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BIOLOGICAL DIVERSITY OF INLAND WATER ECOSYSTEMS

Progress report on the implementation of the programme of work

Note by the Executive Secretary

Addendum

IDENTIFICATION OF THE ELEMENTS FROM THE FINAL REPORT OF THE WORLD COMMISSION ON DAMS THAT CAN BE INTRODUCED IN THE PROGRAMME OF WORK ON BIOLOGICAL DIVERSITY OF INLAND WATER ECOSYSTEMS

Executive summary

As requested in decision V/2, the Executive Secretary has reviewed the final report of the World Commission on Dams (WCD) released on 16 November 2000 and identified, in collaboration with the WCD secretariat, the elements for introduction in the programme of work on biological diversity of inland water ecosystems. The elements identified relate to watershed management, environmental flow assessment and baseline ecosystem assessments.

Suggested recommendations

The Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) may wish to:

Recommend that the Conference of the Parties endorses the incorporation of the following elements in the programme of work of biological diversity of inland water ecosystems in the light of the report of the World Commission on Dams *Dams and Development: A New Framework for Decision-Making,* released on 16 November 2000:

(a) Under the heading "Watershed management" (paragraph 9 (a) of the programme of work):

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"(iii) Make use of, as appropriate, the strategic priorities and guidelines in the final report of the World Commission on Dams as tools to incorporate social, environmental (including biological diversity), technical, economic and financial issues in the process of decision-making for water and energy development and the planning and operation of dams."

(b) Under the heading "Environmental impact assessments" (paragraph 9 (g) of the programme of work):

"(iii) Encourage environmental flow assessment as an integral part of the impact assessment process for dams to ensure release of the environmental flow to maintain downstream ecosystem integrity and community livelihoods. Make use of, as appropriate, the guidelines of the World Commission on Dams on "Environmental flow assessment" and "Maintaining productive fisheries".

"(iv) Encourage launching baseline ecosystem assessments for rivers where dams are currently in the planning phase to ensure that the necessary basic data will be available to support the environmental impact assessment process and the development of effective mitigation measures when the projects reach this stage."

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I. INTRODUCTION

1. The World Commission on Dams is composed of stakeholders (Governments, industry, civil society, dam owners, etc.) representing the full range of perspectives surrounding dams as a development option. A two-year consultation process within the Commission led to consensus on how to improve sustainable development outcomes in water and energy development and the release of its report *Dams and Development: A New Framework for Decision-Making* in November 2000.

2. At its fifth meeting, the Conference of the Parties to the Convention on Biological Diversity requested SBSTTA to consider the recommendations contained in the report of the World Commission on Dams, and, as appropriate, to recommend to the Conference of the Parties at its sixth meeting the introduction of suitable elements into the programme of work on the biological diversity of inland water ecosystems. The Executive Secretary, in collaboration with the secretariat of the WCD, has prepared the present note to facilitate SBSTTA in the discharge of that task. The elements identified herein are derived particularly from the recommendations in part two of the report.

II. RECOMMENDATIONS PROPOSED BY THE WORLD COMMISSION ON DAMS

3. The recommendations of the World Commission on Dams are meant to put into practice a new approach to planning and decision-making and include seven strategic priorities and policy principles, five key stages in decision-making and 26 interlinked guidelines. At each stage of key decision-making, there are cross-references to guidelines. The table annexed to the present note illustrates the relationship between strategic priorities, guidelines, key stages in decision-making and cross-references to guidelines. The first two key stages in decision-making (needs assessment and selecting alternatives and investigative studies), relate to planning, leading to decisions on a preferred development plan. Where a dam emerges from this process as a preferred development alternative, three further critical decision points (project preparation, implementation and operation) occur.

4. The Commission's framework for decision-making is based on five core values: equity, sustainability, efficiency, participatory decision-making and accountability. It proposes:

(a) A rights-and-risks approach as a practical and principled basis for identifying all legitimate stakeholders in negotiating development choices and agreements;

(b) Seven strategic priorities and corresponding policy principles for water and energy resources development - gaining public acceptance, comprehensive options assessment, addressing existing dams, sustaining rivers and livelihoods, recognizing entitlements and sharing benefits, ensuring compliance, and sharing rivers for peace, development and security; and

(c) Criteria and guidelines for good practice related to the strategic priorities, ranging from life-cycle and environmental flow assessments to impoverishment risk analysis and integrity pacts.

5. The report introduces a holistic approach to address challenges facing the world in management of fresh water resources, and undertakes its analysis through a normative framework that draws on United Nations declarations on human rights (1949) and the right to development (1986), and on the 1992 Rio Declaration on Environment and Development. The Commission's overall conclusions about large dams are therefore grounded in a basic understanding about the relationships between water, dams and development, and its recommendations provide practical steps towards a rights-based approach in implementing sustainable development on the ground. The Commission specifically refers also to the Convention on Biological Diversity as giving appropriate guidance on meeting sustainability objectives.

6. The strategic elements of the report relevant to inland waters are essentially that:

(a) The Commission recognizes the need for States to find a balance between exploiting dwindling water resources and maintaining riverine ecosystem integrity. The Commission recommends that States should develop a policy that excludes major intervention on selected rivers, or parts thereof, in order to maintain their ecosystem values. The Commission suggests that this approach, through a process of baseline ecosystem assessments and ranking of values, should form part of national water policy and helps reconcile development of a natural resource base with the need to maintain genetic diversity and protect the intrinsic value of a selection of rivers. The "high-value" rivers to be maintained are counterbalanced by the "lower-value" ones earmarked for development. A national policy that is developed for maintaining rivers with high ecosystem functions and values in their natural state would be a useful tool for many countries faced with managing development pressures for rivers while also maintaining biodiversity. National policies are to maintain selected rivers in their natural state;

(b) The Commission refers to endangered and threatened species and indicates that those project options be selected that avoid significant impacts on threatened and endangered species. When impacts cannot be avoided, viable compensation measures are put in place that result in a net gain for the species within the region;

(c) The Commission recommends the use of bonds/trust funds as one component of compliance plans and indicates that these are increasingly used as a mechanism for ensuring that funds are available to manage ecosystem impacts or conservation programmes. Some countries do not yet have an institutional mechanism for putting such tools in place;

(d) The Commission proposes that all dams should provide for an environmental flow release to meet specific downstream ecosystem and livelihood objectives, and large dams should be designed, modified and operated accordingly. The Commission recommends environmental flow assessment (EFA) as a tool for assessing environmental flow requirements. EFA can be done at several levels of detail, from a simple statement of water depth to provide wetted habitat for a particular fish species through to a comprehensive description of a flow regime with intra-annual and inter-annual variability of flows and floods in order to maintain complex river ecosystems. Holistic methodologies contribute to a detailed understanding of the merits and drawbacks of a series of competing water resource options in terms of required river flow, water available for off-channel use, and the social and economic implications.

III. LINKAGES BETWEEN THE RECOMMENDATIONS OF THE WORLD COMMISSION ON DAMS AND THE PROGRAMME OF WORK ON BIOLOGICAL DIVERSITY OF INLAND WATER ECOSYSTEMS

7. The WCD recommendations are broadly applicable to the articles of the Convention including articles 1 (Objectives), 6 (General measures for conservation and sustainable use), 7 (Identification and monitoring), 10 (Sustainable use of components of biological diversity), and 14 (Impact assessment and minimizing adverse impacts). The recommendations are particularly related to the principles of the ecosystem approach elaborated in the annex of decision V/6 and to the programme of work on biological diversity of inland water ecosystems, as contained in annex I to decision IV/4.

8. The recommendations of the World Commission on Dams and its approach in decision-making process provide support and guidance to the Parties for the implementation of paragraph 9 (a) of the programme of work, regarding adoption of watershed management for conservation and sustainable use, whereby Parties are encouraged to adopt integrated land and watershed management approaches based on watershed, catchment and river basins for the protection, use, planning and management of inland water ecosystems. Parties are further encouraged to adopt integrated watershed, catchment and river basin management strategies to maintain, restore or improve the quality and supply of inland water resources and the economic, social, hydrological, biological diversity and other functions and values of inland water ecosystems.

9. The Commission states that ecosystem issues are best addressed through a holistic view of the river, with all actors incorporating an ecosystem approach into their planning, operations and monitoring. The Commission clarifies that its recommended policy principles and guidelines provide a framework for the range of measures needed to ensure protection and health of ecosystems in planning, construction and operation of dams and their alternatives. No single principle can be fully effective in isolation from the others nor can a single ministry or agency be responsible for them all.

10. Strategic priorities are interrelated and guidelines are interlinked. Application of the whole package is recommended for equitable and sustainable development in respect to dams. While the Commission intends the guidelines to be used together, in an integrating approach to decision making, some individual guidelines are of particular reference to the programme of work on biological diversity of inland water ecosystems:

(a) Paragraphs 9 (l), "Involvement of local and indigenous communities", and 9 (j), "Collaboration with broader water resource community", of the programme of work are related to strategic priority 1, guidelines 1, 2 and 3 on stakeholder analysis, negotiated decision-making processes and free, prior and informed consent;

(b) Paragraphs 9 (f) "Sustainable use", 9 (g) "Environmental impact assessment", and 20 (regarding undertaking of environmental impact assessment for development projects involving inland water ecosystems) of the programme of work are related to strategic priority 2, 4 and 5. Guidelines 4, 5, 9, 10 and 11 are intended to enhance impact assessment procedures and include strategic and project-level impact assessment and valuation of social and environmental impact. Guidelines 14, 15 and 16 are for baseline ecosystem surveys, environmental flow assessment and maintaining productive fisheries that are related to impact assessment procedures. Guidelines 19 and 20 on implementation of the mitigation, resettlement and development action plan and project benefit-sharing mechanism are proposed to ensure that adversely affected people are entitled to share in project benefits. Beneficiaries and benefits need to be identified and will form part of the mitigation, resettlement and development action plan. The agreed benefits can include, *inter alia*, access to irrigation water, domestic water supply, right to reservoir fisheries, contract to manage recreational/water transport facilities and benefits from flows and floods;

(c) Paragraphs 9 (e), "Monitoring and assessment", and 14 (regarding the adoption of an integrated approach in assessment) of the programme of work are related to elements of strategic priorities 3 and 4. The Commission, through guidelines 12, 13, 14, 15, 17 and 19, recommends implementation of intensive monitoring process extending from the construction phase through the first few years of operation, followed by comprehensive post-project evaluation and monitoring involving affected stakeholders at basin level to assess benefits and impacts on the environment and on society. Guidelines 12 and 13 address the issues for monitoring of the existing large dams;

(d) Paragraph 9 (k), "Transboundary cooperation", and 18 (regarding consideration of transboundary nature of inland water ecosystems in assessment) of the programme of work on biological diversity of inland water ecosystems are related to strategic priority 7 and guideline 26, on procedures for shared rivers. The guidelines explain the procedures for shared rivers that promote open discussion of the issues, negotiation on sharing the benefits and the mitigation of any adverse impacts.

Annex

STRATEGIC PRIORITIES, GUIDELINES, KEY STAGES IN DECISION-MAKING AND CROSS REFERENCES TO GUIDELINES (AT EACH KEY STAGE) INTRODUCED IN THE REPORT OF THE WORLD COMMISSION ON DAMS

Strategic priorities	**Guidelines**	**Key stages in decision-making**					
		Needs assessment	*Selecting alternatives*	*Investigative studies*	*Project preparation*	*Project implementation*	*Project operation*
1- Gaining public access	1-Stakeholder analysis	●	●	●	●	●	●
	2- Negotiated decision-making processes			●	●	●	
	3- Free, prior and informed consent			●	●		
2- Comprehensive options assessment	4- Strategic impact assessment for environmental, social, health and cultural heritage issues		●				
	5- Project-level impact assessment for environmental, social, health and cultural heritage issues			●			
	6- Multi-criteria analysis			●			
	7- Life cycle assessment			●			
	8- Greenhouse gas emissions			●			
	9- Distributional analysis of projects			●			
	10- Valuation of social and environmental impacts			●			
	11- Improving economic risk assessment			●			
3- Addressing existing dams	12- Ensuring operating rules reflect social and environmental concerns				●		
	13- Improving reservoir operations						●
4- Sustainable rivers and livelihood	14- baseline ecosystem surveys	●	●	●			
	15- Environmental flow assessment	●	●	●			●
	16- Maintaining productive fisheries			●			
5- Recognizing entitlements and sharing benefits	17- Baseline social conditions			●			
	18- Impoverishment risk analysis						
	19- Implementation of the mitigation, resettlement and development action plan				●	●	●
	20- Project benefit-sharing mechanisms			●	●		●

Strategic priorities	**Guidelines**	**Key stages in decision-making**					
		Needs assessment	*Selecting alternatives*	*Investigative studies*	*Project preparation*	*Project implementation*	*Project operation*
6- Ensuring compliance	21- Compliance plans				●	●	
	22- Independent review panels for social and environmental matters				●	●	
	23- Performance bonds				●		●
	24- Trust funds				●		
	25- Integrity pacts				●		
7- Sharing rivers for peace, development and security	26- Procedures for shared rivers			●	●		
