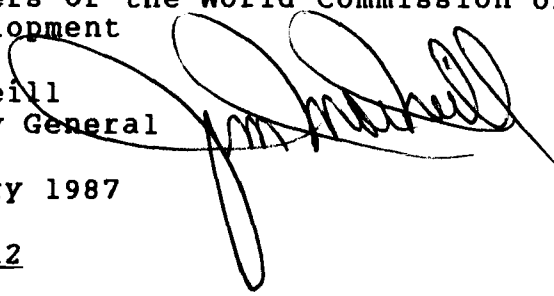


WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT

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WCED/87/24

To: All Members of the World Commission on Environment
and Development

From: Jim MacNeill
Secretary General 

Date: 13 February 1987

Re: CHAPTER 12

The attached draft Chapter 12 has been revised as a result of the discussions at the Special Working Session held in late January. The major changes in the previous draft are summarized below.

The overall Chapter title was changed to "Towards Common Action" and the introductory material has been further shortened. It now appears under two headings: "Shifting the Focus to the Policy Sources"; and "New Imperatives for International Cooperation"

The priority thrusts have been reduced from eight to six by transferring the content of "Taking Effective Regional Action" to the section on "Getting at the Sources", and by dropping the proposed section on "Managing the Commons".

The section dealing with the need for UN system-wide leadership for sustainable development by the Secretary-General and Director-General has been expanded to reflect views and proposals discussed at the Special Working Session.

Two additional functions for UNEP have been added, i.e. criteria and indicators for environmental quality standards and the development of institutional and professional capacities in developing countries. The order of the two sections on "Priority to Global Environmental Assessment and Reporting" and "Focus on Environmental Protection Issues" were reversed and the

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previous sections on special ministerial policy discussions in the UNEP Governing Council (formerly para 56) and on accelerating treaty ratification procedures (formerly para 71) have been transferred to the Special Annex.

"Ensuring Survival" has become "Assessing Global Risks" and the section has been completely redrafted and strengthened. So have the sections on "Making Informed Choices" and "Investing in our Future".

I should point out that in the section on "Making Informed Choices" references to specific institutes and NGOs have been reduced to a minimum. NGOs are inherently fragile, and my experience with them tells me that even if great care is taken, mentioning one in this context runs the risk of alienating the rest. Commissioners may feel that I have gone too far, however.

CHAPTER 12

TOWARDS COMMON ACTION: PROPOSALS FOR INSTITUTIONAL AND LEGAL CHANGE

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CHAPTER 12

TOWARDS COMMON ACTION: PROPOSALS FOR INSTITUTIONAL AND LEGAL CHANGE

1. Governments' perception of 'reality' has changed radically in less than a decade. Policymakers appealed constantly in the 1970s to 'political and economic realities' in their efforts to resist proposals to protect the environment and to take environmentally sound approaches to economic development. Previous chapters of this report have shown the myriad ways whereby 'political realities' that ignored environmental realities have cost lives, undermined livelihoods, and caused environmental and economic decline. They have shown how some policies and institutional arrangements are a major part of the problem. These policies and institutions can be reoriented to become a part of the solution.

2. The first section of this chapter highlights the systemic nature of the issues and the acute mismatch between present institutional frameworks and the environment/development linkages. It argues the urgent need to shift the focus from environmental effects and to tackle the policies that are the sources of those effects. It reveals new imperatives and opportunities for international cooperation. The second section proposes six major priority areas where institutional and legal changes are needed to bring about the transition to sustainable development.

I. THE CHALLENGE FOR INSTITUTIONAL AND LEGAL CHANGE

1. Shifting the Focus to the Policy Sources

3. The next few decades are crucial for the future of humankind. Pressures on the planet are now unprecedented and are accelerating at rates and scales new to human experience: a doubling of global population in a few decades, with most of the growth in cities; a tenfold increase in the global economy; and the resulting pressures for growth and changes in agricultural, energy, and industrial systems.

4. Opportunities for more sustainable forms of growth and development are also growing. New technologies and potentially unlimited access to information offer great promise.

5. Each area of change represents a formidable challenge in its own right, but the fundamental challenge stems from their systemic character. They lock together environment and development, once thought separate; they lock together 'sectors', such as industry and agriculture; and they lock countries together as the effects of national policies and actions spill over national borders. Separate policies and institutions can no longer cope effectively with these interlocked issues. Nor can separate nations, acting unilaterally.

6. The integrated and interdependent nature of the new challenges and issues contrasts sharply with the nature of the institutions that must meet them. These institutions tend to be independent, fragmented, working to relatively narrow mandates with closed decision processes. Those responsible for managing natural resources and protecting the environment are

institutionally separated from those responsible for managing the economy. The real world of interlocked economic and ecological systems will not change; the policies and institutions concerned must.

7. This new reality requires major shifts in the way governments and individuals approach issues of environment, development, and international cooperation. At our very first meeting in late 1984, the Commission drew attention to two distinct approaches to environmental management. One, characterized as the 'standard agenda', reflects an approach to environmental policy, laws, and institutions that focuses on environmental effects. The second, which the Commission developed and referred to as an 'alternative agenda', reflects an approach concentrating on the policies that are the sources of those effects.^{1/} These two approaches represent distinctively different ways of looking both at the issues and at the institutions to manage them. Although both approaches are essential, up to the present only the first, the effects-oriented approach, has been reflected generally in policies, laws, and institutions.

8. The effects-oriented 'standard agenda' responded to growing concerns about the dramatic decline in environmental quality that the industrialized world suffered during the 1950s and 1960s. Governments developed new policies targeted on substances and products, on industries and urban regions, and on environmental resources such as air, water, soil, forests, coastal and marine waters, and fish and wildlife and their habitats.^{2/} New environmental protection and resource management agencies were added on to the existing institutional structures, and given mainly scientific staffs.^{3/}

In the case of environmental problems, it is obvious that the problems cannot be solved by one group, one group working in separation. You cannot say because people are dying of poisoning, it is the Ministry of Health that will solve it. Or to say because it comes from factories, it is the Ministry of Industry. That is impossible.

I think the problems need a more holistic approach. The United Nations Organization, as a professional organization, has developed this fragmentation. It started automatically with no bad intention at all. But at the same time, the member countries requested and national bodies also requested entry points in recipient countries. So WHO corresponds with the Ministry of Health, UNESCO corresponds with the Ministry of Education, FAO corresponds with the Ministry of Agriculture - the fragmentation is getting worse.

Speaker from the floor
government agency
WCED Public Hearing
Jakarta, 26 March 1985

9. These environment agencies have registered some notable successes in improving environmental quality during the past two decades.^{4/} They have secured significant gains in monitoring and research and in defining and understanding the issues in scientific and technical terms. They have raised public awareness, nationally and internationally. Environmental laws have induced innovation and the development of new control technologies, processes, and products in most industries, reducing the resource content of growth.^{5/}

10. However, most of these agencies have been confined by their own mandates to focusing almost exclusively on the effects. Today, the sources of these effects must be tackled - principally the development policies that generate them. While the existing environmental protection policies and agencies must be maintained and even strengthened, governments now need to take a much broader view of 'environmental policies', 'environmental agencies', and 'environmental budgets'.

11. Decision-making power in all governments tends to be concentrated at the top and in a few central agencies: the Finance Ministry, a National Planning Commission, a Bureau of the Budget and Trade, and Foreign Ministries. Most governments also have major sectoral ministries on, for example, energy, agriculture, industry, and transport. As repeatedly demonstrated throughout this report, these agencies most influence the form, character, and distribution of the impacts of economic activity on the environmental resource base. It is these agencies, through their policies and budgets, that determine whether the environmental resource base is enhanced or degraded and whether the planet will be able to support human and economic growth and change into the next century. Today, these central and sectoral agencies are the real 'environmental agencies'; their policies are the real 'environmental policies'; and their budgets are the real 'environmental budgets'.

12. These agencies have evolved within quite narrow concepts of economic, social, and sectoral policy. Their mandated goals include increasing investment, employment, food, energy, and other economic and social goods. Most have no mandate to concern themselves with sustaining the environmental resource capital on which these goals depend. Those with such mandates are usually grouped in separate environment agencies or, sometimes, in minor units within sectoral agencies. In either case, they usually learn of new initiatives in economic and trade policy, or in energy and agricultural policy, or of new tax measures that will have a severe impact on resources, long after the effective decisions have been taken. Even if they were to learn earlier, most lack the access and authority to ensure that a given policy induces development that is sustainable.

13. Given the accelerating pace, scale, and integration of the transitions through which the world is passing, nations and the international community must quickly make environmental protection and sustainable development an integral part of the mandates of all central, economic, and sectoral agencies of governments; of international organizations; and of major private institutions. These must be made responsible and accountable for ensuring that their policies, programmes, and budgets encourage and support activities that are economically and ecologically sustainable both in the short and longer terms. They must be given a mandate to pursue their traditional goals in such a way that those goals are reinforced by a steady enhancement of the environmental resource base of their own national community and of the small planet we all share.

2. New Imperatives for International Cooperation

14. National boundaries have become so porous that traditional distinctions between local, national, and international issues have become blurred. Policies formerly considered to be exclusively matters of 'national concern' now have an impact on the ecological bases of other nations' development and survival. Conversely, the growing reach of some nations' policies – economic, trade, monetary, and most sectoral policies – into the 'sovereign' territory of other nations limits the affected nations' options in devising national solutions to their 'own' problems. This fast-changing context for national action has introduced new imperatives and new opportunities for international cooperation.

15. The international legal framework must also be significantly strengthened in support of sustainable development. Although international law related to

environment has evolved rapidly since the 1972 Stockholm Conference, there are still major gaps and deficiencies that must be overcome as part of the transition to sustainable development. All communities and nations have at least some common rules that are enforceable and enforced. Given the characteristics and global implications of the new issues and risks, the viability of the community of nations will require a similar capacity to promote and protect common interests. Much of the evidence and conclusions presented in earlier chapters of this report calls into question not just the desirability but even the feasibility of maintaining an international system that cannot prevent one or several states from damaging the ecological basis for development and even the prospects for survival of any other or even all other states.

16. However, just at the time when nations need increased international cooperation, the will to cooperate has sharply declined. Instead of pulling together to resolve common problems, nations seem to be on a collision course in many critical policy areas. Most international agendas reflect little or no understanding of the new realities of ecological and economic interdependence. By the mid-1980s, multilateral institutions were under siege for many, and often contradictory, reasons. The United Nations system has come under increasing attack for either proposing to do too much or, more frequently, for apparently doing too little. Conflicting national interests have blocked significant institutional reforms and have increased the need for fundamental change.^{6/}

17. Funds for many international organizations had levelled off or declined in both relative and absolute terms by the mid-1980s.^{7/} Bilateral development assistance has declined as a percentage of GNP in many

industrial countries, which dropped even further away from the targets proposed in the early 1970s. The benefits and effectiveness of aid have come under serious question, in part because of 'ecologically blind' policies and projects that may have done more overall harm than good.^{8/} This has further undermined confidence in and support for development assistance,^{9/} but paradoxically has increased the need for greater international aid and cooperation.^{10/}

18. In this atmosphere, opportunities have been missed in many areas: in improving macroeconomic performance, trade, and development; in coping with the third energy shock of lower oil prices; and in strengthening the resource base for food security in many developing countries, especially in Africa. Nations must now confront a growing number, frequency, and scale of crises. A major reorientation is needed in many policies and institutional arrangements at the international as well as national level.

19. The time has come to break away. Dismal scenarios of mounting destruction of national and global potential for development - indeed, of the Earth's capacity to support life - are not unescapable destiny. One of the most hopeful characteristics of the changes the world is racing through is that invariably they reflect great opportunities for sustainable development, providing that institutional arrangements permit sustainable policy options to be elaborated, considered, and implemented. Global population growth, for example, can be influenced within a range of plus or minus 2.5 billion people. Energy paths can be chosen that result in significantly lower or higher energy consumption per unit of production. Food production can be increased by methods that enhance or reduce the productivity of soils. And

industry can consume more or fewer resources per unit of production, and can generate more or less environmental pollution.

II. PRIORITIES FOR INSTITUTIONAL AND LEGAL CHANGE

20. The ability to choose policy paths that are sustainable rather than unsustainable requires that the ecological dimensions of policy be considered at the same time as the economic, trade, energy, agricultural, industrial, and other dimensions - on the same agendas and in the same national and international institutions. That is the chief institutional challenge of the 1990s.

21. The Commission's principal proposals for change at the national, regional, and international levels are embodied in six priority areas.

- * Getting at the Sources: Reorient central economic, finance, trade, and major sectoral policies and make the corresponding agencies directly responsible and accountable for ensuring that their policies, programmes, and budgets support development that is sustainable.
- * Dealing with the Effects: Strengthen the role and capacity of existing environmental protection and resource management agencies to restore, protect, and improve the ecological basis for sustainable development.
- * Providing the Legal Means: Enact new principles and norms for state and interstate behaviour to secure sustainable development within and among nations, and strengthen procedures for ensuring compliance with them.

- * Assessing Global Risks: Reinforce existing capacity to identify, assess, and report on critical threats to the survival, security, and well-being of the world community.
- * Making Informed Choices: Expand the role and participation of the public non-governmental organizations, the scientific community, and industry in environment and development planning, decision making, and implementation.
- * Investing in Our Future: Increase financial resources and support for national and international action to secure environmental protection and sustainable development.

22. Together, these six priorities represent the main directions for institutional and legal change needed to make the transition to sustainable development. They are not an à la carte menu. Concerted action is needed now under all six.

1. Getting at the Sources

23. The new reality demonstrated in this report is the complete interlocking of environment and development. The most urgent task confronting governments today is to reflect this reality in their policies and institutional arrangements, nationally and internationally. It will require an institutional marriage of economics and environment.

1.1. Reorienting National Policies and Institutions

24. How this is achieved will vary among the many different political and economic systems around the world. Nevertheless, several features could be common to most countries.

25. Sustainable development criteria must become a cornerstone of national political processes and decision making. These criteria could be incorporated in the terms of reference of those cabinet and legislative committees dealing with national economic policy and planning, for example; as well as those dealing with major sectoral policies in areas such as agriculture, energy, and industry. Given the many international economic and ecological interdependencies described in this report, these criteria could also be incorporated in those dealing with trade, foreign affairs, and development assistance.

26. As an extension of this, the major central economic and sectoral agencies of governments should now be made directly responsible and fully accountable for ensuring that their policies, programmes, and budgets support development that is ecologically as well as economically sustainable. This will mean reorienting their mandates and priorities. These major agencies should continue to pursue their traditional goals of economic growth, employment, and food and energy security. But, in doing so, they should now be required to deploy their financial and other resources in ways that reinforce those goals by enhancing the environment and resource base of local communities and of the nation. Their budgets should increasingly become budgets for sustainable development.

27. Most governments will need a special capacity and locus for leadership and advice to facilitate interministerial efforts and cooperation, and to assess progress made and needed towards national sustainable development. Governments could give overall responsibility to a senior Minister, assisted by a Council for Sustainable Development with participation from government, industry, the scientific community, and non-governmental organizations (NGOs). The Council could monitor and assess the impact of economic, trade, and sectoral policies and activities on the environment and future development both nationally and internationally, and be a major source of advice and recommendations in making a successful transition to sustainable development.

28. An annual report and an audit on changes in environmental quality and in the stock of the nation's environmental resource assets are also needed to complement the traditional annual fiscal budget.^{11/} Such a report and audit are essential to obtain an accurate picture of the true health and wealth of the national economy, and to assess progress towards sustainable development.^{12/} Although all central and sectoral departments should share responsibility for and contribute to the annual 'sustainable development report and audit', for practical purposes it may often be advisable to allocate the overall responsibility for its preparation and publication to the designated senior minister.

29. Governments should also consider developing a 'foreign policy for the environment'.^{13/} A nation's foreign policy needs to reflect the fact that its policies have a growing impact on the environmental resource base of other nations and the commons, just as the policies of other nations have an impact on its own. This is true of certain energy, agricultural, and other

All governments should develop a 'foreign policy for the environment' as one major way of improving the international coordination of national environmental policies.

But in the long-term perspective, and here I think the World Commission could have an important message, I think that it will be politically sound and wise to get support from the NGOs to prepare for changes that have to take place anyway sooner or later. So I think it would be politically wise to look into that in a much broader way than what has been done so far.

Mats Segnestam
Swedish Society for the
Conservation of Nature
WCED Public Hearing
Oslo, 24-25 June 1985

sectoral policies discussed in this report, as well as certain foreign investment, trade, and development assistance policies and those concerning the import or export of hazardous chemicals, wastes, and technology. A broadly based 'foreign policy for the environment' could identify opportunities for common action and assist in reconciling national self-interest and international responsibility. Equally important, this would facilitate international action to reduce pressures on the planet's environment and natural resources.

1.2 Taking Effective Regional and Subregional Action

30. Most regional or subregional transboundary environmental and resource use issues can be dealt with best through cooperative arrangements among those states directly concerned. Delays in strengthening existing cooperative arrangements and putting in place new ones where needed can foreclose mutually beneficial options or exacerbate environmental and economic decline. Moreover, many problems that are handled inadequately or are neglected at regional and subregional levels will eventually have wider and even global impacts.

31. The existing regional and subregional organizations within and outside the UN system need to be strengthened and made responsible and fully accountable for ensuring that their programmes and budgets encourage and support sustainable development policies and practices. Through joint action in the respective governing bodies, member governments can begin to reorient and refocus their mandates, programmes, and budgets to support sustainable development at the regional and subregional levels. In some areas, however, especially among developing countries, new regional and subregional arrangements will be needed to deal with transboundary environmental resource issues.

32. Industrialized countries already enjoy comparatively well developed bilateral and regional structures. These include many specialized bilateral organizations such as the Canada/USA International Joint Commission; subregional agencies in Europe such as the Rhine River, Danube, and Baltic Sea Commissions^{14/}; several large and long-established regional organizations such as CMEA and OECD; and even a regional economic integration organization, the European Communities (EEC). Within these organizations, governments can take up virtually any problem of common concern, obtain advice on how to advance their common interests, concert policy action, and even negotiate legally binding decisions and treaties.

33. These bodies provide industrial countries with a strong foundation on which to build. Although most of them have effective programmes for international cooperation on environmental protection and natural resources management, it is evident from this report that those programmes will need to be strengthened and adapted to new priorities. The regional organizations in

particular need to do more to integrate environment fully in their macroeconomic, trade, energy, and other sectoral programmes.

34. Developing countries cannot call upon comparative structures for regional cooperation. The few existing organizations should be strengthened and even extended, particularly at bilateral and subregional levels. Developing countries need such bodies to develop comparable economic and environmental statistics, baseline quantity and quality surveys of shared resources, and early warning capabilities to reduce environment and development hazards. They could help identify and develop opportunities for closer cooperation in financing, developing, and exploiting new technologies for reducing environmental degradation. These organizations could convene high-level meetings on critical common problems aimed at reaching agreement on joint or coordinated action, and work together to develop contingency plans and the capacity to respond quickly to critical situations and issues. They could make recommendations, decisions, and commitments binding on all members, and could develop and apply in concert basic common principles and guidelines concerning environmental protection and resource use, particularly with respect to foreign trade and investment.

35. A new focus on the sustainable use and management of transboundary ecological zones, systems, and resources is also needed. IUCN has identified over 200 distinct biogeographic zones in the world. Most transcend the boundaries of two or more states. Their essential ecological functions and economic uses can best be maintained and effectively managed only through international cooperation. Most non-island countries in the world share at least one international river basin. The entire national territories of nearly one-quarter of

those countries is part of an international river basin. Yet over one-third of the 200 major international river basins in the world are not covered by any international agreement, and fewer than 30 have any cooperative institutional arrangements. These gaps are particularly acute in Africa, Asia, and Latin America, which together have 144 international river basins.

36. Governments, directly and through UNEP and IUCN, should support the development of regional and subregional cooperative arrangements for the protection and sustained use of transboundary ecological systems, especially among developing countries. Such arrangements should include joint commissions or expert committees among contiguous countries to agree on needed measures for this work, along with joint action programmes to combat common problems such as desertification and acidification.

1.3. Reorienting Global Institutions and Programmes

37. At the global level, an extensive institutional capacity exists that could be redirected towards sustainable development. The United Nations, as the only global intergovernmental organization with universal membership, clearly must take the lead in doing this. Sustainable development should be a primary criterion for proposing institutional changes during the current efforts to reform the United Nations and make it more efficient and effective. Entirely new organizational arrangements are not necessarily required. The special arrangements needed to improve performance, cooperation, and coordination within the UN system and monitor progress during the transition to sustainable development could be achieved initially through a reorientation and reinforcement of existing ones.

In retrospect, even if the institutional and policy goals of the decade had been achieved, one is left with the feeling that most developing countries would be only marginally better off than they are today. The reason for this is a striking and humbling one. Although governments, environmentalists, and the aid agencies kept their eye on the environmental ball during the 1970s and the early 1980s, recent events have starkly demonstrated that they were watching the wrong ball. While the world was worrying about the environmental impacts of investments, controlling pollution, and conserving resources, we collectively failed to notice the dramatic decline in what had complacently been called 'renewable resources'.

David Runnals
International Institute for
Environment and Development
WCED Public Hearing
Ottawa, 26-27 May 1986

38. As at the national level, all major international bodies and agencies of the UN system should be made responsible and fully accountable for ensuring that their programmes and budgets encourage and support development policies and practices that are sustainable over the short and longer term. Governments, through joint resolutions in the respective governing bodies, should now begin to reorient and refocus the mandates, programmes, and budgets of key agencies to support sustainable development. They should then also insist on coordination amongst them.

39. Each agency will need to redeploy some staff and financial resources to establish a small but high-level leadership and expertise centre to monitor and help accelerate progress towards sustainable development. That centre should be linked to the programme planning and budget processes, as the future budgets of these agencies should become part of the UN system's overall budget for sustainable development.

40. Each agency should be directly responsible for ensuring that the environmental and resource aspects of programmes and projects are properly taken into account

when they are being planned, and that the financial resources needed are provided directly from its own budget. In line with these new responsibilities, the following agencies should also assume full operational responsibility within their own budgets for certain programmes presently supported by the Environment Fund of UNEP: WHO on 'Environmental Health', FAO on 'Agricultural Chemicals and Residues', UNDRO on 'Natural Disasters', UNIDO on 'Industry and Transport', ILO on 'Working Environment', UNDA on 'Arms Race and the Environment', DIESA on 'Environmental Aspects of Development Planning and Cooperation', UNESCO on 'Education', and UNDP on 'Technical Cooperation'.

41. As in each agency, there is also a need for a high-level centre of leadership for the UN system as a whole with the capacity to assess, advise, assist, and report on progress made and needed for sustainable development. That leadership should be provided by the Secretary-General or the principal deputy for overall economic and social development issues, the Director General for Development and International Economic Relations.

42. The General Assembly has already endowed the Director General's post with the formal responsibility, under the direction of the Secretary-General, of 'ensuring the provision of effective leadership to the various components of the United Nations system in the field of development and international economic cooperation and in exercising overall coordination within the system in order to ensure a multidisciplinary approach to the problems of development on a system-wide basis'.^{15/} When the General Assembly passed this resolution a decade ago, system-wide leadership and coordination on major world economic and social

development issues was already clearly needed. Our report contains many additional and compelling reasons why that need is even more urgent and must now become an effective reality.

43. Governments at the UN General Assembly should therefore take the necessary measures to implement the these provisions of the 1977 resolution and reinforce the system-wide responsibility and authority of the UN Secretary-General concerning interagency coordination and cooperation generally, and for achieving sustainable development specifically. This will require that the representatives of those same governments in the governing bodies of all major UN organizations and specialized agencies take complementary measures. This could be done as an integral part of the joint resolution just proposed on building sustainable development objectives and criteria into the mandates, programmes, and budget of each agency.

44. To help launch and guide the interagency coordination and cooperation that will be needed during the transition to sustainable development, the UN Secretary-General should constitute a special UN Board for Sustainable Development consisting of the Chairmen of key intergovernmental bodies of the UN system and the executive heads of the same agencies. The Secretary-General either could be the Chairman or could designate the Director-General as Chairman. The principal function of the Board would be to agree on combined tasks to be undertaken jointly by the agencies to deal effectively with the many critical issues of sustainable development that cut across agency and national boundaries.

2. Dealing With the Effects

45. The immediate concern of too many today, particularly the poorest people and countries, is to survive the struggle against the crushing effects of past and present unsustainable development. This struggle will intensify until the measures proposed for dealing with the real policy sources of the problems are put in place and begin to achieve results. Most other countries, too, will see an increase in the negative effects of present patterns of development until the above measures take effect and turn them around.^{16/} Thus as an essential part of the transition to sustainable development, governments should strengthen the role and capacity of existing environmental protection and resource management agencies.

2.1 Strengthen National Environmental Protection and Natural Resources Management Agencies

46. This is needed most urgently in developing countries.^{17/} While most have established environmental protection and resource management agencies, these will need to be significantly strengthened to deal with the growing pressures discussed in this report. Those that have not established such agencies should do so as a matter of priority. In both cases, bilateral and multilateral organizations must be prepared to provide increased assistance. They should give priority to programmes for institutional development and increased financial support in environmental protection and resource management, similar to earlier efforts in other priority areas such as agriculture, health, and education. Some of this increased financial support should go to community groups and NGOs, which are rapidly emerging as important and cost-effective partners in work to protect and improve the environment locally and nationally.

47. Industrialized countries also need greatly strengthened environmental protection and resource management agencies. Most face a continuing backlog of first-generation pollution problems and a growing range of second-generation environment and resource management issues that must be tackled. In addition, these agencies will be called upon to advise and assist central economic and sectoral agencies as they take up their new responsibilities for sustainable development. Many now provide institutional support, technical advice, and assistance to their counterpart agencies in developing countries, and this need will grow. And, almost inevitably, they will play a larger and more direct role in international cooperation, working with other countries and international agencies trying to cope with regional and global environmental problems.

2.2 Strengthen the United Nations Environment Programme

48. Following the 1972 UN Conference on the Human Environment, the General Assembly created the United Nations Environment Programme as the central coordinating agency on environment for the United Nations. The proposal to establish our Commission originated with the UNEP Governing Council, and we have been asked to give special attention to UNEP's role and functions. Our main proposals follow.

49. The UN General Assembly gave UNEP a broad and challenging mandate to stimulate, coordinate, and provide policy guidance for environmental action throughout the UN system. That mandate was to be carried out by a Governing Council of 58 member states, a high-level UN interagency Environment Coordination Board (ECB), a relatively small secretariat located in Nairobi, and a voluntary fund set initially at a level of \$20 million

annually. UNEP's principal task was to exercise leadership and a catalytic influence on the programmes and projects of other international organizations, primarily in but also outside the UN system. Over the past 10 years, the Environment Fund has levelled off at around \$30 million annually, while its range of tasks and activities have increased substantially.

50. The Commission has recommended a major reorientation and refocusing of programmes and budgets on sustainable development in and among all UN organizations. Within such a new system-wide commitment to and priority effort on sustainable development, UNEP should be the principal source on environmental data, assessment, and reporting, as well as the principal advocate and agent for change and cooperation on critical environment and natural resource protection issues. The major priorities and functions of UNEP should be:

- * to provide leadership, advice, and guidance in the UN system on restoring, protecting, and improving the ecological basis for sustainable development;
- * to monitor, assess, and report regularly on changes in the state of the environment and natural resources (through its Earthwatch programme);
- * to support priority scientific and technological research on critical environmental and natural resource protection issues;
- * to develop criteria and indicators for environmental quality standards and guidelines for the sustainable use and management of natural resources;
- * to support and facilitate the development of action plans for key ecosystems and issues to be implemented and financed by the governments directly concerned;

- * to support and facilitate the development of international law, conventions, and cooperative arrangements for environmental and natural resource protection;
- * to support the development of the institutional and professional capacity of developing countries in all of these areas; and
- * to provide advice and assistance on request to the United Nations Development Programme and other UN organizations and agencies regarding the environmental dimensions of their programmes and technical assistance projects, including training activities.

2.2.1 Focus on Environmental Protection Issues

51. UNEP has been a key agent in focusing the attention of governments on critical environmental problems (such as deforestation and marine pollution), in helping develop many global and regional action plans and strategies (as on desertification), in contributing to the negotiation and implementation of international conventions (on Protection of the Ozone Layer, for example), and in preparing global guidelines and principles for action by governments (such as on marine pollution from land-based sources). The UNEP Regional Seas Programme has been particularly successful, and could serve as a model for some other areas of special concern, especially international river basins.

52. UNEP's catalytic and coordinating role in the UN system can and should be reinforced and extended. In its future work on critical environmental protection issues, UNEP should focus particularly on:

The environment has quickly deteriorated in certain areas and we don't know where to put the thresholds for nature's tolerance. We must move very fast towards a consensus on the necessity for taking urgent action. There is a strong popular support for this in our country. The findings of several opinion polls tell us that ecological issues have heightened priority. People feel anxious about the legacy our generation will be passing on to the next one. A new environmental awareness has germinated among large sections of the community and mainly among young people.

Dr. Imre V. Nagy
National Environment
Protection Committee, Hungary
WCED Public Hearing
Moscow, 8 Dec 1986

- * developing, testing, and helping to apply guidelines for the restoration, protection, and improvement of the ecological basis for development;
- * extending existing and proposed international agreements reached at the regional level (such as on chemicals and hazardous wastes), and accelerating or launching negotiations on new international conventions, protocols, and agreements on critical environmental issues;
- * extending the Regional Seas Programme and agreements for intergovernmental cooperation on monitoring and assessment into self-financing action plans for restoration, protection, and improvement;
- * developing a similar programme for getting international agreements and self-financing action plans for the environmentally sound management of international river basins; and
- * identifying the need for and helping other UN organizations and agencies establish and carry out technical assistance and training courses for environmental protection and management.

2.2.2 Priority to Global Environmental Assessment and Reporting

53. Although more is known about the state of the global environment now than a decade ago, there are still major gaps and a limited international capability for monitoring, collecting, and combining basic and comparable data needed for authoritative overviews of key environmental issues and trends. Without such, the information needed to help set priorities and develop effective policies will remain limited.

54. UNEP can and should be the principal source in the UN system for environmental data, assessment, and reporting, and for guiding the global agenda for scientific research and technological development for environmental protection. To this end, the data collection, assessment, and state of the environment reporting functions (Earthwatch) of UNEP need to be significantly strengthened and be the major priority in the allocation of staff and financial resources now and through at least the 1990-95 Medium-Term Plan. The Global Environment Monitoring System (GEMS) should be expanded as rapidly as possible, and the development of the Global Resource Information Data Base (GRID) should be accelerated to bridge the gap between environmental assessment and management.

2.2.3 Strengthen International Environmental Cooperation

55. The UNEP Governing Council cannot fulfil its primary role of providing leadership and policy guidance in the UN system nor have a significant influence on national policies unless governments increase their participation and the level of representation from the environment-related ministries. National delegations to

future meetings should preferably be led by Environment Ministers or the equivalent, with their senior policy and scientific advisers. Special provisions should be made for expanded and more meaningful participation by major non-governmental organizations at future sessions.^{18/}

56. The agenda, reports, and discussions should be focused on those critical environmental protection problems and policy issues that are now or soon may be priorities at the national, regional, and global level. The discussions should lead to clear guidelines and recommendations on what governments and their international organizations can, should, and in some cases must do about them.

2.2.4 Increase the Revenue and Focus of the Environment Fund

57. The UNEP voluntary funding base of \$30 million annually is too limited and vulnerable for an international fund dedicated to serving and protecting the common interests, security, and future of humanity. Six countries alone provided over 75 per cent of the 1985 contributions to the Environment Fund (the United States, Japan, USSR, Sweden, FRG, and UK).^{19/} More than half the members of the United Nations made no financial contribution at all in 1985. They should give serious consideration to doing so.^{20/}

58. Nevertheless, a substantial enlargement of the Environment Fund seems unlikely in the current climate of financial austerity. Any additional funds made available by states for UN development programmes and activities will likely be channelled largely through UNDP and the development programmes of other UN agencies. Moreover, as recommended earlier, the budgets of all of those agencies should now be viewed as part of the UN system's

overall budget for sustainable development and deployed so that environmental considerations are built into the planning and implementation of all programmes and projects.

59. The Environment Fund can be made more effective by refocusing the programme on fewer activities. As other UN agencies assume full responsibility for certain activities now provided through the Environment Fund and finance them entirely from their own budgets, some resources will be released for other purposes. These should be concentrated on the principal functions and priority areas identified earlier, and in particular on expanding Earthwatch and supporting the full participation in it of developing countries..

60. Expanding support and cooperation with NGOs capable of carrying out elements of UNEP's programme will also increase the effectiveness of the Environment Fund.^{21/} Over the last decade, non-governmental organizations and networks have become increasingly important in work to improve environmental protection locally, nationally, and internationally. However, financial support from the Environment Fund for cooperative projects with NGOs declined in both absolute and relative terms in the last decade, from \$4.5 million (23 per cent) in 1976 to \$3.6 million (13 per cent in 1985). The amount and proportion of Environment Fund resources for cooperation and projects with NGOs should be significantly increased.

61. Finally, recognizing the critical importance of renewed efforts on environmental protection and improvement, governments should give serious consideration to increasing the Environment Fund both directly and through some of the sources cited later in this chapter, in the section Investing in Our Future.

3. Providing the Legal Means

62. National and international law has traditionally lagged behind events. Today, legal regimes are being rapidly outdistanced by the accelerating pace and expanding scale of impacts on the environmental base of development. Human laws must be reformulated to keep human activities in harmony with the unchanging and universal laws of nature. There is an urgent need:

- * to recognize and respect the reciprocal rights and responsibilities of individuals and states regarding sustainable development;
- * to establish and apply new norms for state and interstate behaviour to achieve sustainable development;
- * to strengthen and extend the application of existing laws and international agreements in support of sustainable development; and
- * to reinforce existing methods and develop new procedures for avoiding and resolving environmental disputes.

3.1 Recognizing Rights and Responsibilities

63. Principle 1 of the 1972 Stockholm Declaration said that 'Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being'.^{22/} Principle 1 further proclaimed the solemn responsibility of governments to protect and improve the environment for both present and future generations. After the Stockholm Conference, several states recognized in their Constitutions or laws the right to an adequate environment and the obligation of the state to protect that environment.

What are we to do? It is axiomatic that we as individuals or groups of individuals share territory in resources. We need to define common norms of behaviour. This is true whether we are speaking of a family, small town, a province or country, or the world community. However, the definition of common norms of behaviour is not in itself sufficient for the creation of a body of rules and regulation.

To operate effectively, certain basic conditions must be fulfilled: the existence of a general will among members of the community to accept and adhere to regulations; the existence of a political framework not only for defining and quantifying common behaviour or norms, but also for adopting existing rules to change within the community; a means of determining compliance with international rules and regulations; and, finally, the means for enforcement.

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World Association of World
Federalists
WCED Public Hearing
Ottawa, 26-27 May 1986

64. Recognition by states of their responsibility to ensure adequate environments for present as well as future generations is an important step towards sustainable development. However, progress towards sustainable development will also be facilitated by recognition of, for example, the right to know and have access to current information on the state of the environment and natural resources, the right to be consulted and to participate in decision making on activities likely to have a significant effect on the environment, and the right to legal remedies and redress for those whose health or environment has or may be seriously affected.

65. The enjoyment of any right requires respect for the similar rights of others, and recognition of reciprocal and even joint responsibilities. The responsibilities of states towards their own citizens and other states should include the following:

- * to maintain ecosystems and related ecological processes essential for the functioning of the biosphere;
- * to maintain biological diversity by ensuring the survival and promoting the conservation in their natural habitats of all species of flora and fauna;
- * to observe the principle of optimum sustainable yield in the exploitation of living natural resources and ecosystems;
- * to prevent or abate significant environmental pollution or harm;
- * to establish adequate environmental protection standards;
- * to undertake or require prior assessments to ensure that major new policies, projects, or technologies contribute to sustainable development; and
- * to make all relevant information public without delay in all cases of harmful or potentially harmful releases of pollutants, especially radioactive releases.^{23/}

66. As an essential part of the transition to sustainable development, it is recommended that governments take appropriate steps to recognize these reciprocal rights and responsibilities. However, the wide variation in national legal systems and practices makes it impossible to propose an approach that would be valid for all countries. Some countries have amended their basic laws or Constitution; others are considering the adoption of a special national law or Charter setting out the rights and responsibilities of citizens and the

state regarding environmental protection and sustainable development. Others may wish to consider the designation of a national Council or public representative or 'ombudsman' to represent the interests and rights of present and future generations and act as an environmental watchdog, alerting governments and citizens to any emerging threats.

3.2. A Universal Declaration and a Convention on Environmental Protection and Sustainable Development

67. One of the major achievements of the United Nations was the adoption by the General Assembly in 1948 of the Universal Declaration of Human Rights.^{24/} The Assembly proclaimed the Declaration as 'a common standard of achievement for all peoples and all nations' and called upon them to promote and secure the effective recognition and observance of the rights and freedoms in it. Those rights were later consolidated and extended in several binding international Covenants. A special committee of independent experts was established to consider reports by states on measures taken to implement the Covenant on Civil and Political Rights and also to consider communications alleging violations.

68. A similar approach is now needed for the human environment and sustainable development. Building on the 1972 Stockholm Declaration and many existing international Conventions and General Assembly resolutions, there is now a need to consolidate and extend relevant legal principles in a new charter to guide state behaviour in the transition to sustainable development. It would provide the basis for, and be subsequently expanded into, a Convention, setting out the sovereign rights and reciprocal responsibilities of all states on environmental protection and sustainable development. The charter should prescribe new norms for

state and interstate behaviour needed to maintain livelihoods and life on our shared planet, including basic norms for prior notification, consultation, and assessment for activities likely to have an impact on neighbouring states or global commons. These could include the obligation to alert and inform neighbouring states in the event of an accident likely to have a harmful impact on their environment. Although a few such norms have evolved in some bilateral and regional arrangements, the lack of wider agreement on such basic rules for interstate behaviour undermines both the sovereignty and economic development potential of each and all states.

69. We recommend that the General Assembly commit itself to preparing a universal Declaration and later a Convention on environmental protection and sustainable development. A special negotiating group could be established to draft a Declaration text for adoption in 1988. Once it is approved, that group could then proceed to prepare a Convention, based on and extending the principles in the Declaration, with the aim of having an agreed Convention text ready for signature by states within three to five years. To facilitate the early launching of that process, the Commission has submitted to the General Assembly a number of draft principles embodied in 22 Articles, which were prepared by its group of international legal experts. A summary of those Articles is annexed to this report.

3.3. Strengthen and Extend Existing International Conventions and Agreements

70. In parallel, governments should accelerate their efforts to strengthen and extend existing and more specific international Conventions and cooperative arrangements by:

- * acceding to or ratifying existing global and regional Conventions dealing with environment and development, and applying them with more vigour and rigour;
- * reviewing and revising those relevant Conventions that need to be brought in line with the latest available technical and scientific information;
- * negotiating new global and regional Conventions or arrangements aimed at promoting cooperation and coordination in the field of environment and development (including, for example, new conventions and agreements on climate change, on hazardous chemicals and wastes, and on preserving biological diversity).

3.4 Avoiding and Settling Environmental Disputes

71. Many disputes can be avoided or more readily resolved if the principles, rights, and responsibilities cited earlier are built into the national and international legal frameworks and are fully respected and implemented by many states. Individuals and states are more reluctant to act in a way that might lead to a dispute when, as in many national legal systems, there is an established and effective capacity as well as ultimately binding procedures for settling disputes. Such a capacity and procedures are largely lacking at the international level, particularly on environmental and natural resource management issues.^{25/}

72. It is recommended that public and private organizations and NGOs help in this area by establishing special panels or rosters of experts with experience in various forms of dispute settlement and special competence on the legal and substantive aspects of

Law does not stand alone. It depends on the functioning of many things. Experience from the past 15 years of development has taught us that there is a danger that bureaucracy with all its strength coming from the West, in Indonesia's case because of the oil and gas revenues, will strangle the community with so many laws. They have, for instance, laws that ask every gathering of five or more people to have permission from the police. Sometimes I feel that maybe the best government is the one who governs the least. In this case, I feel that sometimes the Asian countries learn from each other.

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Jakarta, 26 March 1985

environmental protection, natural resources management, and sustainable development. In addition, a consolidated inventory and referral system or network for responding to requests for advice and assistance in avoiding or resolving such disputes should be established.

73. To promote the peaceful and early settlement of international disputes on environmental and resource management problems, it is recommended that the following procedure be adopted. States should be given up to 18 months to reach mutual agreement on a solution or on a common dispute settlement arrangement. If agreement is not reached, then the dispute can be submitted to conciliation at the request of any one of the concerned states and, if still unresolved, thereafter to arbitration or judicial settlement.

74. This proposed new procedure raises the possibility of invoking a binding process of dispute settlement at the request of any state party. Binding settlement is not the preferred method for settling international disputes. But such a provision is now needed not only as a last resort to avoid prolonged disputes and possible serious environmental damage, but also to encourage and provide an incentive for all parties to reach agreement

within a reasonable time on either a solution or a mutually agreed means, such as mediation, for reaching a solution.

75. The capabilities of the Permanent Court of Arbitration and the International Court of Justice to deal with environmental and resource management problems also should be strengthened. And states should consider making greater use of the World Court's capacity under Article 26 of its Statute to form special chambers for dealing with particular cases or categories of cases, including environmental protection or resource management cases. The Court has declared its willingness and readiness to deal with such cases fully and promptly.

4. Assessing Global Risks

76. The future - even a sustainable future - will be marked by increasing risk.^{26/} The risks associated with new technologies are growing.^{27/} The numbers, scale, frequency, and impact of natural and human-caused disasters are mounting.^{28/} The risks of irreversible damage to natural systems regionally (for example through acidification, desertification, deforestation) and globally (through ozone layer depletion or climate warming) are becoming significant.^{29/}

77. Fortunately, the capacity to monitor and map Earth change and to assess risk is also growing rapidly. Data from remote sensing platforms in space can now be merged with data from conventional land-based sources. Augmented by digital communications and advanced information analysis, photos, mapping, and other techniques, these data can provide up-to-date information on a wide variety of resource, climatic, pollution, and other variables. High-speed data communications technologies, including the personal computer, enable

this information to be shared by individuals as well as corporate and governmental users at costs that are steadily falling. Concerted efforts should be made to ensure that all nations gain access to them and the information they provide (see Chapter 10).^{30/}

78. Governments, individually and collectively, have the principal responsibility to collect this information systematically and use it to assess risks, but to date only a few have developed a capacity to do so. Some intergovernmental agencies have a capacity to collect and assess information required for risk assessment, such as FAO on soil and forest cover and on fisheries; WMO on climate; IUCN on species and habitats; UNEP on deserts, pollutants, and regional seas. These are only a few examples from a long list. But no intergovernmental agency has been recognized as the centre of leadership to stimulate work on risk assessment and to provide an authoritative source of reports and advice on evolving risks. This gap needs to be filled both within and among governments. The Commission has proposed that the global environment assessment and reporting functions of UNEP (Earthwatch) should be significantly strengthened and receive the major priority in the allocation of staff and resources. The Commission would now propose that UNEP (Earthwatch) be recognized as the centre of leadership on risk assessment in the U.N. system.

79. To be effective, given the politically sensitive nature of many of the most critical risks, inter-governmental risk assessment needs to be supported by independent capacities outside of government. Several national science academies and international scientific groups (such as the International Council of Scientific Unions and the Special Committee on Problems of the Environment), special programmes such as the newly inaugurated International Geosphere Biosphere Project

(see Chapter 10), the International Federation of Institutes for Advanced Study through its various networks, quasi-governmental bodies such as IUCN and certain industry groups and NGOs are active in this field. But, again, there is no recognized international non-governmental centre of leadership through which the efforts of these groups can be focused and coordinated.

80. In addition, a number of other institutions, public and private, are beginning to develop sophisticated approaches including models, to assess economic and ecological interdependencies at various levels and to synthesize them in terms increasingly useful for policy development, especially strategic planning.^{31/}

81. During the 1970s, the growing capacity of computers led various governments, institutes, and international bodies to develop models for integrated policy analysis. They have provided significant insights and offer great promise as a means of anticipating the consequences of interdependent trends and policy options to address them.^{32/} Without suggesting any relationship between them, early attempts were all limited by serious inconsistencies in the methods and assumptions employed by the various sources on which they depended for data and information.^{33/} Although significant improvements have been made in the capability of models and other techniques, the data base remains weak.^{34/}

82. There is an urgent need to strengthen and focus the capacities of these and other bodies to provide timely, objective, and authoritative assessments and public reports on critical threats and risks to the world community. To meet this need, we recommend the establishment of a Global Risks Assessment Programme:

- * to identify critical threats to the survival, security, or well-being of all or a majority of people, globally or regionally;
- * to assess the causes and likely human, economic, and ecological consequences of those threats, and to report regularly and publicly on their findings;
- * to provide authoritative advice and proposals on what should or must be done to avoid, reduce, or, if possible, adapt to those threats; and
- * to provide advice and support to governments and intergovernmental organizations for the implementation of programmes and policies designed to address such threats.

83. The Global Risk Assessment Programme would not require the creation of a new international institution as such, as it should function largely as a mechanism for cooperation among existing national and international institutions, scientific bodies, and industry groups largely of a non-governmental character. To provide intellectual leadership and guide the programme, there should be a steering group composed of eminent individuals who together would reflect a broad cross-section of the major areas of knowledge, vocations, and regions of the world, as well as the major bodies active in the field.

84. The steering group would serve as the focal point for deciding on the risks to be addressed by the programme, agreeing on the research needed to assess those risks, and coordinating the work among the various participating bodies. It could form special consortia and task forces made up of experts from these bodies and it would also establish special expert and advisory

groups consisting of world-known authorities in specialized areas of science, economics, and law. The steering group would be responsible for the overall evaluation of results, for their dissemination to governments, intergovernmental organizations, and the public, and for follow-up activities.

85. The steering group would also be charged with helping mobilize funds for implementing the programme through voluntary contributions by states, foundations, and other private sources. Funding would principally be for the purpose of financing the various activities that would be carried out by other organizations as part of the programme, with only a small portion required to meet the costs of the steering group.

5. Making Informed Choices

86. As is evident from this report, the transition to sustainable development will require a range of public policy choices that are inherently complex and politically difficult. Reversing unsustainable development policies at the national and international level will require immense efforts to inform the public and secure its support. The scientific community, private and community groups, and NGOs can play a central role in this.

5.1 Increase the Role of Scientific and Non-Governmental Organizations

87. These groups have played a major part in the environmental movement from its earliest beginnings.^{35/} Scientists were the first to point out evidence of significant environmental risks and changes resulting from the growing intensity of human activities. Other non-governmental organizations and

citizen groups pioneered in the creation of public awareness and political pressures that stimulated governments to act. Scientific and non-governmental communities played a vital role in the United Nations Conference on the Human Environment in Stockholm.^{36/}

88. These groups have also played an indispensable role since the Stockholm Conference in identifying risks, in assessing environmental impacts and designing and implementing measures to deal with them, and in maintaining the high degree of public and political interest required as a basis for action. Today, major national 'State of the Environment' reports are being published by some NGOs (in Malaysia, India, and the United States, for instance).^{37/} Several international NGOs have produced major global reports on the status of and prospects for the global environment and natural resource base.^{38/}

89. The vast majority of these bodies are national or local in nature, and a successful transition to sustainable development will require substantial strengthening of their capacities. To an increasing extent, national NGOs draw strength from association with their counterparts in other countries and from participation in international programmes and consultations. NGOs in developing countries are particularly in need of international support to carry out their roles effectively - professional and moral support as well as financial support.

90. Many international bodies and coalitions of NGOs are now in place and active. They play an important part in ensuring that national NGOs and scientific bodies have access to the support they require. These include regional groups providing networks linking together environment and development NGOs in Asia, Africa, Eastern

If the NGO community is to translate its commitment to sustainable development into effective action, we will need to see a matching level of commitment from the governmental and intergovernmental communities, in genuine partnership with NGOs. The success and cost-effectiveness of NGO action is to an important degree a function of their spontaneity and freedom of action.

Both among NGOs and amongst governments, we must find ways to engender a new period of international cooperation. The urgency of our tasks no longer permits us to spill our energies in fruitless and destructive conflict. Whilst we fight our wars of ideology on the face of this planet, we are losing our productive relationship with the planet itself.

David Bull
Environmental Liaison Centre
WCED Public Hearing
Nairobi, 23 Sept 1986

and Western Europe, and North and South America. They also include a number of regional and global coalitions on critical issues such as pesticides, chemicals, rain, seeds, genetic resources, and development assistance. A global network for information exchange and joint action is provided through the Environment Liaison Centre (ELC) in Nairobi. ELC has over 230 NGO member groups, with the majority from developing countries, and is in contact with 7,000 others.

91. Only a few international NGOs deal on a broad basis with both environment and development issues, but this is changing rapidly. One of them, the International Institute for Environment and Development (IIED), pioneered the conceptual basis for the environment/development relationship under the leadership of its first president, Lady Jackson (Barbara Ward). All of them work with and support related organizations in the developing world. They facilitate their participation in international activities and their links with counterparts in the international community. Most have modest secretariats and budgets, often much smaller than many of the national organizations involved in their

activities and programmes. Nevertheless, they provide instruments for leadership and cooperation among a wide variety of organizations in their respective constituencies. These capabilities will be ever more important in the future. An increasing number of environment and development issues could not be dealt with without them.

92. There is tremendous scope for NGOs to increase their own effectiveness. They have a major responsibility to overcome the obstacles in their path but they will be successful only if their actions attract the increased support of governments, foundations, and industry.

93. NGOs should give a high priority to the continuation of their present networking on development cooperation projects and programmes, directed at the improvement of the performance of NGO bilateral and multilateral development programmes. They could increase their efforts to share resources, exchange skills and strengthen each others' capacities through greater international cooperation in this area. In setting their own house in order, 'environmental' NGOs should assist 'developmental' NGOs in reorienting projects that degrade the environment and in formulating projects that contribute to sustainable development. The experience gained would provide a useful basis for continuing discussions with bilateral and multilateral agencies as to steps that these agencies might take to improve their performance.

94. Action by governments, foundations, and the bilateral and multilateral agencies, however, is crucial for improved working partnerships between NGOs and other members of the international community. In many countries, governments need to recognize and extend their

right to know and have access to information on the environment and natural resources; their right to be consulted and to participate in decision making on activities likely to have a significant effect on their environment; and their right to legal remedies and redress when their health or environment has been or may be seriously affected.

95. NGOs, private, and community groups can often provide an efficient and effective alternative to public agencies in the delivery of programmes and projects. Moreover, they can sometimes reach target groups that public agencies cannot. Bilateral and multilateral development assistance agencies, especially UNDP and the World Bank, should work more with and through NGOs in executing programmes and projects. At the national level, governments, foundations, and industry could also greatly extend their use of NGOs. To this end, governments should establish or strengthen procedures for official consultation and more meaningful participation of capable and qualified NGOs in all relevant intergovernmental organizations.

96. International NGOs need substantially increased financial support to expand their special roles and functions on behalf of the world community. In the Commission's view, the increased support that will allow these organizations to expand their services represent an indispensable and cost-effective investment. The Commission recommends that these organizations be accorded high priority by governments, foundations, and other private and public sources of funding.

5.2 Increase Cooperation with Industry

97. Industry is on the leading edge of the interface between people and the environment. It is perhaps the

main instrument of change that affects the environmental resource basis of development, both positively and negatively (see Chapter 8). Both industry and government, therefore, stand to benefit from working more closely together.

98. World industry has taken some significant steps through voluntary guidelines concerning industry practices on environment, natural resources, science, and technology. Although few of these guidelines have been extended to or applied regionally in Africa, Asia, or Latin America, industry continues to address these issues through various international associations.

99. These efforts were advanced significantly by the World Industry Conference on Environmental Management.^{39/} They would be further facilitated if governments and industry, especially in Africa, Asia, and Latin America, would establish joint advisory councils for sustainable development - for mutual advice, assistance, and cooperation in helping to shape and implement policy, laws, and regulations for more sustainable forms of development. Internationally, governments in cooperation with industry and NGOs should work through appropriate regional organizations to develop basic codes of conduct for sustainable development, drawing on and extending relevant existing voluntary codes.

6. Investing in Our Future

100. The costs of sustaining our environmental and resource assets must be paid out of production. But these costs need to be paid only once. One initial charge, that of anticipating and preventing damage from economic activities, is what nations need to impose on their public enterprises, industries, and

municipalities. That way, not only do they ensure that these basic assets are available to support future growth but they also find that the ultimate burden on their economy is much less.

101. By the late 1960s, when some industrial countries began to mount significant environmental protection programmes, they had already incurred heavy economic costs in the form of damage to human health, property, natural resources, and the environment. After 1970, in order to roll back some of this damage, they saw expenditures on environmental pollution measures alone rise from about 0.3 per cent of GNP in 1970 to somewhere between 1.5 per cent and, in some countries, 2.0 per cent around the end of the decade. Assuming low levels of economic growth in the future, these same countries will probably have to increase expenditures on environmental protection somewhere between 20 to 100 per cent just to maintain current levels of environmental quality.^{40/}

102. These figures relate only to expenditures to control environmental pollution. Unfortunately, similar figures are not available on the level of expenditures made to rehabilitate lands and natural habitats, re-establish soil fertility, reforest areas, and undertake other measures to restore the resource base. But they would be substantial.

103. Nations, industrial and developing, that did not make these investments have paid much more in terms of damage costs to human health, property, natural resources, and the environment. And these costs continue to rise at an accelerating pace. Indeed, countries that have not yet instituted strong programmes now face the need for very large investments. Not only do they need to roll back the first generation of environmental damage, they also need to begin to catch up with the

First, if the problems of environmental degradation and of poverty, particularly in the Third World, are to be solved, a continued economic development is essential. Second, we must reconcile environmental protection with economic growth. There is a growing consensus that this is perfectly possible and desirable. Third, there is also a great consensus that the application of strict environmental standards is good for economic growth, as well as for the environment, and that they encourage innovation, promote inventiveness and efficiency, and generate employment. Fourth, to achieve the goals of sustainable development, good environment, and decent standards of life for all involves very large changes in attitude.

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European Economic Community
WCED Public Hearing
Oslo, 24-25 June 1985

rising incidence of future damage. If they do not, their fundamental capital assets, their environmental resources, will continue to decline.

104. In strictly economic terms, the benefits of these expenditures have been generally greater than the costs in those countries that have made them.^{41/} Beyond that, however, many of these countries found that economic, regulatory, and other environmental measures could be applied in ways that would result in innovation by industry. And those companies that did respond innovatively are today often in the forefront of their industry. They have developed new products, new processes, and entire plants that use less water, energy, and other resources per unit of output and are hence more economic and competitive.

105. Nations that begin to reorientate major economic and sectoral policies along the lines proposed in this report can avoid much higher future levels of spending on environmental restoration and curative measures and also enhance their future economic prospects. By making

central and sectoral agencies directly responsible for maintaining and enhancing environmental and resource stocks, expenditures for environmental protection and resource management would gradually be built into the budgets of those agencies for measures to prevent damage before it occurred. The unavoidable costs of environmental and resource management would thus be paid only once. Developing countries, however, will need a significant increase in financial support from international sources for environmental restoration, protection, and improvement and to help them through the necessary transition to sustainable development.

106. At the global level, there is an extensive institutional capacity whose efforts are essential for sustainable development. This consists of the United Nations and its specialized agencies; the multilateral development banks, notably the World Bank; other multilateral development cooperation organizations, such as those of the European Economic Community; and national development assistance agencies, most of whom cooperate within the framework of the Development Assistance Committee of OECD or of OPEC. Together, these organizations and agencies are responsible for the transfer of about \$35 billion of Official Development Assistance (ODA) annually to developing countries. In addition, they are the source of most technical assistance and policy advice and support to developing countries.

107. These organizations and agencies are the principal instrument through which the development partnership between industrial and developing countries operates and, collectively, their influence is substantial and pervasive. It is imperative that they play a leading role in helping developing countries to make the transition to sustainable development. Indeed, it is

difficult to envisage developing countries making this transition in an effective and timely manner without their full commitment and support.

6.1 Reorienting Bilateral Aid Agencies

108. Bilateral aid agencies provide by far the largest part of ODA through grants, concessional loans, and technical assistance to developing countries. Today, nearly four times as much of the total ODA is through bilateral aid agencies than is provided through international organizations.

109. A new priority and focus in bilateral aid agencies is needed in three main areas: new measures to ensure that all projects support sustainable development; special programmes to help restore, protect, and improve the ecological basis for development in many developing countries; and special programmes for strengthening the institutional and professional capacities needed for sustainable development within and among developing countries.

110. Proposals for special bilateral aid programmes in the areas of agriculture, forestry, energy, industry, human settlements, and genetic resources are made in earlier chapters of our report. The first two priority areas in this Chapter also contain proposals for strengthening the institutional and professional capacities in developing countries. We therefore focus here on the first area: new measures to ensure that all bilateral aid projects support sustainable development.

111. Over the past decade, bilateral aid agencies have gradually given more attention to the environmental dimensions of their programmes and projects. A 1980 survey of the environmental procedures and practices of

six major bilateral aid agencies indicated that only one agency, USAID, had systematic and enforceable procedures backed by the staff resources necessary to carry them out.^{42/} Since then, others have made some progress on the policy level, increased funds for environmental projects, and produced guidelines or checklists to guide their programmes. However, a 1983 study of those guidelines concluded that there was little evidence of their systematic application.^{43/}

112. An important step towards concerted action was taken in 1986 with the adoption by OECD of a recommendation to member governments to include an environmental assessment policy and effective procedures for applying it in their bilateral aid programmes.^{44/} It is based on a detailed analysis and studies carried out by a joint group of governmental experts from both the Development Assistance Committee and the Environmental Committee.^{45/} The recommendation includes proposals for adequate staff and financial resources to undertake environmental assessments and a central office in each agency to supervise implementation and to assist developing countries wishing to improve their capacities for conduction environmental assessments. *footnote needs checking*

113. We urge all bilateral aid agencies to implement this recommendation as quickly as possible, as it will certainly help reduce the risk and incidence of assistance programmes contributing to development that reduces rather than increases the economic potential of a country. While providing a better basis for avoiding environmental damage, that work within and among bilateral aid agencies needs to be further accelerated and extended to ensure that all of their programmes and projects support development policies and practices that are economically and ecologically sustainable over the short and longer term.

We must have a true participation of all of the society in the decision-making and more particularly in the allocation of resources. And why so? Because all of us are perfectly aware that there will never be sufficient resources for everything that we wish, but if the population participates in the decision making it will benefit those who need the most and it will express their thought about the allocation of resources and it will give us the certainty that that which is being done is the legitimate aspiration of the people.

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National Council for Urban
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WCED Public Hearing
Brasilia, 30 Oct 1985

6.2. Reorienting Multilateral Financial Institutions

114. The World Bank, IMF, and the Regional Development Banks also warrant special attention because of their major influence on economic development throughout the world. The role of the World Bank is especially important in this respect, both as the largest single source of development lending and for its policy leadership, which exerts a significant influence on both developing countries and donors. The World Bank has taken a significant lead in reorienting its lending programmes to a much higher sensitivity to environmental concerns and to support for sustainable development. This is a promising beginning. But it will not be enough unless and until it is accompanied by a fundamental commitment to sustainable development as the central goal of the World Bank and the transformation of its internal structure and processes so as to ensure its capacity to carry this out. The same is true of other multilateral development banks and agencies.

115. The IMF also exerts a major influence on the development policies of developing countries, particularly through the conditions that accompany its lending. It is therefore most important that the IMF, too, incorporate sustainable development objectives and criteria into its policies and programmes.

116. Several countries have already formally instructed their representatives on the Board of the World Bank to ensure that the environmental impacts of projects proposed for approval have been assessed and adequately taken into account. We recommend that other governments take similar action, not only with regard to the World Bank but also the Regional Banks and the other institutions. In this way they can support the ongoing efforts within the Banks and other institutions to reorient and refocus their mandates, programmes, and budgets to support sustainable development. The transition to sustainable development by the development assistance agencies and the IMF would be facilitated by the establishment of a high-level office in each agency with the authority and resources to ensure that all policies, projects, and loan conditions support and lead to sustainable development, and to prepare and publish annual assessments and reports on progress made and needed.

117. In making these changes, the multilateral financial institutions fortunately have some base on which to build. In 1980, the multilaterals endorsed a Declaration of Environmental Policies and Procedures Relating to Economic Development. Since then they have been meeting and consulting through the Committee of International Development Institutions on the Environment (CIDIE).^{46/} Some have articulated clear policies and project guidelines for incorporating environmental concerns and assessments into their planning and decision making, but only a few have assigned staff and resources to implementing them, notably the World Bank, which is now considering even further institutional changes to strengthen this work. Overall, as pointed out by the UNEP Executive Director in his statement reviewing the first five years of work, 'CIDIE has not yet truly

succeeded in getting environmental considerations firmly ingrained in development policies. There has been a distinct lack of action by several multilaterals.' CIDIE members have 'gone along with the Declaration in principle more than in major shifts in Action.'^{47/}

118. We have put forward major proposals for action in several areas: international economic relations, food security, conservation, energy, industry, human settlements. Many of these proposals meet current criteria for funding and can and should be supported by the multilateral or bilateral agencies and the Banks. Many others, however, perhaps especially in the area of resource restoration and conservation, although economically viable, may have too long a payout period to attract funds from present sources. In order to marshal and support investments in conservation projects that enhance the resource base for development, serious consideration should be given to the development of a special international banking programme or facility.

119. A special conservation banking programme or facility could provide loans and facilitate co-financing arrangements for the development and protection of critical habitats and ecosystems, including those of international significance, supplementing efforts by bilateral aid agencies, multilateral financial institutions, and commercial banks. It might be linked to the World Bank and would need to develop close working relations and links with both public and private banks. The discussions on the launch of such a facility have been encouraging, and we hope that appropriate methods of procedure for this unique venture can be examined, tested, and acted upon as soon as possible.^{48/}

6.3 New Sources of Revenue and Automatic Financing

120. Although the funds flowing to developing countries through United Nations programmes represents a relatively small portion of total ODA flows, the UN can and should be a source of significant leadership in the transition to sustainable development and in support of developing countries in effecting this transition. Despite the fact that under existing conditions the UN system's influence is often fragmented and less effective than it might be because of the independent character of the specialized agencies and endemic weaknesses of coordination, recent moves towards organizational reform and greater economy and efficiency could improve the capacity of the UN to provide this leadership.

121. We have made a series of proposals for institutional change within and among the organizations and specialized agencies of the UN system in the sections on Getting at the Sources and Dealing with the Effects. Most of those changes will not require additional financial resources but can be achieved through a reorientation of existing mandates, programmes, and budgets and a redeployment of present staff. Once implemented, those measures will make a major difference in the effective use of existing resources in making the transition to sustainable development.

122. Nevertheless, there is also a need to increase the financial resources for new multilateral efforts and programmes of action for environmental protection and sustainable development. These new funds will not be easy to come by if the international organizations through which they flow have to continue to rely solely on traditional sources of financing: assessed contributions from governments, voluntary contributions

The problems of today do not come with a tag marked energy or economy or CO₂ or demography, nor with a label indicating a country or a region. The problems are multi-disciplinary and transnational or global.

The problems are not primarily scientific and technological. In science we have the knowledge and in technology the tools. The problems are basically political, economic, and cultural.

Per Lindblom
International Federation of
Institutes of Advanced Studies
WCED Public Hearing
Oslo, 24-25 June 1985

by governments, and funds borrowed in capital markets by the World Bank and other international financial institutions.

123. Given the current constraints on major sources and modes of funding, it is necessary to consider new approaches as well as new sources of revenue for financing international action in support of sustainable development. The Commission recognizes that such proposals may not appear politically realistic at this point in time. It believes, however, that - given the trends discussed in this report - the need to support sustainable development will become so imperative that political realism will come to require it.

124. Assessed contributions from governments have traditionally been used largely for the administrative and operating costs of international organizations; they are not intended for multilateral assistance. The total assessed contributions from governments are much smaller than the amount provided through voluntary contributions and prospects of raising significant additional funds through assessed contributions and prospects of raising significant additional funds through assessed contributions are limited.

125. Voluntary contributions by governments give the overall revenue system some flexibility, but they cannot be adjusted readily to meet new or increased requirements. Being voluntary, the flow of these funds is entirely discretionary and unpredictable. The commitments are also extremely short-term, as pledges are normally made only one or two years in advance. Consequently, they provide little security or basis for effective planning and management of international actions requiring sustained, longer-term efforts. Most of the limited funds provided so far for international environmental action have come through voluntary contributions, channelled principally through UNEP and NGOs.

126. The search for other, and especially more automatic, sources and means for financing international action goes almost as far back as the United Nations itself. It was not until 1977, however, when the Plan of Action to Combat Desertification was approved by the United Nations General Assembly that governments officially accepted, but never implemented, the principle of automatic transfers. That Plan called for the establishment of a special account that could draw its resources not only from traditional sources but also from 'additional measures of financing, including fiscal measures entailing automaticity'.^{49/}

127. Since then, there have been a series of studies and reports that identified and examined a growing list of new sources of potential revenue, including:

- * revenue from the use of international commons (from ocean fishing and transportation, from sea-bed mining, from Antarctic resources, or from parking charges for geostationary communications satellites, for example);

- * taxes on international trade (such as a general trade tax; taxes on specific traded commodities, on invisible exports, or on surpluses in balance of trade; or a consumption tax on luxury goods); and
- * international financial measures (a link between special drawing rights and development finance, for example, or IMF gold reserves and sales).^{50/}

128. In its 1981 report, the Brandt Commission called for raising additional funds from more automatic sources such as those cited above. In its follow-up report in 1983, the Brandt Commission strongly urged that these 'most "futuristic" of all the Report's proposals' not be lost completely from view.^{51/} Nevertheless, they again sank below the short-term horizon of the international agenda.

129. The World Commission on Environment and Development was specifically given the mandate by the United Nations General Assembly to look once again beyond that limited horizon. We have done so and, given the compelling nature, pace, and scope of the different transitions affecting our economic and ecological systems as described in this report, we consider that at least some of those proposals for additional and more automatic sources of revenue are fast becoming less futuristic and more urgent. This Commission particularly considers and recommends that the proposals regarding revenue from the use of international commons and natural resources now warrant and should receive serious consideration by governments and the General Assembly.

130. It is already a well-established practice within most countries that those using public lands or resources pay a fee or rental (for extracting timber or minerals, for fishing and hunting licences, and so on) or a

user-charge (such as national park entry fees or boating licences). Often this revenue is used for protecting and improving the same area or resource being used. Similar practices and charges for the use of global commons and natural resources should now be seriously considered. They are technically feasible, and the Law of the Sea Convention already includes provisions for generating revenue from and for the exploration and exploitation of sea-bed minerals.^{52/} Others have not been put in place in spite of the fast increasing need for additional revenue for expanded international programmes for environmental protection and sustainable development.

131. The principal obstacle is the lack of political will among states, in spite of the fact that states would still retain their collective authority over how the additional revenue is allocated and spent. But there are global imperatives beyond national political reticence, as succinctly and graphically put by Barbara Ward.^{53/} After stimulating and leading the global environment debate through most of the 1970s, she addressed in one of the last articles written before her death the question of a new world system for generating additional revenue; she concluded:

No Nation has even half way peacefully entered the modern world without a progressive income tax. We have no reason to suppose our small planet is any other condition. Automatic transfers must come. Otherwise we live on in an order of privilege and patronage. Such orders, as we know from history, simply do not last.

CHAPTER 12 - FOOTNOTES

- 1/ The characteristics and differences of the two approaches are described in our inaugural report, 'Mandate for Change: Key Issues, Strategy and Workplan', Geneva, 1985,.
- 2/ 'Environmental Programme of the Netherlands 1986-1990', Ministry of Housing, Physical Planning and Environment/Ministry of Agriculture and Fisheries/Ministry of Transport and Water Management, The Hague, The Netherlands, 1985).
- 3/ L. G. Uy, 'Combating the Notion of Environment as Additionality: A study of the Integration of Environment and Development and a Case for Environmental Development as Investment,' Ph.D. Thesis, Centre for Environmental Studies, University of Tasmania, Hobart, Tasmania, 1985.
- 4/ OECD, Environment and Economics, Results of the International Conference on Environment and Economics (Paris: 1985).
- 5/ OECD, 'The Impact of Environmental Policies on Industrial Innovation', Environment and Economics, Issue Papers to International Conference on Environment and Economics, Session 4, (Paris: 1984).
- 6/ R. Bertrand, 'Some Reflections on Reform of the United Nations', Joint Inspection Unit, United Nations, Geneva, 1985.
- 7/ V. Fernando, 'Development Assistance, Environment and Development', commissioned paper prepared for WCED, Geneva, 1985.
- 8/ 'List of Projects with Possible Environmental Issues' transmitted to Congress by U.S. Agency for International Development, 1987, as included in Public Law 99-591.
- 9/ Bankrolling Disasters: International Development Banks and the Global Environment (San Francisco, Calif.: Sierra Club, 1986); 'List of Projects with Possible Environmental Issues' USAID, op. cit.
- 10/ Fitzgerald, 'The US Debate over the Environmental Performance of Four Multilateral Development Bank', Synopsis in (reference being checked), (Washington, DC?: WWF).

- 11/ L. Gagnon, Union Quebecoise pour la Conservation de la Nature, Quebec, 'Pour Une Revision des Sciences Economiques', paper submitted to WCED Public Hearings, 1986. See also the review of the state-of-the art concerning natural resource accounts, including detailed case studies from Norway and France, in OECD, Information and Natural Resources (Paris: 1986).
- 12/ T. Friend, 'Natural Resource Accounting and its Relationship with Economic and Environmental Accounting', Statistics Canada, Ottawa, September 1986.
- 13/ The need for an explicit 'foreign policy for environment' was raised in different ways in the discussion at many WCED public hearings, but originally in a joint submission by Nordic NGOs to the third session of the WCED, Oslo, June 1985.
- 14/ See 'Report of the Secretary-General: Technical and Economic Aspects of International River Basin Development', UN E/C.7/35, New York, 1972. An updated list of relevant international agreements was provided by the IUCN Environmental Law Centre. See also Department of Technical Cooperation for Development, Experiences in the Development and Management of International River and Lake Basins, Proceedings of the UN Interregional Meeting of International River Organizations held at Dakar, Senegal, in May 1981 (New York: United Nations, 1983).
- 15/ See 'Restructuring of the Economic and Social Sectors of the United Nations system', General Assembly resolution 32/197, 20 December 1977.
- 16/ OECD, Environment and Economics, op. cit.
- 17/ In 1982, there were environment and natural resource management agencies operating in 144 countries. At the time of the 1972 Stockholm Conference, only 15 industrial countries and 11 developing countries had such agencies. World Environment Centre, World Environment Handbook (New York: 1985).
- 18/ The Environment Coordination Board was abolished in 1977 and its functions assumed by the Administrative Committee on Coordination (ACC). See General Assembly Resolution 32/197, Annex, para 54. The ACC subsequently established a Committee of Designated Officials for Environmental Matters (DOEM).
- 19/ In addition to the Environment Fund there were 18 special Trust Funds with contributions totalling \$5-6 million in 1985. See UNEP, 1985 Annual Report (Nairobi: 1986).

- 20/ Ibid., Annex U, Table 1.
- 21/ Ibid., Annex U, Table 8.
- 22/ United Nations, Report of the United Nations Conference on the Human Environment, document A/Conf.48/14/Rev 1, Chapter 1 (New York: 1972).
- 23/ These and other principles have been developed as proposed Articles for a Convention in the report to WCED by its Experts Group on Environmental Law. Their report also contains a commentary on the legal precedents and references for each Article. See Legal Principles for Environmental Protection and Sustainable Development (Dordrecht, The Netherlands: Martinus Nijhoff, 1987).
- 24/ See United Nations Action in the Field of Human Rights (New York: United Nations, 1980).
- 25/ For an overview of dispute settlement procedures, mechanisms, and needs, see R.E. Stein and G. Grenville-Wood, Environmental Mediation International, Washington, DC, 'The Settlement of Environmental Disputes: A Forward Look', prepared for WCED, 1985.
- 26/ J. Urquhart and K. Heilmann, Risk Watch: The Odds of Life (Bicester, UK: Facts on File, 1984).
- 27/ 'Risk Assessment and Risk Control', Issue Report, Conservation Foundation, Washington, DC, 1985; C. Schweigman et al., '"Agrisk", Appraisal of Risks in Agriculture in Developing Countries', University of Groningen, The Netherlands, 1981.
- 28/ A. Wijkman and L. Timberlake, Natural Disasters: Acts of God and Acts of Man?, International Institute for Environment and Development and the Swedish Red Cross (London: Earthscan, 1984).
- 29/ 'Report of the International Conference on the Assessment of the Role of Carbon Dioxide and of other Greenhouse Gases in Climate Variations and Associated Impact', World Climate Programme, WMO no 661 (Villach, Austria: ICSU, UNEP, WMO, October 1985).
- 30/ For an overview of the current technological capabilities and possibilities, see A. Khosla, Development Alternatives, New Delhi, 'Decision Support Systems for Sustainable Development', prepared for WCED, 1986.

- 31/ IIASA, for example, which brings together scientists from around the world to work on common problems, has recently launched a major project on the Ecological Sustainable Development of the Biosphere. W.C. Clark and R.E. Munn (eds.), 'Sustainable Development of the Biosphere', IIASA, Laxenburg, Austria, 1986.
- 32/ See M.C. McHale et al., Ominous Trends and Valid Hopes: A Comparison of Five World Reports (Minneapolis, Minn.: Hubert Humphrey Institute of Public Affairs, (year)) for a comparison of North-South: A Programme for Survival (Cambridge, Mass.: MIT Press, 1980); World Bank, World Development Report 1980 (Washington, DC: 1980); U.S. Department of State and Council on Environmental Quality, Global 2000 Report to the President: Entering the Twenty-First Century (Washington, DC: U.S. Government Printing Office, 1980); World Conservation Strategy: Living Resource Conservation for Development (Gland, Switzerland: IUCN, UNEP, WWF, FAO, UNESCO, 1980); and OECD, Interfutures: Facing the Future, Mastering the Probable and Managing the Unpredictable (Paris: 1979). See also D. Meadows et al., Groping in the Dark - The First Decade of Global Modelling (Chichester, UK: John Wiley & Sons, 1982) for an analysis of various models.
- 33/ See G.O. Barney, Study Director, Global 2000 Report, op. cit.
- 34/ See OECD, Economic and Ecological Interdependence, op. cit.
- 35/ The importance of involving youth in nature conservation and environmental protection and improvement activities was emphasized in many presentations at WCED Public Hearings in Moscow, in December 1986. See, for example, 'Youth Nature Conservation Movement in the Socialist Countries'
- 36/ For an overview of the role and contribution of NGOs to environment and development action at the national and international levels, see 'NGOs and Environment-Development Issues', report to WCED by the Environment Liaison Centre, Nairobi, 1986. It includes a selection of 20 case studies of successful NGO environmental action around the world.
- 37/ reference to be provided
- 38/ new reference to be provided; see, for example, the annual State of the World report by Worldwatch Institute, the World Resources Report by World Resources Institute and the International Institute for Environment and Development, and the World Conservation Strategy by IUCN)

- 39/ Report of the World Industry Conference on Environmental Management sponsored by the International Chamber of Commerce and UNEP, 1984; see particularly the principles adopted by OECD in 1985 as a clarification of the OECD Guiding Principles for Multinational Enterprises in International Legal Materials, vol 25, No. 1 (1986); see also the presentation to WCED Public Hearings, Oslo, June 1985, on 'World Industry Conference Follow-Up' by the Chairman of the Environment Committee of the International Chamber of Commerce. As a result of the WICEM meeting, the International Environmental Bureau was established in 1986 as a specialized branch of the ICC to promote information exchange on vital environmental concerns among governments, industry, and other groups.
- 40/ 'Environmental Trends, Costs and Policy Issues Through 1990', in OECD, Environment and Economics, Issue Papers, op. cit.
- 41/ OECD, Environment and Economics, Background Papers, op. cit.
- 42/ R.D.G. Johnson and R.O. Blake, Environmental and Bilateral Aid (London: International Institute for Environment and Development, 1980).
- 43/ J. Horberry, Environmental Guidelines Survey: An analysis of Environmental Procedures and Guidelines Governing Development Aid (London and Gland: IIED and IUCN, 1983).
- 44/ 'Environmental Assessment of Development Assistance Projects and Programmes', OECD Council Recommendation C(85)104, (Paris: OECD, 20.6.85); 'Measures Required to Facilitate the Environmental Assessment of Development Assistance Projects and Programmes' OECD Council Recommendation C(86)26 (final) OECD, Paris, 20 November 1986.
- 45/ 'Final Report on Environmental Assessment and Development Assistance' OECD Environment Monograph No 4 (Paris: OECD, 1986). *Footnote needs checking*
- 46/ For a summary report on the work of the Committee of International Development Institutions on the Environment, see UNEP, 1985 Annual Report, op. cit.
- 47/ Statement by Dr Mustafa Tolba, UNEP Executive Director, at the opening of the sixth session of CIDIE, hosted by the Organization of American States, Washington, DC, June 1985.

- 48/ M. Sweatman, International Wilderness Leadership Foundation, 'The World Conservation Bank', submission to WCED Public Hearings, Ottawa, 1986).
- 49/ full UN reference to be added.
- 50/ See for example, E.B. Steinberg and J.A. Yager, 'New Means of Financing International Needs', The Brookings Institution, Washington, DC, 1978; UNEP, 'Additional Measures and Means of Financing for the Implementation of the Plan of Action to Combat Desertification', document UNEP/GC.6/9/Add. 1., 1978; United Nations, 'Study on Financing the United Nations Plan of Action to Combat Desertification: Report of the Secretary-General', General Assembly document A/35/396, 1980; Dag Hammarskjold Foundation 'The Automatic Mobilization of Resources for Development', Development Dialogue, No. 1, 1981; United Nations, 'Study on Financing the Plan of Action to Combat Desertification: Report of the Secretary-General', General Assembly document A/36/141, 1981.
- 51/ Independent Commission on International Development Issues, North-South: A Programme for Survival (London: Pan Books, 1980); Common Crisis, North-South: Co-operation for World Recovery (London: Pan Books, 1983)
- 52/ See the 1982 United Nations Convention on the Law of the Sea, especially part XI.
- 53/ Barbara Ward, 'A World Tax System?' UNITERRA, February 1978.