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### Reflections on Integrating Sustainability and Equity from My Journeys Along Rivers Across Four Continents

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Background Material in Support of the Presentation on:

**Reflections on Integrating Sustainability and Equity from my Journeys Along  
Rivers Across Four Continents**

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“Allocating and Managing Water for a Sustainable Future:  
Lessons from Around the World”

Natural Resources Law Center  
University of Colorado School of Law

June 11 – 14, 2002

**2020 Vision for Food, Agriculture, and the Environment**  
**2020 Focus on Overcoming Water Scarcity and Quality Constraints**

Brief No. 6 : *Dams and Water Storage*  
April 2001

Jeremy Bird and Pamela Wallace<sup>1</sup>

**The nature of the problem**

Dams are at the centre of many controversies related to the management of water resources and proposals to relieve water scarcity. An insight to the problem is provided in the contrasting positions presented in the *Vision for Food and Rural Development* (van Hofwegen et al, 2000) and the *Vision for Water and Nature* (IUCN, 2000), both strategic contributions to the Second World Water Forum held in The Hague in March 2000. The former estimates that water supplies used in agriculture will have to be augmented by an additional 15% to 20% over the next 25 years - or even more if the assumptions regarding significant improvements in irrigation and agricultural productivity are not realised. In contrast, the *Vision for Nature and Water* warns that over-abstraction will lead to depletion of groundwater, reduction in biodiversity and loss of livelihoods that are dependent on a healthy ecosystem. It calls for a different approach to new infrastructure development that recognises the value of ecosystems and a re-examination of the operation of existing projects. At the same time, there has been a recent trend of declining dam construction with financing for dam projects from multilateral and bilateral sources reducing from an estimated \$4.4 billion per year in the early 1980s to \$2.6 billion per year in the late 1990s.

**Searching for a solution**

Such contrasting positions, coupled with significant social consequences, underlies the intense debate on dams that ultimately led to the establishment of a World Commission on Dams (WCD) in May 1998. This was born out of a multi-stakeholder workshop organised by the World Bank and IUCN- The World Conservation Union. The Commission was comprised of twelve members with differing perspectives and a broad range of backgrounds. Its role was not to predict how much water a country should use for agriculture or how much hydropower it should generate. Rather, it was mandated to review the development effectiveness of past projects and propose recommendations for

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<sup>1</sup> Respectively, Senior Advisor and Research Fellow, World Commission on Dams Secretariat. This brief was based on extracts from the report of the Commission - *Dams and Development: A New Framework for Decision-Making*. However, responsibility for the brief rests with the authors alone.

an appropriate process that societies could follow to minimise conflicts in the planning, design, operation and decommissioning of projects.

Over the past two years, the WCD has conducted the most comprehensive, global and independent review of large dams, and used this review as a basis for its recommendations. The full WCD Knowledge Base comprises 8 case studies, 3 country studies, a cross check survey of 125 dams, 17 thematic reviews, 130 contributing papers, 4 regional consultations and 950 submissions. Reports on these are available on its web site: [www.dams.org](http://www.dams.org) and on CD Rom. The Commission launched its Final Report '*Dams and Development: A New Framework for Decision-Making*', on November 16, 2000.

There are more than 45,000 large dams around the world which, overall, have played a role in helping communities and economies manage water resources for food production, energy generation, flood alleviation, and domestic and industrial use. Current estimates suggest that some 30-40% of irrigated land worldwide now relies on dams and large dams are estimated to support approximately 12% to 16% of global food production. Hydropower projects generate 19% of world electricity and account for over 50% of electricity generated in 63 countries. These are considerable contributions. However, the projects in the Commission's knowledge base showed a high degree of variability in meeting predicted water and electricity services – and related social benefits. A considerable portion fell short of projected physical and economic targets, while many continued to generate benefits beyond their projected economic life. Extensive impacts on ecosystems were evident including the loss of habitats, species and aquatic biodiversity. In many cases, the measures explicitly designed to mitigate such impacts proved ineffective. An estimated 40 to 80 million people were displaced by dam projects and although some compensation was invariably provided, the Commission found that the full range of social impacts were frequently neither addressed nor accounted for. In particular, the impacts on the lives, livelihoods and health of the affected communities upstream and downstream of the projects were not considered. The report concludes that while dams have delivered many benefits, in too many cases the price paid to secure those benefits has been unacceptable and could have been avoided.

In proposing a way forward beyond the prevailing conflicts, the Commission provides a new framework for decision-making based on recognising rights and assessing risks of all stakeholders. Clarifying the rights context for a proposed project is an essential step in identifying those with legitimate claims and entitlements, while the notion of risks is an important dimension to understanding how, and to what extent, a project may have an impact on such rights. The 'rights and risks' approach introduces a departure from a 'balance sheet' approach where the loss to those adversely affected has been traded off against the gain to the intended beneficiaries. It encompasses the concept that those adversely affected should be part of the development opportunity and to share a project's benefits.

Seven strategic priorities and corresponding policy principles for water and energy resources development are proposed that build on the rights and risks approach. They are shown in the figure.

### The WCD's Seven Strategic Priorities<sup>2</sup>



Source: World Commission on Dams, 2000, *Dams and Development: a New Framework for Decision-Making*, Earthscan: London)

Practical advice for implementing these priorities is provided through a set of criteria for five key decision points in the planning and project cycles together with 26 guidelines based on examples of good practice from around the world. Some examples of the guidelines include: using multi-criteria analysis in options assessment to raise the significance of social and environmental aspects; conducting a distribution analysis to determine how costs and benefits of any option are shared and; tools that provide incentives to promote greater compliance with commitments. In the long run, the Commission's report offers the opportunity to reduce conflict, reduce delays and lower overall costs to the operator, the government and to society in general.

### Where to from here?

Signing of the WCD report by all twelve Commissioners from such varying background provides a clear signal and encouragement to the international community that it is possible to move beyond the conflict of the dams debate. With the launch of the report, the Commission completed its mandate and has disbanded. It recognised that its

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<sup>2</sup> See Annex 1 for the full description of the seven strategic priorities.

report is not the final word but the start of a process where governments, financiers, affected peoples' groups, NGOs, professional organisations and the private sector review its recommendations and take the process forward in a series of local multi-stakeholder initiatives. Already a large number of such initiatives have begun in both developed and developing countries. The Report has been discussed at three meetings of the World Bank's Committee on Development Effectiveness, the Asian Development Bank has held a regional meeting with representatives of 15 countries, and both NGOs and the national committees of professional organisations have organised review meetings. But given the contested nature of the debate, it is not surprising that there has been a wide range of reactions - some in support and others critical. While a consensus has not been reached on all aspects of the WCD report, there is general agreement on the Commission's core values and strategic priorities. The challenge now lies in their implementation.

A final meeting of the WCD Forum took place in Cape Town on 25-27 February 2001 to provide feedback on the report and discuss how best its recommendations can be carried forward into practice. There was broad agreement for some form of co-ordinated follow-up to the Commission to continue the dissemination activities, promote dialogue, provide a networking role for those interested in learning from others experiences and, where requested, to assist countries work with the recommendations of the report. It was proposed that a Dams and Development Project, hosted by the United Nations Environment Programme (UNEP), would be established by August 2001 to undertake these tasks.<sup>3</sup> A multi-stakeholder steering committee would guide the overall implementation of the work programme. To facilitate the start up of the Unit, the Chair of the WCD has arranged for a small group of Secretariat staff to maintain a transitional office up to the end of July 2001.

The upcoming World Summit on Sustainable Development (Rio +10) in Johannesburg, South Africa 2002, will involve much discussion on the issue of sustainable water management, integrating land and water management and promoting participatory approaches. The policies of many international organisations are being adapted to accommodate these concerns and there is considerable discussion in the international community on how to make them operational. There remains a significant gap between policy and practice. The dams debate is perhaps the most visible arena to witness the tensions between providing water for increasing needs, alleviating poverty and protecting the environment. The WCD report provides an opportunity to bridge the gap between policy and practice provided it is used in a responsible way and the challenge of constructive engagement, modeled on the Commission's own process, is taken up by all those involved.

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<sup>3</sup> See Annex 2 for description of the Dams and Development Project's Work Programme.

## **Annex 1: The Seven Strategic Priorities of the WCD - key messages**

**1. Gaining Public Acceptance** Public acceptance of key decisions is essential for equitable and sustainable water and energy resources development. Acceptance emerges from recognising rights, addressing risks, and safeguarding the entitlements of all groups of affected people, particularly indigenous and tribal peoples, women and other vulnerable groups. Decision making processes and mechanisms are used that enable informed participation by all groups of people, and result in the demonstrable acceptance of key decisions. Where projects affect indigenous and tribal peoples, such processes are guided by their free, prior and informed consent.

**2. Comprehensive Options Assessment** Alternatives to dams do often exist. To explore these alternatives, needs for water, food and energy are assessed and objectives clearly defined. The appropriate development response is identified from a range of possible options. The selection is based on a comprehensive and participatory assessment of the full range of policy, institutional, and technical options. In the assessment process social and environmental aspects have the same significance as economic and financial factors. The options assessment process continues through all stages of planning, project development and operations.

**3. Addressing Existing Dams** Opportunities exist to optimise benefits from many existing dams, address outstanding social issues and strengthen environmental mitigation and restoration measures. Dams and the context in which they operate are not seen as static over time. Benefits and impacts may be transformed by changes in water use priorities, physical and land use changes in the river basin, technological developments, and changes in public policy expressed in environment, safety, economic and technical regulations. Management and operation practices must adapt continuously to changing circumstances over the project's life and must address outstanding social issues.

**4. Sustaining Rivers and Livelihoods** Rivers, watersheds and aquatic ecosystems are the biological engines of the planet. They are the basis for life and the livelihoods of local communities. Dams transform landscapes and create risks of irreversible impacts. Understanding, protecting and restoring ecosystems at river basin level is essential to foster equitable human development and the welfare of all species. Options assessment and decision-making around river development prioritises the avoidance of impacts, followed by the minimisation and mitigation of harm to the health and integrity of the river system. Avoiding impacts through good site selection and project design is a priority. Releasing tailor-made environmental flows can help maintain downstream ecosystems and the communities that depend on them

**5. Recognising Entitlements and Sharing Benefits** Joint negotiations with adversely affected people result in mutually agreed and legally enforceable mitigation and development provisions. These recognise entitlements that improve livelihoods and quality of life, and affected people are beneficiaries of the project. Successful mitigation, resettlement and development are fundamental commitments and responsibilities of the State and the developer. They bear the onus to satisfy all affected people that moving from their current context and resources will improve their livelihoods. Accountability of responsible parties to agreed mitigation, resettlement and development provisions is ensured through legal means, such as contracts, and through accessible legal recourse at the national and international level.

**6. Ensuring Compliance** Joint negotiations with adversely affected people result in mutually agreed and legally enforceable mitigation and development provisions. These recognise entitlements that improve livelihoods and quality of life, and affected people are beneficiaries of the project. Successful mitigation, resettlement and development are fundamental commitments and responsibilities of the State and the developer. They bear the onus to satisfy all affected people that moving from their current context and resources will improve their livelihoods. Accountability of responsible parties to agreed mitigation, resettlement and development provisions is ensured through legal means, such as contracts, and through accessible legal recourse at the national and international level.

**7. Sharing Rivers for Peace, Development and Security** Storage and diversion of water on transboundary rivers has been a source of considerable tension between countries and within countries. As specific interventions for diverting water, dams require constructive co-operation. Consequently, the use and management of resources increasingly becomes the subject of agreement between States to promote mutual self-interest for regional co-operation and peaceful collaboration. This leads to a shift in focus from the narrow approach of allocating a finite resource to the sharing of rivers and their associated benefits in which States are innovative in defining the scope of issues for discussion. External financing agencies support the principles of good faith negotiations between riparian States.

## **Annex 2: Work Programme of the UNEP Dams and Development Project**

The framework for the work programme contains four main elements that will be implemented according to documented and established criteria. In undertaking the work programme, the DDP will consult with the full range of stakeholders to understand their reactions to the report and their views on the way forward.

### **1. Promoting Dialogue**

The Project shall be entrusted with the task of catalysing and supporting efforts by the different stakeholders to consider and discuss the WCD findings and recommendations. Such support will be provided according to criteria to be established by UNEP with guidance from the Steering Committee.

Actions under this section shall focus on:

- Servicing the Dams and Development Forum (DDF) in a dialogue at a global level on issues related to dams and the WCD report and supporting the role of the DDF in encouraging the involvement of all stakeholders, including those with reservations on the report;
- Assisting broad-based national or sectoral processes, workshops and dialogues;
- Supporting such dialogues through financial resources, access to expertise, information materials and examples of approaches used successfully elsewhere;
- Facilitating the financing of multi-stakeholder processes; and
- Building on the dialogues and upon request of governments and financing agencies, assist in improving guidelines and criteria for dams and their alternatives in accordance with the WCD core values and strategic priorities.

### **2. Information network**

The Project will disseminate information on new or ongoing initiatives undertaken by others. It will help interested parties to participate in initiatives relevant to the WCD report, helping them gain access to information, technical support, and funding.

The Project will focus on:

- Establishing a communications and networking strategy with clearly defined priorities;
- Maintaining and updating an active web site on WCD follow-up with appropriate links to other websites;

- Producing newsletters and other information updates to keep abreast of the status of WCD follow-up and implementation and the results of the various dialogue processes surrounding the report;
- Establishing a 'help desk' for stakeholders to find information on issues related to the WCD report and keeping a record of the source and nature of the requests; and
- Documenting reactions to the report.

### 3. **Dissemination**

The Project shall be entrusted with ensuring that the outcome of the WCD process is disseminated as broadly as possible and made available in local languages and in formats that would enhance its impact. This includes:

- Distributing the WCD report, overview, CD-ROM, Knowledge Base and related products, including the views expressed at the Third WCD Forum and other stakeholder responses;
- Overseeing and assisting the translation of WCD materials into different languages; and
- Communicating and co-ordinating information dissemination at events and meetings, and facilitating attendance by former Commissioners, senior advisors, etc as resource persons.

### 4. **Facilitating exchange of ideas on good practice**

- Sharing information on experiences, practices and tools relevant to the use of the WCD report and bringing them to the attention of the broader community.