one encounters continual reminders that activities and orientations at all levels are inextricably pieces of the same whole cloth. Analysts can assess the roles played by the United Nations, international regimes, and national governments in meeting environmental challenges, and they can do so without references to developments at the level of local and regional communities; but such inquiries are likely to seem conspicuously incomplete and their findings needlessly insufficient. Why? Because control exercised at the international and global levels is too dependent on the participation and cooperation of actors in local

³⁵United Nations Development Programme (UNDP), “The GEF NGO Small Grants Programme, Progress Report No. 3”, p. 19.

communities. States can hold international conferences and agree on terms that constrain environmental pollution, the waste of resources, the maintenance of biodiversity, and many other control mechanisms, but the implementation of such agreements falls largely to people and organizations at the national and local levels. A GEF funding criterion nicely summarizes the high degree to which all the levels of governance are interdependent: "In general, GEF should fund projects when domestic costs are greater than domestic benefits, but global benefits are greater than domestic costs."³⁶

In short, whatever their disruptive consequences may be, the decentralizing tendencies at work in the world seem destined to facilitate global governance of the environment. They are bringing governance closer to the level at which 'ecological consciousness' can evolve and people are able to "see themselves as being the *cause* for the environmental *effect*".³⁷ Put differently, the more the momentum toward environmental governance builds, the more citizens everywhere will be caught up in its ripple effects: and the more enmeshed they become, the more support for appropriate control mechanisms will be generated.³⁸ After all, "People do not, other things being equal, pollute and damage those natural systems on which they depend for life and livelihood if they see directly what is happening; nor voluntarily use up a resource under their feet and before their eyes if they perceive that it is precious, needed, vital: nor kill off species they can see are important for the smooth functioning of the ecosystem".³⁹

³⁶United Nations Development Programme (UNDP). "Global Environment Facility: The Pilot Phase and Beyond", p. 31.

³⁷Kirkpatrick Sale, *Dwellers in the Land: The Bioregional Vision* (San Francisco: Sierra Club Books. 1985). p. 51 (italics in the original).

³⁸Viewed from this perspective, a proposal that people may be ready to pay special taxes in return for a cleaner environment is anything but farfetched. See Mary Durfee, "Increasing Citizen Participation: The Virtues of an Ecosystem Tax for the Great Lakes" (xerox, Michigan Technological University, September 15, 1993).

³⁹Sale, *Dwellers in the Land*. p. 51.

Negotiation, Governance, and Regime Building

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Most of the growing literature on international regimes focuses on *why* states cooperate, neglecting the exploration of *how* states cooperate in conceptual terms. Such crucial topics as the creation of regimes, the role of how multilateral negotiation, the nature of power, the determination of regime forms, regime evolution and success and regime relations to domestic events are largely left out of the discussion or are treated unsatisfactorily. The neglect of the regime-building process goes hand in hand with the general neglect of the conceptual study of multilateral negotiation, but it also relates to the problems of conceptualizing the paths and phases – longitudinal and latitudinal alternatives – in the integration process. This chapter seeks to address these lacunae, in the hopes of opening further discussion and without any illusions that the holes will be filled.

In an image, regimes are watercourses flowing through time and space. Neither just the source nor the surface, they involve the entire body of water from its upper manifestations as international agreements to its benthic effects on local politics (and local and national politics' effects on the regime). What is going on in the water and how the water reacts with the bottom are important ingredients in an understanding of movement on the surface and in the flow over time. Regimes are quite different from many other types of agreements in that they are not simply negotiation outcomes, processed and filed, but are living, ongoing agreements

moving through time. Governance of regimes fits this image, too, for etymologically the Greek root of ‘governance’ is the word for ‘steering’ or guiding one’s way through the watercourse. But the image also raises other conundrums, notably in regard to the matter of success. How does one judge the success of a river? Even the success of steering, beyond keeping the boat upright, depends on the destination of both the steersman and the passengers, items of ambiguity to be pursued below.

Some of the ambiguity can be brought under control through some clearer specification of the concepts. Regimes are instruments of international cooperation that fall short of *supranational* organization, instruments of coordinated and collectively self-managed interdependence. ‘Governance without government’ they have been termed (Rosenau and Czempiel 1992), or, put more accurately, governance among governments and non-governments without government. The coordination and management is required to secure information, “organize negotiation processes, set standards, perform allocative functions, monitor compliance, reduce conflict and resolve disputes” (Eden & Hampson 1990, 6). Thus, the regime is more than simply “principles, norms, rules, and decision-making procedures” (Krasner 1983,1); it is the institutionalized effort to establish, monitor and support these outputs, with the understanding that that institutionalization remains inter-, and not supra-national. Regime-building occurs through a continuous process of negotiation and implementation. Since specific encounters mark the formalization of the evolving regime, characteristics of the multilateral negotiation and domestic application processes govern the building of regimes.

Regimes do not build themselves, are not self-enforcing, and if left to themselves will evaporate, although at the same time they are part of a process that takes on a dynamic of its own. At the hands of at least some of the parties, the process of regime-building is a purposive exercise heading toward the establishment of rules, regulations, norms and expectations governing the given issue area. Other parties are interested in preventing regime formation or at least limiting the attainment of the goal of others, and so, concomitantly if not symmetrically, progress toward regime formation arouses a counterprocess of limiting regime effects. As a result, any momentary process of regime building has its own interactional dynamic, in which the outcome will lie somewhere between the extreme positions, although not necessarily in the middle (as

is sometimes assumed). In other words, regime-building is not a one-shot affair but an evolution, a series of negotiations large and small taking place within an independently evolving context.

Regime Creation as Negotiated Problem-Solving

Regimes involve interdependencies and interactions; they do not create them. They are impelled by a felt need for some order – norms, rules, regulations and expectations – in those existing interactions, because the cost of disorders and transaction inefficiencies impedes the achievement of the purposes for which the transactions were instituted. Formal co-operation comes when the interests of the cooperating parties are inchoate and need organized coordination (Morgenthau 1948). The formalizing event is often preceded by preparatory and partial negotiations, as well as by the triggering problems. Sometimes the incremental process begins bilaterally and even non-governmentally, and the main round serves to collect and coordinate these diverse efforts around a coherent formula. Yet formalization is not likely to be an imperceptible rise on a featureless trend toward a regime. It is a response to a problem, triggered by an exogenous challenge or an endogenous breakdown in current attempts at self-regulation – a relatively sharp escalation in the feeling of need. This step represents an important threshold in the building of a regime and should be recognized as the point of formal regime formation, ending the informal phase. While some attempts at self-regulation may never leave the informal phase, they need to be analysed as something other than a regime that has passed its formalizing threshold. Thus, informal or customary regulation is treated here as a different phenomenon, perhaps a ‘pre-regime’.

The creation and continuation component of the regime building process is one of multilateral negotiation, and the parties and issue return to this same process at intervals in order to pursue the evolution of the regime. Multilateral negotiation has its own characteristics which are important for understanding how regimes are established (Zartman 1994; Spector, Sjöstedt, & Zartman 1994, Hampson 1995, Hopmann 1995)) but which can also be used to analyse the process of regime evolution. Within the standard definition of negotiation as the process by which conflicting positions are combined to form a common decision (Zartman & Berman 1982), multilateral negotiation has attributes which

distinguish it completely from bilateral decision-making (cf. Young 1989). Whereas bilateral negotiation has its own inherent structure, multilateral decision-making is an exercise in managing complexity, since it is characterized by such a large number of interacting variables that there is no dominant pattern or dimension (Klir 1985, Zartman 1993).

The *multiparty, multi-issue, and multi-role* nature of multilateral negotiations is the source of that complexity. Multiple issues provide the means as well as the subject of agreement, since they allow for the trade-offs that provide the network for a single outcome. They also allow for texture in the negotiations, since not all the many parties have the same intensity of interest on any issue, any more than they have the same substantive interest. This allows Homans' Maxim – "The more items at stake can be divided into goods valued more by one party [or parties] than they cost to the other[s] and goods valued more to the other party [or parties] than they cost to the first, the greater the chances of successful outcome" (Homans 1961, 62) – to be played out to the fullest, and Homans' Maxim is the key to any negotiation. Roles too are both a component of complexity and a way of dealing with it, and they go beyond the simple dichotomy of leaders and followers. Without role diversity, the issue and party complexities could not be combined in an agreeable outcome. Playing on all three levels of interaction, parties work to shape the values attached to various issues and also to manipulate the other parties and their roles in order to come to an agreement. They must do so because, if they chose to ignore these possibilities, others will make use of them, forcing the other parties to play on the three levels in response. It is again the immense complexity of having to deal with many parties, issues and roles that makes such multiple variability the price of winning an agreement, thus further increasing the characteristic complexity.

Such complexity could doubtless be dealt with by a computer, providing an multiaggregate utility (MAU) score indicating an optimal agreement (Spector 1994). While such scores can be of use in cutting through the fog of complexity, they are still no substitute for the negotiation process, particularly as it is carried out by artisans of negotiation under current diplomatic practices. Decision models were of heuristic use in the Law of the Sea negotiations, but did not replace the diplomatic process (Raiffa 1982, ch. 18).

Regime-Formation as Managed Complexity

Instead, practitioners and analysts alike seek ways of managing the characteristic complexity to produce or explain a result. Upon entering a multilateral negotiation situation, they give a conceptual scan of the complexity, and then refine it into a cognitive model constructed out of the interrelated elements of *simplification, structuring, and direction*. Simplification means reducing the number of elements to the most important (which will vary by party and by situation), structuring means giving them some priority and relationship to each other, and direction means moving these components toward an intended policy goal, usually located along a spectrum depending on whether a particular issue outcome or a general agreement is more important to the party.

There are many ways of managing complexity. In terms of *role strategies*, simplification, structuring and direction can take a number of forms. Inductively, a limited list of strategies can be identified from which parties can chose, although there is not yet a clear conceptual dimension to the list (Sjöstedt 1993). Parties can Drive, Conduct, Defend, Brake, or Cruise. Drivers try to organize participation to produce an agreement that is consonant with their interests. Conductors also seek to produce an agreement but from a neutral position, with no interest axe of their own to grind. Defenders are single-issue players, concerned more with incorporating a particular measure or position in the agreement than with the overall success of the negotiations. Brakers are the opposing or modifying resistance, brought into action by the progress being made on either the broad regime or on specific issue items. Cruisers are filler, with no strong interests of their own and so available to act as followers. Two other marginal strategies are left, that of exit, through individual exceptions and derogations, and that of compensation, through a trade of exceptions for inducements and sidepayments. All of these roles are available, to be used by various parties at various times, although the adoption of one role – driver or conductor, for example – colors the ability to shift to another later on.

Conducting and driving are the strategies which best fit regime building. These strategies depend on a procedural or substantive leader who agglomerates parties into agreement. While pursuing its own interests, each party is brought to play its own score in the right way to bring a harmonious result. The conductor could be a sovereign with its

own interest-related agenda subordinated to getting a generally satisfactory agreement. But the multilateral conference nature of negotiations weigh in favor of a more disinterested leader to provide order to the proceedings. Thus many environmental conferences give a prominent role to a secretary general, conference chair, secretariat, or other organizing agency (Lang 1989; Herter and Binder 1993). States more often chose a driver's over a conductor's strategy, for many reasons: Often, no state is powerful enough to be hegemonic, interests are usually defensive and partial rather than global, potential leaders are above all regional and interest group players and so are tainted. In this situation, the procedural conductor is actually welcome, since it allows parties to pursue their interests more effectively, facilitating agreement.

In dealing with issue complexity, structuring takes place through diagnosis, *formulation*, and detail (Zartman & Berman 1982). The need for a formula has particular importance in regime building, especially when understood as a shared sense of justice or terms of trade. A sense of rules, regulations, expectations and behaviors must rest on a solid foundation of agreement on broad principles of fair allocation in the given issue area. It is the absence of this consensus on basics, for example, that has kept the meta-regime on environmental matters advanced at Rio in 1992 from making clear and unambiguous progress: Whether environmental matters are to be governed by a principle of compensation (for delayed development) or equity (for incurred investments) or equality among all parties is still an unresolved question. Finding a formula is a basic means of reducing issue complexity.

Like role strategies and issue formulas, *coalition* is another mechanism for dealing with complexity, relating to both parties and to issues. Coalition among many parties is often used as the theme for analyzing multilateral negotiation (Sebenius 1992, Bennet 1987, Hampson 1995) and give rise to a limited number of strategies. Parties seek either to aggregate other groups and parties into a growing winning coalition, or to divide opposing groups into smaller parts so as to absorb or merely to weaken them, or to confront them to defeat them or work out a deal with them. Although coalitions are usually conceived of as international groupings of states, transnational cooperation across states is a growing characteristic of multilateral negotiation. Transnational coalitions of scientists, technologists, and business is one type of coalition that mobilize their pluralistic resources – knowledge, skill, and money – to either raise the

consciousness or strike an interest deal with political leaders accountable to constituent groups.

But coalitions can be made among issues as well, in order to reduce their complexity and make them manageable for agreement. Issue coalitions have their own tactics. Fractioning, packaging, linkages and trade-offs – the basic devices of the negotiation process – are all ways of making coalitions among issues, interests and positions. One party's concession on one item is traded for another's concession on another item, including new items brought into the agenda in order to expand the pie. When the of negotiations within the General Agreement on Tariffs and Trade (GATT) moved from the Tokyo to the Uruguay round, new issues were brought into coverage under the GATT regime, allowing for new bargaining. Items can also be traded off within with same issue, by trading breadth for depth in regulation. Many are the cases where a regime began with a relatively strict coverage of a relatively small number of items, often implemented through a small number of steep steps, and later expended the scope of the coverage.

Procedural trade-offs can also be used, to buy consensus with special treatment. By providing exceptions to the agreement, a principle can be established but at the cost of temporarily weakened effectiveness, to be consolidated by negotiating away the exceptions later on. Or, as the reverse of the exception, restrictions can be traded for inducements, which are then tapered off as compliance proceeds on its own and becomes its own inducement. Many environmental negotiations have turned to compensation as a way of establishing trade-offs across the North-South divide. Indeed, the entire structure of UNCED is based on a massive trade-off designed to bridge the North-South gap between environment and development. Compensation provides an immediate softening of restrictions but has an air of bribery; it must be so structured that individual parties are not able to enjoy its benefits as a public good while opting out of its obligations.

The largest coalition, characteristic of multilateral negotiation, is *consensus*, a decision rule under which, essentially, abstention is an affirmative rather than a negative vote. (There may be some fora and occasions where votes can be taken and smaller coalitions win, but these are exceptional and generally operate within a broader context of consensus). Multilateral agreements are arrived at by consensus when a coalition formed by a significant but unspecified number of parties is in favor and

the rest do not oppose. Parties not in agreement can abstain without blocking the outcome, as long as their number does not become significant. Strategies of incremental participation and agreement, such as Buying-In, Buying-Off and Buying-Out, then become possible (Zartman 1987, ch. 10). At the same time, the significant number requirement means that lowest common denominator (LCD) agreements without teeth are a common possibility.

The outcome of the negotiation is determined by the power structure of the parties to the encounter at the time of the negotiations, within the context of the evolving regime. Power – always a concept both crucial and elusive – seems best characterized here as the ability to block a regime in formation or its necessity to the regime in formation, or as veto power (Porter& Brown 1991, esp. p. 104). In other words, since the encounter is one of problem-solving, power is conceived as a contribution either to the problem or the solution. Refined to greater detail, that concept of power can be turned into measurable indices, either through parties contribution to the problem (e.g. as degree of consumption or of pollution) or to the solution (e.g. as contributor to a fund).

Thus, the evolutionary process of which the negotiation is a part has a synchronic and diachronic dimension. The particular outcome represents the results of the encounter of the moment, but it is also a stage in the battle over the evolution of the regime, as it moves from encounter to encounter and from constellation to constellation of power and interests. Rather than being a tabula rasa, the agenda is set by the condition of the regime at the time of negotiations, whether this refers to the initial pressing problem (where the unmanaged problem is the tabula) or to the later reconsiderations (where the flawed regime and its difficulties are the tabula). Thus, where you go depends on where you are coming from (See Munton & Castle 1992, and Cutler& Zacher 1992 in general). Their evolving nature makes regimes temporary, contested, and continuously expandable and perfectable rather than being overarching and deductive as an optimal formula should be in a negotiated agreement (Zartman & Berman 1982). The outcome is often built up inductively, cobbled together out of the most pressing pieces, or sectorially, addressing only the squeaking-wheel aspect of the problem rather than its whole structure.

Regime Evolution as the Source of Success

The culmination of the conceptual problems facing regime analysis is the unending nature of the process. Although too little attention has been paid to the dynamic nature of institutional stability in general (cf. Dawisha & Zartman 1988), a regime is a living organism par excellence and its stability is unlikely to be a steady state endpoint. They are 'long-term incomplete contracts' (Kratochwil 1993). Indeed, the concept of 'regime' was devised to meet the need for something looser and less rigid than (even) international law or international organization. It would be a denial of the concept and a disservice to the idea of regime to analyzing it as 'arriving' when it achieved legal or organizational status or of states 'complying' with a fixed and finite agreement. Instead, regimes persist as regimes by maintaining their flexibility, their ability to change in response to the same sorts of varying needs for coordination as gave them birth, and their adaptability to the shifting constellations of power and interest of their members.

The process of regime creation does not stop with its initial act. This means, in turn, that negotiation continues as regimes evolve, rather than ending with the signing of an instrument of agreement. Loopholes need to be tightened or loosened, new members bought in or dropped, obligations strengthened or lifted, ambiguities removed or provided, coverage extended or reduced, and so on. Negotiation continues, both to shape the ongoing process of cooperation and to revisit and rectify engagements originally included or excluded. The idea of an ultimate instrument governed thereafter by *pacta servanda sunt* is a notion of a bygone era. But negotiation is not only a multilateral exercise among the signatories; it is also an exercise in reentry, application, implementation, and response between the upper and the lower levels. Negotiators or their domestic colleagues return home to sell, mend, and enforce the results of their negotiation, and they return to the next round of negotiations with the results of their implementation, including new instructions and inputs and new awareness of the regime's imperfections. As the stream flows on, there is a rolling wave from the bottom that stirs up new material and carries it to the surface, affecting the force and flow.

How then can regime-building be evaluated, if it is a fluid and ongoing process?

In all the terms of this discussion there is a certain dynamic, a teleo-

logy like, but less than, that which infused the notion of integration. It assumes two dimensions, that regimes move back and forward according to the power and interest constellations of the moment, and that they spread 'sideways' to meet to a felt need for order in a given issue area. Together, they produce the dynamic stability discussed above, whereby a regime meets the needs for which it was created by growing to the maximum relevant membership and by eliminating the conflict and disharmony in the concerned issue area. Thus, it is not necessarily by greater and greater regulation, or more and more members, or even tighter and tighter regulations, or – above all – by more and more complex institutionalization, that the success or evolution of the regime can be judged, but by its coverage and harmonization of its chosen subject.

It is against these two components that its effectiveness and evolution must be judged. On one hand, it should aim to include all the parties to the problem, rather than – as in a collective defence agreement – pitting itself against some relevant but excluded parties. At one stage, it could be judged positively if it included most of the relevant members, even at the cost of exceptions from the full coverage of the agreement; later, it would have to be judged according to its effective coverage and the removal of those exceptions. The same phased progress would have to be used to evaluate compensation and other inducements. On the other hand, it should aim to eliminate transactional conflict among the parties and between the parties and the regime goals. This includes providing ways of continuing to manage and eliminate new instances of conflict in the issue area that appear in the future and providing supports for the conflict management system – setting standards, monitoring practices, gathering information. In a word, it is the nature of the issue or regulated activity that is the measure of success, not some external criterion, and that measure may actually vary as time goes on, rather than requiring an ever more integrated response.

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The Desertification Convention

Towards Creating a Multilateral Framework for Coping with Global Threats

BY BO KJELLÉN

Since 1993, Ambassador **Bo Kjellén** has been the Chairman of the Negotiating Committee for the Convention to combat desertification. He also chaired Working Group I of the Preparatory Committee for the 1992 United Nations Environment and Development Conference. In Sweden, Ambassador Kjellén is the Chief Negotiator of the Ministry of Environment.

The Convention to combat desertification is the newest link in the evolving international system for environmental governance. In linking a serious environmental concern with development issues, this Convention can be viewed as an important step towards building a multilateral framework for sustainable development. The structure of the Convention is modelled along the same lines as the Framework Convention on Climate Change and the Convention on Biological Diversity, but it also has a number of original features. It is founded on a horizontal approach, which integrates social, economic, and energy issues into the overall framework, and places a heavy emphasis on a bottom-up approach and local participation. While it is too early to adequately assess the potential impact of the Convention, this paper discusses the global nature of the drylands problem, the process of developing the Convention, the central pillars of the Convention, and the implications for international environmental governance.

A Problem of Global Significance

Land degradation is certainly not only a problem in the drylands; however, its effects are more serious there, and international attention has been concentrated on this problematic over the last few years. The paper will therefore deal mainly with the dry areas of the world.

The problem is generally labelled desertification; a number of scientists do not like the word, because it conveys the erroneous image of vast waves of sand rolling from the desert into fertile land – and this is certainly not the case. The real problem is a more subtle degradation of fragile lands with growing populations living under marginal conditions.

The definition of desertification adopted by the Rio Conference in Agenda 21, today generally accepted, is simply “land degradation in arid, semi-arid and dry sub-humid areas resulting from various factors, including climatic variations and human activities”.

The efforts of international governance in response to this particular situation, including the recently concluded Convention, are based on this definition.

I do not intend to go into details of the various physical and social aspects of the dryland problems. Let me just recall that desertification may affect 900 million people and one quarter of the total land area of the world. Drylands are to be found on all continents: therefore desertification is a truly global problem. A 1991 UNEP report estimated that the annual loss of income due to drylands degradation is US\$ 42 billion. Even if these figures are difficult to verify they certainly point to the dimensions of the issue. Add to this the political consequences of migration imposed by the dry conditions and the long-term risks for global food security, and it is quite clear that the international community has a responsibility to take action in order to assist affected countries. Many of these countries are also among the least developed in the world, and many of them are in Africa.

The Rio Process and the Negotiation of a Convention to Combat Desertification

Against this background it is not surprising that the international community has tried to tackle the drylands issue in various ways, bilaterally and multilaterally. The problem has been seen as a borderline case, involving both environment and development – with poverty as a common denominator. At the same time, it has to be recognized that the results so far have been modest.

In 1977, the United Nations held a Conference on desertification in Nairobi. The Conference adopted a Plan of Action, which contains a

great number of useful recommendations. The Plan of Action was administered by UNEP, and involved support for national action plans in different ways. However, the effects of the Plan have been limited. Various reasons for this have been advanced, mainly a lack of resources to carry out the plans. Another argument has been that there was no real understanding of the linkages between the various elements in desertification control: too many experts and aid donors believed that it was sufficient to plant trees and create 'green belts' in order to radically improve the situation.

However that may be, as the international community started preparations for the Rio de Janeiro Conference on Environment and Development it was obvious that the Group of 77, and in particular the African countries, saw desertification and drought as priority issues. I became directly involved in this, since I chaired Working Group I of the Preparatory Committee (PrepCom) for the Rio Conference. This Working Group dealt among other things with all issues related to land management, and it soon became obvious that the Group of 77 wanted to push desertification as a symbolic issue, underlining that development was quite as important as environment on the Conference agenda.

In the autumn of 1991, six months before Rio, African ministers of the environment formally called for the establishment of a Convention to combat desertification. At that time, negotiations for the Conventions on Climate and on Biological Diversity were in full swing, and the African intention was clearly to put the drylands problem on an equal footing with these other concerns, a theme which has been recurrent in the negotiation.

The proposal was highlighted at the last PrepCom meeting before Rio, in March 1992, when the African Group made a consolidated proposal on desertification and drought, a text which was fundamentally acceptable to everybody and became Chapter 12 of Agenda 21. The question of a Convention remained controversial however. The Group of 77 had modified the original African proposal – which had called for a regional Convention on Africa – into a global convention. This idea was received without enthusiasm by the OECD Group, and the question had to be left open until Rio.

There, within the framework of an overall package, the Chairman of the PrepCom, Tommy Koh, managed to get agreement on a text in Agenda 21, which requested the General Assembly to establish an "inter-

governmental negotiating committee for the elaboration of an international convention to combat desertification in those countries experiencing serious drought and/or desertification, particularly in Africa". This rather awkward, highly negotiated label has been with us all along. No wonder that the negotiating committee has come to be known under the simpler acronym INCD.

The General assembly followed up on the request in the autumn of 1992, and at the same time confirmed the statement in Agenda 21 that the convention should be finalized by June 1994. I was later elected Chairman of the INCD, and the Committee held five negotiating sessions between June 1993 and June 1994. We managed to conclude the negotiation in time, but several observers have referred to it as a cliff-hanger, and there was certainly both fatigue and relief among the delegates as the final gavel went down just before eight o'clock in the morning of June 18, 1994.

No doubt a number of the delegates from the South also felt a fair amount of disappointment. They had been hoping for some firm commitments on financial resources from the OECD countries, but in the end they had to settle for language in the Convention which was far less precise than they had wished. A serious crisis had arisen on this subject during the last hours of the negotiation, but in the end the Group of 77 concluded that the Convention nevertheless constituted a satisfactory platform for further action.

More than 100 countries were represented at the June meeting in Paris, reflecting the global character of the problem. The French Government hosted a signing ceremony in Paris in October of 1994, after which the Convention was also opened for signature at the UN Headquarters in New York. By spring of 1995, 106 countries had become signatories. We certainly hope that these countries will also ratify the Convention without undue delay, so that this new instrument for global environmental governance will become effective relatively soon. The Convention will enter into force three months after the deposition of the fiftieth instrument of ratification, probably in 1996. There are, however, provisions for interim work including additional meetings of the negotiating committee and continued action by the Secretariat.

Some Pillars of the Convention

The Convention is structured along the same lines as the Framework Convention on Climate Change and the Convention on Biological Diversity, which were signed in Rio de Janeiro and have now entered into force. But the contents are clearly different and the desertification convention contains a number of original features.

- First, the Convention is structured to reflect regional differences. It contains four regional annexes, which form an integral part of the Convention. The annexes – covering Africa, Asia, Latin America and the Northern Mediterranean – underline the regional differences and highlight the priority of Africa. The African annex, in particular, contains rather detailed guidelines for the elaboration of action programmes and for the establishment of partnership arrangements.

In addition to the Convention itself, the Negotiating committee also agreed on two resolutions, one dealing with the interim arrangements, the other setting the stage for urgent action in the African drylands. The African action programme is of particular relevance in two respects:

- it is the region where desertification problems are the most severe, and the action programme is needed to boost confidence and guide development efforts;
- it provides an important testing ground for how the Convention approach will work in practice.
- Second, the notion of a partnership between donors and affected countries is reflected throughout the Convention. This partnership also involves the NGO community, an arrangement which has a great potential in really achieving action in the real world. The explicit encouragement for these groups to work together implies renewed efforts of coordination and more efficiency in aid delivery.
- Third, all activities will be based on the elaboration of national action programmes. It is vital that comprehensive national policies are developed as soon as possible, and that they are coordinated with regional policies. The annexes aim to support these efforts, and are therefore not structured in the form of rigid plans, but designed as flexible instruments for decisive action based on principles which are clearly set out in the Convention.
- Fourth, the main approach in all activities will be bottom-up with a strong emphasis on the importance of the local level, and on the respect and attention that should be given to the people in the villages. Never

before has this principle been set out so forcefully, and the Governments concerned have committed themselves to creating an enabling environment for consultation and co-operation with the local level. In my view this is a central feature of the Convention.

- Fifth, the Convention reflects the growing understanding of the need for a horizontal approach in tackling the problems in the drylands. It is clear that there is a complex web of physical and societal factors involved here. Action can only be successful if it considers water management and land management at the same time. Similarly, the importance of rational energy availability and pricing, aimed at strengthening the role of solar and wind power, has to be highlighted. However, it is clear that these efforts will be less than efficient if underlying aspects such as land tenure and other social factors are not given their due weight.
- Sixth, the Convention recognizes that we need more knowledge about all these elements affecting the situation in the drylands. A special Committee on Science and Technology has been established under the Conference of the parties and a roster of independent experts will be constituted to support the evolution of the Convention.

The Significance of the Desertification Convention for International Environmental Governance

In the continuous effort to build up a viable international system of environmental governance – so necessary and so difficult – the Desertification convention is the newest link. It is far too early to make any clear statements on its future impact. But as Chairman of the Negotiating Committee I wish to offer some concluding points for your consideration and reflection.

First some specific aspects pertaining to the Convention:

- The main significance of the Convention is the creation of a legally binding framework to guide the international effort in improving the situation in the drylands. No doubt, this is a 'soft' convention with limited possibilities to influence performance and no powers to sanction countries for not living up to the commitments, but there is no doubt in my mind that the political impact will be substantive.
- The Convention has created a new awareness among many policy-makers of the issues related to the drylands. A process has been started

which will hopefully lead to more permanent attention also in the future. No doubt, the new institutional structure means that several aspects of a major problem of environment and development will from now on be regularly discussed and negotiated in a multilateral framework. Even if one takes into account the obvious difficulties in achieving full efficiency, this is a step forward for global environmental governance.

- The Convention has a strong developmental bias; this is obviously one of the main reasons for the interest demonstrated by the Group of 77. It is designed to serve as a multilateral framework for development co-operation in support of sustainable development. It will have effects on development practices and delivery, both for multilateral and bilateral donors. In all OECD countries, the Convention will have to be carefully studied in this particular light.
- The problems of the drylands have been studied for a very long time. Yet I have been struck by the need for still more scientific research, both with regard to the natural and the social sciences. To a large extent this is due to the new perspective of global sustainability in which we are looking at the problems; but there is no doubt that technological change has also had an impact. All these factors point to the need for a Convention which is open and flexible in its approach: in particular, I hope that the establishment of a roster of independent experts and the possibility to create ad hoc panels to consider specific problems will prove effective. I also expect that we will be able to profit fully from the potential for efficient networking provided for by modern information and communication technology.

Let me conclude with a few more general comments which I feel are relevant to the central theme of this book.

- First, the importance of the UNCED process itself should not be neglected. It raised the level of what was politically possible, and the documents signed at Rio provide a political platform from which a diversity of processes have been initiated. The initial phase of the Desertification Convention, for example, certainly benefitted from being a part of the larger dynamic surrounding UNCED. The UN structures resulting from the Rio process, with the Commission on Sustainable Development as a central body, will give more stability to the various conventions established under the Rio umbrella. No doubt the process will also work the other way round: if the conventions and conferences

dealing with sustainable development will be effective, they will strengthen central UN work. These different fora are, in other words, mutually supportive.

In this context, the value of Agenda 21 should not be overlooked. Based upon the idea of sustainable development, this document constitutes a political statement of intent which is broad in scope, farreaching in time, and detailed in programmatic content. Its function is both integrative and generative. In covering a broad range of issues, it allows us to see the connections between issues that are often addressed in different fora. And in providing a guide for the future it prompts further action in previously neglected areas. Both these aspects are illustrated if we consider that Chapter 5 was followed up in the 1994 Cairo Conference on population; Chapter 3 in the 1995 Social Summit in Copenhagen; and Chapter 24 in the 1995 Beijing Conference on women's issues, etc. In addition, Agenda 21 legitimized a new approach of how to go about addressing the problems that face us: the notion of the bottom-up approach and the unprecedented involvement of non-governmental organizations exemplify legacies that have been carried over to subsequent agreements, including the Desertification Convention. The emphasis on local action is also an important feature of Agenda 21. In Sweden, for example, practically all 288 municipalities are now developing their own local Agendas 21.

- Second, I wish to underline the relationship between an issue such as desertification and broader considerations of a political nature. If the Convention can achieve better environmental governance and better development, there will be less risk for internal or international conflict caused by e.g. competition for water resources; and less risk for uncontrollable migration movements caused by drought and desertification. These links to broader security issues and the perceived need for preemptive action in crisis-prone areas have already had an impact with regard to the urgent action program for Africa. Personally I would also hope that the Convention could make a contribution to early international action to save the Aral Sea and the populations in that region – no doubt an important contribution to stability in a very sensitive part of the world.
- Third, in discussing the impact of this Convention or any other international instrument, and its importance for environmental governance, we have to be very modest. These are still weak instruments within the framework of a weak international system. The difficulties in making governments take on legally binding responsibilities in the absence of a

functioning system of monitoring and sanctions are likely to remain for the foreseeable future. It makes the opportunities for improvements dependent on a complex set of interactions between, on the one hand the international system – as represented by the international organizations and multilateral conventions – and on the other hand national governments and local authorities. In this situation, the scientific community and non-governmental organizations provide much needed linkages between different parts of the system.

At the same time, however, I think that the very notion of global environmental governance is one of those that might demonstrate that there is no way out except through the UN system, and that our generation's capacity to influence life on earth in hundreds of years from now should be a strong driving force for the strengthening of multilateral cooperation.

- Fourth, I think that modesty can be well combined with a sense of purpose. We are creating new instruments reflecting the present status of the world, but there is a considerable dynamism in the process. The formula includes an emphasis on national reporting, on follow-up, and on the role of new institutions. Developing a sense of purpose is among our most important tasks. The potential of networking via the use of new technologies can provide us with the means, and facilitate the exchange of knowledge and ideas. We also need to intensify our educational efforts, not only to spread knowledge about environmental and resource problems, but also to create a sense of shared responsibility for situations geographically and temporally far away. As awareness increases, the possibility for precautionary action increases – hopefully the financial resources will follow.
- Finally, there is yet another reason for modesty among all of us who are involved in international negotiations in one way or another: we are not ourselves the real agents of sustainable development. We are the intermediaries, the tool-makers. If we do our job well, we can increase the scope of compromise, and craft the agreements in such a way as to enable further, and more practical, action. Ultimately, the Convention which I have presented here can only demonstrate its value in the confrontation with the real world, in its capacity to really assist the women and men who are struggling out there in the drylands. I say this not to reduce the importance we should attach to environmental governance, but to underline the need for efficiency and quality in the instruments we create, and to remind us of our responsibility to those living on the margins today as well as to those generations which have yet to come.

Compliance with International Environmental Accords: Achievements and Strategies

BY HAROLD K. JACOBSON AND EDITH BROWN WEISS

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International Accords: A Strategy for Global Environmental Protection

In 1972, the United Nations Conference on the Human Environment (UNCHE), held in Stockholm, launched a global effort to protect, preserve, and enhance the environment. International environmental accords – treaties and agreements – were central components of this effort. They became primary instruments for orienting and coordinating the behavior first of states and ultimately of enterprises and individuals, steering behavior away from those activities that were environmentally destructive and toward those that would be environmentally benign. In the two decades that followed the Stockholm conference this emphasis on international environmental accords continued, and in June 1992, at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, 1992, it was reaffirmed.

How successful has this strategy been? How promising is it, particularly given the accelerating pace and spread of human activities that potentially threaten the environment? The key issue is whether or not internation-

al environmental accords contribute to modifying state and individual behavior. For this to happen, states that are parties to international environmental accords must implement and comply with them.

The Research Design

To investigate this issue we examined what eight countries and the European Union (EU) have done to implement and comply with international agreements covering five broad areas of environmental concern.¹ We chose the nine political units and the five accords in the hope that our study would yield knowledge that would have worldwide utility and pertain to most kinds of environmental accords that may be concluded in the future.

The Political Units

The eight countries are Brazil, Cameroon, China, Hungary, India, Japan, Russia, and the United States of America. We also included a group of countries, the EU. We chose these countries because they are crucially important to the effective implementation of broad international environmental accords. They include those that have contributed most to the anthropogenic effects that bring about global environmental change (Japan, Russia, and the United States, and the European Union and its members), and others that have the potential of making major contribu-

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tions to anthropogenic effects (Brazil, India, and China).

We included Cameroon and Hungary to illustrate the problems and processes of implementation and compliance in smaller countries, countries that although their total contribution to global environmental problems may be small, comprise by far the largest number of states in the global political system.

We chose the European Union because it is increasingly behaving as a state actor through directives and regulations that are applicable in all member states. It represents a new form of governmental organization, one that conceivably could be duplicated elsewhere, such as among the states that constituted the former Soviet Union. It merits study for that reason, as well as for the reason that the EU will be a major political and economic actor in forthcoming negotiations. Although the European Union is a party to only two of the accords, its fifteen member states are parties to more of them.

Our sample is not a random sample of the political units in the global political system, nor is it a representative sample of the parties to any of the accords. It does include most of the political units that must comply with global environmental accords if they are to be effective instruments for dealing with global environmental change. In the 1990s, these nine political units included about three-fifths of the world's population, their gross national products constituted about four-fifths of the world product, and they contributed more than two-thirds of the global greenhouse gas emissions. They spanned the globe and encompassed a range of forms of political organization and culture. Furthermore, they included both developed and developing countries, some with mixed-market economies and others that were restructuring centrally-planned economies. Finally, some of these countries could be particularly affected by global environmental change.

The Accords

The five international accords were chosen so as to maximize the knowledge that could be gained about ways of managing global environmental change. We deliberately avoided the preconception that the only kind of international agreement that can be entered into is one that regulates emissions; there is considerable variety among these accords in what they concern and how they deal with it. We selected only accords for which there was a significant number of signatories and for which there was

already some experience of implementation and compliance. A study of proposed accords that have not yet been implemented would tell us little about what makes for crafting successful agreements. The five accords we chose include three that deal with the management of natural resources and two that are aimed at controlling pollution. They are:

NATURAL RESOURCE ACCORDS:

1. The United Nations Educational, Scientific and Cultural Organization Convention for the Protection of the World Cultural and Natural Heritage, November 16, 1972, 27 U.S.T. 37, T.I.A.S. No. 8226 (referred to as the World Heritage Convention).
2. The Washington Convention on International Trade in Endangered Species of Wild Fauna and Flora, March 3, 1973, 27 U.S.T. 1087, T.I.A.S. No. 8249 (referred to as CITES).
3. The International Tropical Timber Agreement, November 18, 1983, U.N. Doc. TD/Timber/11/Rev. 1 (1984) (referred to as the International Tropical Timber Agreement).

POLLUTION CONTROL ACCORDS

4. The International Maritime Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, December 29, 1972, 26 U.S.T. 2403, T.I.A.S. No. 8165 (referred to as the London Convention and formerly referred to as the London Ocean Dumping Convention).
5. The Montreal Protocol on Substances that Deplete the Ozone Layer, September 6, 1987, 26 I.L.M. 1550 (referred to as the Montreal Protocol), together with,
- 5a. The Vienna Convention for the Protection of the Ozone Layer, March 22, 1985, 26 I.L.M. 1529 (referred to as the Vienna Convention). This is the framework treaty under which the Montreal Protocol was negotiated. We look at this treaty only in so far as it relates to the Montreal Protocol.

These accords were chosen because: (1) they involve several key environmental issues connected with global change; (2) they contain a range of types of obligations, and various techniques regarding implementation and compliance; (3) they address both pollution and natural resource problems; (4) they involve issues that occur primarily within states' borders, those that cross borders, and those that are inherently global in

Table 1. Adherence of the Political Units to the Accord as of
1 January 1994

p=party to treaty

Political

<i>Units</i>	<i>Accords</i>					
	World Heritage	CITES	Tropical Timber	London Convention	Vienna Convention	Montreal Protocol
Brazil	p	p	p	p	p	p
Cameroon	p	p	p		p	p
China	p	p	p	p	p	p
EU			p		p	p
Hungary	p	p		p	p	p
India	p	p	p		p	p
Japan	p	p	p	p	p	p
Russia	p	p	p	p	p	p
USA	p	p	p	p	p	p

nature; (5) the accords have been in effect a sufficient time so that there is an adequate data base to analyze implementation and compliance; and (6) all of the countries are parties to several of the accords, and a majority are parties to all of them. Table 1 shows which political units have acceded to which accords.

What does the record show? What have these nine political units done to implement and comply with the international environmental accords to which they have acceded? What explains the extent of implementation and compliance, and what explains changes in implementation and compliance? What does the record of the past suggest about strategies for the future?

Defining Implementation, Compliance, and Effectiveness

An essential first step in answering these questions is to have clear definitions of implementation and compliance.

Implementation

Implementation refers to measures that states take to make international accords effective in their domestic law. Some accords are self-executing; that is, they do not require national legislation to become effective. But many international accords require national legislation or regulations to become effective.

Compliance

Compliance goes beyond implementation. Compliance refers to whether countries adhere to the provisions of the accord and to the implementing measures that they have instituted. Measuring compliance is more difficult than measuring implementation. It involves assessing the extent to which governments follow through on the steps that they have taken to implement international accords. In the end assessing the extent of compliance is a matter of judgment.

Compliance has several dimensions. Accords contain specific obligations, some of which are procedural, such as the requirement to report, and others are substantive, such as the obligation to cease or control an activity. In addition, preambles or initial articles in accords place these specific obligations in a broad normative framework, which we refer to as the spirit of the accord.

Compliance is probably never perfect; substantial compliance is what is sought by those who advocate treaties and agreements. We attempted to assess the extent to which substantial compliance has been achieved with the procedural and substantive obligations contained in accords and also with the spirit or broad norm involved in the accord and to compare the extent of success within and among political units and over time.

Effectiveness

Compliance is related to but is not identical with effectiveness. Countries may be in compliance with an accord, but the accord may nevertheless be ineffective in attaining its objectives. And even accords that are effective in attaining their stated objectives may not be effective in addressing the problems that they were intended to address. To illustrate the point, compliance with an accord may result in the cessation of an activity that contributed to pollution, but it might lead to an overall increase of pollution by encouraging other activities the consequences of which were equally bad or even worse, or an accord prohibiting international trade in

Table 2. Implementation, Compliance, and Effectiveness

- I. Implementation
- II. Compliance
 - A. Specific Obligations
 - 1. Procedural
 - 2. Substantive
 - B. Spirit of Accord
- III. Effectiveness
 - A. Stated Objectives of Accord
 - B. Problems

elephant tusks could effectively stop the trade but have little impact on the decimation of elephant populations.

Table 2 shows the several dimensions of implementation, compliance, and effectiveness. Our study was particularly concerned with assessing implementation and compliance. Effectiveness is crucially important, but until implementation and compliance are better understood, the contribution of accords to solving international environmental problems cannot be known. Learning about implementation and compliance is an essential first step to learning about effectiveness.

The Secular Trend toward Strengthened Implementation and Compliance

A secular trend toward strengthened implementation and compliance was visible by the mid-1990s, and strengthened efforts generally meant better implementation and compliance. By the mid-1990s, all of the nine political units were in some measure of compliance with all of the accords to which they had acceded, and the trend over the decades was toward greater compliance. This finding parallels the results of other studies of compliance (Andresen and Wettestad, 1995; and, Chayes and Chayes, 1995).

Of course, in no case was compliance perfect, and not all nine political units were doing a better job of implementing and complying with all of the five accords than they had at one time, but the overall trend was

positive. More and more actions had been taken to implement the accords, and procedural and substantive compliance had in most cases improved. The political units in general were acting more and more in terms that conformed with the spirit of the accords.

This trend toward strengthened implementation and compliance had several dimensions. It involved the accords themselves, the international institutions charged with overseeing their operation, and laws, regulations, and institutions within countries.

At the international level several things occurred. First, more and more countries had become parties to the accords so that their coverage became increasingly global. Countries that had been slow in acceding to conventions eventually did so. This progress involved our nine political units and countries much more broadly.

Second, for all of the accords mechanisms for supervision were strengthened and increased attention was being given to implementation and compliance. The budgets of secretariats had been increased, secretariats had grown in size, and more attention was being paid to monitoring.

A third aspect at the international level of the trend toward strengthened implementation and compliance was the fact that the parties to three of the accords had agreed to deepen their commitments. The London Convention was amended several times, adding new substances to the prohibited list including in 1993 radioactive wastes. At the London conference in 1990 amendments were prepared for the Montreal Protocol that advanced the target dates for phasing out controlled substances, brought new chemicals under control, established an Implementation Committee, and set up a new financial mechanism to provide financial and technical cooperation to developing countries (Lang, 1996). In 1994 the International Tropical Timber Agreement was renegotiated, and the new agreement came into effect in 1997.

Finally, in the decades following 1972, international non-governmental organizations that played a role with respect to these international environmental accords gained members, resources, and sophistication.

These changes at the international level were matched by equally important changes at the national level. First there were institutional changes. At the time of the Stockholm Conference, of the nine political units in this study, only the United States had an Environmental Protection Agency. By the time of the Rio Conference, all of the political units in our study had established bodies with mandates like EPA's.

Research institutes and advisory bodies were also established. All of these institutions came to play crucial roles in negotiating international environmental accords and in dealing with issues of implementation and compliance. The strength of the institutions and their centrality to policy formulation of course varied, though none gained the stature of the traditionally strong ministries of economics, finance, and foreign affairs. By the 1990s, however, all were important focal points for policies relating to compliance.

As the countries acceded to the accords, they all took important steps to implement and comply with them. In some cases, they acted so as to prepare for accession. In other cases, for instance with respect to the Montreal Protocol, the countries adopted the necessary legislation and regulations after they had signed and accepted the agreement. In any case, none of the nine political units in this study had failed to take appropriate action to implement the accords to which they were parties. And all had made efforts to bring practices within their borders into compliance.

Within the United States, the European Union, Japan, Russia, India, and Brazil national non-governmental organizations were considerably stronger in the 1990s than they were in the 1970s. They were actively involved in promoting environmental causes and in monitoring compliance with international environmental accords and national laws and regulations.

These broad points on the positive side having been made, there are some important qualifications. The performance of some countries with respect to CITES had sharply declined since the mid-1980s. With respect to developing countries, the substantive obligations of the Montreal Protocol were not yet severe. Thus it would be premature to make a strong judgment about their performance. And the obligations for the industrialized countries involved actions that were relatively easy to take, harder tasks would be required in the future. That is, the industrialized countries had phased out non-essential uses of ozone depleting substances and uses where substitutes were relatively easily available. Phasing out more essential uses of ozone depleting substances and uses for which substitutes were not easily available would be more difficult. The signs were positive, but they provided only a modest basis for projecting a positive trend.

Comparisons among Accords and Political Units

Among the five accords, implementation and compliance seemed to be stronger with respect to the Montreal Protocol and the London Convention. Both accords have relatively precise procedural and substantive obligations, and in general the political units included in this study and parties to the accords more broadly were complying with these obligations. Even so, there were some egregious infractions at least of the spirit of the accords, most notably the Russian Navy's dumping of radioactive waste in the Sea of Japan in the fall of 1993.

The Convention on International Trade in Endangered Species (CITES) also imposes precise obligations, but it encountered serious and widely publicized difficulties in the late 1980s and early 1990s. There was a strong impression that smuggling of species in which trade was banned had sharply increased. Since illegal activities are not ever totally transparent, it is difficult to know how well founded this impression was. Monitoring activity had increased, and the impression of increased illegal trade may have been in part the result of more and better data gained through monitoring. But the evidence was sufficient that it provided a substantial foundation for the suspicion that there was increased illegal activity.

Because the obligations they impose are less precise, judging the extent of compliance with the World Heritage Convention and the Tropical Timber Agreement is more difficult. Certainly the nine political units and all of the other parties had proposed and were maintaining protected sites under the World Heritage Convention. Whether they had proposed those sites that some objective judgment would conclude were the most important is at least in some cases debatable. Most countries were protecting their world heritage sites, but there were a few serious exceptions and problematic cases. Manas National Park in India was under the control of rebels, the Everglades National Park in the United States was seriously threatened by human development, and not enough was being done to protect the Dja Reserve in Cameroon.

The Tropical Timber Agreement contained non-binding guidelines for the sustainable management of tropical forests, but judging the extent to which these influenced forest management practices is extremely difficult. The agreement's reporting requirements relate to international trade in tropical timber products rather than to forest management. It is possible to make inferences about forest management from trade data,

but these would at best be inferences. The popular impression, buttressed by reports from non-governmental organizations and other sources, is that tropical forests were being rapidly cut, and this impression is confirmed by data gained from observation satellites. An argument can be made, however, that there is a growing consensus around the concept of sustainable management. The stronger terms of the re-negotiated agreement would be a central element of this argument. The fact that the secretariat was invited to conduct an on-site investigation in Sarawak and then in other places is noteworthy. The increased size of the secretariat and budget and the increased number of technical assistance projects were also important.

No political unit did a perfect job of implementing and complying with all of the procedural and substantive obligations imposed by the accords, but as we expected the European Union, Japan, and the United States did better than the other units in our study. The European Union, Japan, and the United States had relatively good records of submitting the reports required by the accords. Their reports were generally complete, relatively accurate, and on time.

They were all phasing out the production of ozone depleting substances ahead of the required target dates. The major member states of the European Union and Japan and the United States were fully in compliance with the London Convention. The United States was a leader in implementing the World Heritage Convention, but in the 1990s, some questions were raised within the United States and among those involved in the convention about U.S. willingness to protect endangered sites, especially the Everglades National Park, which was put on the Endangered List in 1993, partly on the basis of a report prepared by the Department of the Interior, but without the United States voting for the listing. Japan finally adhered to the World Heritage Convention in 1992. Even before it became a party to the convention, however, Japan's standards for preservation and natural and cultural sites were high. Since becoming a party, it has been in full compliance with the Convention, as have most of the members of the European Union.

Given the vague quality of the obligations the International Tropical Timber Agreement places on consuming countries, it would be hard for the European Union, the United States, and Japan not to be in formal compliance with this accord. Japan, however, has clearly imported tropical timber from forests that were not managed in sustainable ways. Even

though it is not a party to CITES, the European Union seeks to fulfill the obligations of the treaty. Although Italy had difficulty with some provisions of CITES, the overall record of the member states of the European Union with respect to the treaty was positive. The United States and Japan certainly fulfilled their obligations under CITES. At the same time, it is clear that protected species somehow made their way into the United States and Japan and were sold and purchased there.

Russia was officially phasing out the production of ozone depleting substances. There is evidence, however, that some ozone depleting substances were being sold from Russia. The Soviet Union and later Russia contravened the spirit of the London Convention by the navy's activities. The fact that after the collapse of communism, government officials revealed these transgressions and addressed the issues candidly should be seen as a positive sign. Issues relating to compliance had become more transparent, allowing public discussion and pressure. Russia adhered to the World Heritage Convention in 1989, and Russian sites appear to be properly protected. It adhered to the International Tropical Timber Agreement in 1986, and it was in compliance with the accord, although its obligations were not onerous. Although the Soviet Union's record for compliance with CITES was good, decentralization and the economic downturn made Russia's compliance with CITES, problematic.

Like Russia, as its transition to a democratic and market system proceeded, Hungary had difficulty fulfilling its obligations under CITES. It fulfilled its obligations under the other three accords to which it was a party, but these obligations were not onerous. It was not a producer of ozone depleting substances. As a land-locked country, it was hardly in a position to engage in extensive ocean dumping. Its World Heritage sites were protected.

Brazil, China, and India are all large populous developing countries. Starting in the late 1970s, China began moving away from almost total reliance on planning and governmental ownership of the means of production toward greater reliance on market forces and private ownership. Although the state never played as large a role in the economies of Brazil and India, those countries too have been moving toward greater reliance on market forces and private ownership. All three countries were in compliance with the obligations that they had under the Montreal Protocol. China and India, however, had production facilities coming on line that will need to be brought under control for them to continue to be in

compliance. India was not a party to the London Convention, probably because it could not fully comply with the substantive obligations of the treaty. Brazil and China tried to comply with the convention, but they both have long coasts that were difficult to control. India is in compliance with the International Tropical Timber Agreement. Brazil has been cutting down and exporting a relatively large quantity of tropical timber, and China imports tropical timber from various sources. All three countries have sites that were listed under the World Heritage Convention, and all three try to protect these sites. All have a limited capacity to do this. India, in particular has grave problems, particularly with the Manas National Park. All three tried, but had some difficulty in enforcing CITES.

Cameroon had the greatest difficulty of the nine political units that were included in our study in implementing and complying with the accords. It was not a party to the London Convention, and it had difficulties in fulfilling its obligations under CITES, the International Tropical Timber Agreement, and the World Heritage Agreement. It was in substantive compliance with the Montreal Protocol, but it was having difficulty responding to the accord's procedural requirements. Many of Cameroon's difficulties stem from its limited resources, resources that have become even more scarce with the economic crises that the country suffered in the 1980s.

Table 3 gives a synoptic picture of the extent to which the nine political units were complying with the substantive requirements of the five accords in 1995. The scoring in the table represents our subjective judgment informed by the work of our colleagues. Since each accord includes several substantive obligations, these judgments represent an overall assessment. We divide compliance into three levels. All of the political units that were parties to the accords had taken actions to implement them and all were at least to some extent in compliance with the substantive obligations that they had accepted. Weak compliance resulted from ineffective administration and unintentionally ignoring obligations as well as outright defiance. Moderate compliance was generally the result of ineffective or weak administration. Substantial compliance meant basically fulfilling obligations though there may have been minor infractions.

As can be seen, the overall record is relatively good. It is better than it would have been five years earlier. Table 3 also illustrates that there are

Table 3. Compliance of the Political Units with the Substantive Obligations of the Accords as of 1995

Level of of Compliance	Accords		<i>Tropical Timber</i>	<i>London Convention</i>	<i>Montreal Protocol</i>
	<i>World Heritage</i>	<i>CITES</i>			
<i>Substantial Compliance</i>	Brazil	India	EU	Brazil	Brazil
	China	U.S.A.	India	Hungary	EU
	Hungary		Russia	Japan	Hungary
	Japan		USA	USA	India
	Russia				Japan
<i>Moderate Compliance</i>	USA				USA
	India	Hungary	Japan	China	Cameroon
		Japan		Russia	China
<i>Weak Compliance</i>		Russia			Russia
	Cameroon	Brazil	Brazil		
		Cameroon	Cameroon		
<i>Not a Party to the Agreement</i>	China	China			
	EU	EU	Hungary	Cameroon	
				EU	
				India	

discernible differences among accords and political units. Although the European Union is not a party to three of the agreements, its member states are, and they were generally in substantial compliance with the substantive obligations of these agreements. Since CITES deals with international trade, the European Union would like to be a party to this agreement, and the European Commission acts as if the EU were a party. The EU would be judged to be in substantial accord with CITES. Table 3 indicates that the compliance record of the European Union, Japan, and the United States was on average better than that of the other units. It also indicates that on average compliance with the Montreal Protocol and the London Convention was better than with the other three accords.

Even strong implementation and compliance with accords, however, do not insure their effectiveness either in terms of the objectives of the accords or in dealing with the problems that led to the accords. In the case of the five accords that are included in our study, the record is

mixed. The Montreal Protocol and the London Convention seem respectively to have contributed to a decline in the production and consumption of ozone depleting substances and in the intentional dumping of wastes in the high seas. The World Heritage Convention appears to have contributed to the preservation of cultural and natural resources, though there could be some debate about whether or not the particular cultural and natural resources that were being protected were truly the world's most valuable ones. The Tropical Timber Agreement has not yet resulted in the 'sustainable utilization' of forest resources, and, unfortunately despite CITES there appears to have been, especially since the mid-1980s, an increase in the illicit trade in endangered species. Moreover, while some endangered species have become less critically endangered, others, have become more so, but the situation could have become even worse absent the accord.

Explaining Compliance

Using this broad and coarse assessment as benchmarks, what explains what happened? We have grouped what we see as the explanatory variables into four broad clusters:

- Characteristics of the Activity Involved;
- Characteristics of the Accord;
- the International Environment
- Factors Involving the Country.

Within each of the clusters, we identify the components that our studies indicate were especially important.

There is an artificiality to the discussion that follows. In practice all of the factors interact to produce a combined effect on implementation, compliance, and effectiveness. For clarity and manageability in the discussion, however, the factors must be treated individually. Thus each of the statements in the following paragraphs requires the qualification, 'other things being constant'.

Characteristics of the Activity

With reference to the characteristics of the activity involved, our study confirms the conventional wisdom that the smaller the number of actors involved in the activity, the easier it is to regulate it. It is much easier to monitor an activity conducted by a small number of actors than one

conducted by many. Not only is it easier, it is also less expensive, which affects positively the cost-benefit ratio of complying with environmental accords.

Because only a limited number of facilities produced ozone depleting substances through the early 1990s, it was relatively easy to control the production of these substances as the Montreal Protocol and amendments to it required. The situation could become more difficult as more production facilities come on line in the latter half of the 1990s. The striking contrast between the limited number of facilities that have produced ozone depleting substances and the millions of individuals who could engage in illicit trade in endangered species helps to explain why CITES was much more difficult to enforce than the Montreal Protocol.

Activities conducted by large multinational corporations were also easier to deal with than those conducted by smaller firms that are less visible internationally. Again, the production of ozone depleting substances provides the example. Large multinational firms are concerned about their reputation globally. They are much more subject to the pressure of public opinion and diverse consumers throughout the world than smaller, less well-known firms, such as those that account for much of the timber trade. Large multinational corporations have bureaucratic structures that enforce control, and they prefer to conduct their activities in stable and uniform regulatory environments.

Location of the activities in countries is another issue. Our analysis was based on the assumption that the actions of seven of the nine political units that we have studied – Brazil, China, the European Union, India, Japan, the Russian Federation, and the United States – would be crucial to the effectiveness of any international environmental accord. Because of the importance of these large political units in the world economy, the environmental degradation that they can cause, and the contribution that they can make to ameliorating environmental problems we thought that their compliance with environmental accords would be crucial.

Our analysis has certainly not contradicted this assumption. Although we have focused on what individual countries have done, the aggregate effect of the actions of these countries had a determining effect on overall compliance with the accords. This is certainly the case with respect to the Montreal Protocol and the London Convention even though by 1994 these conventions had 117 and 67 parties respectively. Most of the

production facilities for ozone depleting substances have been and will be located in the seven countries. Because these large countries account for such a large share of world production, what they do about ocean dumping will account for a predominant share of substances that potentially could be dumped. These countries also have a large share of cultural and natural heritage sites.

Our assumption could seem not to be valid for tropical timber and endangered species, since in both cases production is scattered, and many small countries have substantial production, and the experience with ITTA and CITES would seem to support doubts about the validity of the assumption in these spheres. One might feel that a substantial portion of the 48 parties to ITTA and the 112 parties to CITES would have to comply to bring about overall compliance. This would be true, however, only if one focused primarily on the actions of producers and suppliers. If one focused instead on actions of importers and consumers, then again it would be the seven countries or a set of them that had the greatest impact on the outcome. If the market in the United States, the European Union, and China for endangered species contracted, the incentives for individuals in Cameroon and Hungary to evade restrictions and export would be greatly diminished.

Thus when we ask if there is compliance with a particular accord, we must first ask about the compliance of major parties. Analyses, for instance, that conclude that fewer than half of the parties are complying with an accord because the majority of parties submit reports late or fail to submit them at all miss the mark (USA, GAO, 1992). At a minimum, to give a true picture, such analyses should weight the proportion of parties complying by their contribution to the problem. The difference is the difference between reporting that only small proportion of the parties fulfill their obligation to report or reporting that parties responsible for the largest share of the production of ozone depleting substances fulfill their obligation to report. Put in another way, it is more important to bring one of the seven large countries included in this study into compliance than it would be to bring a large number of smaller countries.

This is of course not to argue that the actions of smaller countries that make modest contributions to environmental problems are inconsequential. The actions of smaller countries can contribute to international momentum. If large numbers of small countries are perceived to be free riding, this could sap the will of larger countries to comply. Conversely, if

large numbers of small countries do comply, this can create a climate favorable to compliance that will affect larger countries.

Obviously, since the characteristics of activities that contribute to environmental degradation are more or less fixed, accords must address activities whether or not their characteristics facilitate implementation and compliance. To the extent that accords can decompose problems and define points of attack, however, these generalizations could be used to shape approaches that are taken to drafting accords.

Characteristics of the Accord

The characteristics of the accord clearly make a difference. The experience with most international accords has been that the more precise the obligation, the easier it is to assess and promote compliance. The experience of the nine political units with the five international environmental accords confirms this.

Not surprisingly, for parties to implement and comply with accords, they must feel that the obligations that are imposed are equitable. The differentiated obligations under the Montreal Protocol for phasing out ozone depleting substances, imposing the strictest and most immediate deadline on member countries of OECD, placing countries like the Soviet Union in an intermediate position, and allowing developing countries a time to increase production before beginning to cut back was a prerequisite for the rapid adherence to the accord of a large number of countries (Benedick, 1991). India and China would not become parties to the Montreal Protocol until the agreement about compensatory financing had been reached at the London meeting in 1990. Part of the difficulty with the Tropical Timber Agreement seemed to be a sense that burdens were disproportionately imposed upon the producer countries; the consumer countries' activities with respect to their forests were unregulated. The revised agreement attempted to address this issue.

The London Convention, CITES, and, the Montreal Protocol imposed relatively precise obligations. It is consequently relatively easy to judge whether or not parties to these accords were fulfilling their obligations. Yet there are differences even among these accords. The London Convention and the Montreal Protocol deal with limited numbers of substances, CITES with hundreds of species. Distinctions among the species with which CITES is concerned are sometimes subtle, yet they must be understood by thousands of customs officials. This is difficult

for customs officials even in developed countries like the United States and Japan.

The World Heritage Convention and the Tropical Timber Agreement are much vaguer; assessing implementation and compliance becomes much more difficult. The World Heritage Convention requires parties “to endeavor ... to take the appropriate legal, scientific, technical, administrative and financial measures necessary for the identification, protection, conservation, presentation and rehabilitation” of their natural and cultural heritage (Article 5 [d]). The International Tropical Timber Agreement states that its objectives include: “To encourage the development of national policies aimed at sustainable utilization and conservation of tropical forests and their genetic resources, and at maintaining the ecological balance in the regions concerned.” (Article 1 [h]) In neither case does the accord establish a clear standard for assessing implementation and compliance.

The fact that the obligations in a accord are stated in vague terms does not necessarily mean that compliance will be weaker than they would be if the obligations were stated more precisely. To the extent that the information in table 1 provides credible evidence, the nine political units in this study were collectively doing a better job of complying with the World Heritage Convention and ITTA than they were with CITES. The phrasing of obligations obviously depends on the character of the problem being addressed and that state of agreed knowledge about it as well as the willingness of potential parties to a convention to accept precise responsibilities. It is, though, difficult to assess compliance with imprecise obligations, and this by itself permits countries not to do all that some might think that they should to fulfill their obligations.

Requiring the filing of regular reports is a standard feature that four of the accords under consideration here and most others use to monitor implementation and compliance. Accords use reporting requirements to obtain information on what policies countries have adopted and on the extent and nature of regulated activities. Clearly, requiring reports is one of the few instruments that is available for assessing the extent of implementation and compliance, and it is a crucial instrument. One way of controlling behavior is through issuing licenses, and requiring that the issuance of licenses be reported to a central authority is a way of insuring that the procedures are conducted properly and according to the agreement. Reporting requirements enforce a discipline. The use of reporting

under CITES and the London Convention illustrates this use of reporting. To know whether or not behavior has changed, it is necessary first to establish base line data and then to have data to measure changes against the base line. The use of reporting under the Montreal Protocol and the International Tropical Timber Agreement illustrates this.

Essential as reporting is, it has problematic aspects and is an instrument that is not well understood. The record of compliance with reporting requirements is spotty at best. Governments, particularly of smaller developing countries such as Cameroon, are extremely overburdened. Filing reports is yet one more burden. The locus of the responsibility for preparing the reports may be uncertain, is it with foreign offices or substantive ministries? Even larger and richer countries sometimes have difficulty fully complying with reporting requirements.

What happens to the reports is also important. The bodies overseeing the environmental accords all have relatively small secretariats, not one had as many as thirty people. Such small secretariats have little capacity for analyses of the reports that they receive. Reports that are not analyzed thoroughly and in a timely manner, lose their effectiveness as tools for managing implementation and compliance.

Such simple issues as developing standardized forms could contribute to the effectiveness of reporting. Standardized forms could ease the burdens on governments of parties and secretariats alike. The way in which CITES used the World Conservation Monitoring Center to collate and analyze reports represented an innovative effort to handle reports. In this case, rather than try to develop the information technology itself, the secretariat contracted with the World Conservation Monitoring Center, which has highly developed information technology, to provide the service of aggregating and analyzing the reports. This effort also showed how modern information technology can be used to make reporting requirements more effective instruments for promoting effective implementation and compliance..

For reporting to be an effective instrument for promoting compliance with international accords, the requirement should reflect a clear strategy. Only essential information should be requested. Reports should be required only as frequently as is absolutely necessary.

International secretariats can use the reporting exercise for efforts to clarify for government officials what the obligations of accords are and the variety of techniques that have been and might be used to fulfill

them. Reporting may be seen as an educational process, a tool that enables secretariats, other states that are parties to the accord, and national and international non-governmental organizations to intervene to encourage compliance. Under the Montreal Protocol Cameroon and China both received international financial assistance to develop the national strategies for phasing out ozone depleting substances that the accord required.

Non-governmental organizations and multi-national corporations can play important roles in providing information about activities that are treated in international environmental accords. The World Heritage Convention and CITES acknowledge this by including provisions in the convention for formal roles for NGOs.

The TRAFFIC reports on illicit trade in endangered species provide information that governments might find it difficult to gather or publish. Greenpeace is an important source of information about ocean dumping. The knowledge that monitoring goes on outside of formal governmental and accord channels is probably an important restraining factor on governmental actions. Governments are not surprisingly unlikely to be prone to incriminate themselves. The knowledge that non-governmental organizations will publicize activities whatever governments report can prompt governments to report more accurately.

The multi-national firms that produce ozone depleting substances sometimes may have had better information than governments about their production. Also, since there are proprietary aspects to this information, they have access that governments might not be easily able to achieve. Clearly, in such cases the private sector must be engaged for monitoring to be effective.

Sanctions or some type of coercive action are another aspect of international accords. Of the five accords considered here, CITES provides that trade restrictions can be imposed in cases of infractions of its provisions and the Montreal Protocol provides for trade restrictions against non-parties. In addition, United States law requires the imposition of trade restrictions against countries that engage in trade in some endangered species. The threat of a CITES imposed ban on trade with Italy seems to have led that country to modify its practices. The threat by the United States to impose trade restrictions appears to have been a factor inducing China to modify its behavior with respect to CITES. China seems to have taken tougher action to ban internal trade in rino pro-

ducts. Clearly, there is a role for sanctions, though inevitably they have been used sparingly in these cases. Our study supports deductive arguments that make the case for the necessity of accords including provisions for sanctions or coercive action (Downs, Rocke, and Barsoom, 1996).

Incentives provide another tool. Giving countries financial or other assistance to help them comply with their obligations can be an important tool for advancing compliance. Under the regime established by the Vienna Convention and the Montreal Protocol and amendments to it, several countries received assistance in preparing inventories of the production and consumption of ozone depleting substances and the agreements also provide for assistance in transforming production facilities.

The International Environment

The international environment may well have been the most important factor explaining the secular trend toward improved implementation and compliance that we observed. Since the Stockholm Conference in 1972, international momentum toward concern for the environment has increased, and it increased sharply starting in the mid-1980s with the publication of the report of the World Commission on Environment and Development, *Our Common Future*, in 1987 and the preparations for the United Nations Conference on Environment and Development (UNCED) meeting in Rio de Janeiro.

The Rio conference was a massive event. It was the largest gathering of leaders of countries in history. It brought together an unprecedented number of non-governmental organizations. Significantly improving implementation and compliance with international environmental accords was specifically addressed at the conference (UN, 1992; Sand, 1992).

Increased salience for environmental issues was one aspect of the international momentum that developed. The increased salience roused public opinion and mobilized national and international non-governmental organizations, and public opinion and NGOs put increased pressure on governments to deal with environmental issues. This enhanced implementation and compliance.

Another aspect of international momentum was that more and more accords were signed and more and more countries became parties to these accords. This had an effect on implementation and compliance. Governments did not want their countries to be seen as laggards. More-

over, there are practical economic consequences. Once it became apparent that the major countries would stop producing and consuming chlorofluorocarbons, other countries did not want to deal with outmoded technologies. Finally, in the case of a treaty like CITES, it is easier for a government to attempt to enforce its obligations if all of the neighboring countries are also parties.

Characteristics of the Country

The three clusters of factors that we have discussed are important, but countries are at the center of the compliance process. Countries must take the actions that are required to fulfill their obligations under the accords.

The performance of the eight countries and the European Union in implementing and complying with the five accords examined in this study varied substantially across the countries, the accords, and time. Characteristics of countries make an important difference. Three of the five accords considered here have more than a hundred parties. Clearly the variance among all of the parties to these and other environmental accords is even greater than the differences that are evident in our sample.

An initial point is that the compliance of the political units included in this study and that of parties to environmental accords more broadly, must be viewed in historical context. One very important factor shaping how well a country does in complying with the obligations that it has accepted is what it traditionally did with respect to the issue being dealt with and the legislation and regulations that it already had in place at the time that it became a party to the accord. Traditional behavior is deeply embedded in a country's culture.

Our analyses confirmed our expectation that richer and more democratic countries would in general do better than poorer and less democratic countries. The European Union and its members, Japan, and the United States had the better records among the nine political units included in this analysis. The reasons for this will be discussed in the following paragraphs.

A crucial factor contributing to the variance among the performance of countries is administrative capacity. Countries that have stronger administrative capacities can do a better job. Administrative capacity is the result of several factors. Knowledge is a fundamental ingredient in

implementation and compliance. Having educated and trained personnel is important. But such individuals must have adequate financial support and an appropriate legal mandate to be effective. The Indian administrative service had numerous and well trained personnel, its financial resources were, however, extremely limited, and thus its effectiveness was restricted. Administrative capacity depends upon having authority. Administrators whose mandate is narrower than their assigned responsibilities or who are subject to capricious interference, cannot do as well as their training and skills would make possible. Administrative capacity also depends on having access to relevant information. However much administrative capacity a country has, corruption can blunt its effectiveness.

Administrative capacity also is relative, it must be measured against the demands placed upon it. Even the European Union, Japan, and the United States, which had strong administrative capacity, had difficulty enforcing the obligations of CITES. Given the many points of entry to these political units, and the vast number of people and goods going in and coming out of their territories, it would be beyond the capacity of these units to enforce complete control at their borders.

Obviously, administrative capacity correlates with Gross National Product and Gross National Product per capita. Countries that have many resources relatively, either because they are large such as Brazil, China, and India, or because they have high per capita incomes, have the resources to develop strong administrative capacities. In addition, however, outside agencies can help countries develop administrative capacity (See Haas, Keohane, and Levy, 1993).

Beyond relative richness, economic factors are important, but rather indirectly. The political units in this study have widely varying per capita gross national products (GNPs) that have grown or declined at substantially different rates. Changes in GNP or the rate of growth of GNP had little discernible effect on implementation and compliance. Economic collapse and chaos, however, can have a profound effect. In Cameroon and Russia compliance with CITES seems to have declined since the mid-1980s, and this seems to be directly attributable to the economic collapse and chaos. Limited government resources and rapid rates of inflation had an impact on the incentive structure of the individuals who must enforce the provisions of CITES, the customs inspectors. In some instances they were not paid. In others, they saw the value of their salaries

decline precipitously. Conversely, the value of illicit trade in endangered species has increased. Under the circumstances, the apparent increase in illicit trade in endangered species is perhaps understandable.

How production is organized makes a difference. Under the Soviet Union, when the state was responsible for production, state enterprises were responsible for both producing goods and monitoring the environmental consequences of their activities. This system did not result in effective environmental protection. The state enterprises were more concerned with production goals than they were with environmental protection. Under the Gorbachev regime, in 1986 an independent ministry was created with a mandate to be concerned about environmental issues, and this began to have an effect. But enforcing compliance became even more effective after more production was privatized. Governments seem to be better at regulating the activities of non-governmental entities than they are at regulating activities under their own control. Separating responsibility for regulation and production appears to have advantages in terms of promoting compliance with international environmental accord obligations.

The extent to which and way in which a country is engaged in international trade is also important. The more a country engages in free international trade, the more opportunities there are for illicit trade. Russia's and Hungary's shifting from controlled international trade directed by a central plan to free international trade provides evidence of this. At the same time, the more a country is engaged in international trade and the more it relies on investment from abroad, the more subject it is to international pressures. China's engagement in the world economy in the 1980s provides evidence of how a country could feel that it would have to conform with international environmental standards as part of belonging to the international economy.

Political systems and institutions have an effect on implementation and compliance, but again the effect is mixed and complex. Large countries have a much more complicated task of complying with the obligations of accords than do smaller ones. There are several levels of political authority in Brazil, China, the European Union, Russia, and the United States. The European Union, of course, is a special case because its authority was still in the process of being defined in the 1990s. In cases where activities with which the accord deals are widely dispersed, as in the World Heritage Convention, CITES, and the Tropical Timber

Agreement, multiple levels of political authority must be coordinated, which is not always an easy task. Sometimes the authority of the central government, which accepts international obligations, does not reach deeply into local areas. The government in Beijing, for instance, has great difficulty controlling activities in the South and West of China. The central authorities in New Delhi had little ability to control events in the Manas National Park. Moreover, these large countries contain within their borders widely different ecological regions, which require variation in the way that administration is conducted. The configuration of a country's borders also makes a difference. Countries that have long borders involving contact with many countries obviously have more difficult problems of controlling smuggling than those that do not have these characteristics.

As part of its reform, Russia has attempted to decentralize authority. In the process of decentralization, the authority of Moscow over localities has been weakened. This shift appears to have resulted in a decline in Russia's compliance with CITES. Whether this decline is the temporary result of an administrative restructuring or a longer-term change will only be known in the future.

Political stalemate and chaos can bring about a noticeable decline in implementation and compliance. This seems to have affected Brazil, Cameroon, and Russia at various times.

There are many features of democratic governments that contribute to improved implementation and compliance. Democratic governments are normally more transparent than authoritarian governments, so interested citizens can more easily monitor what their governments are doing to implement and comply with accords. In democratic governments, it is possible for citizens to bring pressure to bear for improved implementation and compliance. Also, non-governmental organizations generally have more freedom to operate under democratic governments. Fully independent courts are also useful instruments that can be used by non-governmental organizations and citizens to force governmental action.

At the same time, however, democratic governments are normally more responsive to public opinion than authoritarian governments. Public opinion is not always supportive of environmental concerns, indeed, the economy is usually the public's greatest concern. Democratic governments allow conflicts about environmental issues to flare. It is probably the case that because of the balance of factors mentioned in this and the

preceding paragraph, democratic governments are more likely to do a better job of implementing and complying with international environmental accords than non-democratic governments, but this generalization does not always hold, and democratization does not necessarily automatically or quickly lead to improved compliance.

Democratization in Brazil and in Russia seems to have contributed to improved compliance. Brazil's 1988 constitution mentioned environmental issues, stated goals, and made commitments. Improved compliance in the Soviet Union could be attributed to the greater transparency in governmental processes that started with the reforms under Gorbachev and were continued after the collapse of the Soviet Union. The increased activities of such non-governmental organizations as Greenpeace was particularly important to strengthening Russia's compliance.

The importance of non-governmental organizations – TRAFFIC, Greenpeace, the World Wide Fund for Nature, for example – has already been mentioned. They play a crucial role in implementation and compliance. They mobilize public opinion and set political agendas. They make information about problems available, sometimes information that governments do not have or would prefer to keep confidential. Often the information that they make available is essential to monitoring. They bring pressure on governments directly and indirectly. Because many local and national non-governmental organizations have connections with NGOs in other countries and international NGOs, NGOs are a means of insuring a uniformity of concern throughout the world. There are also significant transfers of funds among NGOs, so NGOs in poorer countries may have surprisingly extensive resources at their disposal. NGOs have become an instrument for universalizing concern.

Individuals make a crucial difference in the implementation and compliance with accords. Who the head of state is counts. Brazilian President Fernando Collor took a special interest in the environment, played a major role in having Rio de Janeiro selected as the site for UNCED, and advanced environmental causes within his country. Brazil's compliance with the five accords improved during his presidency. The Clinton administration appears to have been more committed to environmental goals than the administrations that immediately preceded it. Individuals in less exalted positions can also play important roles. Alexie Yablokov, as the principal environmental adviser to Yeltsin, insisted on revealing the Soviet Union's past violations of the London Convention and sought to

bring the Russian navy's activities into compliance with the terms of the treaty. Russell Train, as Chairman of the U.S. Council on Environmental Quality and Administrator of the Environmental Protection Agency, initiated actions within the United States and extended them abroad. He played a crucial role in starting the international momentum in the 1970s. Maneka Ghandi, as minister of the environment, played an important role in bringing India into the Montreal Protocol. Other individuals through their knowledge, skills, and persistence have played important roles in non-governmental organizations. Xiaoyan Tang, through her scientific work in atmospheric chemistry, played an important role in convincing the Chinese government that it should accede to the Montreal Protocol. The designation of some heritage sites should clearly be attributed to individuals. Individuals are important also as members of epistemic communities.

Figure 1 (p. 102) presents a comprehensive model of what we believe are the most important factors that affect compliance. They are grouped in the four major clusters that we have used for analysis. The most important factors within each cluster are indicated.

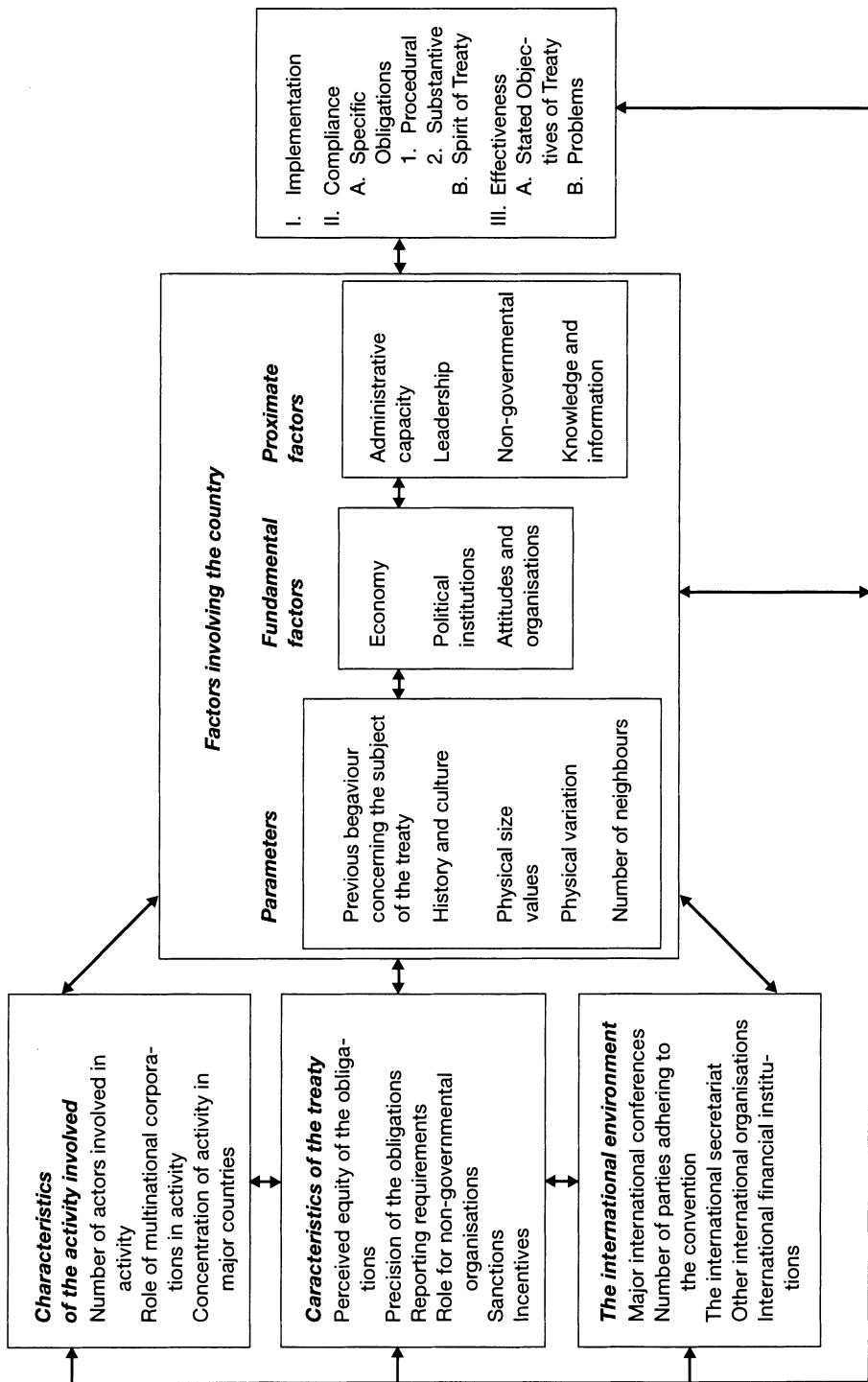
The model is interactive in that the factors all affect each other and there is feedback. Three clusters, Characteristics of the Activity Involved, Characteristics of the Accord, and the International Environment are all placed so as to indicate that they are important in so far as they affect what countries do. Characteristics of the activities that are the subject of the accord are fairly fixed. Once negotiated, accords can be altered, but often only with difficulty. The international environment in contrast can be significantly altered relatively quickly, as it was in the run up to the Rio conference.

Within the cluster Factors Involving the Country, the factors have been grouped into three categories in terms of the immediacy of their effect and the quickness with which they may be altered. The Proximate Factors are those factors within countries that have most immediate effect and are those that are most susceptible to change in the short run.

Strategies for Improving Compliance

Strategies for improving compliance should take into account the factors that have been discussed above. To illustrate the point, in drafting accords obligations should be made as precise as possible and reporting

Figure 1. A Comprehensive Model of Factors that Affect Implementation, Compliance, and Effectiveness



requirements should be carefully designed. Incentives to promote compliance and sanctions to punish and deter infractions are essential. Effective secretariats help to promote implementation and compliance. The international environment should encourage compliance.

It is crucial to take into account the many differences among countries that have been highlighted in our analyses; in other words many aspects of strategies to improve compliance must be country specific. Although some general strategies may be appropriate, many must be designed to take into account the particular characteristics of particular countries. Two broader points flow from this fact.

Leader Countries

As one looks at the history of the accords that we have studied and the interaction of the nine political units with these accords, it is clear that frequently a country enacted strong environmental laws domestically and then moved to establish comparable international standards. The United States enacted laws dealing with its heritage, with endangered species, and with ozone depleting substances, and then took the lead in pressing for international accords that would deal with the same issues. The United States played the leading role in the negotiation of the World Heritage Convention, the Convention on International Trade in Endangered Species, and the Montreal Protocol. It also played a leading role in the negotiation of the London Convention and the International Tropical Timber Agreement. By the time of the London conference on the Montreal Protocol, the European Union and its member countries played a more prominent role as leaders.

Later, as the conventions came into force, the United States and the European Union continued to play leadership roles. They had experience and resources that were essential to good implementation and compliance, and their experience and resources could be shared.

An important lesson of this analysis is that having what may be termed 'leader' countries can make a great contribution to the negotiation of an accord and then to promoting compliance with it. In fact, in the cases studied here, it is hard to see how effective progress would have been made without the efforts of leader countries. A leader country seem to be essential to the effectiveness of an international environmental accord.

Will and Capacity

Our studies make it apparent that countries are in quite different positions on two dimensions at the time that they sign and accede to an accord and that their position on these dimensions can change during the life of the accord. These two dimensions that are particularly important to compliance with international environmental accords are will to comply and ability to comply. Some countries clearly intend to comply with the obligations that they have accepted. They have thought about obligations of compliance and either feel that they are already in substantial compliance or have a clear idea about the steps that they need to take to bring their practices into compliance. Other countries accept the obligations of an accord without having thought through issues relating to bringing their practices into compliance. Some may be blissfully unaware of the obligations that they have accepted. The government has simply not considered the issue. Still others may be more cynical, they may sign knowing fully that they will not comply. Or a government may be divided, the foreign ministry may intend to comply while other branches of government may have no intention of abandoning practices that contravene the accord. Countries sign accords for a variety of reasons beyond a simple intention to comply. They may sign, for instance, simply as a consequence of succumbing to international or domestic pressure.

Ability to comply is also important. Some countries have the resources so that they can comply, others may find themselves falling short. Many assets are important for effective compliance such as an effective and honest bureaucracy, economic resources, and public support. At the time of signing a accord, countries have different endowments of these resources, and these endowments change over time. Some countries are better endowed than others, but this changes. Bureaucracies that are effective and honest can become ineffective and corrupt. Surpluses in government budgets may disappear and be replaced by deficits. Public support for leadership or particular policies may increase or diminish. Because of economic turmoil and political and administrative changes, Russia became much less capable of complying with CITES than the Soviet Union had been. Cameroon's and Hungary's capacity for compliance in certain respects declined as well.

Our analyses highlight the basic point that strategies need to take into account the differences among countries with respect to their will and their capacity.

The crucial role of countries' will to comply led us to conclude that the most important aspect of a strategy to strengthen compliance must be a strategy to engage countries, a strategy designed to get them to see that compliance with the obligations they have accepted is in their national interest. While sanctions may lead countries to cease activities knowingly undertaken or allowed that contravene their obligations or call their attention to infractions that they have intentionally or unintentionally overlooked, the sanctions are unlikely to be substantial enough to bring about major modifications in behavior. A positive commitment is what is required to ensure strong compliance over the long run.

Even if a country wants to comply, it may not be able to do so. If this were the case, sanctions might induce it to devote more resources to building up its capacity to comply but there could be severe restrictions on the resources that it could allocate to this task. External assistance may be a better strategy for developing a country's capacity.

States parties to accords are notably reluctant to admit that they are not in compliance with their obligations, particularly if this might subject them to sanctions. On the other hand, if admitting that they are having problems in complying makes them eligible for assistance, as it does under the compliance procedures for the Montreal Protocol, they may be more willing to come forward.

Stressing that countries must become engaged in the compliance effort, returns our attention to figure 1. It is important to make certain key observations.

Our findings underscore the crucial importance of the underlying strength and health of national political-economic systems for efforts to protect the global environment. Getting a public commitment is also essential. The strength and health of national political-economic systems and a deep public commitment are the most important factors; thus long-term strategies must squarely focus on these issues, as indeed Agenda 21 does (Robinson, 1993). In figure 1, these are termed the Fundamental Factors.

In the shorter run engaging national leaders in the effort to protect and improve the global environment will make a difference. Providing assistance to strengthen national bureaucracies charged with responsibilities for environmental management, supporting international and national non-governmental organizations that focus attention on environmental issues, and building communities of knowledgeable and com-

mitted individuals all will help. These are termed Proximate Variables in figure 1. They merit immediate attention. International momentum can affect these proximate variables. The Fundamental Factors, however, must be the core of a long-term strategy to engage countries in international environmental accords and strengthen compliance.

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Implementation of the Convention on Biological Diversity

Lessons from a National Perspective

BY JOHAN BODEGÅRD

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Biological diversity is a complex environmental issue in three ways.

First, it is an abstract concept, as it refers to the variability of genes, organisms and ecosystems. The objective of the Convention on Biological Diversity (CBD), which was signed at the United Nations Conference on Environment and Development in Rio de Janeiro in 1992, is i.a. to conserve biodiversity and sustainably use its components. How to conserve something that is variable and inherently dynamic is clearly a difficult task. There is an obvious risk that action will be focused only on individual components, while the larger dynamics of ecosystems are lost in the process.

Second, ecosystems are a complex and poorly understood part of biodiversity, yet it is central to efforts to protect biodiversity. The conservation and sustainable use of ecosystems concern the problem of how to maintain the functions and processes that make ecosystems – our life support systems – continue to provide us with ecological services and natural resources. We have barely started to scratch the surface of how the ecosystems function, what natural processes determine these functions and what human influence and use mean to their long term sustainability. More emphasis should be given to the functional aspects of biodiversity in the future. That is the only way to deal with the scientific complexities of biodiversity maintenance.

Third, and fundamental to the environmental agenda, is the problem

of governance. As we are all dependent on biodiversity for our survival, and since most economic and social activities affect the natural systems, the governance of these activities becomes a problem at the individual level. In our work to maintain biodiversity we must primarily focus on mobilizing the individual user of the natural resources, i.a. the farmers, the foresters, and the fishermen. The key question is: how do you build a socioeconomic structure that effectively governs the activities of a multitude of individuals using a complex biological system? The answer lies, I believe, in a minimum of legislative measures, fairly simple and straightforward economic incentives and disincentives and a massive use of information and education.

Environmental Governance in Swedish Forestry

As environmental governance is the assigned topic, I will focus on that issue. Let me start by presenting an example of a governance approach to conserve and sustainably use biodiversity that is now being tested on a national basis in Sweden.

Policy and Regulations

Sweden recently adopted a new forest policy and legislation. It builds on two basic concepts. First, the environmental objective (maintain forest biodiversity), is considered equal to the production objective (timber, paper, etc). Second, it places the responsibility for achieving the environmental objective squarely with the forest sector. This sector is made responsible for ensuring that forestry is conducted in such a way that maintenance of forest biodiversity is guaranteed. It is a responsibility with a great deal of liberty. One important motivation behind the freedom lies with the difficulties of regulating the complexities of ecosystem functions. It is simply not possible to determine in legal terms what constitutes sustainable forestry when it comes to biodiversity.

Previous detailed regulations concerning production methods (often detrimental to biodiversity) have been removed. Legislative measures regarding production are now focused on safeguarding the resource base (compulsory replanting). With regard to the protection of biodiversity, minimum regulations have been established (e.g. protection of key habitats in the forest ecosystem). In addition, massive education and information campaigns have been launched. Approximately 80,000

foresters have attended forest biodiversity courses organized by local associations of forest owners in collaboration with local environmental NGOs. This cooperation was initiated before the new policy was adopted, but it is in line with the policy objectives.

Changing Forestry

Two years after the reform we are beginning to see the first fruits of the approach. Awareness at the individual level has increased tremendously. Forest methods are changing. However, it would be unfair to say that this is only a result of the policy reform. During the same time period, the pressure from consumer groups accelerated through the activities of the Swedish Nature Conservation Society at the Rio Conference. They presented their view of the environmental effects of Swedish forestry to the world community. The result was that major paper consumers threatened to boycott Swedish paper if production methods were not changed. Greenpeace and the German Springer Verlag were the most outspoken, but requests for certificates of sustainability were made by paper wholesale companies in many European countries.

Whether it was the policy reform or the NGO pressure that was most important for the change in Swedish forestry is impossible to say, but it is quite clear that the reform quickened the process. The previous regulations on production methods would have made a response to consumer pressure much more difficult or even impossible. And the information and education campaigns gave the foresters the opportunity to respond in a constructive way, allowing for an adaptation of forestry while maintaining a high level of production.

We are at the beginning of a reformation of Swedish forestry. It is still not 'biodiversity sustainable'. The large forest companies have gone further in ecological planning than the small forest owners because the former have large holdings suited for landscape ecological planning, and they are also more sensitive to international consumer pressures. It still remains to be seen if the small forest owners will be able benefit from better economic returns by biodiversity sustainable forest products, and if they will find ways to cooperate in ecological landscape planning.

Governance through Sector Integration and Responsibility

The reform of Swedish forest policy is the first concrete example that I am aware of, where the principles of sector integration and sector responsibility have been fully applied. I would like to describe the theoretical concept behind this concept of environmental governance.

Problem Analysis

The first step might be called consensus building in problem analysis. Decades of intense debate about the environmental problems in Swedish forestry paved the way for a problem analysis that started in a Parliamentary Committee on Forestry, which consists of representatives from the political parties as well as environmental and industry NGOs. Following the analysis, the Committee presented a proposal for a policy reform. There was general acceptance in the Committee (among the forest industry as well as environmental NGOs) of the environmental problems that forestry had caused. The problem analysis will be detailed in the Swedish Country Study on Biodiversity.

Sector Action Plans

Based on an agreed problem analysis, the second step will be to develop sector specific action plans for biodiversity. It will be the responsibility of the forest sector (authorities in consultation with industry and forest owners) to develop the forest biodiversity action plan. (Such plans will be developed by the agriculture, fisheries and housing, building & planning sectors). Moreover, the Swedish Environmental Protection Agency will also develop an action plan that deals both with environmental problems that fall outside of the responsibilities of these sectors, and with the instruments that currently are the responsibility of the state (e.g. protected areas). The plan will also contain an evaluation of the sector action plans. The plans will span over three years and should be revised regularly.

Permanent Dialogue

The five plans will be coordinated as far as possible through a permanent dialogue between the environmental authorities and the sector authorities, which will also include environmental and industry NGOs. This

dialogue should continue in the implementation phase. The permanent dialogue should be applied at all levels with the aim of avoiding duplication of efforts, maintaining a common ground of understanding, and achieving cross-sectoral integration. Government ministries should take the lead in setting a good example for other parts of society in this respect. It is all too rare that government ministries formulate policies in close cooperation; more often they tend to be in conflict or even in isolation from each other (based on the notion that 'environmental issues are not my problem').

The means for institutionalizing a permanent dialogue are few (apart from government authorities establishing formal interagency consultative groups). Ministries can certainly demand a dialogue by deciding that authorities shall implement policies in close cooperation with one another, and in close cooperation with landowners, industry and environmental NGOs. But hopefully the need for a dialogue will grow out of a common understanding based on acceptance of both the problem analysis and the responsibility for resolution of the problems.

The pitfalls are mainly two. First, there are no formal means of conflict resolution between government authorities in the Swedish governance tradition. This can lead to an endless 'trench war'. Second, the difficulty of achieving a bottom-up rather than top-down approach is obvious when developing extensive action plans.

The solution to the first problem is to be found in constant feed-back between authorities and ministries. There are conflict resolution mechanisms between ministries which can be used in cases when authorities have proven themselves incapable of working out their differences. It is important, however, that the authorities are given a clear message that only vital and intractable problems can be brought upwards in the system.

The solution to the second problem is to establish broadly based consultative processes to ensure that the biodiversity problem and proposals such as those developed in action plans are brought to the attention of those who are directly responsible for implementation, 'the people on the ground'. Agenda 21 was developed through a series of regional conferences, and led to real grass-root movements concerned with living sustainably. The same approach could be applied in Sweden when it comes to the implementing the action plans on biodiversity.

Mix of Soft and Hard Measures

The biodiversity action plans should consist of a mix of 'hard' and 'soft' measures.

Legal measures should be applied selectively and only for activities that can not be permitted from an environmental perspective, and that can be effectively controlled through such measures. Although this principle may seem self-evident, it has not always been applied in the past. There is often too much emphasis on legal measures when dealing with environmental problems, in spite of the fact that these problems – and biodiversity in particular – are very difficult to regulate away through legal means. In the case of biodiversity, legal regulations should be used i.a. for national parks, protection of threatened species and for the protection of habitats critical from an ecosystem function perspective. The idea is to establish a 'bottom line' via legal means.

Economic incentives and disincentives should be used to promote change towards new, sustainable production methods. Incentives can take the form of environmental taxes on the use of toxic or eutrophicating substances, and/or economic reimbursement to farmers or foresters who develop or apply environmentally sustainable production methods.

Education and information should be the main thrust when it comes to government activities. In general, a substantial shift should be sought with regard to resource use from legal measures toward education and information activities. This approach will be substantially expanded in the future.

The International Dimension

I believe there are lessons from the Swedish experience that are applicable at the international level. Environmental problems will never be solved unless those who are responsible for the problems are motivated to change. In looking at the UN system, this means that the United Nations Environment Programme (UNEP) will not be able to solve the environmental problems by itself. When it comes to biodiversity, it is the Food and Agricultural Organization (FAO) that must do much of the work.

What UNEP can and should do (but puts insufficient emphasis on) is to use its funds as seed money to persuade FAO to develop sustainable farming, forestry and fisheries. This is of course difficult. It is David and

Goliath problem in terms of size and political weight. But the fact remains that independently of what UNEP does to improve the situation for biodiversity throughout the world, it will not be effective if FAO continues business as usual. The results of the Rio Conference provide a basis for a more strategic approach by UNEP, both in practical and political terms. The permanent dialogue must be used also between UN organizations and specialized agencies/programs.

The Role of the Convention on Biodiversity (CBD)

The CBD can help foster such a dialogue. The CBD brings together conservation in the traditional sense (protection of species and areas) and resource use (agriculture, forestry, fisheries, etc.) with a view to achieve development that is sustainable with regard to biodiversity. This approach is a direct result of efforts by Sweden to put the biodiversity issue in the midst of the development agenda. Sweden has consistently pushed this approach, and continues to try to ensure that implementation of the CBD follows the dual track of conservation and sustainable use.

The Convention relies on an adaptive approach. Its substantial articles all begin with the phrase "Each Party shall, as far as possible and as appropriate ...". The field is hence left open for Parties to the Convention to apply whatever measures they see fit, as long as it fulfills the objectives of the Convention.

The main value of the CBD lies not in it being a convention with precise and detailed commitments, but in providing a forum for a dialogue. It brings together people involved with biodiversity from a variety of perspectives, and can foster a dialogue between environment and resource use, between conservation and forestry, and between fisheries and agriculture. In this way it can help develop an ecological perspective on development. In addition, the forum can analyze what is being done at the FAO, or at the national level in forestry, agriculture, and fisheries, and it can request improved performances by these bodies.

As a forum, the CBD can promote the political momentum for establishing and continuing a dialogue between environment and development. In fact, it has already proven its capability in this regard. At the direct request of the Negotiating Committee of the CBD, the FAO has initiated the negotiation of an international agreement concerning

access to plant genetic resources in accordance with Article 15 of the CBD. The aim is to adopt a protocol to the CBD, which would regulate access to plant genetic resources for food and agriculture. A formal link between the CBD and the FAO would thereby be established. Furthermore, the FAO has offered to contribute staff to the Secretariat of the CBD (hosted by UNEP) in order to provide closer links between the CBD, FAO, and UNEP.

Sweden is considering (though not yet formally proposed) ideas for implementation of the CBD that are based on regional implementation. The UN regional offices for economic development as well as the FAO regional offices for forestry, fishery, and agriculture could make up the regional forums which could be used to follow up progress on a fully developed CBD in the future. The regional approach would be in coherence with the adaptive concepts of the Convention. It would also give due consideration to the ecological and socio-economic situations in different countries, as well as promote a dialogue between countries of similar ecological and economic conditions.

Conclusions

The Swedish model for environmental governance has substantial merits as I see it. The model is obviously not directly applicable in other countries, but it can be adapted to fit specific national situations. I believe that the basic concepts are applicable in most regions of the world. These are:

- Consensus building when it comes to problem analysis.
- Set objectives at the highest political level that gives equal weight to environmental and production considerations.
- Apply sector integration through explicit sector responsibility.
- Coordinate sector activities and involve all stakeholders through a permanent dialogue at all levels in society.
- Establish a revolving process with regular revisions of action plans.
- Apply a mix of hard and soft measures with a clear emphasis on soft measures, such as economic incentives and disincentives, as well as education and information.
- Use the CBD as a forum to develop approaches to sustainable use of biodiversity, and to promote closer cooperation between environmental and resource use objectives.

National and Local Policy Implementation as a Participatory Process¹

BY KATARINA ECKERBERG

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Environmental problems relate to all levels of our society: although some have a global or regional impact, they usually depend on the national setting, and yet are largely determined by actions at the local level. The problem of desertification is one of many examples that can be described as having implications ranging from the macro to the micro level. The very nature of such problems demands parallel action from each level of government: international, national, regional and local. Policies at every one of these levels, strive towards collective solutions to the identified problems. But coordinated efforts often fail to materialize, leaving implementation of public policy in a political vacuum between national and local bodies of government.

The concern for more effective policy implementation has grown considerably during the last few decades. Environmental policy implementation is no exception. Policy-makers, administrators and environmental groups alike have been drastically alerted by the growing awareness of numerous environmental disasters. Despite attempts by national governments through various administrative, economic and legislative instruments, many of these problems persist. What occurs at

¹I am indebted to Sasha Courville, Faculty of Environmental Studies at the University of York in Toronto for language editing as well as valuable comments and improvement of content.

informal levels, before during or after formal policy has been initiated to cope with the problems, has been found to be as significant, or even more significant, than the formulated policy itself. This has created a growing awareness that government programmes often fail to address the real problem. It may be that environmental problems are perceived quite differently at the local level compared to the national level where the programmes had been designed. Adequate power and responsibility may not have been allocated from the national to the local level for it to respond effectively. For those involved in national policy-making, the potential of local implementation is recognized as a crucial issue in understanding how to improve developmental problem solving. This requires popular support from grassroot organizations, building on their own interests to improve their own environmental situations.

This chapter examines different aspects and concerns over the conditions for local implementation of national environmental policies. Coordination and competition between public policy sectors, and decentralization of environmental policy-making are discussed. Issues related to public participation in the policy process, particularly the role of non-governmental organizations and indigenous knowledge in environmental decision-making, are also developed. Without claiming to present a comprehensive picture of the possible reasons for implementation failures, certain common shortcomings to successful local implementation are outlined and discussed. They include the role of (1) social and economic incentives, (2) appropriate technology, and (3) equity issues in the distribution of land, property and tenurial rights.

They constitute factors to be considered for local environmental initiatives to be pursued, but which cannot be resolved without collaboration and support from different levels of government.

Implementation Perspectives

The reasons for failures in national programmes may be manyfold. One may first of all distinguish between policies that are intended to solve the perceived problem and those which are largely symbolic or pseudo-policies.² It may well be that a national policy is created for the sake of

²Gustafsson, G. 1983. Symbolic and Pseudo Policies as Responses to Diffusion of Power. *Policy Sciences*, 15, pp.269–87.

avoiding a politically sensitive situation, or to tackle a completely different political issue than that which is outwardly intended. But let us assume that national politicians are sincerely trying to do something about a particular environmental degradation situation.

Implementation has been defined as 'the link between policy and action': the realization of policy objectives into practical measures.³ Top-down and bottom-up researchers all argue from their own perspectives about how to define and analyze policy implementation. Whereas top-downers specifically focus on formally selected national or sub-national policymakers, administrators and legislators⁴, bottom-uppers tend to concentrate on the point of policy delivery within the local setting where different actors organize to solve a particular problem.⁵ Attempts have also been made to combine the two.⁶

Also when it comes to suggestions for actions to improve implementation, scholars from the two perspectives come to very different conclusions. The complexity and heterogeneity of multi-actor implementation is viewed as a problem by top-downers, whereas bottom-uppers find considerable virtue in the diversity fostered by multi-actor systems.⁷ Therefore, the organizational implications of the two perspectives differ in that the top-down perspective tends to emphasize formal and governmental implementation structures, while the bottom-up approach

³Barrett, S. and Fudge, C. 1981. Examining the policy-action relationship. In: Barrett, S. and Fudge, C, *Policy & Action: Essays on the implementation of public policy*. Methuen & Co, London and New York.

⁴See Sabatier, P. and Mazmanian, D. 1980. The Implementation of Public Policy: A Framework for Analysis. *Policy Studies Journal*, 8:2, pp. 538–560; and Mann, D.E. 1982. Introduction. In: Mann, D.E. (ed) *Environmental Policy Implementation*. Lexington Books, Lexington, Mass. pp. 1–108.

⁵Hjern, B. and Porter, D.O. 1981. Implementation Structures: A New Unit of Administrative Analysis. *Organization Studies* 2:3, pp.211–27, and Hull, C. and Hjern, B. 1987. *Helping Small Firms Grow: An Implementation Approach*. Croom Helm Ltd, London.

⁶Sabatier, P.A. 1986. Top-Down and Bottom-Up Approaches to Implementation Research: A Critical Analysis and Suggested Synthesis. *Journal of Public Policy*, 6:1, pp 21–48; Eckerberg, K. 1990. *Environmental Protection in Swedish Forestry*. Gower Publ.Co., Aldershot; Winter, S. 1990. Integrating Implementation Research. In: Palumbo, D.J. and Calista, D.J. *Implementation and the Policy Process: Opening up the Black Box*. Greenwood Press, N.Y.

⁷O'Toole, L. 1986. Policy Recommendations for Multi-Actor Implementation: An Assessment of the Field. *Journal of Public Policy*. 6:2, pp 181–210.

identifies local networks which build on self-organization and involve both public and private actors.

The relationship between policy-making and local implementation must necessarily involve individuals who are to take action. This implies that relations must be always be established between different levels of government. In these relations, aspects of discretion and autonomy come in and affect the interaction between, for example, national and local levels. The web of relationships – involving interest and constituent groups, national and local government, and administrators – makes policy formulation and implementation processes a variable and multi-directional flow of communication, which becomes part of the continuing process of administration. How these interests and levels can interact more efficiently in taking measures to protect the environment is a crucial issue to address.

It is argued here that unless one also takes the perspective from the bottom – the actual implementors – and includes them fully in the process of devising policy strategies, national policy-making is doomed to fail. This is true at different levels and with different groups of implementors: at the private business and firm level one must work to make environmental protection measures pay-off; at the local level farmers, consumers, and user groups must be involved in the formulation of local policy strategies that can sometimes be combined and coordinated to form a national policy.

Furthermore, it is argued that decentralization of authority has important advantages in environmental policy-making. The multifaceted character of environmental problems necessitates interagency co-ordination and control, which is a difficult task. In this respect, divided authority can satisfy a broader array of interests and values, and at the same time maintain flexibility and permit the correction of errors.⁸ Pluralistic decision-making arrangements are also more likely to lead to possible innovations in policy because of the multiplicity of sources of ideas and influence: this is quite the reverse of the thinking of those who favour comprehensive, concentrated planning and decision-making.⁹

⁸Marcus, Alfred A. 1980. *Promise and Performance: Choosing and Implementing Environmental Policy*. Westport, Conn. Greenwood Press.

⁹Ingram, H.M. and Ullery, S. Policy innovation and institutional fragmentation. *Policy Studies Journal*, Summer 1980, pp. 269–289.

Also, the chances of successful implementation may actually increase with the number of administrative units involved, if these are set up in an interdependent, reciprocal review system, which forces agencies to continuous bargaining and adaptation to reach policy goals.¹⁰

On the other hand, arguments can also be raised against local decision-making power in environmental issues. It can be questioned to what extent local authorities possess adequate information about the general environmental situation and its implications. Also, the institutional strength at the local level may not be sufficient to take on the complicated, intersectoral and incalculable political issues which characterize environmental problems. Moreover, economic interests are often well organized at local level to prevent any major change of policy that may affect their profits.

Local authorities might not always be prepared to take this greater responsibility for environmental policy-making. Economic pressures, competing interests and sectorized bodies are some reasons for their incapability to take a holistic view on new environmental challenges. However, more room for review and control by informal (that is non-statutory) organizations may enhance the possibilities for achieving environmental goals at the local level. Environmental interest groups, both at local, national and global levels, play an important role in this respect. They may contribute additional environmental information to that provided by public authorities, give access to professional environmental networks, exert pressure on decision-makers through lobbying activities, and volunteer through various activities to improve the local environmental situation. They can be an important counteractive force to those local interests which tend to favour short-term economic benefits.

Sectorization and Public Participation

Developed and developing countries obviously face different problems with regard to their environmental situation. In developed countries, environmental objectives are largely to protect and conserve rural space, to recognize aesthetic values in the countryside, to provide better access to this space, and to ensure the survival of threatened species for eco-

¹⁰O'Toole, L.J. and Montjoy, R.S. 1984. Interorganizational Policy Implementation: A Theoretical Perspective. *Public Administration Review*, 44:6, pp 491–503.

logical and ethical reasons. Environmental objectives in developing countries are rather different. Biodiversity, in the sense of protecting a variety of species, is equally important, although possibly for more straightforward economic reasons. Otherwise the rural environment is contested because it is there the majority of the population derive their source of living.¹¹ More basic human needs, including access to food and shelter, fail to be met for vast numbers of rural and urban poor in these countries, and thus increasing the strain on their local environment.

Despite these differences in environmental objectives, obstacles to effective implementation of policy goals are often similar between the two types of countries. A factor that concerns developed and developing countries alike is the growing of sectoral boundaries accompanied by problems of coordination and competition among sectors. The sectorization of national policy is particularly problematic in the environmental field, as environmental problems tend to cut across traditional administrative domains. The capacity of local level organizations to respond to national policy becomes a serious issue as different sectors at the national level often give diverging signals. For example, economic subsidies to activities which pollute the environment are frequently given by governments to enhance economic growth at the same time as other national authorities make attempts to prevent the same type of activities for environmental reasons.

Participation in the implementation process also differs between developed and developing countries. In developed countries, policies tend to strive towards increased decentralization combined with procedures for involvement of different interests in the implementation phase – within the formulation, review and evaluation of policies. Formal mechanisms for public participation have been developed in the West. Procedures for Environmental Impact Assessments have been adopted in most developed countries, with models for public scrutiny varying depending on the respective national traditions in this field.

In developing countries, the picture is more heterogeneous. Some of them are still far from making public participation a procedural requirement for policymaking. To a large extent their forms of government lack the capacity and tradition within political and administrative institutions

¹¹Redclift, M. 1987. *Sustainable Development: Exploring the Contradictions*. Methuen & Co. London and New York, p.200.

to handle competing interests and arrive at consensus decisions. Informal mechanisms of participation, however, may well be stronger in developing countries than in the West as social movements are emerging when established forms of political influence are blocked. These social movements are both larger and can be more effective in demanding participation compared to more formalized solutions. Democratization of the political systems is currently underway in many former authoritarian Third World states, and this may help to legitimize the involvement of different local groups in environmental policy-making and to develop new forms of public review mechanisms. This is starting to happen more at the local government level than at the national. For example, in Botswana, decentralization has become a national political priority. Freedom of action, however, is limited by the fact that powers to handle key functions, such as financial management, revenue control and personnel management have not yet been devolved to local authorities.¹²

In Eastern Europe and in former Soviet Union, the situation has changed drastically with the breaking up of communist rule and the struggle for independence in the new nation states. These countries inherit a similar background as many Third World countries: strong centralized decision-making, lack of economic taxation and fees to prevent environmental hazards, and ineffective government administration to cope with environmental problems. The severity of environmental problems in the East can be traced back to the extreme expansion of heavy industry from 1950 onwards combined with the political monopoly of the state. It took until the end of the 1980s before any serious government action was initiated in these countries to counteract environmental degradation. Even with the recent political changes that have taken place, environmental legislation and administration is largely the same as before independence. It will take time and serious political reorientation to move decision-making power from central to local levels of government. Also, mechanisms for cross-sectoral review and public participation in environmental management are not yet in practice in these countries.

¹²Karlsson, A., Helilemann, A. and Alexander, E. 1993. *Shifting the Balance? Towards Sustainable Local Government, Decentralization and District Development in Botswana*. SIDA Evaluation Report 1993, no.4, Stockholm.

Local Level Implementation Structures

Although many environmental problems are of a national or even global nature, implementation of environmental policy is largely dependent on local government. This can be justified by the fact that the municipality, or the local community, is the administrative level both geographically and politically closest to the citizen. For example, land use planning, building of local infrastructure, such as roads, water supply and sewage, health services, local energy supply, recreation facilities, and protection of the cultural and natural environment, are all aspects which can be more effectively handled at the local level compared to the national.

Traditions of local autonomy vary greatly between countries and sometimes even within countries. These traditions are expressed in large demographic variations, variations in political culture, and variation in administrative capacity among local governments. Even within countries, local authorities can thus develop diverging environmental practices. The complexity in administrative and political structure at the local level can have a major, if not determinant, effect on the implementation of national policy.

The position of local government institutions can be broadly classified along three dimensions: function, access and discretion.¹³ Functions of local government vary in terms of the nature of services, mode of delivery and nominal description, as well as the way functions are allocated. Access of local government refers to the nature of contacts between central and local government actors; how frequent and important such contacts are, and whether they are direct or indirect. Discretion may be related both to the general legal framework of local government, to the particular local service, to non-legal forms of influence (e.g. government advice through circulars), and to financial discretion. Form and content of local governments' policy in environmental matters are dependent on their location along these dimensions.

Local environmental policies can also be compared through classifying local governments into four categories according to their commitment

¹³Page E.C. and Goldsmith, M.J. 1987. Centre and locality: functions, access and discretion. In: Page, E.C. and Goldsmith, M.J. (ed). *Central and Local Government Relations: A Comparative Analysis of West European Unitary States*. SAGE Modern Politics Series Vol 13. London.

and capability: progressives, strugglers, delayers and regressives.¹⁴ Progressives are those communities with a high commitment coupled with strong institutional capabilities. Strugglers are those with a high commitment but with limited institutional capabilities. Much of the debate in the local community will then focus on tax increases to live up to the commitment. Delayers are those with a high institutional capability but with limited commitment, many of which tend to be dominated by heavy industry.

Regressives, finally, have weak institutional capabilities as well as weak commitment. In such communities, polluting industry is likely to continue growing. At some point, however, increased environmental awareness, possibly triggered by some kind of environmental catastrophe, may turn things around in the regressive community to make it more committed.

The diversity of regional and local needs emphasizes the importance of creating national policies that are flexible and can be adjusted to fit the particular situation at these levels. National policymakers need to appreciate that the greater the capacity of implementing organizations at all levels, the less likely they are to act as passive instruments of national policy and the more likely they are to use discretion constructively in the implementation of national policy. In countries where the political organization at the local level roughly corresponds to national level organization, implementation of public policy is more likely to run smoothly between levels. Whereas in federalist countries, it is the relations between provincial and municipal levels which mostly determine the functions, access and discretion of local authorities.

In the implementation of environmental policy, politics and public administration are very much intertwined in their efforts to effect important decisions that have a bearing upon the environment. The administration of environmental policy operates within the framework and influence of its specific milieu, including the local culture and governmental system. Therefore, the public administrator must pay particular attention to those pressures that he or she can best control while minimizing the negative effects of those that cannot be eliminated or

¹⁴Lester, J.P. 1990. A New Federalism? Environmental Policy in the States. In: Vig, N.J. and Kraft, M.J. *Environmental Policy in the 1990s*. Congressional Quarterly Inc. Wash D.C.

completely removed.¹⁵ This requires administrators to be responsive to changes in their local political milieu, and utilize opportunities for action towards environmental improvement as they arise. Hence, what is needed to facilitate efficient implementation of environmental policy is a large proportion of responsiveness and flexibility by local administrators.

A further precondition for environmental protection policy to be effectively pursued at the local level is the presence of democratic traditions, empowering local interests to participate in and to scrutinize political decisions. This includes mechanisms for citizens to follow up on measures that have been locally decided upon, and to monitor progress towards environmental goals.

Open communication between local administration and interest groups is essential for different opinions to be heard and, when possible, mediated.

Environmental Movements as a Force for Change

In the implementation of environmental policy, therefore, social movements dedicated to environmental ends are crucial partners. Social movements of the urban and rural poor are generally determined to develop their basic environmental requirements for energy, water, food and shelter. This struggle for survival is closely linked to sustainability objectives. Recycling, for example, is very organized in certain parts of the developing world. Moreover, people in small-scale societies, the tribal or indigenous people who make up 200 million of the world's population, often view the environment within a long-term time horizon, like many ecologists. In pastoral societies, significant events may be separated by decades.¹⁶ Building upon such local environmental knowledge is essential in redirecting environmental management towards sustainability.

The number of non-governmental organizations formed with environmental issues as their common denominator has grown considerably in the last few decades, with support from governmental efforts

¹⁵Henning, D.H. and William, R.M. 1989. *Managing the Environmental Crisis: Incorporating Competing Values in Natural Resource Management*. Duke University Press, Durham and London. p.2.

¹⁶Mc Neely, J. and Pitt, D. (eds) 1985. *Culture and Conservation: The Human Dimension in Environmental Planning*. London, Croom Helm.

at the national and international level.¹⁷ Grassroot responses to the world's problems are organized around four major themes: (i) nuclear, biological and chemical proliferation as well as military expenditures; (ii) poverty, both absolute and relative; (iii) the environmental crisis characterized by resource scarcity, waste, pollution and loss of biodiversity; and (iv) the denial of human rights.¹⁸ However, the same international events have had different responses and effects on the environmental movement in different countries, depending on national political cultures. For example, in such similar national settings as in Denmark, Sweden, and the Netherlands, the environmental movements have distinguishable national traits in terms of their specialization and degree of professionalism.¹⁹ Grassroots in the Third World have often played the role of an alternative to the political venues blocked by governmental corruption. And in part of East Europe and in the Baltic countries of Estonia, Latvia and Lithuania, environmental movements were important forces in the struggle for independence. The growth of the environmental movement in particular can be explained by the combination of disapproval of Moscow being the centre for decision-making that affected the management of industry and natural resources and, second, a growing recognition of the impacts of the heavy pollution on public health.²⁰

Environmental organizations exert pressure on national governments to formulate and implement effective environmental policies. At the same time, they are also important actors at the international as well as local level. Through regional and global networks, environmental NGOs collaborate in acquiring information and devising strategies for environmental protection. At the local level, they gather groups and individuals to solve pertinent local environmental problems.

Although there is great variation among the new environmental move-

¹⁷McCormick, J. 1989. *The Global Environmental Movement*. Belhaven Press, London.

¹⁸Ekins, P. 1992. *A New World Order: Grassroots Movements for Global Change*. Routledge, London.

¹⁹Jamison, A., Eyerman, R. and Cramer, J. 1990. *The Making of the New Environmental Consciousness: A Comparative Study of the Environmental Movements in Sweden, Denmark and The Netherlands*. Edinburgh Univ. Press, Edinburgh.

²⁰Wolfson, Z. 1992. The environment – from stagnation to collapse. In: Ellman, M. and Kontorovich, V. (eds) *The Disintegration of the Soviet Economic System*, Routledge, London, pp. 241–50.

ments of grassroots orientation, they have certain features in common. According to A. Escobar, they can be characterized as striving for greater autonomy over the decisions that affect their lives rather than power *per se*, and are non-party political formations. They are also of a pluralistic nature, and generally do not conceive of their struggle in purely economic terms or only in terms of economic classes. Local culture and communal aspirations are often equally important concerns. More particularly, they do not accept at face value the knowledge of the 'expert' and of government agents.²¹

For such environmental groups to form, information about the environment is an important prerequisite. The Right to Know has been established as a principle that governments should provide to their citizens. There are several different forms of the right to know: the availability of raw information, as well as helping to interpret the data or in finding ways of effecting decisions.²² Without the appropriate means to understand and take action, citizens will be left without power to influence environmental policy. This depends largely on the ability of scientists to popularize environmental information and to suggest action to mitigate damage. Scientific organizations have, in fact, already played a major part in providing the informational base needed for environmental laws and treaties.²³ In contrast to the role of science in generating information about environmental hazards, the power of spontaneous movements in spreading local environmental information, for example through NGO networks, cannot be underestimated.²⁴ The information channels, thus, must work both ways in order to secure an open dialogue about environmental issues.

Mobilizing participation from NGOs can take many forms – from passing on environmental information and changing attitudes to initiating and implementing development policy. Moreover, NGOs

²¹Escobar, A. 1992. Reflections on development: Grassroots approaches and alternative politics in the Third World. *Futures*, June 1992, 24(5) pp. 411–436.

²²Hadden, S.G. 1989. *A Citizen's Right to Know – Risk Communication and Public Policy*. Westview Press, Boulder, Co.

²³Caldwell, L.K. 1990. *Between Two Worlds: Science, the Environmental Movement and Policy Choice*. Cambridge Studies in Environmental Policy. Cambridge Univ Press.

²⁴Breyman, S. 1993. Knowledge as Power: Ecology Movements and Global Environmental Problems. In: Lipschutz, R.D. and Conca, K. (eds) *The State and Social Power in Global Environmental Politics*. Columbia Univ. Press, New York.

range in size from small, locally based social institutions deriving their authority from a kind of unspoken community sanction to large, bureaucratic, and international NGOs with established political programmes. Some forms of participation from these various kinds of movements cannot be regulated, let alone manipulated. Spontaneous action is already taking place and organized locally without support from outside actors.

This discussion of national versus local policy-making has, so far, been largely based on the assumption that policy is formulated in a top-down manner, although it is influenced by grassroot organizations and private business as well as voters' choice. If we turn our minds away from government environmental programmes and look at the conditions for improvement of environmental management from the ground up, certain obstacles to change can be discerned which will be elaborated in the following.

Social and Economic Incentives

The achievement of environmental protection goals depends on sound assumptions about the behaviour of individuals, groups including firms, and public institutions. Like public policy in general, environmental policy may fall short of its goals if the premises about motivations, incentives, and constraints are improperly structured into the decision-making system.²⁵

Generally speaking, individuals have few incentives to support environmental policies. This is due to the fact that environmental amelioration usually applies to common resources, whereas the cost for improving this environment is borne by the individual in the form of changed behaviour. Pricing environmental amenities is one increasingly utilized way to reach a better balance between costs and benefits for the individual. Various economic means are utilized for this purpose, including different forms of subsidies and taxes. This method assumes that the individual will calculate the most economic efficient behaviour according to her own personal situation. Another way is to influence the individual's appreciation of an improved environment, and thereby

²⁵Mann, D.E. 1982. *Environmental Policy Implementation*. Lexington Books, Lexington, Mass. p.11.

changing her attitudes and behaviour. Such value changes are connected to social conditions rather than pure economics.

The social incentive structure is perhaps more important in the long run. Cultural heritage and social control constitute basic factors for how people behave towards and utilize their environment. Indigenous peoples who have depended upon natural resources for their survival have since long developed social and economic behaviour that is in line with sustainable management. In the humid tropics, shifting cultivation has a long history and was sustainable when population densities were low enough to allow re-establishment of the forest in swidden and fallow fields. In many areas, shifting cultivators developed sophisticated methods of forest regeneration combined with agriculture.²⁶ In arid and semi-arid areas, pastoral societies have likewise produced local knowledge management systems which, if they have survived past political and social changes, must be considered to be still viable.²⁷ The challenge for politicians and public administrators is to find ways to enhance such people's rights to manage their resources despite the powerful political and economic pressures from private interests to take over. For example, in northern Tanzania successful farm forestry is spreading through local groups of villagers who learn about tree-planting, production and marketing. The preferred planting and management practices are seldom in pace with the recommendations of the local forestry extension service, and it takes some fifteen years for farmers to reach the stage where new practices are spread continuously.²⁸

The challenge for bureaucrats to pick up on new and more environmentally favorable management practices is not easily achieved. Even within the public administration which is designed to prevent environmental damage by legislative measures, the agencies who are responsible for ensuring enforcement often lack qualified people and political muscle. Moreover, the benefits to be derived from implementing environmental measures for these public sector employees are often intangible, while the financial advantages which they can gain from those

²⁶Warner, K. 1991. *Shifting cultivators: local technical knowledge and natural resource management in the humid tropics*. Community Forestry Note no 8, FAO, Rome.

²⁷Niamir, M. 1990. *Herder's decision-making in natural resource management in arid and semi-arid Africa*. Community Forestry Note no. 4, FAO, Rome.

²⁸Johansson, L. 1991. *Successful Tree Growers. Why people grow trees in Babati district, Tanzania*. Swedish University of Agricultural Sciences, Working paper 155, Uppsala.

interests opposed to environmental measures, are very real indeed.²⁹ Future development schemes, therefore, should search for incentive structures, both within public administration and among their clients, which favor environmental goals. Building on positive social and economic incentives that already exist among certain groups in their relation to the use of common resources, will be an important area to expand upon in order to create potential for sustainable development. This would include facilitating the use of more environmentally friendly technology and making it more socially preferred.

Appropriate Technology

Many rural people using simple technologies in developing countries possess a wealth of information about their environment. They can effectively manage their environment in ways that are sustainable in the long term, due to the fact that sustainable practices were traditionally the only guarantee for survival.

However, the experience and knowledge of such people is rarely incorporated in the formal structure of rural development planning. Incorporating such experiences implies assimilating cultural values from indigenous people into development processes which are largely determined by representatives from the cultures in developed countries. Perhaps the most urgent question is whether politicians and public administrators are prepared for the cultural adaptation that is required. The view that people take of their own environment is intimately linked to their conception of their own place in space and time.³⁰

Traditional environmental knowledge is not only devalued by development institutions, it is also largely overlooked in the environmental management literature. This is partly because of the way such knowledge is recorded in the cultures of native peoples. If we want to know how ecological practices can be designed which are more compatible with social systems, we need to embrace the epistemologies of indigenous peoples, including their ways of organizing knowledge of

²⁹Redclift, M. 1987. *Sustainable Development: Exploring the Contradictions*. Methuen & Co, London and New York. p. 149.

³⁰Redclift, M. 1987. *Sustainable Development: Exploring the Contradictions*. Methuen & Co, London and New York. p.150.

their environment. However, as Norgaard argues, traditional knowledge is location specific and only arrived at 'through a unique co-evolution between specific social and ecological systems'. This knowledge is not easy to incorporate into 'scientific' knowledge since experimental learning requires an evolutionary rationale, and one which is different from that of bureaucratically managed institutions.³¹

Innovations in environmental technology are more likely to occur when not only formally trained scientists and technicians, but also farmers, craftsmen, housewives, traders, and others outside the research and development system work together. The latter group, while they may have little technical accreditation, have enormous technical change capability, gained from their experience in production, distribution, and consumption – the various dimensions of the use of technologies. Promoting an approach that facilitates user participation in this process has a great potential for coming up with improved environmentally sound technologies for the future.³²

One example of such user participation is the Andean Community Planning, which has been developed as a methodological tool for people within Andean traditions to work with their problems, generate consensus, prepare work plans and improve grassroots development. It has been tested in over one hundred community planning workshops, combining family knowledge with that of the community as well as with that of outside institutions. Through these planning efforts, villagers are able to identify the environmental problems that jeopardize security along with possible solutions.³³

³¹Norgaard, R. 1985. Environmental economics: an evolutionary critique and a plea for pluralism. *Journal of Environmental Economics and Management*, 12(4): pp. 382–394.

³²Gamser, M.S. 1988. *Power from the People: Innovation, user participation, and forest energy development*. IT Publications, London.

³³Valarezo, G.R. 1994. Andean community planning – encouraging Andean rationality and bridging over to Western rationality. *Forests, Trees and People Newsletter*, No.23, Swedish University of Agricultural Sciences, Uppsala, pp. 9–13.

Distribution of Land, Property and Tenurial Rights

In the management of natural resources, the distribution of rights to land determines how individuals are allowed to use these resources. Each individual has a number of tenure rights or bundles of rights to different natural resources. Rights often differ between individuals and categories of individuals, and are unevenly distributed among, for example, men and women, herders and farmers, indigeneous users and newcomers. Under the pressure of population growth and commercialization of production, these systems tend to change towards increased individualization of tenure.³⁴ Throughout the world, particularly in the tropics and subtropics, various common property regimes are coming under increased strain. The exploitation of these systems for forest products, groundwater, fish and wildlife as well as range and pasture, frequently lead to resource depletion.

Pragmatic policy for the rehabilitation and stabilization of degraded ecosystems requires that such programs proceed so that indigeneous users are able to retain their current role in that ecosystem; we cannot expect to develop programs that evict people.³⁵ Similarly, if people contribute to collective management of a commons, they must also get a reasonable and fair return. Asymmetries among users, which create opportunities for some to benefit at others' expense often lead to costly conflicts where all parties lose.³⁶

Distributional issues are particularly sensitive in natural resource management since they touch upon access to power. In the developed world, the population of farmers is very limited and has protected status. In developing countries, on the other hand, farmers make up the bulk of the population, and indigeneous farmers live under constant threat from governments.

³⁴Birgegård, L-E. 1993. *Natural Resources Tenure – A review of issues and experiences with emphasis on Sub-Saharan Africa*. Rural Development Studies no. 31, Swedish University of Agricultural Sciences, Uppsala.

³⁵Bromley, D.W. 1986. The Common Property Challenge. In: Proceedings of the Conference on Common Property Resource Management, April 21–26, 1985. National Academic Press, Wash. D.C. pp 1–5.

³⁶Oakerson, R.J. 1986. A Model for the Analysis of Common Property Problems. In: Proceedings of the Conference on Common Property Resource Management, April 21–26, 1985. National Academic Press, Wash. D.C. pp 13–29.

Rights of access to products from natural resources become a matter of survival for these people. Some groups are particularly vulnerable. Many are landless people who live on the fringe between agriculture and forest lands, and who are dependent on collection and selling of products illegally according to national legislation. In such circumstances, the likelihood that sustainable management strategies will be developed is small, or negligible. Competing interests between state or private land owners on the one hand, and pastoralists, shifting cultivators and other landless groups on the other, combine to increase pressure on an already degraded environment. Only if these different parties are made to negotiate on equal terms in order to establish user rights to the different products, is there a chance that management practices will gradually become more environmentally sustainable.

Some Final Remarks

Lessons from grassroots environmental action indicate that sustainable development requires people working together at the local, national and international levels. Whether they are motivated, encouraged and supported by outside actors such as the state or international organizations, or formulating and implementing their own actions in spite of neglect, resistance or even active opposition by external forces, sustainable environmental management can only occur where active local-level support exists. In some circumstances, communities struggle to maintain the integrity of their environment in the face of destructive forces emanating from outside the community. In other circumstances, state and development agencies are themselves concerned with improving the sustainability of resource management on the local level. In the latter case, local communities may neither have the necessary resources nor the option to improve their environment without external support.³⁷

Increasing ecological rationality can only be achieved through greater local autonomy, self-sufficiency and open communication and mediation between different interests.³⁸ This would mean moving from pre-

³⁷Ghai, D. and Vivian, J. 1992. (eds) *Grassroots environmental action – people's participation in sustainable development*. Routledge, London, p.8.

³⁸Dryzek, J.S. 1987. *Rational Ecology – Environment and Political Economy*. Basil Blackwell, New York.

sent-day 'environmental managerialism' to a more collaborative view of caring for the environment based on knowledge from the environmental users rather than the outside 'experts'. It is the combined impact of these small-scale activities, undertaken by vast numbers of individuals which will determine the fate of many resources and ecosystems, especially in the Third World.

Two-way communication throughout the formulation and implementation of environment/development policy, from the local to the national level – and vice versa – may help politicians and administrators in their efforts to design effective strategies to cope with environmental degradation and mismanagement. Incorporating local people's needs and desires, providing room for discretionary decision-making in the implementation process and establishing procedures for reciprocal review within and from outside public administration is a key factor to pragmatic policy-making within the environmental arena. Such procedures must allow the crucial issues of local empowerment and indigenous knowledge systems to be addressed in environment and development relationships.

International Scientific Networks

BY BERT BOLIN

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The process that has led to an agreement on a Framework Climate Convention, FCCC, represents a complex and interesting example of cooperation between on one hand the world scientific community in the field of environmental sciences, and on the other the countries of the world through the Intergovernmental Panel on Climate Change, IPCC. The IPCC was formed in 1988 by the United Nations Environment Programme, UNEP, and the World Meteorological Organization, WMO, to take the lead within the UN-structure in the pursuit of the climate change issue. When the International Negotiating Committee, INC, was formed in 1991, and accordingly negotiations for a Framework Convention on Climate Change began, the scene was somewhat modified. A more clear separation between a fact-finding process such as that of the IPCC and the political process on negotiating agreements on actions became possible.

It is of course important that a broad collaboration is developed to address global environmental issues of this kind. It is, however, not self-evident how this might best be secured. There are lessons to be learned from the experiences gained during the work so far. Let us, however, first recall in some more detail how this process has developed (see also, Bolin, 1985, 1993).

A Sketch of the Scientific Background

Although the possibility that man might influence the earth's climate was already realized by Svante Arrhenius (1896) almost one hundred years ago, this issue was not really brought to the attention of governments until the 1980's. The launching of the first meteorological satellite by the United States had, however, already set the stage for this development in 1960. A powerful new tool became available and a number of activities were initiated both at the political and scientific levels. Also, US president John F. Kennedy addressed the UN General Assembly in 1961, calling on the world to use this new technology for peaceful purposes.

Scientists quickly seized the opportunity. Within a year or two the World Weather Watch was initiated by US and USSR as part of the WMO activities. Also, the International Council of Scientific Unions, ICSU, and WMO separately analysed what initiatives might be appropriate. In 1967 a Joint Organizing Committee, JOC, was formed to organize a Global Atmospheric Research Program, GARP, aimed at improving weather forecasting, particularly to extend our predictive capability beyond the range of two to three days which was the limit at that time.

The fact that a joint effort was agreed to between a UN organization, WMO, representing the governments of the world on one hand, and a non governmental scientific organization, ICSU, on the other, was most important. It also implied that scientific-technical cooperation between key countries of the world was intensified. The scientific quality of the preparatory work for GARP also contributed to enhance the ICSU role in organizing international scientific projects.

At its first meeting the GARP objectives were summarized in two short paragraphs:

- The transient behaviour of the atmosphere as manifested in the large-scale fluctuations which control changes of the weather; this would lead to increasing the accuracy of forecasting over periods from one day to several weeks.
- The factors that determine the statistical properties of the general circulation of the atmosphere which would lead to better understanding of the physical basis of climate.

The first sentence obviously aimed at taking advantage of the new tool that satellites represented in a more short term perspective. The second

objective summarized the common scientific view already popular at that time that in the long term our understanding of the global climate might also be addressed much more effectively than had been so far possible.

The JOC was given a comparably large budget. As a matter of fact, the financial contribution from ICSU was exceptionally large and could only be handled by requesting contributions from private US funds. It was further agreed that the joint committee would have the full authority to spend the money in a manner that it judged best for the task to be carried out, while the responsibility for the WMO Secretariat was limited to the formal book keeping of the activities. The limitation of the roles of the ICSU and WMO secretariats in creating a scientific program lead to some tension between the Committee and the Secretary General of WMO. It was, however, important to safeguard the independent status of the committee and bring the key scientists into the process, regardless of their institutional association. This set an important precedent for the future.

The Climate Change Issue Emerges

Naturally most of the work by the JOC during the first few years was concentrated on the development of a global observational network to improve weather forecasting. Much effort was, however, also devoted to coordinating the development of numerical models for weather forecasting. In 1973, I proposed to the Committee that we also ought to start addressing the second GARP objective, i.e. the climate issue. This was agreed upon and a workshop was organized outside Stockholm in 1974. On this occasion S. Manabe presented his first attempt at deducing, with the aid of a general circulation model, the probable change of the global mean surface temperature for a doubling of the atmospheric carbon dioxide concentration (Manabe, 1975). His finding, a global warming by about 3°C , is remarkably similar to the results nowadays obtained with the aid of much more sophisticated models. This achievement had a profound impact on the workshop. A bold and far-reaching goal was set to co-ordinate scientific research on climate change as a continuation and extension of the original prime task of GARP, to improve weather forecasting.

Towards the end of the 1970s the first phase of the Global Atmospheric Research Program was completed by the implementation of the First Global GARP Experiment (FGGE). It was a major joint

observational effort that engaged six satellites; a few hundred long lasting observation balloons operating at about ten kilometers elevation; a fleet of long distance aeroplanes, equipped for and wholly devoted to meteorological and oceanographic observations; a number of ocean going research vessels; a set of buoys in the southern seas reporting via satellites; and last but not least more and better observations across the continents. The experiment lasted for a 20 months period, ending in June 1980, and temporarily achieved greatly improved observational networks, which has not been surpassed since. It was possible to achieve this because a clear program for actions was developed jointly by the leading scientists in the field. The prospects of considerably improved weather forecasts were convincing to governments.

The ICSU and WMO replaced GARP in 1980 with the World Climate Research Program, WCRP, partly also as a result of the First World Climate Conference that was held in Vienna in 1979. Addressing the climate issue was, however, really not a new undertaking. The accomplishments of GARP during its thirteen years of existence provided the fundamental basis for this new pursuit. The modelling development for weather forecasting was of immediate use in studies of the climate system. More emphasis had to be given to atmosphere-ocean interactions, oceanography, ice sheet dynamics and the role of land surface characteristics in the climate system. Still, many key scientists engaged in the GARP activities were naturally to play an important role in the WCRP.

The climate change issue had, however, remained essentially a scientific challenge. The discussions about 'limits of growth' initiated by the Club of Rome had, however, received much attention in the early seventies, and long-term environmental issues were also considered in that context. A possible future man-induced change of climate emerged as a political issue in the United States during Jimmy Carter's presidency. He established a special task force to address issues of 'quality of life', which also included considerations of the environment. A request was made to the US Academy of Sciences in 1979 to present a more comprehensive summary of available knowledge about the climate change issue. A study was carried out under the chairmanship of Professor Jule Charney, in which work I also became engaged (US National Academy of Sciences, 1979). This served as a starting point for international assessments of the climate issue and I became responsible for a similar study soon after (ICSU, UNEP and WMO, 1980).

It was clear, however, that brief studies and short reports could not possibly cover such a complex issue. I therefore proposed to the UNEP in 1982 that a much more thorough study be carried out with particular emphasis on the role of and impact on the global ecosystems in the context of a global change of climate. This study engaged some 50 scientists and was completed in 1985 (Bolin et al., 1986). During the last months of the work an important paper by Ramanathan et al. (1985) appeared, which in a convincing manner established the significance of increasing concentrations of other greenhouse gases (methane, nitrous oxide, ozone and CFC-gases). Their enhanced concentrations meant almost a doubling of the radiative forcing caused by the increased concentration of carbon dioxide. The climate issue suddenly became much more urgent.

A scientific community engaged in climate research had developed, and in the process a international network of research institutions became available. It was in no way exclusive but rather inviting, since the scientific challenges were huge and the limited number of competent scientists represented a major difficulty. This network later turned out to be an important asset in the 1980s, when the climate change issue was put on the political agenda.

Climate Change Becomes a Political Issue

As early as when the ICSU/UNEP/WMO Report (Bolin et al., 1986) was in manuscript form, the three parent organizations called an international conference to discuss the implications of the findings. Twenty-nine developed and developing countries met for one week in October 1985 in Villach on invitation from the Austrian government. Most of the representatives were still from universities and government agencies and the meeting was in reality technical, but the opening address by the Executive Director of UNEP, Mostafa Tolba, was a strong appeal to governments to take the warning about a possible man-induced change of climate seriously. Much of the discussion at the meeting was thereby focussed on the formulation of a short and clear statement that could draw the attention of the countries of the world to the threat of a climate change.

In the meantime, the UN Commission on the Environment and Sustainable Development under the chairmanship of Ms. Gro Harlem

Brundtland received information from the ICSU/UNEP/WMO assessment through the Beijer Institute on Human Ecology at the Royal Swedish Academy of Sciences, that was also engaged in the scientific assessment. Accordingly, the Commission report (World Commission on Environment and Development, 1987) that was presented to the UN in 1987 contains a section on the implications of climate change for the efforts towards establishing sustainable development in the world. Although the issue does not figure prominently in the report, it was brought to everyone's attention at the debate in the General Assembly in late 1987, when the representative of the Maldives called for assistance to the small-island states because they were obviously threatened by a rising sea level.

The UN General Assembly support for the Brundtland Commission Report gave incentive to the Governing Council of UNEP and the Executive Council of WMO to join forces in 1988. Countries of the world were invited to form an Intergovernmental Panel on Climate Change, IPCC. To a considerable degree the initiative stemmed from the US. A first meeting was held in November 1988, on which occasion the author was elected chairman of the Panel. A mere 30 nations or so attended the meeting. Many delegates were scientists and in a sense the session became a continuation of the earlier efforts by key scientists in the field to initiate another assessment of available scientific knowledge. The setting was, however, in principle a new one. The governments represented at the meeting, and not least the UNEP, requested the scientific community to address the issue more comprehensively. It was not expected that only the scientific issues of how the global climate system responds to human interference and possible future man-induced climate change should be dealt with. Impacts of likely changes and options for mitigation and/or adaptation were also to be considered.

Three Working Groups were formed to:

- ❑ Assess available scientific information on climate change (Chairman Sir John Houghton, United Kingdom),
- ❑ Assess environmental and socio-economic impacts of climate change (Chairman Yuri Israel, USSR), and
- ❑ Formulate response strategies (Chairman Fredrik M. Bernthal, United States).

The task of the panel was obviously much broader than what had been considered in earlier assessments. The scientific issues were given to

Working Group I. Impacts of climate change had been partly considered before, but had essentially been limited to impacts on natural ecosystems and assessments of the likely rise of sea level. However, Working Group II had now been given a much wider agenda. Working Group III, finally, should be concerned with aspects of climate change that previously had not been subject to international assessment.

It was of course essential and natural that these new aspects of climate change issues were included, since governments had now arrived on the scene, but it also made the task more difficult. It became necessary to distinguish clearly between, on one hand, assessments of knowledge and, on the other, matters that comprised political judgments. Also in many fields, the scientific literature was quite meager. In particular Working Group III experienced major difficulties, but Working Group II also ran into some problems.

There were no difficulties in Working Group I's gathering up a group of key scientists to assess the issues that would be subject for analysis. The contents of about a dozen chapters were defined and about 50 scientists were engaged for the writing process. There was literally no political interference in the assessment process and the wide peer review process was characterized by an open attitude toward researchers with diverging views. The criterion for consideration in the report was publication in a peer-reviewed scientific journal. Uncertainty was carefully considered and rather generous margins had to be given in order to include the wide range of results that were available. Still, some reasonably robust conclusions could be drawn (IPCC, Working Group I, 1990).

Scientists from Australia, Japan and the US played a key role in finalizing the report from Working Group II and seeing to it that a broad approach was taken in assessing the impacts of climate change. It was difficult because an international scientific community was not that readily defined as for the issues of global climate change. Local conditions also vary much from one part of the globe to another, which necessarily had a major influence on the way an assessment of impact was best organized.

Working Group III ended up with major controversies at the end of its work with long night sessions. This was a clear sign of inadequate definition of the tasks to be addressed and the distinction that had to be made in order to address issues of policy options, and also due to some degree to inadequate rules of procedure.

The final IPCC plenary session became quite difficult and was for a while close to collapse, which was primarily an expression of an insufficient recognition of views held by some developing countries. Still, considerable efforts had been devoted to bringing delegates from developing countries into the process and a particular task group had been formed. This now led to political arguments in the discussion of scientific issues. An agreement was, however, finally reached at about four o'clock in the morning after the final day set aside for the session.

It is important to note, however, that the rules for adoption of reports implied that the final plenary session of the IPCC could not change agreements that had been reached earlier in the plenary sessions of the working groups. Actually, the report from the IPCC plenary session later played a very minor role, while the working group reports, particularly that of Working Group I, were most influential (IPCC, 1990). These, and the supplementary report published in 1992 (IPCC, 1992), served as the basis for the UN decision in the autumn of 1990 to create an Intergovernmental Negotiating Committee, which was given the task of working out a proposal for a Climate Convention for consideration by the UN Conference on Environment and Development (UNCED) scheduled for 1992 in Rio.

Working towards the First Meeting of the Parties of the Climate Convention

It became clear during the negotiations to reach an agreement on a Climate Convention that national interests were strong and that they differed much between nations. This is of course not surprising and had to be accepted and recognized in structuring the continued work of the IPCC. But still the overarching global issues must be developed in close international contact between the scientists. Lack of agreement on fundamental facts could become disastrous when trying to reach agreements about mitigation and how to share responsibilities between nations when taking action. An international partnership between scientists would also avoid a situation in which scientists would be primarily active in their respective countries supporting national interests. A balance had to be struck between these two competing interests.

Also, there was tension between developed and developing countries, which of course was not surprising either. After all, more than 80% of the enhancement of the carbon dioxide concentration in the atmosphere is due to emissions from developed countries, while their populations amount to merely some 25% of the world population. People in developed countries are the primary beneficiaries from the cheap energy that has become available through the use of fossil fuels. The creation of a true partnership between scientists from developing and developed countries would obviously also be essential in building a knowledge base for the world about the climate change issue. The rules of procedure were therefore changed to prescribe that every single team of lead authors that would be given the responsibility to write a chapter in the Second Assessment Report (SAR), planned for 1995, would include at least one scientist from a developing country. With reference to the capacity building that such an organization of the IPCC work implied, it was even possible to acquire funding for the completion of SAR from the Global Environment Facility (GEF), which turned out to be most essential.

There have been considerable changes in the character of the scientific assessment and the political activities regarding the climate change issue during the three years that have gone by between the agreement on a Climate Convention in Rio and the first session of the parties to the Convention in Berlin in 1995. The international cooperative spirit between scientists from all over the world has been further strengthened, but the scientific debate and controversies have also intensified. Lobbying activities have grown, particularly in the United States. The environmental organizations have become better organized and those parts of industry that are heavily dependent on the use of fossil fuels, especially coal, have intensified their attacks on the IPCC assessments. There is an obvious polarization of the debate. On the other hand, the expanded IPCC activities, particularly the very wide peer review process that is aimed at providing a more solid basis for the IPCC Reports, have strengthened the international scientific network.

Some Views of the Future Development

The 1994 Scientific Assessment has been completed and the Second complete IPCC Assessment is planned to be ready before the end of 1995. The contributions from the Working Groups II and III will

presumably add another dimension to its political impact, but will also arouse a debate about how to draw the line between scientific assessments and political judgment. The IPCC is aiming at describing the consequences of alternative actions and preferably in doing so provide more than two choices. Differing views should also be recorded. Uncertainties should be presented, and clarification of the reasons for uncertainty should be given to the extent possible. For example, the fact that some uncertainties represent a fundamental feature of the climate system (being what physicists call a 'chaotic system') and therefore cannot be eliminated by further research, should be emphasized. There have been plenty of arguments in the past that decisions cannot be taken because of uncertainty. This is of course a dubious argument, if uncertainties can only be partially eliminated. Rather, the issue of 'taking decisions under uncertainty' should and will be brought to the forefront.

The recognition of the need for further commitments by developed countries and gradually bringing developing countries in as partners in agreements on a strategy for the future to address the climate change issue is most essential. There was, for example, an understandable unwillingness among developing countries taking part in the Conference of the Parties of the Climate Convention in Berlin to take on any obligations before developed countries have fulfilled their obligations in accordance with the Climate Convention. The group of developing countries is, however, by no means homogeneous. The GDP of some of these countries significantly exceed that of the less well developed countries. The difficulties at the first session of the Parties of the Conventions was due to the formation of blocks of countries around common interests as envisaged. The key question will therefore undoubtedly be, whether the more overarching global issues can successfully be brought more into the foreground.

The most important next step is therefore to arrive at a general acceptance that joint efforts will become necessary in order to proceed in as efficient a manner as possible. This is recognized in the Convention, and financial support from developed countries in agreeing upon such a development is also recognized. For the time being the recession and economical difficulties for a number of developed countries have markedly influenced their willingness to take on this responsibility. For the time being, the only significant financial assistance to developing countries in this context is therefore that of the Global Environment

Facility (GEF), that can provide 500 million US dollars annually. This, however, also includes support for dealing with other global environmental concerns such as biodiversity and the protection of the ozone layer.

Political considerations will of course dominate the negotiations during the next few years, but a clear synthesis of available knowledge of importance in this context seems to be the most urgent contribution that the scientific community can make at present. It should hopefully be of value in attempting to answer the question of how far-reaching measures should be aimed for in a first protocol to the Convention. The IPCC already agreed in 1993 that a synthesis report on information particularly relevant in this context should be an additional outcome of the 1995 Second Assessment.

It is very obvious that the scientists have a dual role in the further development of the Climate Convention. Their close and objective co-operation in assessing the present knowledge to be brought together by the IPCC is most essential. But they will also be asked to assist their respective governments in developing national strategies as contributions to a global strategy to be agreed upon by the Convention. The scientific integrity of the scientists, being a central principle for the IPCC, should also be of value for the development of the more detailed implications for the different countries of a climate change. This will in the end be decisive for how the political cooperation of the parties to the Climate Convention will develop.

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The Role of Business in International Environmental Governance

BY HON. J. HUGH FAULKNER P.C.

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The issue of governance is at the core of any global strategy to move towards more sustainable forms of development.

The world's governments have in recent years made significant progress in identifying global issues and being able to negotiate recommendations for dealing with them. The most impressive evidence to support this statement is of course UNCED, and the resulting Agenda 21, the Biodiversity Convention, the Framework Convention on Climate Change and the Forestry Principles. Similarly, the recently concluded Uruguay Round is the most comprehensive Trade Agreement in history.

These are not the only achievements; a US based study on environmental treaties and their implementation has estimated that there are 900 environmental treaties today. In 1972 there were 12.

So obviously the international community has developed a skill at problem identification. However, the process of implementing those recommendations falls far short of what needs to be done. This is both urgent and critical. In short, therefore, the challenge of modern governance lies with implementation.

Agenda 21, the blueprint for sustainable development negotiated as part of UNCED, is a case in point. There are some obvious immediate steps that can be taken to accelerate implementation of Agenda 21.

Many governments who endorsed Agenda 21 in Rio in June 1992

are also shareholders in the world's leading development banks viz. the World Bank, the International Finance Corporation (IFC) and the Regional Development Banks (RDBs). As shareholders these governments should be pressing bank management to address the implications of Agenda 21 on the banks mission, objectives and operating practices, not to mention the internal organization. Moreover, these same governments should be applying the same discipline to themselves and their ministries and agencies.

Is this happening with the sort of determination, rigor and comprehension that the global environment and development problems demand? I doubt it but hope I am wrong.

What of business? Where is its role?

Let there be no misunderstanding, *business is about business* – costs, prices and profits, about risks and rewards. And what business does best is manage resources and people, mobilize finance, manage innovation in products, processes and projects, and achieve measured business targets.

Yet business is highly sensitive, responsive to framework conditions and therefore obviously has an interest in the process of governance. And it also has a role to play in governance – a subordinate role which I will discuss below.

Agenda 21 – Challenge of Implementation

I mentioned that the challenge of governance is implementation – and this applies particularly to Agenda 21. We – both government and business – must tackle this with more vigor and immediacy than we have done so far. In this context, the importance of leadership should not be underestimated. As Mostafa Tolba, Maurice Strong and others have shown, individuals can make a real difference. The need for leadership in moving forward is obvious.

Since Rio, there have certainly been some things to be encouraged by. Governments around the world are beginning to explore new strategies and policies to move us closer to sustainable development.

There is growing support among governments for introducing economic instruments to accelerate the process of internalizing environmental costs – a key, specific commitment at Rio. Yet, the actual rate of progress has been very modest. Talk still tends to exceed the political will to act.

Business is starting to develop new attitudes and approaches. Some companies are at the leading edge of environmental excellence – alert to today's new business drivers, to the pressures from consumers and others for cleaner products, better manufacturing processes and consistent environmental performance. But any candid assessment of the situation must conclude that the pace of reform is still too slow throughout business generally.

It is worrying that neither government nor business is yet engaged in the process of change as energetically as is required when it comes to implementing Agenda 21 demands. But the situation becomes quite disturbing when one considers that Agenda 21, milestone that it was, important as it is – represents only a start.

The facts underline the scale, and urgency of the task. At present, the basic needs of the bulk of the world's population are simply not being met. Hunger, disease and a lack of basic goods and services threaten the very foundation of sustainable development. Out of a total global population of over 5 billion, only one billion are enjoying the fruits of economic development – and it is their consumption habits which continue to push global ecological systems to their limits.

This is inequitable, and unsustainable. But the challenge does not end there. By the year 2025, the world will be supporting an extra 3 billion people. The World Bank predicts that this will increase demand on resources by 3.5 times today's levels and warns that if the rise in population, economic output and material flows follow traditional paths, current hopes for sustainability will be dashed. Preventing that scenario from happening will require a degree of change far more profound and fundamental than we addressed in Rio.

Profound changes are needed in the goals and assumptions that drive corporate activities – and equally profound changes are required in the government-designed policy framework which provides incentives and direction to corporate activities.

It is clearly our responsibility to act *now*. To tackle that situation, we have to move with strategic purpose, commitment, and awareness of a new global partnership. Rio was an important beginning, but our follow-up has been insufficient.

Let's start with business.

In his excellent book *The Ecology of Commerce*, Paul Hawken makes this sobering observation:

"If every company on the planet were to adopt the best environmental practices of the leading companies, the world would still be moving toward sure degradation and collapse."

Obviously therefore, improved environmental management alone is inadequate. Instead, Hawken says we need a different kind of economic and industrial growth, "one that reduces and changes the inputs of raw materials and energy, and simultaneously eliminates the outputs of waste".

"It is not just individual manufacturing operations or facilities, but the technology and economic structures arising from the Industrial Revolution itself, which must be evolved if they are to be sustainable."

That is very close to the position of the Business Council for Sustainable Development (BCSD). In *Changing Course*, our report to Rio, we coined the concept of Eco-efficiency, which we described as the corporate goal of continuously adding value, while constantly reducing energy and material use, pollution and waste.

And in a new BCSD report to be issued next month, we argue that Eco-efficiency "requires a break with business-as-usual mentalities and conventional wisdom that sidelines environmental and human concerns", but "offers the prospect of a dramatic break from the traditional paths of development". So a crucial task – a critical role – for business must be to make Eco-efficiency *the* defining feature of corporate practice in the years ahead.

How?

That vision must focus on innovation – the core of Eco-efficiency, and the key to developing the new technologies, designs, processes and new products that will break the present vicious circle of resource misuse and abuse, over-consumption, pollution and waste.

This agenda is going to require decisive business leadership. But let's be very clear. Eco-efficiency will not, and cannot be achieved by business alone. Government has a key role, and responsibility too.

Let's look at government.

As I said earlier, governments committed themselves at Rio to accelerate the process of internalizing environmental costs through economic instruments. It is essential they honor that commitment. There is no more powerful action governments can take to promote real change, through Eco-efficiency. Paul Hawken puts the issue as well as I have seen it put:

"The single most damaging aspect of the present economic system is

that the expense of destroying the earth is largely absent from the prices set in the marketplace.”

Therefore, as we say in our 1994 report *Internalizing Environmental Costs to Promote Eco-Efficiency*. “The costs of using the environment must be incorporated into economic decision-making practices and into product or service costs.” The report adds:

“Internalizing costs means recognizing and paying for the use of environmental resources, both as a source of raw materials and as a sink for wastes. (When) such charges are absent or inadequate, incentives for optimizing resources are missing, leading to waste. For development to be sustainable, consumers and producers will have to pay for services provided by environmental resources.”

And it concludes that economic instruments – such as taxes and charges, tradable emissions permits and deposit return schemes – are the best way to internalize environmental costs, and thereby accelerate Eco-efficiency.

This brings us to the role of business in the policy process, and its relationship to government.

At the moment, the sequence of events on most of these policy issues – whether at national, regional or international level – is usually something like this:

- ❑ Government announces its policy proposals, sometimes with token consultation.
- ❑ Business lobbies against the proposals.
- ❑ There is then a trade off – one which invariably arrives at a result reflecting the lowest common denominator.

And reform – real reform – is the victim.

So there is no surprise in this situation that many industries and companies oppose economic instruments as too taxing, find the shift to internalizing environmental costs too daunting and resist the concept of Eco-efficiency as too challenging.

Therefore, governments – not business – are, and must remain the true architects for change. Whether impelling change through the introduction of economic instruments or in other ways, the ball rests firmly in the political court. What governments can do is to make it in the self-interest of business to act in a sustainable manner – the price mechanism is a way to do this. But governments must be clear about their objectives, and set out on a path of strategic reform of the

framework of incentives, disincentives and laws within which business operates.

Yet business can play an important role in policy development: though not the traditional approach of backdoor lobbying, but one where business can talk to government as business, rather than as competing industries or companies lobbying for short-term, often short-sighted advantage.

Let's take the issue of internalizing environmental costs through policy instruments: command-and-control regulations and voluntary agreements, as well as charges, tradable permits and other economic instruments. It is for government to take the decision *in principle* to introduce those instruments. But business has a legitimate interest in how they are applied. Over what time span will the economic instruments be introduced? Will they affect all industries equally? Can business choose how to respond to regulation – not whether to respond, but how to reach the target in the most efficient way? Has a proper life-cycle assessment been carried out to determine the most appropriate economic instrument – indeed, whether an economic instrument is the right solution at all?

Results

These are legitimate concerns of business. But the important point for governments to remember is that involving business in the process of change through the development and introduction of policy will also help ensure that the solutions to political problems are cost-effective – that the policies actually work.

And I believe that by engaging business in the policy process at an early stage and at the practical level, government will also stand a better chance of getting business leaders to understand the issues, and the logic behind the policy decisions, thereby breaking down some of the resistance to change.

Public-Private Partnerships – A New Approach

There are other ways too of bringing business into the process of change – of giving it a clear and specific role in moving Agenda 21 forward.

Speaking shortly after Rio, Maurice Strong said perceptively:

"Implementation of the results (of Rio) will not be easy. The continued evolution of new policies and an examination of present policies in the light of new insights is an essential continuing process. [-]

Even though there are now unprecedented policy mandates, we are nevertheless so far away from implementing them that *our primary attention must be focused on practice ...*"

The BCSD accepted this when it approved its Phase II work program in December 1992. We were determined to demonstrate that the core concepts of Eco-efficiency and Technology Cooperation could be made to work in practice, on the ground – and we were convinced that there was a real and important role for the private sector to play there.

That was why the BCSD launched a project initiative – an initiative we started in partnership with the United Nations Development Programme (UNDP). We call it Sustainable Project Management (SPM).

SPM is a not-for-profit organization. Our initial focus is urban water, waste and energy problems in the developing world. Our partner today is the UNDP, but through them we hope to attract donor ODA support. Our approach is as follows.

We recognize that the big – that is over \$200 million – water, waste and energy projects have a well-defined dynamic involving major multi-nationals, multinational finance institutions and governments, with soft loan and grant contributions.

The SPM focus is on smaller to medium-sized water, waste and energy projects typically managed today by municipalities which practically without exception do not have:

- financial means to maintain and upgrade plant and equipment;
- the access to appropriate technology;
- the management skills to maintain and upgrade.

These chronic problems will simply carry on if they remain as municipal services. If you want to change those elements, and address the key question of internalizing environmental costs, then one way is to engage the private sector. In other words, to turn these problems into businesses. This calls for closer linking of business to the community and the local government.

The SPM approach is to create a mixed capital company, engaging both the public and private sectors as shareholders. This company will be responsible for delivering the advice set out in a contract with the municipality.

SPM's role is to

- develop the project with the local political authorities, often including national government departments, urban planning, environment, etc.
- initiate community dialogue and involvement
- identify the appropriate technology for the project and the potential private sector partner
- insist that the business plan includes the need to address the training issue at all levels
- assist in mobilizing the project finance from
 - the private sector investor(s)
 - regional development banks
 - soft loans from government development banks, multilateral and bilateral financial organizations
- and, most importantly, ensure that eco-efficiency is a key component of all project decisions.

The SPM is founded on the belief that local community participation must be a central feature at every stage of the project implementation process. The partnerships between private and public shareholders of new enterprises aims to enhance the quality of life for people in the area, the local economy by creating income-generating activities and fostering community entrepreneurship. By developing institutional links between the local authorities, the private sector and local organizations it also seeks to ensure that new enterprises are responsive and accountable to the community as well as to the shareholders.

SPM has a number of unique strengths. We are not for profit. We are not linked to any company – we can choose or recommend private sector partners whose technology or products we know. We focus on the upstream part of the project cycle, the prefeasibility/feasibility phase, where most project ideas fail, particularly among the small and medium scale projects. We bring developed skills, business and eco-efficiency into the process.

The BCSD has offered to pay half the cost of SPM through 1995, and has also offered two BCSD staff part-time through the same period. The UNDP has offered support. We will now approach donor organizations for further support. Here is an opportunity to develop a public-private partnership that will help engage private sector resources in the critical areas of urban water, waste and energy efficiency. And we expect to be self-financed in five years from successful projects.

Summary

The challenge of governance today lies with improved implementation. The international community has demonstrated its ability to identify problems and negotiate recommendations for dealing with them. There is a growing willingness among governments and businesses to explore new strategies to move us closer to sustainable development. Yet this is clearly just a start. The basic needs of the bulk of today's population simply are not met, and the predictions for increases in population, economic output and material flows point to an exacerbated situation for people and the environment alike. It is our responsibility to tackle this situation now and move with strategic purpose, commitment and awareness of a new global partnership.

It is the task of governments to be the architects of change. In the current system, business cannot be expected to deliver adequate environmental improvements – even if the best environmental management was uniformly adopted. Instead governments should set out to strategically reform policy frameworks to favor eco-efficiency. The single most powerful action governments can take to promote this goal is to accelerate the process of internalizing environmental costs through economic instruments. Business is sensitive to framework conditions and responds quickly to the incentives, disincentives and laws set by governments.

While business has a subordinate role in governance, it is in the interest of all parties that business is included in a dialogue about how to employ available instruments. Involving business leaders in the policy process will help ensure that the solutions to political problems are cost-effective, and will also serve to enhance their understanding of the issues and the logic behind policy decisions.

Another promising method of making business and government work together to improve implementation is to establish partnerships with both the public and the private sectors as shareholders. This approach is being tested in the SPM project launched by BCSD and described above. It is an innovative project that is in line with the thesis of this chapter: when it comes to meeting the challenge of governance we should focus on practice, on implementation, on the right signals from governments, and on letting business respond in the most efficient way.

On the Formative Side of History: The Role of Non-Governmental Organisations

BY MATTI WUORI

Matti Wuori is an international human rights lawyer and author living in Helsinki. He is the former chairman of Greenpeace International.

We are living in a time of great uncertainty. The process of change we are facing is not merely a matter of adjustment within paradigms but a switch of paradigms. It is not simply a question of having reached a stage where the destruction of the biosphere is jeopardizing the natural prerequisites for our civilisation, or any civilised life in human shape. The environmental crisis is not just an ecological crisis but also a political, economic, scientific, social, aesthetic and moral crisis; in short, it is a cultural crisis. It has to do with the entire agenda of ways and means by which human communities confront their problems of being, material and otherwise.

From a human point of view – and that is all we have – the very existence of any meaningful future looks ambiguous. Given the deepening environmental crisis it may very well be that the only scenario left for us is one of escalating ecological catastrophes. Unlike the spectre of nuclear annihilation, now at least in temporary recess, it would not be the magnificent crash of cinemascopic dimensions but a long drawn-out period of political, economic and social turbulence before terminal collapse. The world would end ‘not with a bang but a whimper’, causing unprecedented human suffering for generations to come. It would be a true nemesis and one we, as a species, would obviously deserve.

On the other hand, the consummation of any great epoch carries the seeds of a new one. For each grand finale there will be a period of

incubation, pregnant with the promise of a new ‘Gestalt’, or cultural idiom. As the great beacons of modern Western civilisation diminish there will be the flicker of a new light, or ‘Yang’, even though it may be, as yet, barely perceptible. There is, hence, the possibility of a prelude to a wholly new pattern, the fractal moment when, out of chaos fresh forms and idioms will take place. To discern where such a cultural transformation may have its beginnings, one must be sensitive to the very faint new dialects, scarcely audible in the cacophony of the Babel of postmodernity.

Spheres, Myths and Emerging Patterns

As I see it, societies and the world at large are governed by rules, routines, and myths. This triad finds its correspondence in concepts put forward in earlier chapters. Professor Rosenau’s conceptual world consists of an institutional, a behavioural, and an ideational level – all of which are obviously overlapping and interactive. Professor Zartman is on a similar track when he describes the concept of regimes in terms of norms, regulations, and expectations. All these conceptual worlds allow for analyses of various spheres involved in governance. In a static – and therefore hypothetical – world the spheres would be mutually supportive.

Rules, routines and myths are an oversimplification, if you like, but reflect the structure inherent in other approaches to governance and change. I would also like to draw a comparison between historical transition, biological evolution and creative thinking. As for the last, Murray Gell-Man has described the process as consisting of three steps: saturation – incubation – illumination. For both historical change and original thought, I would further add the crucial moment of trepidation, encompassing fractality and ambivalence, perhaps best illustrated by the predicament of the Zen-pupil on the edge of ‘satori’, or sudden insight, or that of Galileo Galilei.

The incubation of a novel paradigm or a new epoch, again, may be brewing for a considerable period of time before change is evidenced in a dramatic jump or turning-point, which more often than not will come as a shock even to those involved. These epoch-defining shifts are usually identified with some concrete and immediately intelligible event, e.g. ‘Wende’ or the ‘fall of the Berlin Wall’, with tangible repercussions for the material everyday life of institutions and individuals alike.

In times of major changes in our civilisation, however, the new has always first tended to manifest itself in the fields of art, seeking expression in new aesthetic idioms. This is a sphere of ‘techné’ in its original meaning, based on the primary experience of what it is like to be a man and a woman in a time and age of flux and transition. Emanating from the innermost privacy of the individual sentiment of existence, it will of necessity bear a universal quality as well. It is only later that cultural transformation penetrates firmer territory, and into the more robust domains of human activity, gradually overtaking social strategies and finally reaching the petrified edifice of law and other formal structures underpinning the coherence and stability of our societies.

Right now we may be, as Jürgen Habermas put it, living in an ‘age of obscurity’. But that could to a large degree be because of our own myopic vision, i.e. outdated collective perceptions belonging to the evanescent narratives of modernity.

If we want to understand change and detect the emerging dialects we need to break out of the constructs of obsolescent paradigms. We will have to see beyond the old order that is still guiding our tentative glimpses into the baffling future, such as Paul Kennedy’s prognoses or Samuel Huntington’s oft-referred article in Foreign Affairs. We will not see the new if we remain hostages to the old context and its image of reality. It is therefore important that we stretch our imagination, and take a critical look at the conceptual apparatus that governs our thinking. We need to renew our language, and above all make sure we have concepts that allow us to focus our attention also on that which is not yet fully evolved. In these times of change, of paradigmatic change, existing language has already been polluted by the stench of dying metaphors. Ideally, what we would need – as Wittgenstein tried to teach us – is something as fundamental as a new grammar. But language is our tool and we must operate with the tools we have. At the very least, however, we should be as bold as we can about leaving aside our old blunt instruments, and try to discern the similarities with other bygone eras to form an organic – albeit no longer ‘progressively’ evolutionary – view of history.

Putting the Question Mark Deeper

Of the three spheres I have evoked here – rules, routines and myths – that of rules is the least productive to study since it always represents the about-to-be-obsolete. Routines (Braudel's *gestes répétés de longue durée*), fascinating as they can be, are also too tangible, in fact even to the point of being tyrannical, and therefore unlikely to embody the forms and patterns to emerge. If indeed there is a cultural transformation on the horizon, it can only be in the intangible spheres that we will find its initial expressions. I am therefore most interested in the realm of the mythical and fabulous.

As the Scots bard Fletcher of Saltoun wrote: "I should not care who makes the laws, so long as I can make the ballads."

Myths are about the collective fantasies that define the elements of our cultural identities. They are, in other words, the narratives that legitimise our aggregate paths in life. While we are used to thinking of ideologies in this way, this term has become too narrow for what I have in mind here. Shared fantasies, ontological fables, or myths, can be all viewed as fiction, but like ideologies, they are not merely ideational constructs – under certain conditions they acquire rational validity. When reality itself is in doubt, fiction will shape it into new structures that will gradually become as self-evident as the old absolute certainties used to be.

How then can we discern the emerging collective fantasies that will govern the future? In a sense, this exercise is paradoxical. In order to perceive change we must be prepared to accept the unforeseeable. A long time ago, Heraclitus understood the essence of this dilemma: "If we cannot foresee the unexpected, we shall never recognise the contours of the future" (Heraclitus' XIV Fragment). Striving to understand change, therefore, is unavoidably a continuation of the process of groping 'beyond' without which human culture would not be possible. This searching process was made redundant during the period we now call modernity. But even Max Weber, who gave us the best description of what 'full' modernity was all about, was aware that the rational patterns of modernity were fiction in the sense of being transitory. He foresaw a time, not far removed, when the road would plunge into darkness, and science would have to rearrange its tools. We can now see that the transient quality of the perceptions of the Enlightenment was in fact a built-in feature of modernity, inexorably leading us into a relativist plane

where every signpost proclaims to be equally valid, and where – in Nietzsche's words – nothing is true, and everything is possible.

Change, Moral Authority and the Legitimation Void

In his ancient Art of War, Sun Tzu identified five elements necessary to win a war. The first and foremost of these was moral authority, without which leadership is not possible. The same is true for guidance today; without moral authority you are lost. Many of the problems the established governance structures are facing today are due to a loss of moral direction. In Sun Tzu's original Chinese, the sign denoting it also reads 'Tao'; today we would call it legitimacy. But what really is at stake, goes to the roots of legitimacy, not the agreements and norms of the Westphalian 'international order' or the regimes of the Cold War model, nor the externalised and formalised ethical systems that have in fact made the atrocities of this century both possible and unavoidable – Bosnia being a vivid reminder of the ineffectiveness of all of our obsolete political safeguards against naked violence.

We are still thinking in terms of positivist reality, i.e. one in which problems are 'given', whereas in times of change what matters is how problems are perceived in the context of social being encountering social consciousness, arising from individual and collective conscience. Awareness of new problems is both a product of and a catalyst for sensitivity to various inadequacies in our traditional mental structures, including our aesthetic and ethical perceptions. In other words, there is also a strong element of moral consciousness at play here.

Again, this is related to change and the overall structures of the crumbling paradigm. Ecologically speaking the nation state – or any type of state – makes little sense. This is not because they are biophysically indifferent, or just because, as Anthony Eden once said (and he should know), "Governments are always one lap behind." It is not even because their historical role may soon be over. It has to do with the decline of political power in the sense we have become accustomed to defining it – that decline not being without its parallels with the earlier demise of religious power in Europe.

The single most important element in the dynamic that is overrunning the nation state system is of course the international economic market, which makes not only central banks but also governments in-

effectual. In this situation of globalised markets and privatisation of the planet, the old nation state structures are simply not capable of offering guidance or solutions. At the same time, the political system that goes with the nation state is also in crisis. These are two intertwined but different aspects of the same problem: the nation state system is the outside manifestation, and the impotence of the domestic political system is the effect inside the state. The result of these changes is that the traditional political system has insufficient political legitimacy, or, put in different terms, inadequate moral authority. The deterioration of political parties is a case in point; they have largely become sub-contractors of legitimacy for the existing power structures trying to ensure a continuity that increasingly resembles the illusion of a tight-rope walker or a somnambulist.

A world deprived of leadership with moral conviction and genuine legitimacy reminds one of a recent poem by Joseph Brodsky, in which he describes how “The clowns are demolishing the circus”, while “there is hanging, off the trapeze, as in a wardrobe, the limp tuxedo of a disillusioned magician”. Now, a magician without an illusion is no longer a magician; and power without the mystery of legitimate authority is no power at all.

It is a correct description of this situation to say that our hopes and dreams, together with actual decision-making, whether based on moral or ‘rational’ authority, are being transferred both upwards towards international and supranational levels, and downwards to local and regional concerns. It is also correct to surmise that this has increased the influence of non-governmental organisations. But such descriptions overlook something that is happening at a deeper level. There is also a change of accepted truths and paradigms, which we cannot grasp by looking out of our old-fashioned parameters. We are preoccupied with variables that are made to be overtaken, and oftentimes have lost their relevance altogether. The discovery of the ozone hole is a concrete example. We ‘saw’ it in 1985, but the information had been there long before. We had missed the break-down with its dramatic proportions, because we were watching and measuring incremental change. The parameters were inaccurately focused and so we were blind to vital knowledge that should have informed our action sooner. This is also known as the ‘ceteris paribus’ fallacy.

The ‘legitimation hole’ is the political equivalent of ozone depletion.

Again, our parameters are focused elsewhere and are thus becoming dangerous for our collective existence. The inattention to the sphere of economics is illustrative of this point. It has been said that economy rules the world. Economic paradigms certainly should be a primary concern. But instead of seeing economic models and activity as the pivotal point in the relationship between ‘man and nature’, i.e. the institutionalised interaction between human societies and the environment, the ‘science’ of economics is providing us with sophisticated mathematical models that are developed within a very narrow, almost autistic, context. I would also recall what Karl Polanyi wrote about the Utopia of the Free Market. Our view of political realities is similarly constrained.

Non-Governmental Organisations and Global Initiatives

Non-governmental organisations should be seen from the perspective of the legitimisation void that has appeared in the eroding political system. We need to grasp the emerging transnational civil society which the non-governmental organisations are the clearest expression of. We cannot assign a specific role for them, but we can see them as carriers of moral authority and see in them a potential for catalysing change now taking place. In this sense, non-state actors such as Greenpeace or Amnesty International are the designated conscience of the world, Global Moral Lobbies, as they have been called, or agents for global opinion.

I think there are certain inalienable truths that are valid at least within the context of Western civilisation and that will survive the present aporetic condition called, for lack of a more precise word, post-modernity. As Isaiah Berlin wrote in 1958, “In the end, men choose between ultimate values; they choose as they do, because their life and thought are determined by fundamental moral categories and concepts that are as much a part of their being and conscious thought and sense of their identity, as their basic physical structure.” A year later, Rachel Carson came out with her ‘Silent Spring’.

Granted, the expression of ‘moral authority’ is arrogant – and necessarily so – but we should not over-stress the purely moral aspects; what needs to be protected is the legitimate authority they embody. It has to do with a reshuffle of values, and the fact that nothing genuinely new

has ever been generated within the established power structures. Viewed from within the conveniently stagnant delusion of status quo, every antithesis will necessarily appear as a confrontational challenge. Conversely, if organisations like the UN cannot regain some of the moral authority the UN system had in the days of Dag Hammarskjöld and even later, then it is irrevocably lost.

The creation of a new awareness starts with identifying problems in a novel way. One of the most striking and effective activities of environmental organisations has been the 'ringing of the alarm bell', making people who are becoming simply passive TV-audiences and active consumers wake up to the fact that humankind and the planet are inescapably one, and 'bearing witness' to environmental atrocities. That was the traditional role of NGOs such as Greenpeace or Friends of the Earth. Clearly, this work has been instrumental in raising the consciousness and creating more alert attitudes in the media and among the public at large. In this context, it is also important to recognise that one essential result of this work has been to remind fellow beings of a common moral bond, of belonging to a 'moral community' that transcends the customary ethnic, family, tribal or national barriers. This in itself, in a historically very short period of some 20 years, is a remarkable achievement.

But environmental organisations like Greenpeace must now go beyond putting oneself between the whale and the harpoon. A crucial task is a commitment to the cultural change that may enable us to create a 'Welfare Planet', rather than a Warfare Planet. This relates to a new cultural paradigm or 'Gestalt', which – with any luck – could also be ecologically more sustainable than the present utopia of insatiable growth and Faustian domination.

Moving Towards a Transnational Civil Society

NGOs cannot by themselves effect cultural change, nor – and even less – can governments, but we can initiate some of this change. If it is possible to discern paradigm changes, or more sustainable 'Gestalts', we can also distinguish those sensitive areas that are strategically relevant, take advantage of 'windows of opportunity', of the fractal moments in history when every action, including remaining passive, may have a formative impact on the shape of the future; build alliances and heighten our

sensitivity to the flicker of a new light that may be emerging in other recesses of the otherwise barren landscape known as post-modernity. By anticipating the contours of the future-in-the-making, we may be able to develop the authority of a compass, and it is here that the media, enabling us to reach the 'world audience' through channels such as the CNN, are vitally important (and excruciatingly problematic at the same time).

I am not speaking of mere 'dissemination of information', or even generating political pressure, both customary functions of social movements everywhere, but of setting entirely new agendas and profoundly challenging old ones. Influencing the political process and institutional behaviour will remain an important task of NGOs. This still requires some very pragmatic efforts, e.g. monitoring and participating in the implementation process of commonly agreed objectives. This type of undramatic but relatively sophisticated work is rather new but it will be a part of the badly needed re-legitimation of existing institutions and regimes. It requires, however, balancing a fine line not to become part of the established power structures. NGOs should not just lend legitimacy through their 'input' into the governance systems representing vested interests and obsolete power games. It is thus highly questionable, in my opinion, e.g. to try to fundamentally change the political system by entering it as another political party, whether as a Green or Beer Drinkers' Party or whatever.

Rather than scuffle for space on the sidelines or margins of political power the NGO community should find its place as the nucleus of a new kind of civil society. In an era increasingly marked by the dominance of the market and the 'withering away' of the nation state, together with fading forms of political power, it is imperative that a counterbalance be found in the shape of a civil society that will be transnational and even, in some respects, global in character. Like the civil society of the traditional liberal model, this heterogeneous community of diverse groupings – at the moment, most notably the environmental and women's movements – must be autonomous and independent of both local, national or transnational establishments.

Non-Governmental Organisations and Institutional Change

Since the global market will not be able to provide us with the infrastructures necessary for all 'civilised' human existence – including the market mechanism itself – we will have to take advantage of those arrangements that have evolved within the Westphalian system of sovereign nation states and through inter-governmental co-operation. Professor Harold K. Jacobson's presentation gave us a comprehensive picture of the mushrooming of international treaties, conventions, agreements and regimes over the past few decades, most notably from the Stockholm Conference of 1972 up to the UNCED meeting in Rio in 1992. This development presents the increasingly international and transnational NGO community with new challenges as well as opportunities. Accordingly, even some of the most radical anti-Establishment groups have been redefining the meaning of 'confrontational' tactics, as there seem to be fresh synergies to be explored and exploited.

A change in both strategy and tactics is becoming vitally important, if we are to find pragmatic solutions, including technological breakthrough innovations, to the deepening global environmental threats. Generating the will and employing the resources essential for this requires the direct involvement of international, including inter-governmental, and trans-national actors, including Transnational Corporations (TNCs).

The broader challenge is to treat the biophysical, institutional and economic realities simultaneously, and in particular to unite two dimensions, the biophysical/political and the global/local. This requires trans-boundary strategies and legitimization processes that transcend the national, or even the regional level (EU, ASEAN/Apec, Nafta, etc.) The traditional social movements have shown they are incapable of affecting realities of this type and scope alone. Connections need to be built across boundaries, political and hierarchical. Only international or global non-governmental organisations stand ready for this. A connection between the global and the local level also necessitates that the biophysical problems at both levels be seen as political issues in the widest sense of the word. This, in turn, calls not only for international treaties, conventions and other similar instruments or regimes, but also networks that bring together very heterogeneous action groups, from loosely structured

and shortlived formations geared towards single issues, to global actors like Greenpeace.

Modern information technology and modern means of communication, such as Internet have made these types of networks possible. It has transformed activism by making it more multifaceted, more international and on-line. It has also brought support for local actors (e.g. indigenous groups and women in particular) which pose the same questions – about self-determination (rather than national sovereignty), democracy, minority rights, collective human rights (instead of the classical individual human rights), development and environment within the same equation – all of which we have to address if there is to be hope.

According to the international list of non-governmental organisations there are approximately 1650 non-governmental environmental and development organisations interested in issues concerning Multilateral Development Banks (MDBs). In Bangladesh alone, there are more than 10,000 environmentally related NGOs, and the Philippines is the home of more than 18,000 NGOs, most of them small and rural, but some with international renown. As environmental NGOs reorient their focus from highlighting problems to finding solutions, they will need to work with traditional political and economic actors as well.

This interchange is just starting now. It was the ambition of UNCED to bring together NGOs and business, but the attempt was ill prepared and no common areas to work with were defined. In Sweden and Scandinavia NGOs are working with the pulp and paper industries in a way that could make the latter more competitive. In Germany where environmental consciousness is high, NGOs are working with a number of market actors, ambiguous as it often may seem. For instance, a big corporation, such as Siemens, representing a strong emphasis on nuclear power, may at the same time hold keys to commercially viable utilisation of alternative energy sources. Experimentation is going on in other areas as well. Greenpeace has tried to steer clear of going directly into business or manufacturing, as it does not have that kind of resources at its disposal. There is one exception: Greenfreeze, the 'alternative' or 'ozone safe' refrigerator launched in 1992, the production and marketing of which was initially taken care of by Greenpeace. It became a success and has definitely made a difference on the market.

On the international level we can see that even though the map of nation states may be becoming obsolete or less relevant, there is a strong

commitment to making intergovernmental processes stronger, and to reinforce an overall effort towards an intentional order that bears little resemblance to a world government but may eventually produce governance models that are more enduring than any hegemonic, centralised or bi-polar systems. In fact, it would seem that even states, while divesting some of their basic 'security' functions, are in the process of becoming more 'international' as the world becomes more heterotopic. At any rate, it is obvious that an international civil society of overlapping interests and objectives could and should play a central role in the new governance pattern.

The NGOs have proved they can have a significant influence on international processes. Some of the most successful campaigns of the past years have been a result of intricate long term work conducted behind the scenes. The Antarctic Protocol signed in October, 1991, the strengthening of the Basel Convention in March, 1994 (extending the prohibition on export of toxic materials to non-OECD countries), the proposal on sanctions on whaling put forward by the International Whaling Commission (IWC), are but a few of the highly successful initiatives originally brought forward and subsequently steered through by NGOs. I may also cite as a very interesting opening a dialogue between the environmental movement and the insurance industry. Addressing problems caused by climate change is becoming an issue of life-or-death for the international re-insurance business, while in the US alone land-fill depositories represent a financial time-bomb that will require an estimated USD 624 bn to be placed in reserves for future claims.

While there are still plenty of 'good enemies' around, some of the old adversaries are also being re-evalued. Besides TNCs, the Bretton Woods institutions – the World Bank and the International Monetary Fund – and regimes such as GATT/WTO, the UN, the financial market – with a turnover of USD one trillion a day – and investment policies, in particular those of the regional MDB banks, are being monitored and new strategies are being developed to influence, rather than just condemn, their practices.

It should be noted here that economic actors need market or consumer 'image legitimacy', which is constantly measured by the binary choices (to buy or not to buy) of those who are allowed to participate in the market system (as opposed to those who, in the un-Keynesian

fashion of today, have been excluded). This makes even multinational giants particularly vulnerable to market pressures and swerves in consumer trends. It has less to do with laborious manoeuvres like boycotts, generally to be avoided at all costs, than subtle shifts in the perception and corporate self-perception of the often tribal 'culture' symbolised by the brand or logo/trade mark. Consequently, realisation of these sensitivities has given rise to thoroughly calculated campaigns for enhanced environmental legitimacy known as 'greenwash'.

Greenpeace has also tried to change its own decision-making model away from (an OECD-dominated) nationally based structure in a more regional and global direction. This, incidentally, proved far more difficult than anticipated. Even the term 'global' needs to be reassessed, as it tends to reflect the Northern dominance on all issues, political, economic, cultural – and environmental. It was partly because of this that I decided in 1992 that we should not open any new offices in the Third World but rather build alliances and develop co-operation with the existing local movements. Instead of exporting 'eco-colonialism' we should promote partnership with an attentive ear for the authentic local voices.

At the same time, a North-based organisation with access to and know-how of media, can provide unique support to movements of the South by uniting issues in time and place (e.g. pollution in Brazil by a corporation based in London can be tackled simultaneously in both places, with media highlight and lobbying of share-holders, etc.). Ideally, these activities can represent a transfer of resources from North to South, while learning the realities that ultimately make the environmental crisis a truly global one, that is, a crisis of planetary scope. In a way, this is part of an exercise in 'thinking locally, acting globally'. As there are no more continents to discover, we may finally be able to discover the planet, but this will require of us an understanding of how the local realities interact with the entire biosphere, and that we are all part of Life's Great Ornament.

Conclusion

Finally, we must also resist the temptation to colonise the future. Yielding to it would essentially mean a perpetuation of the dream of linear development or 'progress', and missing the unique opportunity for profound change that may be within our grasp. Personally, this author

believes neither in an Apotheosis (end of history) nor in Apocalypse Now. Alfred North Whitehead once remarked that it is the business of the future to be dangerous. Never before has it seemed more precarious for both humankind and the biosphere. But the disintegration of old orders and systems and the waning of old paradigms is also offering us a chance, perhaps an infinitesimal one, for the kind of change that could lead to a more sustainable life on Earth.

There will be no clearly recognisable governance system, with or without governments, emerging in the short term. But there is, even in the face of intimidating mega-trends of annihilation, new hope, embodied in the optimism of action, now. It is still possible for life to prevail over destruction, and those of us concerned with sustaining life in all its wonderful diversity may, after all, yet find ourselves on the right side of history, too. And if I am wrong, there will hardly be any future historians to pronounce a judgement on that.

International Environmental Governance

A Round Up of a Discussion

BY UNO SVEDIN

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Understanding the Situation

The present situation is filled with tensions of interpretation and of paradoxes as James N. Rosenau said in his introduction. You could ask yourself what is really going on. At the one hand the nation states seem very much to be strongly eroded and appear to be both obsolete and irrelevant in many contexts. In fact this is a starting point for many analysts trying to understand the situation. On the other hand, after a few rounds of analysis, these nation states seem, at least to some observers, to provide the needed basis for future patterns of solutions.

In the same way central authority of all kinds seems to be strongly eroded. Or is it just transferred? A by Faulkner introduced facet of the same problem is the obvious need for leadership, although no one seems willing or competent to move up in front to carry the challenge. The need for this leadership is just as desperate as is the accumulated cynicism in terms of the lack of public support vis-à-vis politicians – or politics as a challenged domain of how to relate to contemporary realities in general. “We live in a fractal historical situation”, as Matti Wuori phrased it. If interpreted in terms of a constantly increasing fragmentation of institutional forms you could still raise the question whether this is good or bad.

In fact the clear diagnostics of what is really going on and how to interpret it in terms of good and bad are two different matters. Thus, the eternal debate over optimism and pessimism seems a bit strange. If we see an increased change of ideology – do we really need that degree of change as was asked by Levy. If there are changes, which directions of change might be judged to be useful – and for what purposes?

Sometimes successes are claimed at the negotiation arenas. But are they only successes within the framework of possible outcomes in a ‘game theoretical’ sense – or are they ‘real’ successes in terms of what might be needed in terms of substance. Do they in the environmental fields in one or another way grant a needed deep reform of the totality. Is the speed of advancement still sufficient? as Arne Jernelöv asked. There is also a time dimension to the successes and disasters. Maybe there is a time distribution of the ups and the downs providing a pattern of ‘more optimism now and more pessimism later’. There might even exist a ‘premature pessimism’ to use the words of Rosenau.

The ‘Grand Framework’ for Future Change

What are the key obstacles for moves into situations more full of hope than present conditions can provide? Several suggestions were offered in the discussion.

Matti Wuori stressed the need not to lock ourselves in today’s civilization models. We should not perpetuate our prejudiced eye and in that way colonize the future. Instead it is important ‘to anticipate the unexpected’. Maybe one way of doing so is to look closer at the balance between male and female values.

In fact it is the lack of imagination that holds us back, as was stated by Harold Jacobsen. The need to move from present market induced behaviour calls for an expanded framework of authority, as some other participants remarked.

The base for authority, be it political, economic or moral in nature, has to find a new form. Arne Jernelöv and Gudrun Dahl suggested new forms of religiously oriented norm systems challenging present western ideologies as one type of candidate for such changes.

Another more ‘ecological’ form, suggested by Göran Persson, would be the ethos of a new re-cycling society which might provide advantages by solving issues in both an ecological and economical sense at the same

time. ‘Win-win approaches’, advocated by Arrhenius and Wuori, would reinforce the appeal of such paths. Görel Thurdin, Swedish minister of the Environment, found new forms of simplifications of paths of action to be of utmost importance. There is a need of clever design of understandable and operational ways of management in order for society to go from analysis to action.

Conceptional Issues

This tension between complexification and simplification was also raised by Marc Levy. The analytical endeavour starts by the way and through the style in which questions are posed, as Zartman stressed.

How far have we in fact come until today? And where are we going in terms of goals, targets and strategic entry points?

To address these questions it is necessary at least to have some understanding about what governance really is, as Gunnar Sjöstedt remarked. We talk about governance without government in the sense of Rosenau, but we also talk about ‘regimes’ in the sense of the words used by Zartman. What different connotations in terms of basic understanding do these different sets of terminology bring to us?

When we talk about ‘authority’, what do we really mean? Which type of authority is providing the key strategic entry point? Is it based on formal or on ‘moral’ authority, and what do we mean by that?

We could also talk in terms of pre-conditions. The importance of a ‘democratic enhancement’ was raised in terms of ‘the voices which are really heard’, but also those which are not heard. And connected to this issue comes the educational dimension related not only to individuals, but also seen more in general as social learning for an entire society. Such a society needs to have a mature information access structure, as Erik Arrhenius pointed out.

Among the conceptional problems, which also were raised, was the already mentioned issue about the proper political ‘bundling’ of topics, referred to among others by Bail and Moss. Today the environmental policy field is often highly intertwined with e.g. agricultural, industrial development and economics/trade realms. There is a need for a new and ‘proper dismantling’ as Marc Levy pointed out. This is also a conceptional challenge.

From Analysis to Doing

What are the avenues for operationally addressing these issues?

There is a need to connect levels deliberately. We need both top-down and bottom-up 'subsidiarity' styles of solutions. Or to rephrase it in the terms of Bail¹ and also Sjöberg: "There is an importance of linking local and regional levels to a broader institutional frame in an orderly way." Local level pluralism alone will not solve the problem, as Zartman indicated.

The leadership issue indeed has an operational facet. Both visionary approaches and legal and institutional designs are needed. The call might be for incremental improvements in management styles advocated by Bail, simultaneously as grand civilization jumps are prepared, which was favoured by Wuori.

New styles of matrix solutions and new forms of institutional mixes may be needed, in which various governments interplay with international science, business and environmental NGO's into new alliances. Efficiency as a goal for new operational styles must not wrongly be confused with the effectiveness of such new institutional solutions. Also here daring styles of approaches to changes of society must be looked for and hopefully be found.

¹Persons mentioned in this chapter and which have not been identified earlier as authors of chapters nor referred to in the Preface are:

- Marc Levy, Ph.D., Princeton University, USA;
- Gudrun Dahl, Professor, Social Anthropology, University of Stockholm;
- Göran Persson, Director, the MISTRA Foundation, Stockholm, former Under-secretary for the Environment, Sweden;
- Christoph Bail, Head of Unit. DG XI, The European Commission, Brussels, Belgium.

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