

1. INTRODUCTION

By editing its report entitled "Dams and Development : a Framework for Decision-Making", the WCD had the objectives to prepare a framework for options assessment and decision-making in water and energy development and to give criteria and guidelines for the planning, the design, the construction and the operation and including the decommissioning of large dams, and for bringing new voices in the procedure in order to get a large public acceptance.

2. SOME WORDS ABOUT THE SWISS SITUATION

Switzerland and the Swiss Committee on Dams are both naturally highly interested by the content of this report, on one hand because of the large experience collected by Swiss dams owners, Swiss engineers and Swiss equipment suppliers, either in their own country or abroad and, on the other hand, because the first meeting for creating the WCD was hold in Switzerland, even if the Swiss Committee on Dams has been informed after the event.

Presently 210 dams from 5 m to 285 m high and with a reservoir volume between 50'000 m³ to 401 millions m³ are placed under the control of the Federal Authorities. More than 80% are integrated in hydroelectric schemes [2].

These hydro-schemes are bringing an energy of a very high value and offer a very high flexibility in supplying. In addition, a recent and exhaustive study demonstrated that, in comparison with other means of production, the external costs of the dams and the hydroelectric schemes are the lowest [1].

The questions and rules related to the construction, the operation and the safety of dams are regulated by Federal and State (canton) laws which, for most of them, have been applied for several decades. In the facts Switzerland has at disposal an adequate legal frame which can be adapted if the needs or if the experiences are asking for.

The realization of dams and hydro schemes with the necessary accompanying measures does not come from an unilateral decision of the promoter. A process based on the rational use of the hydraulic resources has been developed for a very long time and the federal authorities have the duty to look after the application of this concept, to check if third party's interests are also taken under consideration and not injured, and to verify that the impacts on the environment of the project are in accordance with the exhaustive legislation. This survey is made by the different federal and state offices [3].

In addition, according the legal frame of each State (canton), the project have to get a concession. Before this legal document is delivered, the population and the concerned associations have the opportunity to express their opinions, to bring remarks and suggestions in a process of a public inquiry. The have also the right to make opposition, at first in an administrative procedure and at second, if necessary, to the court. Above all, the democratic process is guaranteed through the referendum right at local and national level.

At all levels of the studies, from preliminary project to final design, are associated impact studies and mitigation measures with weighing of interests on which decision can be taken.

A concession is given for a limited duration and can be renewed. This renewal is based on a new analyse of the operating and environmental conditions.

Switzerland has a long democratic tradition based on consensual politics, with procedures of consultation and participation at the different steps of the studies, including the population and the concerned associations or foundations. The process of consultation has a chance to succeed only if the project owner or the promoter is bringing to discussion a comprehensive and structured proposal. Past experiences are showing that large public brainstorming never reach constructive proposals in a reasonable delay and in accordance with development plans.

In our country, the majority of the important schemes are located in the Alps, at middle and high altitude, therefore a few population had to be displaced. Some cases of displacement exist and the population had been compensated or relocated by mutual and individual agreements or if necessary through the legal procedure of expropriation.

Aspects related to environmental protection have been already considered a long time before the creation of the specific legal frame on environment. This legal frame has been developed during the eighties years. It defines the criteria for the impact studies, how to run them and criteria for mitigation measures. It regulates also the problems related to reservoir flushing and to the minimum water discharge during operation. This legal frame has been developed by taking lessons from former experiences and it is based on large politic and public consultations.

The safety concept of dams is taking also an important place. It concerns the survey, the maintenance concept, the alarm system. This survey belongs to the duties of the federal authorities together with the state control office (the canton) and the owners. With this concept, based on a regular survey of the dams, all the incidents put in evidence have been kept under control.

In all the points mentioned here above, nothing is definitely set. With the time and the experiences we gained, the laws, the concepts and the criteria for decision-making are adapted and improved by consulting the interested and concerned circles.

For example the floods of the years 1987, 1993, 1994 and 2000 have shown the very positive contributions of the dams to the protection of the downstream areas. Consequently a dialogue has been open between authorities and dam owners about the way to improve the capacity of the hydroelectric schemes to protect the downstream population. An enlargement of them or adaptation the operation to multipurpose schemes is envisaged.

Decommissioning cases are very seldom they concern only small dams on which the security was no more guaranteed. Generally they were modified in such way they could not no more retain water avoiding therefore maintenance works.

3. COMMENTARIES ON SOME PROPOSALS DEVELOPED IN THE WCD REPORT

At first, the WCD 's report refers to the UN Declaration of Human Rights 1948, the Declaration on the Right to Develop 1986 and to the Rio declaration on environment 1992. In addition to these universally accepted declarations, the report intends to bring a set a criteria and a decision-making process based on seven strategic priorities ¹.

Basically these priorities and principles are of high interest and they are very good rules on which a process of consultation and participation has to be developed. Even if consultations and participation are not at all new concepts. Several countries and professional associations, around the world have promoted and are applying legal frames and recommendations for all the important projects, especially for infrastructure projects, in which consultations and participations are already an integral part of the procedure, at each important step of the project.

This has been put in application progressively, based on the experiences and the observations accumulated on previous projects and with the progressive development of the environmental consciousness all around the world.

The Swiss example and its legal frame and consultation process, described here above, is typically a procedure developed progressively based on experiences and dialogue on political level.

A project of dam belongs to a strategy of development at the scale of a country, a province or a region and refers to planning made on political level like a parliament or a government. In other words it is "a top-down" planning. This planning had to take into account the general in-

¹ Chapter 8, Strategic Priorities, Fig 8.1 : The WCD's seven strategic priorities.

terest and it is obvious that at this stage of planning, some local interests could be considered as not prominent as a result of weighing the different components.

The WCD way of doing reflects a very generous but difficult method of progressing, promoting "a bottom-top" planning, leading to extensive and long discussions during which major and minor arguments will be mixed, paralysing the assessment of guide lines and priorities for development.

In developing countries, the population growth is so enormous that the dam projects, supplying water, **the element of life**, and energy, belong the national development strategy of infrastructures, the dams being only a part of these infrastructures.

The proposals of the WCD for alternate solutions for electricity production, like solar or wind energy, is coming also from a very idealistic thinking but these two ways of producing do not bring comparative results. When analysing more deeply and objectively these alternatives, we have to put in evidence that their contributions are limited, they are very land surface consuming, they have secondary environmental effects by their structures and they have to be connected to hydro storage plants to accumulate the energy for adapting the production and the power to the demand, **and above all they do not bring water, the element of life**. In several countries, the water income is subject to the meteorological and climatic events, it means that collective storages in large dam reservoirs are the only alternative for irrigation and water supply.

Small local hydro projects could be considered of interest in some particular situations, but most of them are not at all able to bring a global answer to the consequences of the population growth, they are far below the minimum requirements for a population aspiring after a reasonable development.

Above all, the proposal of the WCD to reconsider the energy demand by promoting energy saving is only adapted to high developed countries. In developing countries where water (irrigation, drinking water) and energy are already goods difficult to get or even missing, it does not make sense to think about a reduction of demand. Goods subject to shortage or to strict regulation due to lack of infrastructure cannot be subject of a study for limitation.

By selecting such criteria, as already mentioned by Mr Varma, ICOLD President, in his commitment published in *Hydropower & Dams*, Vol. 7, issue 6, 2000, by bringing to discussion only a few number of dams in the world, where some elements have not been totally under control due to a lack of experiences, by arguing without balancing the whole effects of dams, by not taking under consideration that all the experiences in development are factor of progress, by avoiding to mention than no valuable alternatives exist for storing water and to bring long lasting conditions for development, the WCD does not introduce a real and positive contribution of the dams in development programmes. Several of the experiences made on these dams have already contributed to make significant progress in decision-making on new project.

Finally, it is surprising that the WCD has totally ignored the existing rules already applied in several countries and has also not put in evidence the positive existing experiences made all around the world, for the dams and the hydro-scheme projects.

Even more surprising is this proposal of a supra national council interfering in local affairs. This way of interfering will be the origin of conflicts and unsuitable proposals, each hydro-scheme being a particular project, either on the technical point of view and or on the social effects, the dams projects being tightly connected to the national and local politics of development.

4 CONCLUSION

Several proposals in this report are of the high interest and could contribute to improve dam planning, construction, financing and operation, knowing that improvement and progress are coming with exchanging and confronting ideas, but unfortunately due to the way they are illus-

trated and commented in this report, the WCD is introducing a big factor of insecurities which will in fact paralyse decision-making and participating in financing when the world absolutely need to manage its natural resources.

To apply the recommendations of the WCD is to open the door to chimeras, originating endless discussions.

The development is the key to the democracy and the dams are an important factor to contribute to development. It should not be hindered by such a partial evaluation.

Swiss Committee on Dams

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