DAMS AND CULTURAL HERITAGE

This article has three aims: first to present the World Commission on Dams (WCD) and its findings with a focus on cultural heritage; second to provide insight to the WCD's new framework for decision-making; and third, to draw recommendations from the WCD Report that relate to heritage at risk from dams.

A Unique Process in Global Public Policy Making – The World Commission on Dams (WCD)

Dams are at the centre of many controversies related to the management of water resources and proposals to relieve water scarcity. Contrasting experiences and positions underlie the intense debate on dams that ultimately led to the establishment of the WCD in May 1998. The Commission was comprised of twelve members with differing perspectives and a broad range of backgrounds. Its mandate was to review the development effectiveness of past projects and propose recommendations for 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. One of the Working Papers that was submitted by Steven Brandt and Fekri Hassa (eds) to the WCD was entitled 'Dams and Cultural Heritage Management'. All WCD reports are available on its web site: www.dams.org and on CD Rom. The Commission launched its Final Report '*Dams and Development: A New Framework for Decision-Making*' on 16 November 2000.

There are more than 45,000 large dams around the world that together 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 although dams have delivered many benefits, in too many cases the price paid to secure those benefits has been unacceptable and could have been avoided.

Cultural Heritage – the Findings from the WCD

Large dams have had significant adverse effects on heritage through the loss of local cultural resources (temples, shrines and sacred elements of the landscape, artefacts and buildings) and the submergence and degradation of archaeological resources (plant and animal remains, burial sites and architectural elements). Dams can also cause loss or damage of cultural heritage through land reclamation and irrigation projects and the construction of power lines, roads, railways and workers' towns.

In most cases, no measures have been taken to minimise or mitigate the loss of cultural and archaeological resources. Affected communities repeatedly raised the treatment of burial sites at the WCD Regional Consultations and other public hearings. During the construction of the Inanda dam in South Africa, remains of human bodies buried under the reservoir site were exhumed and all buried in one hole, profoundly disturbing local communities. The Grand Coulee Case Study records the submergence of Native American burial sites by dam waters. The tribes used funds provided by the authorities, and their own means, to relocate burial sites exposed by receding reservoir waters. The risk of submerging ancestral graves is one of the main reasons the Himba people in Namibia oppose the planned Epupa dam.

The assessment of lost or buried cultural heritage resources not directly linked to local people has been at least equally significant, but often more difficult to estimate. The difficulty lies in the fact that no investigation of cultural and archaeological resources has taken place as part of the planning process of most dams. Given that river valleys often hosted the most ancient civilisations, the importance of losses from existing dams can be assessed by default, on the basis of the quality and quantity of finds in areas affected by dams where some cultural heritage assessment did take place. When the Madden dam in Panama dropped to its lowest historical limit in 1998, it exposed thousands of artefacts, cultural features and human burial sites. In 1988 in India, reconnaissance surveys in 93 of the 254 villages to be submerged in the Narmada Sagar dam impoundment area yielded hundreds of archaeological sites, ranging from Lower Palaeolithic to historic temples and iron smelting sites.

From the WCD Case Studies, it was seen that two dams – Pak Mun and Aslantas – were redesigned to avoid impacts on cultural and archaeological resources. The Aswan High dam, admittedly an exceptional case, illustrates not only how important potential losses of cultural heritage can be, but also how efforts to conserve cultural resources can improve understanding of cultural heritage.

Although improvements have been noted in recent years, potential losses of cultural resources due to dam construction are still not adequately considered in the planning process. In Turkey, for example, only 25 of 298 existing dam projects have included surveys for cultural heritage, and of these only five have had systematic rescue work conducted. The India Case Study reveals that although projects like Narmada Sagar, Tungabhadra, Bhadra, and Nagarjunsagar have paid some attention to major temples and places of worship, almost all the dams built so far suffer from lack of cultural heritage studies (let alone mitigation measures). The combined problems of time constraints, under-budgeting, and a shortage of qualified personnel are seriously hampering the salvation and preservation of the impressive archaeological and cultural sites in the areas to be affected.

WCD Recommendations on Cultural Heritage

WCD's proposed decision-making framework: a 'window of opportunity' for risk minimisation

The Commission provides a new framework for decision-making aimed at preventing and resolving conflicts, and minimising potential risks associated with development interventions. This framework is based on recognising rights (including the rights of people of their cultural resources) and assessing risks of all stakeholders, including risk to cultural heritage. The notion of risks is an important dimension to understanding how, and to what extent, a project may have an impact on people's rights, on the environment, and on the archaeological and cultural resources of local communities, of a nation or humanity as a whole, or of one group. The 'rights and risks' approach introduces a departure from a traditional 'balance sheet' approach where losses have been traded off against gains to others (actual or anticipated).

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 Figure 1.

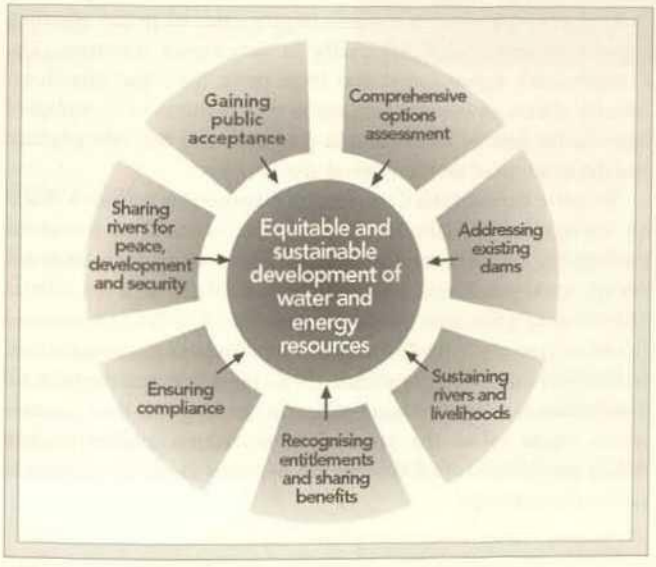

Figure 1: The WCD's Seven Strategic Priorities
Source: World Commission on Dams, 2000. *Dams and Development: a New Framework for Decision-Making*, Earthscan, London.

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 advisory guidelines based on examples of good practice from around the world.

The guidelines have, for example, included using both Strategic Impact and Project-Level Impact Assessment for environmental, social, health and cultural heritage issues.

WCD's specific recommendations for cultural heritage issues

The two advisory guidelines that directly affect cultural heritage issues emerge from the 'Comprehensive Options Assessment' Strategic Priority within the WCD's 'New Framework for Decision-Making'. These guidelines are:

- Strategic Impact Assessment (SA)
- Project-Level Impact Assessment (IA).

Strategic Impact Assessment (SA) is a relatively recent tool that can be used to provide a new direction to planning processes. It provides an entry point that defines who is involved and maps out the broad issues to be considered. The Commission proposes that the SA process starts by recognising the rights to be accommodated, assessing the nature and magnitude of risks to the environment and affected stakeholder groups, and determining the opportunities offered to these groups by different development. It should also identify where conflicts between various rights exist and require mediation.

SA takes the concept of project level impact assessment and moves it up into the initial phases of planning and options assessment. It is a broad assessment covering entire sectors, policies, and programmes, and ensures that environmental, social, health, and cultural implications of all options are considered at an early stage in planning.

The general goals of SA include:

- recognising the rights of stakeholders and assessing the risks;

Cultural Heritage Impact Assessment

Cultural heritage resources are the cultural heritage of a people, a nation or humanity as a whole, and can be on the surface, underwater or underground. They comprise:

- cultural practices and resources of current populations – religions, languages, ideas, social, political and economic organisations, and their material expressions in the forms of sacred elements of natural sites, or artefacts and buildings;
- landscapes resulting from cultural practices over historical and prehistoric times;
- archaeological resources, including artefacts, plant and animal remains associated with human activities, burial sites and architectural elements.

Cultural Heritage Impact Assessment (CHIA) requires adequate time for successful completion and should be looked at in two stages. First, where regions and river valleys are known to be rich in cultural resources, landscapes, or archaeological resources, consideration of these elements should be included in Strategic Assessments and used as a criterion in selecting options and avoiding impacts. Second, a project level mitigation plan is developed where a dam option proceeds to full feasibility phase.

The following procedural aspects need to be considered:

- financial resources should be specifically allocated to CHIA;
- the assessment team should include archaeologists and, if necessary architects and anthropologists;
- where cultural assets have spiritual or religious significance, all activities should be planned with the consent of relevant communities;
- assessments should culminate in a mitigation plan to address the cultural heritage issues identified through minimising impacts, or through curation, preservation, relocation, collection or recording;
- a separate report should be produced as a component of the overall IA process.

- incorporating environmental and social criteria in the selection of demand and supply options and projects, before major funds to investigate individual projects are committed. These social criteria include social, but also health and cultural (e.g. cultural heritage) aspects;
- screening-out inappropriate or unacceptable projects at an early stage;
- reducing up-front planning and preparation costs for private investors and minimising the risk that projects will encounter serious opposition due to environmental and social considerations;
- providing an opportunity to look at the option of improving the performance of existing dams and other assets from economic, technical, social, and environmental perspectives.

Project-level impact assessment (IA) is already standard practice in many countries, and the term is used here to include environmental, social, health, and cultural impacts. Deficiencies in past implementation have been identified, and improved processes are needed.

IA should include an Environmental Impact Assessment, a Social Impact Assessment, a Health Impact Assessment, and Cultural Heritage Impact Assessment (see boxed text) as explicit components and should comply with international professional standards. The assessments should be sufficiently detailed to provide a pre-project baseline against which post-project monitoring results can be compared.

Apart from the planning stage of the project cycle, cultural heritage issues are also important during project implementation. In order to ensure compliance, the Commission recommends that an independent panel is set-up to review and endorse the implementation of social, environmental, health and cultural heritage mitigation measures. This refers directly to the Commission's advisory guideline on 'Independent Review Panels for Social and Environmental Matters'.

Independent review panels (IRP) should be established for all dam projects. They differ from tribunals, commissions, judicial reviews or other recourse mechanisms as their principal task is reviewing assessment of impacts and the planning, design and implementation of social and environmental mitigation plans. In some countries their recommendations can be binding on all parties. In others they are only advisory. The scope of the IRP powers is laid out in its terms of reference. They report to the regulator, developer, consultants, affected peoples and financing agency to help ensure the best possible social and environmental outcomes. The IRP is not a dispute resolution mechanism, but may assist in bringing issues to the attention of the relevant body for resolution.

IRPs offer independent assessments of the issues that should be dealt with in project level impact assessments and project implementation, while also providing a mechanism to transfer best practice from one project to another, both nationally and internationally. IRPs further provide a quality control function to assure the developer, regulator, financing agency and affected groups that the necessary standards are being met and that laws or guidelines are complied with, as laid out in the Compliance Plan.

Conclusion

Although improvements have been noted in recent years, potential cultural heritage impacts are still largely ignored in the planning process of large dams, especially in developing countries. The Commission's report found that large dams have had significant adverse effects on cultural heritage as they resulted in a number of cases in the loss of local cultural resources and the submergence and degradation of archaeological sites.

To move forward the Commission proposes an approach based on 'recognition of rights' and 'assessment of risks' as a tool for guiding the future planning and decision-making for water and energy resources. Good practice is promoted through the criteria and advisory guidelines of the Commission. The WCD has established a framework for Cultural Heritage Impact Assessment and if followed could lead to a reduced level of heritage degradation and improved mitigation approaches. 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.

Spain, Mediano reservoir prior to inundation

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