

Annex IV

Reports in the WCD Knowledge Base



The WCD Knowledge Base served to inform the Commission on the main issues surrounding dams and their alternatives, and complemented the regional consultations, where Commissioners heard firsthand about relevant regional experience from governments, members of civil society and the private sector.

The reports listed in this Annex are available on the website at www.dams.org. They were used to synthesise and structure the wealth of knowledge that lies within the Knowledge Base, and to distill key issues, lessons learned and proposals for the future. They remain inputs to the Commission rather than products of its deliberations and thus do not represent expressions of the Commission's views and conclusions, which are contained solely in this final report.

The Case Studies and Thematic Reviews were contracted by WCD to lead authors, who were selected for their ability to respect

the Commission's guiding principles of professional expertise, independence, transparency and openness in synthesising information and perspectives from the contributing papers and the submissions. All terms of reference, and final draft reports, were peer-reviewed by local stakeholder groups (for the Case Studies) or by review panels (for the Thematic Reviews) composed of 8–10 people with varying backgrounds, regions of origin and perspectives. Working Papers were developed with partner organisations to include perspectives on particular issues.

In total, 201 people commented on the draft Thematic Reviews, and the lead writers were asked to address their comments,

wherever possible, in the final report. Reviewers' comments have been included as annexes to enable the reader to better comprehend the debate. Draft and final reports for Case Studies and Thematic Reviews were available on the WCD website throughout the review process.

The Contributing Papers are listed for each Thematic Review, and the synthesis writers of the Reviews drew on them as appropriate. Some were solicited by WCD through key institutional partners; others were directly contracted to WCD terms of reference; and still others were the result of initiatives by partner organisations as direct contributions to the WCD process and knowledge base.

Case Studies

Case Study

Grand Coulee Dam, Columbia River Basin, United States

Tarbela Dam, Indus River Basin, Pakistan

Aslantas Dam, Ceyhan River Basin, Turkey

Kariba Dam, Zambezi River, Zambia/Zimbabwe

Tucuruí Dam, Tocantins River, Brazil

Pak Mun Dam, Mun-Mekong River Basin, Thailand

Glomma and Laagen Basin, Norway

Orange River (Pilot Study), South Africa

Team Leaders

Leonard Ortolano, Katherine Kao Cushing

Amir Muhammed

Refik Çölasan

Alois Hungwe

Emilio Lèbre La Rovere, Francisco

Eduardo Mendes

Songkram Grachangnetara et al.

Jostein Skurdal

WCD Secretariat

Country Studies

Country Study

India

China

Team of Writers

R. Rangachari, Nirmal Sengupta, Ramaswamy R. Iyer, Pranab Banerji, Shekhar Singh

Ismail Najjar, Bill Smith, Richard Fuggle, Habib Khoury, Sam Pillai, John Boyle

Briefing Paper

Briefing Paper

Russia and Newly Independent States

Team of Writers

Lilia K. Malik, Nikolai I. Koronkevich, Irina S. Zaitseva, Elena A. Barabanova

Thematic Reviews and Contributing Papers

I.1. Social impact of large dams: equity and distributional issues

Lead Writer

William Adams

Contributing Paper

Writer

Social Impacts of an African Dam: Equity and Distributional Issues in the Senegal River Valley. Downstream Impact of Dams.

Adrian Adams
William Adams

Dams and Benefit Sharing. A Submission from Hydro-Quebec.

Dominique Egré, Joseph Milewski
Hugh Brody

Assessing the Project – Social Impacts and Large Dams. Report on the Social Impact of Dams: Distributional and Equity Issues – Latin American Region.

Carmen Ferradas

Some Evidence on Overall Distributional and Equity Impacts.

Pablo Gutman

Balancing Pain and Gains – A Perspective Paper on Gender and Large Dams.

Lyla Mehta, Bina Srinivasan

Social Impacts of Large Dams: The China Case.

Lubiao Zhang

I.2. Dams, indigenous people and vulnerable ethnic minorities

Lead Writer

Marcus Colchester

Contributing Paper

Writer

Dams, Indigenous People and Vulnerable Ethnic Minorities: A Case Study on the Ibaloy People and the Agno River Basin, Province of Benguet, Philippines.

Jaqueline Carino

The Chixoy Dam in Guatemala: The Maya Achi Genocide. The Story of Forced Resettlement.

Jaroslave Colajacomo

A Case Study on the Proposed Epupa Hydro Power Dam in Namibia.

Andrew Corbett

The Resettlement of Indigenous People Affected by the Bakun Hydro-Electric Project, Sarawak, Malaysia.

Gabungan

Lake Winnipeg Regulation Churchill-Nelson River Diversion Project and the Crees of Northern Manitoba, Canada.

Luke Hertlein

Land Acquisition Act and Impact on Tribal Development in India.

Manisha Marwaha

Operationalisation of Free Prior Informed Consent.

Lyla Mehta, Maria Stankovitch

Dams and Tribal People in India.

Amrita Patwardhan

The Alta-Case in Norway. A Story about How Another Hydroelectric Dam-Project was Forced through in Norway. Ande Somby

I.3. Displacement, resettlement, rehabilitation, reparation and development

Lead Writers

Leopoldo Bartolome, Chris de Wet, Harsh Mander, Vijay Nagaraj

Contributing Paper

The Experience with Dams and Resettlement in Argentina.

Displacement, Resettlement, Rehabilitation, Repatriation and Development. African Experience.

Displacement, Resettlement, Rehabilitation, Repatriation and Development – China Report.

Displacement, Policy and Law in India.

Displacement, Resettlement, Rehabilitation, Repatriation and Development. The Mexican Case.

Writer

Leopoldo Bartolome,
Christine Danklmaier

Chris de Wet

Jun Jing
Ravi Hemadre, Harsh Mander,
Vijay Nagaraj

Scott Robinson

II.1. Dams, ecosystem functions and environmental restoration

Lead Writers

Patrick Dugan, Jeff McNeely

Mike Acreman, Ger Bergkamp,

Contributing Paper

Dams and Biological Diversity – Establishing Strategic Linkages under the Conventions.

Ecosystem Impacts of Large Dams.

Managed Flood Releases from Reservoirs – Issues and Guidance.

Capacity and Information Base Requirements for Effective Management of Fish Biodiversity, Fish Stocks and Fisheries Threatened or Affected by Dams during the Project Cycle.

International Mechanisms for Avoiding, Mitigating and Compensating the Impacts of Large Dams on Aquatic and Related Ecosystems and Species.

Definition and Implementation of Instream Flows.

Information Needs for Appraisal and Monitoring of Ecosystem Impacts.

Large Dams and Freshwater Fish Biodiversity.

Biodiversity Impacts of Large Dams.

Biodiversity Impacts of Large Dams: Waterbirds.

Fundamental Legal and Ethical Principles in Adjudging the Merits of Development Projects.

The Influence of Dams on River Fisheries.

Writer

Asheline Appleton
Mike Acreman, Matthew
McCartney, Caroline Sullivan
Mike Acreman, Edward Barbier,
Martin Birley, Kenneth Campbell,
Frank Farquharson, Nicholas
Hodgson, Jeremy Lazenby, Matthew
McCartney, John Morton, David
Smith, Caroline Sullivan

Garry Bernacsek

John Bizer
Cate Brown, Jackie King,
Rebecca Tharme

Cate Brown, Jackie King
John Craig
John Craig, Nick Davidson, Don
McAllister, Dianne Murray, Mary
Seddon

Nick Davidson, Simon Delany

Charles DiLeva
Donald Jackson, Gerd Marmulla

Dams and Fish Migration. A Review of Guidance and Criteria for Managing Reservoirs and Associated Riverine Environments to Benefit Fish and Fisheries.	Michel Larinier
Molluscan Biodiversity and the Impact on Large Dams. Report on the Conference on Hydrological and Geochemical Processes in Large Scale River Basins, 15–19 November, 1999, Manaus, Brazil.	Steve Miranda Mary Seddon Leonard Sklar

II.2. Dams and global change

Lead Writers

Nigel Arnell, Mike Hulme, Luiz Pinguelli Rosa, Marco Aurelio dos Santos

Contributing Paper

Writer

An Analysis of the Linkages between the UNFCCC Legal Regime and Dams.

Albert Mumma

III.1. Economic, financial and distributional analysis

Lead Writers

Alec Penman, Robert Unsworth

Contributing Paper

Writer

Methods for Valuation of Flood Control Benefits.
Resettlement Costs.
Distributional Analysis.
Survey of Multilateral Bank Practice on Financial and Economic Analysis of Large Dams.
Methods for Valuation of Impact of Hydropower Projects.
Review Paper I - Review Paper on Financial, Economic, and Distributional Analysis .
Example of SAM Analysis in the Republic of South Africa.
Methodological Approach for the Distributional Effectiveness of Large Dams.
Review Paper II - Financial, Economic and Distributional Analysis.
Methods for Valuation of Irrigation Benefits.

Colin Green
Pablo Gutman
Pablo Gutman

Anneli Lagman
Anil Markandya
Michelle Manion, Bruce
McKenney, Robert Unsworth
David Mullins

Kyra Naudascher-Jankowski

Alec Penman
Douglas Southgate

III.2. International trends in project financing

Lead Writer

Per Ljung

Contributing Paper

Writer

Database Support.
Hydropower Dams.
Multipurpose Dams.
Note on Financial Instruments and Incentives.
Financing Statistics, Trends and Policies of International Financial Institutions.

Lily Donge
Chris Head
Chris Head
Michael Kelly

Hilary Sunman

IV.1. Electricity supply and demand management options

Lead Writers

Maritess Cabrera, Anton Eberhard, Michael Lazarus, Thierry Lefevre, Donal O’Leary, Chella Rajan

Contributing Paper

Renewable Options.
Major Trends in Energy Development.
Demand Management.
Life Cycle Analysis.
Rural and Appropriate Energy.
Submissions Contributing to the Thematic.

Writer

Glynn Morris
Donal O’Leary
Roger Peters
Bjorn Svenson
Rona Wilkinson
International Cogeneration Alliance, International Hydropower Association, International Atomic Energy Association, American Solar Energy Society, European Wind Energy Association, National Hydrogen Association, Gas Research Institute

IV.2. Irrigation options

Lead Writer

K. Sanmuganathan

Contributing Paper

Privatisation of Infrastructure Hydraulic Work – Chilean Experience.
Future Approaches towards Taking up Dam Projects.
Developing Irrigation Options for Small Farmers.
Some Drainage Options.
Options Assessment and the Planning System in the IBIS, Pakistan.
Biotechnology in Semi Arid Tropics.
Contributions from the Latin American Experience.
Potential for Improvements of Water Harvesting.
Irrigation and Agriculture Experience and Options in Israel.
Options in Agricultural Policy.
Assessment of Irrigation Options in India.

Writer

Pablo Anguita Salas
S. Char
Keith Frausto
Alfred Heuperman

Khalid Hussain
ICRISAT
Hector Maletta
Dieter Prinz, Anupam Singh
Yehuda Shevah
Laurence Smith
Himanshu Thakkar

IV.3. Water supply options

Lead Writers

Colin Fenn, David Sutherland

Contributing Paper

Water Efficiency Case Studies from California.
Contributions Relating to Rainwater Harvesting.
Supporting Note.
Contributions on Community Based Systems.
Example of Demand Management from South Africa.
Supporting Note.

Writer

Mary Ann Dickinson
John Gould
Allan Lambert
Jon Lane
Guy Preston
Philip Turner

IV.4. Flood control and management options

Lead Writer

Colin Green

Contributing Paper

Writer

Draft ICOLD Bulletin on Dams and Floods.
 A Review of the Role of Dams in Flood Management (draft).
 Why Multipurpose Dams Function in Japan.
 Support to Lead Writer.
 Support to Lead Writer.
 Assessment of Flood Management Options.
 Flood Action Plan in Bangladesh.

Luis Berga
 Patrick Hawker
 Minoru Kuriki
 Dennis Parker
 Sylvia Tunstall
 Johannes van Duivendijk
 Herb Wiebe

IV.5. Operation, monitoring and decommissioning of dams

Lead Writers

**Peder Hjorth, Charles Howard,
 Kuniyoshi Takeuchi**

Contributing Paper Writer

Managing for Unforeseen Consequences of Large Dam Operations.
 Dams in Spain.
 Hume and Dartmouth Dams, Murray Darling Basin, Australia.
 Macquarie Marshes, Murray Darling Basin, Australia.
 Operation, Monitoring and Rehabilitation of Dams/Reservoirs in Japan.
 Operation, Monitoring and Decommissioning of Dams.
 A Report on Large Dams in India.
 US Federal Energy Regulatory Commission.
 Operation, Monitoring and Decommissioning of Dams.
 Ex Post Evaluation of Dams and Related Water Projects.
 Flushing of Sediments from Reservoirs.

K. Betts, Michael Falter, Peter Goodwin
 Enrique Garcia
 Brian Haisman
 Brian Haisman
 Joji Harada, Kuniyoshi Takeuchi
 Peder Hjorth
 V. Jauhari
 Thomas Russo
 Geoffrey Simms
 James Wescoat
 Rodney White

V.1. Planning approaches

Lead Writers

**David Nichols, Theo Stewart,
 David von Hippel**

Contributing Paper

Writer

Planning Survey.
 Regional Integrated Resource Planning.
 Planning Survey.
 Planning Survey.
 Planning Survey.
 First Draft of Planning Approaches Thematic.
 Planning Survey.
 Planning Survey.
 Multiple Criteria Decision Analysis.

Daud Beg
 Catherine Fedorsky
 Matthias Finger
 J. Karmacharya
 Don Moore
 David Nichols, Theo Stewart, David von Hippel
 Miguel Nucete
 Girish Sant
 Theo Stewart

V.2. Environmental and social assessment for large dams

Lead Writer	Barry Sadler
Contributing Paper	Writer
Social Impact Assessment. Environmental and Social Impact Assessment for Large Dams – Thematic Review from the Point of View of Developing Countries.	Frank Vanclay Iara Verocai

V.3. River basins – institutional frameworks and management options

Lead Writer	Peter Millington
Contributing Paper	Writer
Dams in the Context of Transboundary/International Waters. Los Consejos de Cuenca en el Desarrollo de las Presas en México. Transboundary Impacts of Dams: Conflict Prevention Strategies. Review of the Role of River Basin Organizations in Latin America. Water Resources National Policy in Brazil. Large Dams, Transboundary Waters, Conflicts. Dams on Transboundary Rivers. River Basins: Institutional Framework and Management Options for Latin America. Possible Approach to the Management of Dams on International and Inter-Provincial Rivers. Development and Transboundary Waters: Obstacles and Opportunities.	Len Abrams Enrique Castelan Crespo Fiona Curtin Luis Garcia Raymundo Garrido Ramaswamy Iyer Erik Mostert Cecilia Tortajada Anthony Turton Aaron Wolf

V.4. Regulation, compliance and implementation

Lead Writers	Angela Cropper, Mark Halle, Danny Bradlow, John Scanlon
Contributing Paper	Writer
Report on International and Comparative Water Law Applicable to Large Dam Construction. Human Rights and Development. Implementing World Commission on Dams Guidelines within an International Certification System. Export Credit Agencies. World Bank Inspection Panel. Transparency and Corruption Prevention when Building Large Dams.	Daniel Bradlow, Gabriel Eckstein Balakrishnan Rajagopal Tom Rotherham Lori Udall Lori Udall Michael Wiehen

V.5. Participation, negotiation and conflict management

Lead Writer

Bruce Stedman

Contributing Paper

Writer

Support to Lead Writer.
Support to Lead Writer.
Support to Lead Writer.
Support to Lead Writer.

Tisha Greyling
Anne Randmer
Vanchai Vatanasapt
Arch Isabel Viana

Working Papers

Dams and human health

Writers

Robert Bos, William Jobin,
Martin H. Birley, P.V.
Unnikrishnan, M'barack Diop

Dams and cultural heritage management

Writers

Steven Brandt, Fekri Hassan

Cross-Check Survey

The Cross-Check Survey – Methodology, Findings
and Lessons Learned.

WCD Secretariat

Submissions

The WCD received 947 submissions from 79 countries that were reflected in the Case Study, Thematic Reviews and Regional Consultations. The full list of submissions is available on the WCD website at www.dams.org.

