



International Commission on Large
Dams



International Commission on
Irrigation and Drainage



International Hydropower
Association

Mr. James Wolfensohn
President World Bank Group
1818 H Street
Washington DC
USA

9 February 2001

Dear Mr. Wolfensohn,

On 28 December 2000 we wrote to you expressing our concerns about certain key elements in the report of the World Commission on Dams (WCD) launched on 16 November 2000. In this letter we asked your opinion and also mentioned that we were preparing more detailed comments on the WCD report, based on consultations with our members. The more detailed analysis requires a little more time, so meanwhile we are submitting to you the major common comments from our organisations (see Annex).

Mr. Nelson Mandela eloquently expressed the root of environmental and social degradation: under-development and poverty. Our organisations play a role in alleviating underdevelopment and poverty, and we believe that this was also the aim of the sponsors of the WCD. It is in this context (and as a member of the WCD Forum) that we must express our concerns about the WCD report.

The objectives of the WCD were to:

- review the development effectiveness of large dams and assess alternatives for water resources and energy development;
- to develop internationally acceptable criteria, guidelines and standards, where appropriate, for the planning, design, appraisal, construction, operation, monitoring and decommissioning of dams.

As we mentioned in our previous letter, the opportunity was not taken to use the Forum as a sounding board ahead of publication of the WCD report, despite the claim in the overview that the Forum was consulted throughout the process. Submissions from our organisations have never been discussed with the commissioners, nor did we receive any reaction on them. Our offers to use our membership to comment on drafts have not been accepted.

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The report has two main deficiencies:

(a) The overall tone is undoubtedly negative as regards the role of dams, giving a bleak picture of the social, environmental and economic costs, while barely recognising their benefits.

(b) While we are in basic agreement on the principles of the strategic priorities, the conditions proposed in the 26 guidelines for planning and implementation of future dams are, in many instances unrealistic. They will have the effect of preventing or at least delaying future urgently needed water resources projects.

One of the first stated aims of the WCD was to remove the controversy that had developed around dams at a time when a number of NGOs had called for a moratorium on their construction. These same organizations are now using the WCD report to vindicate their claims and increase the severity of the impasse.

It is unfortunate that the WCD report contains recommendations which are likely to lead funding agencies to withdraw from dams which do not satisfy its guidelines.

In conclusion :

1. We consider the WCD report simply as a useful document to generate further discussion, but absolutely inadequate, as it stands, to find the required sustainable solutions.
2. We do not accept the unbalanced judgement on the role of existing dams.
3. The 26 WCD guidelines as they currently stand are considered unrealistic for application.
4. As during the WCD process, our organisations are available to contribute to your work in refining the guidelines and criteria. However, we like to stress that this should also be done in close consultation with those who are really in charge of decision making on dams, and guidelines should not be imposed on them through indirect channels.

We request you to take note of our comments and disseminate them among the Executive Directors of the Bank and concerned staff.

Our organisations are now individually finalizing their detailed comments which will be published soon.

Yours sincerely,

Prof. R. Lafitte
President IHA

Mr. C.V.J. Varma
President ICOLD

Prof. dr. Bart Schultz
President ICID

Enc: Annex

**JOINT MAJOR COMMENTS OF ICOLD ICID AND IHA
ON THE REPORT OF THE WORLD COMMISSION ON DAMS**

1. The necessity for dams

- 1.1 The fundamental purpose of reservoir development and dam construction, which is to support sustainable socio-economic development, is not reflected in the WCD report.
- 1.2 Dams are necessary to store water, which is not evenly distributed in space or time. 45,000 large dams exist, and around the same number will have to be built during this century if we wish to supply the 2 billion people currently without water and the 3 billion increase in population expected by 2050.
- 1.3 It is expected that over the next 25 years world food production will have to double to feed the rapidly increasing world population. Most of this increase will have to be in the developing countries. In these countries the population increase will be greatest and the nutrition level of food consumption is way below the international standards. The increase in food production is expected to imply:
- * an increase in global withdrawals for irrigation of 15 to 20% with the assumption of significant increases in water use efficiency;
 - * an increase in global storage (reservoirs and to a certain extent also groundwater) of 10 to 15%. These figures rise to as much 60% in case of populous countries like India and China.
- In the WCD report these necessary developments have not been taken into account.
- 1.4 The world energy consumption, and especially electricity, will increase by a factor of 2.5 to 3.0 by the middle of this century, not only because of demographic pressure, but also the improvement in living standards in the less developed countries. Hydropower, associated with dams, which is a clean and renewable energy, will have to contribute to this energy supply.
- 1.5 As a result of the combustion of fossil fuels which will increase in this century, despite the international political efforts, a risk of a major environmental impact, and a climate change appears. It could impose more requirements for water storage, more flood control and less CO₂ emitting production facilities, such as hydropower plants.

2. WCD review of development effectiveness

- 2.1 We feel that the WCD report recognises and reiterates a number of constructive initiatives, such as:
- * sector and river basin studies to develop a portfolio of broadly acceptable projects;
 - * involving the affected people and making them beneficiaries;
 - * guarantees for social and environmental mitigation works.

However, the overall tone of the WCD report is undoubtedly negative as regards the role of dams, which undermines its constructive elements. In our previous joint letter dated 28 December 2000 we had pointed out two elements of concern:

- * The analyses of existing dams is unbalanced with a strong implication that the majority of the world's 45,000 large dams are environmentally damaging or socially destructive. Very little attention is devoted to the many well known benefits of carefully planned multi-purpose dams, and no feasible alternatives are suggested for meeting the future water, food and renewable energy needs of the developing world;
- * It is an illusion that decisions on development or infrastructural projects will get unanimous support in society. They have to be politically acceptable. The WCD report advocates a rights and risks approach as applicable to affected people. This approach, as well other proposals related to affected people, must be extended to the would-be beneficiaries of a dam project as well.

After further analysis of the WCD report, and based on comments received, we would like to add the points hereafter:

- 2.2 The WCD report rightly describes the plight of the disinherited; those who suffered and were not compensated for their lands, or livelihoods, as a result of some poorly implemented dam projects in the past. It also refers to the significant changes in aquatic ecosystems after dams have regulated a river and downstream flows no longer respond to nature's wild cycles, but to the needs of millions for water supply, irrigation, flood control and power generation. Reservoirs, like any other infrastructural development, bring about environmental and social changes. Predicted changes, both positive and negative, are ingredients for the process of options assessment. The fact that there have been projects with adverse environmental and social impacts in the past does not mean that a system which could obstruct water resources development in the future is needed. In our opinion the WCD report, while failing to acknowledge fully the critical role of dams for the welfare of society, goes way beyond the point of discouraging unfavourable projects from being developed.
- 2.3 Every human activity modifies the environment. Awareness in societies about the size and scope of adverse impacts is playing an increasing role in decision making. Efforts are made to mitigate and compensate such effects, while increasing positive impacts so that sustainability of development is maintained and the natural resource base is not eroded. The challenge is to ensure that positive impacts on environment outweigh negative ones. Mitigation and enhancement measures have been evolved over a period of time, by concerned professionals. ICOLD and ICID have developed detailed listings, criteria and guidelines for the study of environmental impacts and their mitigation. Many countries have developed appropriate policies and measures for compensating negative impacts. While respecting the right of countries/governments to develop their water resources plans and priorities, it is clear that adequate compensatory packages are provided to adversely affected people, and to ensure that these people are better off in the long term.
- 2.4 In the WCD report the benefits of dams are only briefly described, almost without quantification, while the negative effects are outlined in detail. Almost no attention is given to the role of dams for rural development, while hundreds of millions of farmers

have benefited tremendously from the revenues of irrigation that only could be realised in conjunction with reservoirs. The same is true for the major environmental benefits and protection against natural disasters which have virtually been ignored.

For example:

- * about 1 billion people depend on food produced by reservoir related irrigation. There is no suggestion of how this food could be produced by other means;
- * the WCD report paints a totally negative picture of health impacts of dams, while the positive aspects are not mentioned:
 - + huge benefit of food production;
 - + major reductions in respiratory problems, and premature deaths, by reduction of emissions of SO₂, NO_x, particulates and toxic metals emitted by fossil fuel combustion;
 - + hydropower schemes, with few exceptions (namely large, shallow reservoirs coupled with small installed capacity) offset greenhouse gases in a significant way and this is one of the most important combatants of climate changes. Hydropower should be credited for it;
 - + benefit of having inexpensive electricity to support essential services, such as local food processing industries;
 - + benefit of having better quality of drinking water all year round, even in dry periods;
 - + beneficial effect on women and children due to improved accessibility to a safe water source;
 - + reduction of the intensity of floods, droughts, desertification which are a major threat to health.
- * Indirect or external benefits of dams have not been taken into account, such as: improvement of infrastructure, prevention of migration from rural to urban areas, employment generation, recreation, income generation of beneficiaries, and multiplier effect on economy.

2.5 If we interpret the factual data that are shown in the WCD report in a balanced way by paying appropriate attention to the advantages, disadvantages and actual results, then it is clear that dams have generally been very beneficial so far. It has been shown that lessons have been learned from inadequacies and failures and that risks for future shortcomings have been significantly reduced. This leaves of course the responsibility with those concerned to improve where improvements can be made.

2.6 The report underplays the correlation between reservoir development and human life expectancy, and the fact that energy and water security are prerequisites for environmental protection. It also does not acknowledge that more than one billion people benefit from hydroelectricity. Even taking the worst-case WCD figures for displacement, and assuming hydropower represents one large dam in four around the world, then about 10 to 20 million people would have been displaced by hydropower development. This means that of all the people directly affected, either positively or negatively, at least 98% have benefited from hydropower development, many of them have an improved quality of life following resettlement, through the provision of better housing, education, sanitary services, training, and so on.

2.7 The report strongly criticises dams in relation to cost and schedule overruns. These problems are not specific to dams, and therefore should not be used as arguments against them. We would like to point out the following:

- * *cost overruns*. Contrary to the assertion in the WCD report, World Bank data show a slightly better performance for hydropower projects when compared with other energy projects;
- * *construction delays*. If public works should not be built because of construction delays, virtually nothing would ever be built. There are many examples of projects which have encountered construction delays and have still been highly useful and profitable;
- * *performance*. The irrigation review in fact shows very positive results. These become even more positive when compared with the 'no project' alternative, or would be determined over the lifetime of the dam. The negative impression that is given in the WCD report results from a comparison between data in the feasibility studies compared with actual data, mainly valid for the initial period after construction of a new scheme. Under that condition the remarks may have some reliability because irrigation pick up is slow, but not so relevant when we really look at the level of the actual performance figures.

2.8 The WCD report points out the negative impact of low food prices. It is of course true that these prices are low at present. However, it is also true that increases in food production have not followed the increases in consumption, especially during the past decade. This increases the risk for significant rises in the food prices in the near future when no timely provisions are being realised. These rises will impact especially on the rural poor. At present already an estimated 800 million people, most of them in the rural areas, suffer from food shortages.

3. Analysis of options

3.1 Proposed options comprise non-structural measures and small, local, groundwater based, and riparian alternatives, which are complementary to, and not alternatives to, dams and reservoirs, as the WCD report itself indicates. These methods are already being deployed as complementary to irrigation schemes. 'Watershed development' or 'traditional systems' similarly are not options but are supplementary to major irrigation systems, which are already being deployed with success. The WCD report thus fails to project a balanced and correct evaluation, and recommends a strategy which does not sound convincing and acceptable to the people and politicians who represent them and who have to decide on the most suitable options.

3.2 Reservoirs for irrigation are not 'worst case' options which should only be considered when all other options cannot be applied. In our perception, the various possible options, complementary as they are, have to be taken into account in a proper preparation and decision making, based on their respective advantages and disadvantages; their financial feasibility, track record and time frame in which each option can be made operative.

3.3 The same holds more or less true for the options related to hydropower development. To assess the development effectiveness of large dams, it is important to compare dams with other common options for the water and the power sector, such as coal, nuclear, gas or oil for energy issues, which, together with hydropower, provide nearly 100 per cent of today's electricity, and will continue to provide most of it in the foreseeable future. The WCD report fails to recognise that if a hydropower plant is not built, the replacement option will be a fossil-fuel or a nuclear plant with consequent environmental impacts and political concerns. Instead, the WCD report proposes theoretical potentials of decentralised micro power and fuel cells, which may be appropriate for remote areas but cannot contribute significantly to future global demand:

- * while all sources of renewable energy should be developed, it should be stressed that wind and solar power are not available on a realistic scale to meet future demand, and do not offer the same level of service as hydropower, as they are intermittent sources of supply. Hydropower, which is based on renewable water resources, is one of the best back-up supplies for intermittent energy sources, because of the capability of storage. Because hydro reservoirs offer the only way to store energy at an industrial scale, they can also help thermal plants operate more efficiently (generating less pollution by steady-state operation);
- * for fuel cells, the Commission fails to recognise that hydrogen is not a source of energy, and must generally be produced by other fossil-based sources. This means that costs will remain high and environmental effects/impacts uncertain.

4. The WCD Recommendations

4.1 Decisions on dams are basically government decisions. There may often be disagreements and decisions are difficult to take. The challenge is to find a balance between the requirements based on the needs of society, acceptable side effects and a sustainable environment. The development of dams in the world has not taken place in absence of knowledge. A vast amount of experience is available. ICOLD, ICID and IHA with the help of their participating member countries around the world, for instance, have developed a variety of standards and guidelines. They have been adopted in international and professional fora and fine-tuned especially during the last 50 years. Besides, most of the countries have their own standards which are statutory. The standards and criteria adopted by any one country for its conditions may not be applicable to another. Thus, while recommendations could be recommended internationally, much of the standardisation work must be done in individual countries to suit their prevailing conditions with due regard to the safety requirements and mandatory procedures.

In the WCD report only limited reference is made to the tremendous knowledge bases which already exist. The 26 WCD guidelines have not been put in perspective with the guidelines and criteria outlined above, nor have the major concerned governments been consulted on their processes of decision making. The preparatory work for decision making on dams, and the existing processes for options assessment do not seem to be acknowledged by the WCD, and are in fact much more elaborate.

4.2 Water scarcity is engulfing many countries of the world. Thousands of dams still have to be built in the future to store water and make it available where it is needed, especially in the non-industrialised countries. The needs of growing populations, the pace of urbanisation and industrialisation, and the urgent need to improve the standard and quality of life of poorer strata of their societies calls for urgent steps to develop these facilities. It is an enormous challenge to decision makers, developers and designers to develop the economically required capacity in an environmentally sound and sustainable way.

It would have been appreciated if the guidelines developed by the WCD could have supported this process and therefore could have contributed to the improvement of existing guidelines, standards and criteria in the concerned countries.

4.3 The Commission refers to the UN Declaration of Human Rights (1948), to the Declaration on the Right to Develop (1986) and to the Rio Declaration on Environment and Development (1992). These are universally accepted. Also, the core values identified by the Commission: equity, efficiency, participatory decision-making, sustainability and accountability, are similar to those which have been adopted by the professional associations.

4.4 We do follow the principles of the strategic priorities, but their implementation requires further consideration and must always be in accordance with national legislation.

- *Gaining public acceptance.*

We agree overall, but it should be emphasized that this should be within the framework of the laws of individual countries. The process should be democratic, and there is a need to assert sound judgment as to how public acceptance is reached.

- *Comprehensive options assessment.*

All options must be treated at the same level and with the same degree of detail, with sufficient data available.

- *Addressing existing dams.*

This can be done, but taking into account that laws cannot be enacted retrospectively. Post-project auditing of social and environmental aspects should be encouraged, and compensation measures should be implemented if required.

- *Sustaining rivers and livelihood.*

As Indira Gandhi said 'Poverty is the biggest enemy of the environment'.

Thorough studies should be conducted to ensure that the correct balance is achieved between sustaining rivers and required development. Changes do not necessarily detract from the value which rivers provide to the environment.

- *Recognizing entitlements and sharing benefits.*

We have already adopted the concept of benefit sharing, but we are concerned about the practicality of affected people being part of the negotiation process.

It should also not be overlooked that 'affected people' also include beneficiaries of a project. The interests of those affected by non-construction of a project should also be taken into account.

- *Ensuring compliance.*

Compliance should be under the auspices of the relevant government authority, and in the event that such an authority does not exist, it should be created.

- *Sharing rivers for peace, development and security.*

This problem must be solved, above all, by multi-national treaties.

- 4.5 The WCD has identified five key decision points in the process of planning and project development, known as ‘WCD criteria’: Needs assessment; Selecting alternatives; Project preparation; Project implementation; Project operation.

In fact this process is more complicated. The list of criteria proposed is not complete, and their proposed application is not clear as regards definition of relevant expertise and responsibilities. Based on the experience of some decades of political and technical issues, three major phases are generally developed in sequence: water resources planning, the establishment of development plans and implementation.

The government is deeply involved, at the highest level, in these first two phases, because it is fundamental to the development of the country. The government must take care of the general interest of the population, without neglecting the minorities. The protection of social and environmental interests at this stage is realized within a political framework. Depending on the development stage of a country, an important preliminary phase of pre-planning may be required in which this political framework is engaged, with specific national laws and rules.

The third phase concerns the stages of implementation of a scheme, from the feasibility studies through to operation. In particular, two essential stages, the concession and authorization to build, offer strong protection to the potentially affected people. Prior to this, an environmental and social assessment report is established under the jurisdiction of the legal authorities, and the early involvement of potentially affected people is essential to develop informed opinion, good mitigation measures and efficient compensation packages.

- 4.6 As a result of this unclear definition of the process and of the division of responsibilities between the authorities, the owner (eventually), the beneficiaries and the people affected by the project, the 26 guidelines for future planning and implementation of dams are unrealistic in many cases. Although conceived with good intentions, these recommendations have not been submitted to the test of experience. They will have the effect of preventing, or at least seriously delaying future water resources projects. For example, the creation of a stakeholder forum for gaining public acceptance to follow the development of a project and its operation continuously will lead to interminable discussions and in some cases no decisions. The aim of this is obviously political, and in the great majority of countries, political organizations already exist to represent the interests of the population democratically.

Conclusion

- The overall tone of the WCD report is undoubtedly negative as regards the role of dams, which undermines the constructive elements.
- We do follow the principles of the strategic priorities, but their implementation requires further consideration and must always be in accordance with national legislation and priorities.
- The 26 guidelines for future planning and implementation of dams are unrealistic in many cases. Although conceived with good intentions, these recommendations have not been submitted to the test of practicability, acceptability and feasibility. They will have the effect of preventing, or at least seriously delaying future water resources projects.

New Delhi, 2 February 2001

R. Lafitte	President IHA
C.V.J. Varma	President ICOLD
Bart Schultz	President ICID

*The problem, though, is not the dams. It is the hunger. It is the thirst.
It is the darkness of a township.
It is township and rural huts without running water, lights or sanitation.
It is the time wasted in gathering water by hand.
There is a real pressing need for power in every sense of the word.*

[Mr. Nelson Mandela, 16 November 2000, London]