Introduction: The global environment at the dawn of a new millennium

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After much anticipation and many clichés about the ''dawn of a new millennium,'' the twenty-first century is here. But after the celebrations are over and the anticipation is but a mere memory, what kind of world will we be living in? The earth's physical and biological systems are facing an unprecedented strain. The human population reached 6 billion in 1999 and is still growing. The major components of the biosphere, including the atmosphere, the oceans, soil cover, the climate system, and the range of animal and plant species, have all been altered by the intensity of human exploitation of the earth's resources in the twentieth century. The by-products of economic growth – the burning of fossil fuels; the release of ozone-destroying chemicals; emissions of sulphur and nitrogen oxides; the production of toxic chemicals and other wastes and their introduction into the air, water, and soil; and the elimination of forest cover, among others – cause cumulative stresses on the physical environment that threaten human health and economic well-being.

At the same time, we are in a period of transition between two centuries. We are leaving a century shaped largely by world wars and ensuing cold wars and entering a new one shaped principally by ecological limits, redistributive politics, and the global reach of technology. While the future is certainly not going to be devoid of military threats, which may be compounded by the spread of biological, chemical, and nuclear weapons, it may be the conflict with the natural environment that will erupt on a world-war scale. And, as in the case of military conflict, it is

international cooperation that offers the best hope for bringing about a sustainable world peace (Hempel 1996).

International cooperation and the environment in the twentieth century

Environmental problems do not respect national boundaries. Transboundary air pollution, the degradation of shared rivers, and the pollution of oceans and seas are just a few examples of how one nation's or one factory's pollutants can have wide-ranging effects downstream or downwind. In fact, the international dimensions of certain environmental problems may even be worse than those at the site of the initial emissions. Population growth, in combination with resulting urbanization and industrialization, has served only to increase the amount and frequency of major international environmental problems. The cumulative impact that human beings have had on the earth, together with an increased understanding of ecological processes, means that the environment cannot be viewed as a relatively stable background factor. Rather, the interaction between economic development and the complex, often fragile ecosystems on which that development depends has become an international political and economic issue (Hurrell and Kingsbury 1992).

The nature of transboundary environmental problems has changed over the years. First, the number and scope of transboundary environmental problems has increased. Second, a new category of global environmental issues has emerged. These environmental problems, including climate change, depletion of the ozone layer, biodiversity loss, and overfishing of the high seas, are global in the sense that they affect everyone and can only be effectively managed on the basis of cooperation between most, if not all, countries in the world. Third, the increasing scale of many regional or local environmental problems, such as urban degradation, deforestation, desertification, salinization, denudation, or water or fuelwood scarcity, now have broader international repercussions. These problems can undermine the economic base and social fabric of weak and poor states, generate or exacerbate intra- or inter-state tensions and conflicts, and stimulate increased flows of refugees. As a result, environmental degradation in diverse parts of the developing or even the industrialized world can affect the political and security interests of countries thousands of miles away (Hurrell and Kingsbury 1992).

Over the last quarter of a century, the UN system has become the focal point for addressing global environmental issues at the international level. This is quite a development, particularly since the UN Charter makes no specific mention of environmental protection, preventing pollution, or

conserving resources. Whereas in 1945 environmental awareness was low, the situation changed dramatically by 1972 when the concerns of private citizens and emerging environmental organizations led certain states to place environmental issues on their political agendas. Two events of particular importance occurred in the 1960s that sparked the industrialized world's awareness of the need for environmental concern. First, the publication of Rachel Carson's *Silent Spring* brought to light the devastating impact of DDT on bird populations and the deleterious effect of industrial chemicals on the earth's natural resources. Not long thereafter, in 1967, an oil tanker, the *Torrey Canyon*, spilled most of its cargo in the English Channel, killing hundreds of sea birds and polluting the British coast.

It was at this time that the industrialized countries identified the need for multilateral action. Even though the international community had already adopted a number of multilateral environmental treaties, there was no framework within the United Nations for comprehensive consideration of the problems of the human environment. Thus, in 1968, Sweden called for a UN environmental conference to encourage ''intensified action at national and international levels to limit, and where possible eliminate, the impairment of the human environment'' (UN Resolution 1346 (XLV), 30 July 1968). The General Assembly approved this proposal in 1969 and decided that the conference would take place in 1972 in Stockholm.

The UN Conference on the Human Environment began a process that resulted in the ''piecemeal construction'' of a number of international environmental institutions, the steady expansion of the environmental agenda, and increasing acceptance by states of international monitoring of environmental standards (Mingst and Karns 1995, 127). After more than two years of preparation, representatives from 113 states gathered in Stockholm from 5 to 16 June 1972. By the conclusion of the conference delegates had established a UN environment framework consisting of four major elements: an action plan; an environment fund to be established by voluntary contributions from states; a new UN mechanism (the UN Environment Programme – UNEP) for administering and directing the framework; and a declaration of 26 principles on the human environment. Not only did the Stockholm Conference legitimize environmental policy as an issue of international concern, but environmental issues received a place on many national agendas. Many governments created environment ministries and adopted environmental legislation for the first time.

Nevertheless, despite some progress, until the 1980s global environmental problems were still regarded by many states as minor issues that were marginal to their national interests and to international politics.

However, as a result of the rise of environmental movements in the industrialized countries and the appearance of well-publicized global environmental threats that could seriously affect the welfare of all humankind, global environmental issues began to assume a new status in world politics. Environmental issues were no longer viewed as merely scientific and technical problems, but as intertwined with central issues in world politics: the international system of resource production and use, the liberalization of world trade, North-South relations, and international conflict and internal social and political stability (Porter and Brown 1996).

The ''new status'' of global environmental issues was reflected in the fact that the first global summit meeting in world history was the 1992 UN Conference on Environment and Development (UNCED), held in Rio de Janeiro, Brazil. The conference – held 20 years after the Stockholm Conference – was convened to ''elaborate strategies and measures to halt and reverse the effects of environmental degradation in the context of increased national and international efforts to promote sustainable and environmentally sound development in all countries'' (General Assembly Resolution 44/228). At the top of the so-called Earth Summit's agenda was the adoption of five items: a ''Rio Declaration'' setting forth 27 principles for sustainable development; a 700-page non-binding action plan, known as ''Agenda 21''; a global treaty on climate change; another global treaty on biodiversity; and a set of non-legally binding principles for sustainable forest management.

During the course of four preparatory committee (PrepCom) meetings between August 1990 and April 1992 and the conference itself, delegates from more than 150 countries negotiated the contents of Agenda 21, the Rio Declaration and the Forest Principles.[2] Agenda 21 was intended to stimulate cooperation on more than 120 separate initiatives for environmental and economic improvement, each commencing by the turn of the century. Having devoted 40 chapters to issues ranging from air pollution to waste management and the creation of a UN Commission on Sustainable Development, Agenda 21 represented ''the most comprehensive framework ever devised by governments for global environmental policy making'' (Hempel 1996, 31). Delegates also examined the underlying patterns of development that cause stress to the environment – poverty in developing countries, levels of economic growth, unsustainable patterns of consumption, demographic pressures, and the impact of the international economy, particularly trade and investment. This marked the first time that an intergovernmental conference addressed these crucial economic and social development issues in conjunction with the natural environment.

The Earth Summit, like the 1972 Stockholm Conference, provided an international framework for action that far exceeded in scope and ambi-

tion all prior initiatives in environmental governance. It also attempted to provide a mobilizing vision and motivational ethic that would persuade millions of individuals to take more responsibility for their environmental misdeeds and to welcome, or at least tolerate, added regulation in the interests of environmental protection. To the extent that any mobilizing vision and ethical framework was established, it was embodied in the principle of ''sustainable development.'' Defined as development that ''meets the needs of the present without compromising the ability of future generations to meet their own needs'' (WCED 1987, 8), sustainable development was the major theme of the conference, representing a politically expedient compromise between the forces of economic growth and those of environmental protection (Hempel 1996, 39).

Despite the lofty goals and the supposed inauguration of a ''new era of international ecological responsibility'' (Hempel 1996, 42), the Earth Summit and the subsequent implementation of the Rio agreements have not lived up to expectations. The mobilization of financial resources for the implementation of Agenda 21 has not materialized, the UN Commission on Sustainable Development has not become a proactive forum for promotion and implementation of Agenda 21, deforestation and biodiversity loss continue at an alarming rate, and environmental health issues, including a lack of clean drinking water, still affect millions of people throughout the world.

Think globally, act locally

While cooperation among nation-states has proven to be necessary to address many transboundary environmental issues, virtually all policies must be implemented at the national or local level. There are no international governments, laws, or courts that can enforce binding decisions on sovereign nations (with the partial exception of the European Union). But equally important, actions taken by individual states or actors within states can have major international implications, such as activities that cause transboundary pollution. The growing interaction between national and international actors and levels of governance is an increasingly important aspect of international environmental policy (Vig 1999).

Lamont Hempel (1996, 5–11) argues that global environmental governance is needed to shape the environmental future of the planet and the quality of life that it makes possible. Global governance, according to Hempel (1996, 5), refers to the ''people, political institutions, regimes and nongovernmental organizations at all levels of public and private policy making that are collectively responsible for managing world affairs.'' Environmental concerns, he continues, are ''the latest in a series of threats

to international security and development that have called attention to the political need for laws and institutions that operate beyond the zones of sovereignty.'' In order to achieve effective environmental governance, both the global and the local ends of the political spectrum must be strengthened. International institutions and organizations that have been established to address environmental concerns will need to be strengthened and will need to cooperate more with one another. National governments will need to recognize the importance of the natural environment and take the necessary measures to implement economically sound and environmentally sustainable development. Local communities must be educated to adopt sustainable lifestyles and empowered so that they can engage in dialogue with and, perhaps, influence national governments and international environmental initiatives. Furthermore, parliaments, popular assemblies, non-governmental organizations, business and industry, and professional associations also have a crucial role to play in global environmental governance.

At the international level, the United Nations is perhaps best placed to advise governments on policy-making and assess the state of the global environment, and to initiate the development of new treaties, policies, and institutions. As societies become ever more interdependent, individual nation-states find it increasingly difficult to deal with international or transnational problems. The United Nations, as the only truly global organization, stands a better chance.

The United Nations is also an arena where various national, subnational, and global actors manoeuvre – in other words, where the ''local'' can interact with the ''global.'' While the United Nations is often seen as an arena for states to cooperate, in reality there are numerous non-state actors that also participate in UN politics, including non-governmental organizations, regional organizations, and other international organizations. In addition, the private sector has become increasingly engaged in UN activities, as global markets and multinational corporations exercise tremendous influence on the other actors. This is quite different from the early days of the organization. Peter Thacher (1992) noted that when the UN Charter was signed,

> governments were the dominant actors on the international stage, and keeping the peace among member states was the primary task for the international community. As the 50th anniversary [of the United Nations] approaches, the end of the Cold War brings new issues to the fore in an organization whose membership – in terms of states – has more than trebled and is still growing. But the comparative influence of states on the international scene has diminished as significant roles are acquired in an interdependent and more transparent world by non-state actors of all sorts, including science, multinational corporations and financial institutions, media, as well as a host of international organizations.

This relationship between state and non-state actors at all levels is thus critical to the formulation of global environmental policies.

Overview of the book

This volume will examine the roles of state and non-state actors in safeguarding the environment and advancing sustainable development into the twenty-first century. The research for this volume was carried out by five groups. Each of the research groups focused on a different actor – states, civil society, market forces, regional arrangements, and international organizations. By examining the functions and capabilities of each of these actors, the research groups studied their effectiveness and their relationship with other actors both within and outside the UN system.

The first research group, coordinated by Atul Kohli, Georg Sørensen, and Jeannie Sowers, looks at the role of states and their policies, which are critical to the future of sustainable development. The three chapters in this section analyse the politics of environmental management in India, China, and Brazil, illuminating the conditions under which state-society interaction may produce environmental good or sustain environmental harm. While examining the political and institutional determinants of responses to environmental problems, these chapters help clarify why states so often fail to provide environmental protection as a public good and suggest ways in which the UN system might influence state behaviour towards more environmentally responsible policies.

Both legitimacy and capacity of states are important in understanding the likelihood of successful environmental policies. In the first chapter, Holly Sims tackles this issue by analysing the contrasting experiences of India and China as they attempted to alter energy policies in the 1970s with new standards of efficiency and environmental accountability in mind. In the second chapter, Peter Evans uses case studies of urban governance in Brazil to argue that for effective environmental governance, there must be a symbiotic relationship between civil society and public institutions. The final chapter, by José Goldemberg, examines the need for increased state capacity to guide markets and select appropriate and efficient energy systems.

The second research group, coordinated by Volker Rittberger, looks at the activities of environmental organizations; these have increased dramatically in the last three decades of the twentieth century. The three chapters in this section deal specifically with the roles of environmental non-governmental organizations (NGOs) in shaping international environmental policy-making at the regional and global levels. In the first chapter, Paul Wapner develops a definition of NGOs and separates them

from international organizations. Wapner focuses on those actions of NGOs that are directed toward changing the behaviour of states, aim at engaging economic forces, or alter social mores. Lin Gan's chapter describes the role of environmental NGOs in energy sector development in Asia. This chapter further describes the activities of research-oriented NGOs providing scientific knowledge to decision-makers; lobbying NGOs, which have criticized and campaigned against projects like the Narmada Dam in India; and mediating NGOs establishing domestic and transnational networks with the purpose of disseminating knowledge and coordinating joint activities. In the third chapter, Helmut Breitmeier and Volker Rittberger ask whether NGOs have already succeeded in changing the relationship between states and civil society. This chapter also describes how the activities of environmental advocacy organizations put states and international organizations under political pressure to strengthen their efforts for the international management of environmental problems.

The third research group, coordinated by Chung-in Moon, examines the relationship between market forces and the environment. Free markets are a powerful social invention for efficient allocation of scarce resources, but they cannot necessarily serve as a useful tool in ensuring sustainability. The chapters in this section all share the view that scarcity problems involving energy, fresh water, and food are real and present, and market forces and technology alone cannot resolve ecological dilemmas. In the first chapter, Ken Wilkening, David Von Hippel, and Peter Hayes postulate the idea that market forces cannot ensure long-term sustainability in energy use. The current operating logic of energy markets defies the issue of sustainability and is not ready to cope with future energy dilemmas. Peter Gleick analyses the global fresh water dilemma in the second chapter. While there is a sufficient amount of water to meet the needs and wants of every human being, imbalances between overall availability and growth in need and demand have emerged as a serious problem. While market forces can serve as a valuable tool for conserving fresh water resources, the application of market approaches in situations where non-economic values are high or where certain types of water needs or uses cannot be quantified is bound to fail, and may even create new problems. Drawing on the experiences of the Philippines and selected Asian countries, the third chapter by Angelina Briones and Charmaine Ramos explores the dimensions of food insecurity in developing countries. In their view market forces are the primary cause of food insecurity rather than a solution to it.

The fourth research group, coordinated by Muthiah Alagappa, analyses the role of regional organizations in environmental governance. In his

introduction to this section, Alagappa defines a number of roles for regional institutions, including the provision of high-level forums to map the regional environmental agenda, facilitation of regional input into the formulation and implementation of global conventions, the development and management of regional initiatives and action plans to address regional transboundary environmental problems, mediation of disputes between member states, and harmonization of national efforts on issues that fall under the domestic jurisdiction of member states.

The three chapters in this section investigate the possibilities and limitations of regional cooperation in three regions: the Asia-Pacific, Central and Eastern Europe, and sub-Saharan Africa. Lyuba Zarsky's chapter advocates the case for the high-energy-consuming Asia-Pacific states to develop a long-term market-oriented regional energy plan that integrates environmental considerations. Egbert Tellegen's chapter investigates the role of regional cooperation in energy conservation and waste minimization in Central and Eastern Europe. Gregory Myers's chapter reviews the role of African regional organizations in addressing land and natural resource degradation.

The fifth and final research group, coordinated by Michael Doyle and Rachel Massey, looks at international organizations as actors in the international environmental arena. The chapters in this section examine the history, mandate, and activities of three intergovernmental organizations that have been active participants in the formation of the global environmental agenda. The first chapter, written by David Downie and Marc Levy, looks at the UN Environment Programme, the oldest and core UN agency with a specific environmental mandate. Pamela Chasek's chapter examines the UN Commission on Sustainable Development, a relatively new international environmental forum created in response to the sustainable development agenda set by UNCED. Mikiyasu Nakayama's chapter addresses the World Bank, an influential international organization whose core mandate is not concerned with environmental protection, but whose activities have a major effect on the prospects for the international coordination of environmental protection. These three chapters examine how the mandate, the configuration, and the resources of each organization have influenced its ability – as well as the collective ability of intergovernmental organizations in aggregate – to address global environmental problems. While each chapter evaluates one organization individually, the larger purpose of this section, as set forth in the final chapter by Michael Doyle and Rachel Massey, is to evaluate whether existing organizations together meet the need for a coordinated approach to protecting the global environment. This chapter describes the activities of other intergovernmental organizations that address environmental

issues, and analyses the future of international environmental organizations and the arguments for establishing a ''Global Environmental Organization.''

Into the twenty-first century

Human demands on the environment continue to mount as poverty and affluence spread in parallel around the globe. Despite all of the efforts made at Stockholm and Rio and at national and local levels over the past quarter of a century, the environment continues to deteriorate in many parts of the world. Social, economic, and technological trends are exacerbating these problems. New and unexpected problems will certainly continue to arise. Much more vigorous and effective coordinated action will be required at all levels and by all actors. The ways of the past may not suffice. International action, including cooperation among states, civil society, market forces, regional arrangements, and international organizations, will continue to be essential in meeting these challenges. However, the nature of these future environmental challenges and the relationships among major actors *vis-à-vis* these challenges are not at all clear. What are the issues that we will have to address in the next century? Can the existing locus of actors find the proper solutions? What will be the role of the United Nations? Is there a better model for international cooperation to address environmental issues? These questions will be examined again in the Conclusion.

Notes

1. Special thanks to Michael Doyle and Rachel Massey for their helpful suggestions regarding both the Introduction and Conclusion to this volume.
2. The Framework Convention on Climate Change and the Convention on Biological Diversity were negotiated by separate negotiating committees that were convened in parallel to the UNCED PrepCom.

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