

Preface

Up to until the 1970s, it was generally assumed that large dams overwhelmingly contributed more benefits to the society compared to their costs. This perception started to change in the late 1970s. During the 1980s, the global debate on the benefits and costs of large dams became increasingly emotional, dogmatic and confrontational. While the initial debate started primarily in the United States, it subsequently engulfed many other countries. It became especially heated during the 1990s, when the pressure from primarily single-cause activist NGOs, mostly again from the United States, contributed significantly to the reduction of funding support for the construction of large water infrastructure projects in developing countries, especially from the World Bank and the Regional Development Banks. In fact, during the 1990s, to paraphrase Margaret Thatcher, former Prime Minister of the United Kingdom, all these Banks considered somewhat erroneously construction of large water infrastructure projects to be a 'sunset industry.' Not surprisingly, the World Bank lending for hydropower projects during the decade of the 1990s fell by an incredible 90%.

Concurrently, environmental and social concerns started to become increasingly important issues starting from about 1970. The National Environmental Policy Act (NEPA) was enacted by the United States on January 1970. It is the first such comprehensive environmental policy act in any country of the world. Its preamble states:

To declare national policy which will encourage productive enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of the man; to enrich the understanding of the ecological systems and natural resources important to the Nation

NEPA required that construction of any large project, including water infrastructure, could only proceed after an environmental assessment had been prepared and approved. It is in fact the first act in any country of the world which made it mandatory that all projects must prepare detailed environmental impact assessments before approval and funding can be authorized.

Environmental issues received a further international boost when the United Nations convened its first-ever megaconference, on the Human Environment, in June 1972, in Stockholm. It is worth noting that when the Stockholm Conference was convened, there were very few countries which had even an Environmental

Ministry, and even fewer which required mandatory environmental impact assessments before any large project could be approved. However, within a short period of two decades, environment became a mainstream subject and nearly all countries had a full-fledged Ministry, or at least institutional arrangements, to ensure that environmental issues received appropriate consideration during the project preparation and implementation phases.

As the environmental awareness of various countries during the 1970s evolved, a common perception started to develop, that is, small is beautiful and big is ugly. An important victim of this philosophy was large dams, irrespective of the fact that no country or region in tropical or sub-tropical climate has ever managed to make significant economic progress without harnessing adequately its water resources. This fact can be exemplified by the fact that countries like the United States and Australia have over 5,000 m³ of storage per person, but countries like India and Pakistan have around 150 m³ per person, and Ethiopia and Kenya only about 50 m³ per person. Viewed in another way, dams on major rivers like the Colorado in the United States and Murray-Darling in Australia can hold some 900 days of river runoff, and the Orange River in South Africa for about 500 days. In contrast, the major peninsular rivers of India can store flows for 120 to 220 days, and countries like Pakistan can barely store enough water for about 30 days. Such skewed construction of water infrastructure has seriously hampered, and continue to hamper, the economic and social development of many developing countries. This is a fact which has still not received appropriate recognition.

Absence and delays in construction of properly planned dams have also contributed to serious energy shortages and balance of payment problems in many developing countries, especially those that have to import fossil fuels. Whereas OECD countries as a whole have developed nearly 70% of their economically viable hydropower potential, corresponding figures for countries like India and China are 30%, Pakistan about 10%, the African continent as a whole less than 5% and Nepal only about 1%.

Political leaders of all major arid and semi-arid countries when they were in their early development phase, ranging from President Roosevelt of the United States to Jawaharlal Nehru of India, Gamal Abdel Nasser of Egypt, and Kwame Nkrumah of Ghana, gave construction of large dams priority for the social and economic development of their countries. They realised that dams provide reliable sources of water for domestic, industrial and agricultural uses, contribute to hydropower generation, protect countries from the twin ravages of floods and droughts, and provide navigation. Prime Minister Nehru of India, while inaugurating the Bhakra-Nangal Project, expressed the general view of the leaders in such countries as 'dams are the temples of modern India.'

The public perception of the importance of large dams started to change in the 1980s. For example, a major Japanese newspaper like the Asahi Shimbun used to regularly castigate the Japanese Government for not building enough dams during the 1960s and 1970s. However, during the 1980s and later, its philosophy turned around 180°. It became virulently anti-dam, and focused on, and even exaggerated, only the negative impacts of such structures. This change in mindset happened for

many reasons, only one of which will be noted here. Large dams, like any infrastructure development, have both societal benefits and costs. Many groups of people benefit from these structures but some others pay the costs. Unfortunately, those who receive these benefits are often diffused and may not be even aware of the fact that the benefits are accruing because of a specific dam. For example, hydroelectric power generated by a dam could simply be another source of power in an electricity grid, whose contributions to energy security many users may not know. Similarly, increased food availability at a reasonable price in the market could be due to reliable irrigation provided by a dam. But, an average person often may find it difficult to relate these benefits directly to the presence of a large dam.

In contrast, people who are adversely affected by dams are fully aware of the reasons of their problems, like people who have to be resettled. They are much smaller in number compared to the number and the range of the beneficiaries, but are very visible, easily identifiable and vocal. During the 1980s and later, they were aided by single issue anti-dam NGOs who were often articulate and mediagenic. These NGOs were significantly media savvy and were aware of the power of the media and thus managed to get widespread and consistent media coverage for their views compared to their pro-dam counterparts. These activists focused on these single issues and costs alone. For practical purposes they ignored the benefits that such hydraulic infrastructures could bring to the society. For overall social and economic improvement, a logical and balanced approach would have been to argue that those who pay the costs should be made the direct beneficiaries of the dams and that other negative impacts should be minimised and positive impacts should be enhanced. Such an approach would have maximised the net benefits to the society. However, for many different reasons, this was not the case.

The success of these anti-dam NGOs were such that by the 1990s, the World Bank and the Regional Development Banks became somewhat afraid of them and their media power and were reluctant to fund any project that had anything to do with the construction of large dams. In fact, one can argue that the debacle with the Sardar Sarovar Project in India became the World Bank's Vietnam in the area of dam. True to form, the Regional Development Banks simply followed the World Bank's footsteps.

In 1993, the World Bank established an Inspection Panel to investigate complaints from project-affected communities 'to investigate IBRD/IDA financed projects' 'to determine whether the Bank has complied with its operational policies and procedures (including social and environmental safeguards) and to address related issues of harm.'

The very first case that the Inspection Panel considered was a dam (Arun III Hydroelectric Project in Nepal) which the Bank declined to fund. It has been estimated that the probability of the Inspection Panel reviewing a project with a dam was 64 times higher than one without a dam. As John Briscoe, currently a Professor at the Harvard University and formerly a senior World Bank staff, has perceptibly noted the ambitious Bank managers realised very soon that the Bank was ruthless in punishing 'sins of commission' but basically ignored 'sins of omission'. Thus, if the managers could help it, they gave projects with dams a wide berth.

Tom Kenworthy, a Washington Post reporter, admirably summed up the then prevalent situation in 1997 on the special animus the environmental activists held for dams as follows: 'To them, there is something disproportionately and meta-physically sinister about dams. Conservationists who can hold themselves in reasonable check before new oil spills and fresh megalopolises mysteriously go insane at even the thought of a dam.'

During the decade of the 1990s, with the discussions on the benefits and costs of large dams becoming more and more acrimonious, the World Bank and the IUCN sponsored the World Commission on Dams (WCD) which was given the mandate to:

- Review the development effectiveness of large dams, and assess alternatives for water resources and energy development
- Develop internationally acceptable criteria, guidelines and standards for the planning, design, appraisal, construction, operation, monitoring and decommissioning of dams

The Commission was established in May 1998, and delivered its final report entitled 'Dams and development: a new framework for decision-making' in November 2000. The Commission, right from the very beginning, was hijacked by the anti-dam lobby, and was highly skewed against dams by the majority of its commissioners, Secretariat staff and consultants.

The publication of the WCD report coincided almost with the peak of the anti-dam movement. A major unexpected development never foreseen by WCD or its anti-dam, single purpose NGO allies, was that it united all the major developing countries, like Brazil, China, Ethiopia, India, Lao PDR, Nepal Pakistan, the Philippines, Sri Lanka, Turkey, and Vietnam. They all unanimously agreed that the WCD report was biased, and could not be accepted. The Water Resources Sector Strategy of the World Bank correctly noted that the 'multi-stage, negotiated approach to project preparation recommended by the World Commission on Dams is not practical and virtually preclude the construction of any dam'.

The Chinese Government probably summed up the views of most developing countries on the report as follows: 'very much biased to the developed countries and anti-dam activists and extreme environmentalists. We therefore retreated from the WCD in 1998. We think it would be more appropriate to change the title of the report into "Anti-dams and anti-development."'

Patrick McCully, a leader of the single issue of anti-dam NGO, International Rivers Network, has candidly discussed how the anti-dam NGO hijacked very successfully the WCD process, including successfully sidelining of the Governments, in his authoritative account of what actually happened in his paper 'The use of a trilateral network: an Activist's perspective on the formation of the World Commission on Dams' (American University International Law Review, Vol. 16, 2001, pp. 1453–1454).

The initial approach of the Asian Development Bank (ADB), in contrast to that of the World Bank, to the WCD report was positive. Shortly after the report was

released, it convened a meeting in Manila which was opened with the statement that ADB intended to comply with the recommendations of the WCD. India refused to participate in the Manila meeting. Ramaswamy Iyer, an Indian anti-dam former bureaucrat whose country report on India was flatly rejected by the Indian Government, wrote to the chair of the WCD that 'The WCD process, far from narrowing differences, seems to have led to a greater divisiveness. Developing countries see it as yet another instance of the imposition on them by the developed countries of an agenda designed in the latter's interests'.

My own view is that the WCD process did contribute to at least three unexpected benefits for the developing world, though none of these were intended by the Commission itself or by its two godfathers. First, it contributed to a concerted action by the developing countries which were forced to unite by the biased report which otherwise may not have happened. With a combined voice, they could tell developed countries who had already constructed most of their large dams, that infrastructure construction is important for their socio-economic development, and that they need such structures to produce food, generate energy, employment and income, provide basic services and improve the overall quality of life of their citizens. This aspect, in their view, is not negotiable. The report turned out to be the catalyst that made this possible.

Second, the WCD report reinforced the essential requirement, if any was still needed, that it is imperative that people who have to be resettled because of the dams must be made their direct beneficiaries, and all environmental and social costs must be properly considered.

Third, many developing countries were tired by the 'paralysis by analysis' approach of the World Bank and the Regional Development Banks, especially during the 1990s. They wanted well-planned and well-designed dams to be built without unnecessary increase in costs and inordinate delays so that their people could enjoy the fruits of the infrastructure as soon as possible.

During the first decade of the twenty-first century, the debate on dams, though still polarised, is gradually becoming more balanced. It is slowly being realised that infrastructure is essential for the future accelerated development of developing countries. This 'new' perspective is reflected also by major donor institutions, like the World Bank, whose support to infrastructure has doubled, from around 20% in 2000 to some 40% in 2008. Its support to water projects increased almost 3.5 times in six years, from \$1.8 billion in 2003 to \$6.2 billion in 2009. The world as a whole is generally coming to appreciate the fact that large water infrastructure is essential for the economic development of the developing countries as long as social and environmental issues (both positive and adverse) are given appropriate considerations.

Within this slowly changing mindset on this issue, the Third World Centre for Water Management decided to undertake a series of objective case studies on the overall impacts of large dams. Leading objective and knowledgeable specialists were selected very carefully, and were requested to prepare case studies of positive and negative impacts of large dams, and their net impacts on the society. These case

studies were discussed and analysed in two international workshops, first one in Istanbul and the second one in Cairo. Thereafter, all the authors modified their analysis in the light of the discussions. The analyses in the book are based on date and information available until the end of 2009.

The Istanbul Workshop was especially noteworthy. Through the direct personal intervention of my co-editor, Professor Dogan Altinbilek, the participants had the pleasure and privilege of listening to President Süleyman Demirel of Turkey, who is an eminent water resources expert and under whose leadership Turkey underwent a most remarkable water resources transformation. President Demirel outlined the history of water development in Turkey, and the roles large dams have played to foster the country's social and economic development.

A project of this breadth and magnitude could not have been completed without the strong support of the authors who prepared the various case studies. On behalf of the Third World Centre for Water Management and the Middle East Technical University, I would like to express our most sincere appreciation for their work and their continuous support until this book was completed. I am especially grateful to my co-editors, Professor Cecilia Tortajada and Professor Dogan Altinbilek, for all the hard work they did for the completion of the book. The work of Thania Gomez in formatting the manuscript in Springer's style is most appreciated.

Atizapán, Mexico and Singapore

Asit K. Biswas

Impacts of Large Dams: A Global Assessment
Tortajada, C.; Altinbilek, D.; Biswas, A.K. (Eds.)
2012, XIV, 410 p., Hardcover
ISBN: 978-3-642-23570-2