International Rivers and Lakes

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The law of the non navigational uses of international watercourses, considerations of the subject at the forty-third session of the International Law Commission 1/

At this session, the Commission discussed the inclusion of the word "system", within the text of the draft articles, the inclusion of groundwater, and the question of the notion that a watercourse could have a relative international character. After a discussion on the issues, the Special Rapporteur stated that the Commission had indicated a clear preference for the use of the word "system"; that groundwater should be included in the articles, and that the notion of relativity would seriously interfere with the functioning of the draft articles.

The Commission decided to transmit the draft articles on the law on the non navigational uses of international watercourses to the governments of Member States for comments and observations. Transmittal is to be through the Secretary General, and comments and observations should be submitted to him by 1 January 1993.

A summary of the draft articles, as provisionally adopted by the Commission on first reading, follows:

Introduction

Art. 1. Scope of the articles: The articles apply to uses of international watercourses other than navigation, and to conservation measures related to the use of the watercourses and their waters; navigational uses are outside the scope of the articles, except in so far as other uses are affected by navigation or navigation affects them.

Art. 2. Use of terms: "institutional watercourse" is a watercourse, parts of which are situated in different states; "watercourse" is a system of surface and underground waters, constituting a unitary whole, and flowing into a common terminus; "watercourse state" is a state in whose territory part of an international watercourse is situated.

Art. 3. Watercourse agreements: Watercourse states can enter into "watercourse agreements", whereby the provisions of the proposed articles are applied and adjusted to the characteristics and uses of a particular international watercourse, or parts thereof.

A watercourse agreement shall define the waters to which it applies. It can comprise an entire international watercourse or parts thereof, or a particular project, programme or use, provided that the agreement does not adversely affect, to an appreciable extent, the use by one or more other watercourse states of the waters of the watercourse.

1/ From the report of the International Law Commission on the work of its forty-third session, 29 April - 19 July 1991, General Assembly, official records: Forty-sixth session Supplement No. 10 (A/46/10).

The conclusion of a watercourse agreement shall be consulted and negotiated in good faith.

Art. 4. Parties to watercourse agreements: Watercourse states are entitled to participate in the negotiations of, and to become a party to, any watercourse agreement that applies to the entire watercourse, as well as to participate in any relevant consultations. If the implementation of a watercourse agreement applies to only a part of the watercourse, or to a particular project, programme or use which might affect to an appreciable extent the uses that a watercourse state makes of the watercourse, that state is authorized to participate in consultations and negotiations related to such agreement, to the extent that its use is thereby affected, and to become a party thereto.

General principles

Art. 5. Equitable and reasonable use and participation: Watercourse states shall, in their respective territories, utilize an international watercourse in an equitable and reasonable manner. Such utilization and development shall be carried out with a view to attaining optimal utilization. Benefits shall be consistent with adequate protection of the watercourse. Participation in the use, development and protection of an international watercourse shall be reasonable and equitable. Participation includes both the right to utilize the watercourse and the duty to cooperate in its development and protection, as provided by the articles of the proposal.

Art. 6. Utilization of an international watercourse in a reasonable and equitable manner requires taking into account all relevant factors and circumstances including: natural factors such as ecological, climatic and hydrological conditions; socioeconomic needs of the concerned watercourse states; effects of use or uses on other watercourse states; existing and potential uses of the watercourse; conservation, protection, development and economy of use of the water resources of the watercourse and the cost of measures taken to that effect; and the availability of alternatives, of corresponding value, to a particular planned or existing use.

The application of articles 5 and 6 para. 1 shall be done, if needed and in the spirit of cooperation, through consultations.

Art. 7. Obligation not to cause appreciable harm: The utilization of an international watercourse shall not cause appreciable harm to other watercourse states.

Art. 8. Watercourse states shall cooperate on the basis of sovereign equality, territorial integrity, and mutual benefit in order to attain optimal utilization and adequate protection of an international watercourse.

Art. 9. Regular exchange of data and information: Pursuant to art. 8 watercourse states shall exchange on a regular basis available data on the condition of the watercourse.

A watercourse state shall employ its best efforts to provide data which are not readily available, but compliance might be conditioned to payment of reasonable costs by the requesting state.

States shall also employ their best efforts to collect and process data and information in a manner which facilitates its utilization by the other watercourse states.

Art. 10. Relationships between uses: In the absence of an agreement or custom to the contrary, no watercourse use enjoys inherent priority over other uses. Conflicts between uses have to be resolved with reference to the principles of equitable and reasonable utilization and participation, and obligation not to cause appreciable harm, with special regard being given to the requirements of vital human needs.

Planned measures

Art. 11. Information concerning planned measures: States have a duty to consult with each other and to exchange information on the possible effects of planned measures on the condition of an international watercourse.

Art. 12. Notification concerning measures with possible adverse effects: Timely notification of measures which might have an appreciable adverse effect on other watercourse states shall be provided before implementation of such measures. The notification shall be accompanied by available technical data and information in order to enable the notified states to evaluate the possible effects of the planned measures.

Art. 13. Period to reply to the notification: Lacking an agreement on a different period of time, the standard period of time to reply to the nofication shall be six months.

Art. 14. Obligations of the notifying state during the period of reply: The notifying state shall cooperate with the notified state by providing, upon request, additional information and data that is available and necessary for accurate evaluation, and shall not implement or permit the implementation of the planned measures without the consent of the notified state.

Art. 15. Reply to notification: Notified states shall communicate their findings as early as possible, identifying inconsistencies with art. 5 or 7, together with a documented explanation setting forth the reasons for the finding.

Art. 16. Absence of reply to notification: No reply to notification within the period mentioned in art. 13 authorizes the notifying state to proceed with the implementation of the planned measures, in accordance with the notification, and any planned data and information provided in the notified states; however, implementation will be subject to the obligations of art. 5 and 7.

Art. 17. Consultations and negotiations concerning planned measures: Each state must in good faith pay reasonable regard to the rights and legitimate interests of the other state. If so requested, the notifying state shall refrain from implementing or permitting the implementation of the planned measures, for up to six months.

Art. 18. Procedures in the absence of notification: The application of art. 12 can be requested by a watercourse state having serious reason to believe that another watercourse state is planning measures that will have a serious effect upon it. The request shall include documented explanations setting forth the reasons for such belief. The state planning the measure can nevertheless find that it is under no obligation to provide notification. The notification of the reply shall include documented explanation of their reasons for such finding. In case of a disagreement, the two states shall resort to the procedures of art. 17 to solve the difference on the pertinency of the notification.

Art. 19. Urgent implementation of planned measures: Important public interest such as public health or public safety authorizes the implementing state to proceed with implementation, subject to art. 5 and 7, notwithstanding the provisions of art. 14 and para. 3 of art. 17. A formal declaration of urgency shall be communicated to the other watercourse states referred to in art. 12 together with the relevant data and information. The state planning the measures shall, at the request of any of the states referred to, promptly enter into consultations and negotiations, which is indicated in para. 1 and 2 of art. 17.

Protection and preservation

Art. 20. Protection and preservation of ecosystems: Watercourse states shall, individually or jointly, protect and preserve the ecosystems of international watercourses.

Art. 21. Prevention, control and reduction of pollution: "pollution of an international watercourse" means any detrimental alteration in the composition or quality of the waters of an international watercourse which results directly or indirectly from human conduct. Watercourse states shall individually or jointly prevent, reduce and control pollution that may cause appreciable harm to other watercourse states, or to their environment, including harm to human health and safety, to the use of waters for beneficial purposes, or to the living resources of the watercourse. Watercourse states shall take steps to harmonize their policies in this connection; in addition they shall, at the request of any

of any of them, consult with a view to establishing lists of substances, the introduction of which into the waters of an international watercourse, is to be prohibited, investigated or monitored.

Art. 22. Introduction of new or alien species: The introduction of species, alien or new, which might have effects detrimental to the ecosystem of the watercourse where they are introduced, resulting in appreciable harm to other watercourse states, shall be prevented.

Art. 23. Protection and preservation of the marine environment: Watercourse states shall, individually or jointly, take all the necessary measures with respect to protecting and preserving the marine environment including estuaries, taking into account generally accepted rules and standards.

Harmful conditions and emergency situations

Art. 24. Prevention and mitigation of harmful conditions: Watercourse states shall, individually or jointly, take all appropriate measures to prevent and mitigate conditions that might be harmful to other watercourse states, whether resulting from human causes or human conduct, such as flood or ice conditions, waterborne diseases, siltation, erosion, salt-water intrusion, drought and desertification.

Art. 25. Emergency situations: These are situations that cause or pose imminent threat of causing serious harm to the watercourse states or to other states, and that result suddenly from natural causes such as floods, the breaking of ice, landslides or earthquakes, or from human conduct, for example, industrial accidents. Emergency situations originating within the territory of a watercourse state shall be notified, without delay, and by the most expeditious means available, by the state of origin, to other potentially affected states and competent international organizations. The state of origin, the potentially affected states, and the competent international organizations shall cooperate immediately in taking all practical measures necessitated by the circumstances to prevent, mitigate, and eliminate the harmful effects of the emergency. Watercourse states shall jointly develop contingency plans for responding to emergencies, when necessary, and, where appropriate, in cooperation with other potentially affected states and competent international organizations.

Miscellaneous provisions

Art. 26. Management: Watercourse states shall, at the request of any of them, enter into consultations concerning the management of an international watercourse, which may include the establishment of a joint management mechanism. "Management" refers in particular to planning the sustainable development of an international watercourse and planning for the implementation of any plans adopted and otherwise promoting rational and optimal utilization, protection and control of the watercourse.

Art. 27. Regulation: Watercourse states shall cooperate, where appropriate, to respond to the needs and opportunities for regulation of the waters of an international watercourse. Unless otherwise agreed, they shall participate on an equitable basis in the construction and maintenance or defrayal of the costs of such regulatory works as they may have agreed to undertake. "Regulation" for the purposes of the articles means the use of hydraulic works or any other continuing measures to alter, vary, or otherwise control the flow of an international watercourse.

Art. 28. Installations: Watercourse states shall, within their territories, employ their best efforts to maintain and protect installations, facilities and other works related to an international watercourse. They shall, at the request of any of them that has serious reason to believe that appreciable adverse effects may be suffered, enter into consultations with regard to the safe operation or maintenance of installations, facilities or other works related to an international watercourse; or to the protection of the installations, facilities or other works, from wilful or negligent acts, or from the forces of nature.

Art. 29. International watercourses and installations at times of armed conflicts: They shall be accorded the protection accorded by the principles and rules of international law applicable in international and internal armed conflict and shall not be used in violation of those principles and rules.

Art. 30. Indirect procedures: In cases where there are serious obstacles to direct contacts between watercourse states, the concerned states shall fulfil their obligations of cooperation provided for in the present articles, including exchange of data and information, notification, communication, consultations and negotiations, through any indirect procedure accepted by them.

Art. 31. Data and information vital to national defense or security: No state is obligated to provide information vital to its national defense or security. However, states are obliged to cooperate in good faith, with a view to providing as much information as possible under the circumstances.

Art. 32. Non discrimination: Watercourse states shall not discriminate on the basis of nationality or residence in granting access to judicial and other procedures, in accordance with their legal systems, to any natural or juridical person who has suffered appreciable harm as a result of an activity related to an international watercourse or is exposed to a threat thereof.

Transboundary liability: Gasser v. United States 2/

Gasser asserts that the United States is obliged to protect Mexican property from harm caused by the operation of dams in the US. The Colorado River flows through seven states and Baja California in Mexico, before emptying into the Gulf of California. In the delta, the Colorado is characterized as an alluvial river that builds up natural dikes along the bed to such an extent that the river itself might be higher than the surrounding areas. The construction of dams in the US restricted the flow of water in the river, and its delta, and between 1962 and 1972 a sediment blockage developed below the convergence of the Colorado and Rio Hardy in Mexico. The deposition blocked the channel and caused widespread floods in the lower delta between 1979 and 1980, and again between 1983 and 1985.

At trial, both plaintiffs' and defendants' witnesses testified that the tidal action of the Gulf of California builds up sand along the shallow delta coast. Under natural conditions before the dams were built, the flow of the river maintained an outlet for the river. The diminished flows were not sufficient to scour an exit to the Gulf. As a result an eighteen-mile long, six-foot high "tidal bar" accumulated at the mouth of the river. The court found that sediment blockage was the cause of the flooding and that the blockage was caused by low flows on the Colorado River between 1963 and 1980.

Evidence at the trial indicated that the flooding and the accompanying elevation of the water table would persist indefinitely in the area around the junction of the Colorado and Rio Hardy Rivers and that the flooding had caused permanent damage to one plaintiff's property.

Gasser stands for the proposition that the US is obliged to protect property in Mexico from harm caused by the operation of US dams. The decision is in accordance with general principles of international law, and held the US liable for the causation of harm to the plaintiff, on the basis that the just compensation clause can apply outside the US, and that the plaintiff lost more than he gained from the operation of the American dams (Glen Canyon Dam). The US did not invoke the 1944 Treaty regarding

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2/ From an article by Dr. Anne M. Morgan, J.D., in Transboundary Resources Report, International Transboundary Resources Center, The University of New Mexico, School of Law, summer 1991.

the Utilization of the waters of the Colorado, Tijuana and Rio Grande Rivers. 3/

Gasser v. United States was updated and withdrawn on 4 December 1990.

Environmental protection and sustainable development, legal principles and recommendations 4/

The Experts Group on Environmental Law was established in 1985 to prepare a report on legal principles for environmental protection and

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3/ Note abstracted from an article written by Dr. Anne M. Morgan, J.D., University of New Mexico. According to Dr. Morgan, the United States Government would have been relieved of liability for the causation of appreciable harm and it invoked art. 10 of the 1944 Treaty regarding the utilization of the waters of the Colorado, Tijuana and Rio Grande Rivers. According to Dr. Morgan, a literal reading of art. 10 affirms that the US was not at fault for the development of the sediment blockage since it fulfilled its water delivery obligations. (Newsletter comment: According to this literal interpretation, the rights of Mexico would allow the use of its share of the waters, or at least a part of them, to compensate for the environmental costs of upstream development. Quite possibly the interpretation of art. 10, rather than being based on a literal reading of the provision, should be the result of a good faith interpretation of the terms of the Treaty, in their context, and in light of its objective and purpose. According to the Vienna Convention on the Law of Treaties of 1969, such context for interpretation comprises the text, including preamble and annexes, agreements related to the treaty, and instruments related to the conclusion of the treaty. In addition to the context, account has to be taken of subsequent agreements regarding interpretation of application, and subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation; interpreatation shall also consider any relevant rules of international law applicable in the relations between the parties, special meanings intended by the parties, supplementary means of interpretation including preparatory works of the treaty and circumstances of its conclusions, when the interpretation without these supplementary means leaves the meaning ambiguous or obscure, or leads to a result which is manifestly absurd or unreasonable. The Amerian Law Institute Restatement of Foreign Relations Law of the United States in art. 146 and 147 (1965) also provides criteria for interpretation of agreements. Further elements can be drawn from the Harvard Research in International Law, draft convention on treaties, Am. J.Intl.L. Supp. 937 (1935). For further references see Bishop, William W. Jr., International Law, Cases and Materials, Third Edition, Little, Brown and Company, 1962, USA, pp. 141-189).

4/ Environmental Protection and Sustainable Development, Experts Group on Environmental Law of the World Commission on Environment and Development, Graham & Trotman/Martinus Nijhoff publishers, World Commission on Environmental Development, 1987, printed in Great Britain.

sustainable development and proposals to accelerate the development of relevant international law, for consideration by the World Commission on Environment and Development. The guidelines for the Experts Group were:

- to reinforce existing legal principles and to formulate new principles and rules of law reflecting and supporting the mainly anticipatory strategies that the Commission is committed to developing;

- to complement and build on the relevant work of other international organizations;

- to give special attention to legal principles and rules that ought to be in place now or before the year 2000 to support environmental protection within and among all the states;

- to consider principles regarding not only the reduction or avoidance of activities affecting the environment, but also the collective responsibilities of states regarding future generations, other species and ecosystems of global significance and the global commons;

- to prepare proposals to strengthen the legal and institutional framework for accelerating the development and application of international law in support of environmental protection and sustainable development within and among all the states.

The Experts Group met twice, in 1985 and 1986. The discussion paper "Legal Principles for Environment Protection and Sustainable Development" was discussed at the fourth meeting of the World Commission in Sao Pablo in 1985. A further draft was sent to the Experts Group, for comments, in early 1986. The proposed legal principles may be deemed to provide elements for a draft convention on environmenal protection and sustainable development. They are laid down in 22 articles in four distinct parts: General Principles concerning Natural Resources and Environmental Interferences (art. 1-8); Principles specifically concerning Transboundary Natural Resources and Environmental Interferences (art. 9-20); State Responsibility (art. 21); and Peaceful Settlement of Disputes (art. 22).

The Group also prepared "Proposals for Strengthening the Legal and Institutional Framework". Both documents are part of a consolidated report issued in August 1986. A summary is herewith presented, with the caveat that the summary highlights only the main thrusts of the various articles.

Legal principles for environmental protection and sustainable development: General principles, rights and obligations concerning natural resources and environmental interferences

1. Fundamental human right; All human beings have the fundamental right to an environment adequate to their health and well being;

2. Intergenerational equity: States shall conserve and use the environment and natural resources for the benefit of present and future generations;

3. Conservation and sustainable use: States shall maintain ecosystems and ecological processes essential for the functioning of the biosphere, to preserve biological diversity, and to observe the principle of optimum sustainable yield, in the use of living natural resources and ecosystems. ("Conservation", in the text of the articles, means the management of a human use of a natural resource or the environment in such a manner that it might yield the greatest sustainable benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations. It embraces preservation, maintenance, sustainable utilization, restoration, and enhancement of natural resources or the environment).

4. Environmental standards and monitoring: States are required to establish adequate standards for environmental protection and to monitor changes in, and to publish relevant data on, environmental quality and resource use.

5. Prior environmental assessments: States must make or require environmental assessments of proposed activities which may significantly affect the environment or use of a natural resource.

6. Prior notification, access and due process: States shall inform all persons likely to be significantly affected by a planned activity in a timely manner and grant them equal access and due process in administrative and judicial proceedings.

7. Sustainable development and assistance: States are enjoined to ensure that conservation is treated as an integral part of the planning and implementation of developmental activities and to provide assistance to other states, especially to developing countries, in support of environmental protection and sustainable development.

8. General obligation to cooperation: States shall cooperate in good faith with other states in implementing the preceding rights and obligations.

Principles, rights and obligations specifically concerning transboundary natural resources and environmental interferences

9. Reasonable and equitable use: States shall use transboundary natural resources in a reasonable and equitable manner.

10. Prevention and abatement: States must prevent or abate any transboundary environmental interference which could cause or causes significant harm.

11. Strict liability: Dangerous but beneficial activities might be carried out provided that reasonable precautionary measures are taken to limit the risk and ensure that compensation is provided should substantial transboundary harm occur. States shall also require that compensation is provided for substantial transboundary harm resulting from activities that were not known to be harmful at the time they were undertaken.

12. Prior agreement when prevention costs greatly exceed harm: States which are planning to carry out or to permit activities causing transboundary harm, which is substantial but far less than the costs of prevention, shall enter into negotiations with the affected states on the equitable conditions under which the activity could be carried out (if no agreement is reached art. 22 will apply).

13. Non discrimination: As a minimum states are required to apply the same standards for environmental conduct and impacts regarding transboundary natural resources and environmental interference as applied domestically.

14. General obligation to cooperate in transboundary environmental problems: States shall cooperate in good faith with other states to achieve optimal use of transboundary natural resources and effective prevention or abatement of transboundary environmental interferences.

15. Exchange of information: States of origin are obligated to provide timely and relevant information to the other concerned states regarding transboundary natural resources or environmental interferences.

16. Prior assessment and notification: States must provide prior and timely notification and relevant information to the other concerned states and make an environmental assessment of planned activities which may have significant transboundary effects.

17. Prior consultation: States of origin shall consult at an early stage and in good faith with other concerned states regarding existing or potential transboundary interferences with their use of a natural resource or the environment.

18. Cooperative arrangements for environmental assessment and protection: States shall cooperate with the concerned states in monitoring scientific research and standard setting regarding transboundary natural resources and environmental interferences.

19. Emergency situations: States are obliged to develop contingency plans regarding emergency situations likely to cause environmental interferences at the transboundary scale. States or origin must promptly warn, provide relevant information to, and cooperate with, concerned states when these emergencies occur.

20. Equal access and treatment: States shall grant all persons who are and may be affected by transboundary interferences with their use of a natural resource or the environment with equal rights of access, due process and equal treatment in administrative and judicial proceedings.

21. State responsibility: States shall cease activities which breach an international obligation regarding the environment and to provide compensation regarding the harm caused.

22. Peaceful settlement of disputes: Environmental disputes shall be settled by peaceful means. If mutual agreement has not be reached within 18 months on a solution, or on other dispute settlemnt arrangements, the dispute shall be submitted to conciliation, and if unresolved, thereafter to arbitration or judicial settlement at the request of any of the concerned states.

In addition, the expert group prepared proposals for strengthening the legal and institutional framework. A summary follows:

1. Establishing a new legal basis for environmental protection and sustainable development: A new legally binding universal convention should be prepared under United Nations auspices. It should consolidate existing and establish new legal principles, and set out the associated rights and responsibilities of states individually and collectively, for securing protection and sustainable development for the year 2000 and beyond. The convention should include effective measures for protecting those rights and fulfilling those responsibilities, and the United Nations should set up a special negotiating group to prepare a text for signature by states during or preferably before 1992.

2. A United Nations commission for environmental protection and sustainable development should be established under the convention. It should consist of competent individuals serving in a personal capacity. It should receive reports from countries, and organizations from the United Nations, or other concerned organizations, and NGO's, on actions taken to implement the convention. It should also issue reports on implementation, report and assess alleged violations, and receive and review recommendations and proposals for improved implementation of the convention.

3. The states' participants should elect a UN High Commissioner for environmental protection and sustainable development. The Commission would receive information concerning compliance with the convention or other agreements, relevant to the subject, and submit them for consideration by the Commision or other appropriate international organizations, such as UNEP. The Commissioner would also have special responsibilities for areas beyond national jurisdiction and for future generations. He/she would also prepare and issue reports and recommendations on environmentlly based situationa and conditions threatening critical ecological systems and processes which could increase economic, social and political instability within and among states.

4. The existing global and regional legal framework should be strengthened. Means include to accede to and ratify global and regional conventions dealing with the environment; more rigorous compliance with the terms of existing conventions; updating of existing conventions to bring them in line with latest information; new conventions at regional and global level to improve cooperation and coordination, in the field of environment and development; include legal experts with competence on environmental issues in delegations for relevant treaty negotiations and conferences; adopt adequate guidelines at national level.

5. The capacity to avoid and settle disputes should be increased, creating rosters of experts on dispute settlement, indicating those with experience on environmental matters. "Clearing house services" for the avoidance or settlement of disputes should be created at global, regional and national levels to assist in the avoidance or settlement of environmental and resources disputes. The system should be based, to the extent possible, on existing institutions; it should be available on a broad basis and should include a range of methods and mechanics like fact finding, good offices, mediation, conciliation, arbitration, and judicial settement. It must also develop a roster of experts that will be well publicized.

States should also agree to submit to binding arbitration, or judicial settlement, when unable to resolve any dispute within a reasonable time.

6. Additionally, new initiatives opf non-governmental organizations on implementing international agreements should be launched, and there are recommendations to expand participation and standing of non-governmental organizations.

7. Extended environmental responsibilities of private enterprises: Private enterprises should accept and implement on a worldwide basis the principles already adopted within OECD as a clarification of the OECD guiding principles for multinational enterprises, of which the main thrust reads: Enterprises should, within the framework of laws, regulations, and administrative practices of each of the countries where they operate take due account of the need to protect the environment and to avoid creating environmentally related health problems. They must assess and take into account the foreseeable consequences of their activities; cooperate with authorities providing adequate and timely information about potential environmental impacts, take appropriate measures to minimize risks; implement education and training programmes; prepare contingency plans, and be adequately equipped to deal with environmental issues. The group of experts also recommends that financial institutions make an assessment of environmental effects and sustainability of the projects that they finance. (Note: In some developing countries many environmental injuries are the result of the countries' inability to substitute resources, due to poverty and scarcity of means. Therefore, available natural resources, like soils, forests, pastures, wildlife, are used beyond their threshold of recovery. For these countries there seems to be a tradeoff between availability of financial resources and destructive overuse of the natural resources essential for basic subsistence. However, the concept of impact

assessment of macroeconomic situations and conditions of extreme poverty on environmental sustainability, who should be responsible for carrying out this kind of assessment at the international level, as well as the practical implications of the assessment, have not, apparently, been clearly referred to in the proposals for institutional strengthening prepared by the group of experts).

8. The report of the group of experts also recommends to apply criminal liability for environmental damage; assess riskes of new technologies; adopt basic safety and notification measures for nuclear power stations, increase environmental education and expertise; and avoid severe environmental damage from armed conflicts.

Agreement to link environment and economy 5/

The Environmental Committee of the Organization for Economic Cooperation and Development met at the ministerial level in Paris, for the first time since 1985, on 30 and 31 January 1991. At this meeting, the Organization gave strong backing to the principle that environmental and economic questions are indivisible. It took up the idea of sustainable growth and shared the view of the Bruntland report that this can only be achieved by the integration of environmental concerns into economic policy making.

Environmental protection programme for the Danube under way 6/

A partnership to clean up the environment along the Danube River has been established by a group of international and non-governmental organizations and the countries located along the river. Participants in a meeting in Sofia, Bulgaria, 26-27 September 1991 sponsored by the Global Environment Facility partners -- the World Bank, the United Nations Development Programme, and the United Nations Environment Programme -- and the European Community began preparing proposals for environmental activities in the region.

During the first phase of the programme, institutions will be designated in each country in the Danube Basin to plan and carry out environmental initiatives. Other activities to be carried out in the first phase include developing an action plan and studying each country's environmental legislation, assessing pollution sources in the region, and strengthening data management and pollution monitoring. Recommendations made in the first phase of the programme will guide policy actions and large-scale environmental investments.

5/ From Environmental Policy and Law, 21/2, pp. 57 to 60.

6/ From World Bank News, October 10, 1991, p. 2.

The first phase is estimated to cost about $35 million over three years. Financing has been tentatively pledged by the Global Environment Facility, the European Community, the United States Agency for International Development and other institutions such as the European Bank for Reconstruction and Development, the European Investment Bank and the Nordic Investment Bank.

Policies and systems of environmental impact assessment 7/

The relevance of environmental impact assessment(EIA) to the environmentally sustainable development of water resources is well known. Therefore the Newsletter is summarizing the contents of an ECE publication on the subject, for the benefit of the readership.

I. Recommendations to ECE governments

Important decisions on economic activities are taken without an adequate level of information on the changes that they inflict on the environment. EIA is an important tool in giving the environment a place in the decision making process by improving the quality of information provided to decision makers, in order that environmentally sensitive decisions can be made while paying careful attention to minimizing impacts, improving planning activities and protecting the environment. There are a wide range of activities whose proper evaluation require an EIA be conducted, and many of them (waste disposal, urban development, agricultural expansion, energy generation, natural resources exploitation, etc.) are intrinsically related to water.

It was therefore recommended by the senior advisers to ECE governments on environmental problems at their first session in 1988 that priority be given to the implementation of EIAs through legislation: a) in the case of separate legislation provide for a linkage with other legislation which, inter alia, governs land use planning and planning in different economic sectors, licenses and permit systems and environmental management; b) provide for the analysis and evaluation of possible environmental impacts of decisions before they are taken, as well as in the construction and operation phases; c) contain provisions to incorporate environmental considerations into planning and decision making processes; d) promote integrated environmental management in relation to sustainable economic development; and e) allow for the necessary resources to be allocated to the EIA process.

Further recommendations include the harmonization of practices, at the national and international levels, for EIA in order to facilitate EIA in a transboundary context; identification, at the national level, of an overseeing authority responsible for the implementation of EIA; and the determination of the content of an EIA process which includes clear

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7/ From Environmental Policy and Law, 21/2, pp. 57 to 60.

definition of the type of activities and levels of decision to which it applies, adequate procedural arrangements to identify the issues to be addressed (scoping procedures), and methods for independent review; public participation; identification of mitigation measures; links with decision making, including records for decisions; post project assessment and monitoring and institutional and organizational requirements.

Scoping arrangements must be allowed to identify the issues to be addressed and to develop alternatives to proposed activities. This process should take place early and involve all parties concerned, in order to avoid costs and delays and accommodate the interests of the different parties affected. Activities apt to cause significant environmental impacts, particularly those with a long-term irreversible nature are of particular importance. Mechanisms for identification must include activities subject to the EIA (sensitive ecosystems, vulnerable resources, nonrenewable resources, specific criteria and threshold levels, combinations thereof) and initial environmental evaluation procedures, etc. EIA legislation should apply to individual projects and allow for application to regional development schemes and programmes, as well as general policies and strategies.

EIA could continue, contigent upon the nature and degree of assessed impact, during construction, operation and decommissioning phases of activities in order to monitor compliance with the conditions of permits and licenses; review environmental impacts for the management of risks and uncertainties; modify the activity and implement mitigation measures in case of unpredicted harmful effects; and verify past predictions in order to transfer the experience.

The independence and adequacy of the information on which an EIA is based must be assessed through independent review of its quality. Review procedures must be defined in relevant legal provisions, or administrative arrangements, and must be undertaken by interdisciplinary teams. Affected public, individuals, groups and organizations must be involved at the earliest stage of the EIA process.

Efforts should be increased to develop and improve integrated monitoring programmes, methods for the collection, analysis, storage and timely dissemination of directly comparable data regarding environmental quality, in order to provide an input to the EIA. The consideration of alternatives, when applicable, must consider different options, activities, and alternative technologies, processes, operation, location, mitigation, and compensation measures, as well as production and consumption patterns. Appropriate measures that allow and facilitate the assessment of environmental impacts must be promoted, to be applied through new technologies to all economic sectors. Criteria must be developed to apply EIA to technological innovations.

There are also recommendations on the minimum content of EIA documentation, which must include, at least: setting of the activity (purpose and need); authority or authorities that are required to act upon

the documentation and nature of the decision; description of the activity (purpose and need); authority or authorities that are required to act upon the documentation and nature of the decision; description of the activity and reasonable alternatives to it including the "do nothing" alternative, if appropriate; potential environmental impacts and their significance attributable to the activity and its alternatives; and socioeconomic change resulting from the environmental change brought about by the implementation of the activity or its alternatives; relevant environmental data use, and explicit indication of predictive methods and underlying assumptions made during the assessment procedures; identification of gaps in knowledge and uncertainties that were encountered when compiling the required information; outline of monitoring and management programmes and mitigation measures to keep environmental degradation to a minimum; and a non technical summary, including a visual presentation.

Specific research programmes were deemed necessary including improvement of existing qualitative and quantitative methods for the assessment of environmental impacts; better understanding of cause-effect relationships and their role in environmental management; analyzing and monitoring the implementation of decisions with a view to minimizing or preventing their environmental impacts, stimulation of the search for environmentally sound alternatives to planned activities, production and consumption processes, and development of methodologies for the application of principles of EIA at the macroeconomic level; the results of the programmes to be interchanged at the international level.

The importance of education and training was also stressed, as well as the need to cooperate in a transboundary context in EIA, taking into account national sovereignty over natural resources to enable provision of information, exchange of relevant information, public participation based on the principles of reciprocity and non discrimination, independent review, joint monitoring, preparation of assessment documentation, implementation of jointly agreed mitigation measures, and means to incorporate the views of the affected countries into the decision making process.

Governments shall incorporate EIA provisiosn into exisitng and new or bilateral or multilateral treaties or agreements with potential environmental implications.

II. Legal frameworks and systems of environmental impact assessments

Application of EIA at different levels of planning and decision making

EIA must be part of the planning and decision making processes. It should be applied as early as possible within the decision making process, but there is no uniformity in the application of the underlying principle. It should be applied to licensing procedures for specific projects, but also to local and regional plans and programmes and even to procedures related to the drafting of laws.

Procedures by which alternatives are generated in EIA

Once a determination of the activities to which the EIA is to be applied, the next step is to decide which issues will be examined in the EIA and how the alternatives to a proposed activity will be selected and developed. Consideration of alternatives allows for the review of basic assumptions, goals and needs. This consideration also permits for different manners of achieving a given goal, enabling managers to select the option with the lowest, or least adverse, social, economic and environmental costs. The selection of issues to be addressed is complex, since it is difficult to be positive that all relevant concerns and factors have been addressed. Ultimately, this is a question whose relative success depends on the understanding of the environmental forces at work.

A useful method of addressing issues of public and scientific concern is "triangulation". Value judgments should be explicit and affected interests must be involved. The criteria to be applied in environmental evaluation shall also be explicit. Particular attention shall be paid to evaluation, organization and communication functions.

Methods and techniques for predicting impacts on the environment

The issue of the methods and techniques predicting impacts on the environment is very relevant. Countries like Canada are involved in research activities to develop new approaches to integrate environmental assessment with strategic and regional planning, and also with the control and management of economic and social activities; improved scientific rigor in the application of ecologic and social sciences in EIA; incorporation of social values in EIA; and identification of alternatives for strengthening the policy and institutional framework for the linking of all relevant elements.

Furthermore, work is currently under way on the EIA of government policies, social assessment and economics, and the role of EIA in supporting sustainable development. The theme of harmonizing economic development and environmental conservation and protection is a focal concern. The activities include the assessment of the economic, environmental and social implications of policy options.

Extent of the inclusion of socioeconomic parameters in EIA

Another relevant topic is the inclusion of social factors and considerations in EIA with the corresponding identification of affected groups and individuals that will benefit from a proposed activity. The environmental impact statement assembles the collected information and makes it available to decision makers.

III. Criteria for determining environmental significance of projects

The selection of the activities to which EIA will be applied is the screening process, while the selection of the issues to be included is the

scoping activity. A main concern is the identification of the projects or activities that will be subject to EIA. Different methods are utilized in this process. A brief reference follows.

Lists of categories of activities that by their nature are, or are not, likely to have significant effects

The selection of activities is based on different criteria such as the nature of the activity (activities can then be listed), and the use of thresholds, to allow for flexibility. Criteria is based on different factors such as the significance of the possible environmental impact of an activity, or the environmental importance of a policy decision.

Activities with a potential for significant environmental damage are subject to permitting or license processes and included in lists complemented with the above-mentioned concept of threshold to allow for flexibility. In the United Kingdom there is a listing of projects that are likely to have significant effects on the environment by virtue inter alia of their nature and location, which are subject to EIA. Other projects are included in other listings, and are subject to EIA when their characteristics so require, like projects of more than local importance, or projects in sensitive or vulnerable locations, or projects with particularly complex and potentially adverse effects; the process includes the use of indicative criteria and thresholds.

Other techniques

Another technique is the use of lists of areas that are of special importance or sensitivity so that any activity affecting such areas is likely to have significant effects; or the listing of resources of environmental problems which are of special concern, so that any diminution of such resources or exacerbation of such problems is likely to be significant.

Initial environmental evaluation

Initial environmental evaluations are quick and informal assessments utilized to determine whether a proposed activity is likely to have significant effects. They are used to reaching prompt decisions without excessive time, effort or financial resources. Exclusion lists can be prepared, complemented with criteria to determine the environmentally adverse impact of projects not included in the list of environmentally benign projects, which include no impacts or mitigated impacts; unknown impacts or methods to mitigate impacts; unacceptable environmental impacts; potentially significant impacts. In addition impacts have to be identified, described, predicted and evaluated.

Criteria to determine whether an impact is significant

There are also criteria for guidance as to whether the effects of a proposed activity are likely to be significant, acording to their significance and context. Thereafter an action can be environmentally rated from those that raise no objections to those that are environmentally unsatisfactory.

Call for documents and participation in information exchange

In view of the scope and purpose of the International Rivers and Lakes Newsletter, the editor would like to encourage all those who are in a position to do so to contribute to the information exchange exercise with news items or documents. To date, the response has been encouraging, and it is hoped that a growing network of interested readers will be willing to take an active part in the exercise.

Individual copies of the Newsletter are available on request. Requests should include the name and address of offices and officials wishing to receive copies. All correspondence should be addressed to:

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