WWF-Mongolia Position on proposed Durgun Hydropower Plant

Ulaanbaatar, 15 Jan. 2003

Introduction

Reliable energy supply for the three western provinces of Mongolia was the most challenging issue for the Government of Mongolia during the last decade and continues to be so. Many research projects have been carried out on this issue and several options have been considered to achieve this task. A hydropower plant near Durgun sum (Durgun HPP) was one of the options. The intention is to supply the people of western Mongolia with electric energy, thus reducing dependence on energy imports from Russia. According to the plan, Durgun HPP would be built in the gorge of Chono-Kharaikh river. The river is a part of the buffer zone of the Khar Us Lake National Park which in turn is part of the worldwide recognized Altai Sayan Ecoregion, a region rich in culture, biological diversity and option values.

In respect to the development of this hydropower project, a number of tangible socio-economic, environmental and legal issues are touched. Several significant studies acknowledge the rich nature of the Khar Us Lake region and the high touristic option value of this landscape. The environmental impact on the lake and the socio-economic risks of a hydropower dam near Durgun sum (IUS-Weisser & Ness, 2000), a socio-economic cost-benefit analysis (Baatar, 2002) strongly caution to proceed with the project.

Therefore, WWF-Mongolia Programme Office is introducing main results of these research works and presenting its position on Durgen Dam construction issue. Also, introducing Commitment of Mongolia to sustainable development in relation with environment and policies of the World Commission on Dams (WCD) about sustainable use of scarce water resources.

1. Research results about water regime of Khar-Us Lake and environmental impact issues related to the Durgen HPP project

According to IUS - Weisser & Ness (2000), a dam of 18 m height - an integral part of the plant - and the subsequent operation of hydropower station will cause considerable fluctuations of the lake water levels and downstream water with severe consequences on the freshwater ecology, the livestock during winter months, and the local population as such. Chono Kharaikh gorge would be flooded up to 14 meter deep through damming, the water level would fluctuate strongly, and Dalai-Nuur - a section of Khar Us nuur - would increase by nearly 1 meter. The extension of the shores of Dalai-Nuur may grow up to 100 m. As a consequence, the green belt around the lake and the river would be strongly impacted and no longer available as reliable winter pasture land.

The following projections are within a range of high probability:

- In comparison to the natural low water conditions in late winter and early spring, the water level in Dalai-Nuur (eastern part of the Khar Us Lake) will be raised by 50-100 cm. Read patches (*Phragmites communis*) currently growing in average 100 cm deep water will not be adjust to a permanent depth of 170 cm or more.
- The dam and its operation of HPP will have considerable effect on top and downstream water in various ways.
- Currently River Chono-kharaikh is free of ice throughout the winter, due to relatively warm water from the lake. After building the dam the canyon of River Chono-kharaikh will be ice covered.

2. Summary of the study on the present situation and future prospects of Energy Supply in Western Region, Mongolia

The cost benefit analysis (Baatar, "Itgel Audit" Co.,ltd, 2002) for the western energy system (WES) revealed that:

- The current supply of Russian import energy would be adequate and could meet the regional demands in all villages connected to the power grid, if marketing management would be carried out effectively, with good maintenance for existing energy facilities.
- It further revealed that the cost for energy generated by the projected Durgun HPP would be significantly higher than the energy imported from Russia. Therefore, the construction and management of an even more costly energy producer would lead to even more difficulties in the consumer - producer relationship.
- It is feasible to connect those *Sum* centers that are located within the radius of 40 km from the centralized supply line through transmission lines.

3. Commitment of Mongolia to sustainable development

Under the criteria of UN's 1992 Earth Summit and Agenda 21, State of Mongolia adopted the Mongolian Action Program for the 21st Century" (MAP-21) by the resolution No 82 on 26 May 1998 of the Government. According to this important program, Mongolia decided to pursue the path of *sustainable development* in its efforts to attain world standard and quality of life for today's and future human generations. At the center of Mongolia's commitment to sustainable development is the desire to create a harmonious social and ecological environment for Mongolia's growing population. MAP-21 pinpoints sustainable economic growth, social equality, and appropriate use of natural resources as the key strategy for development. It also has committed to combat environmental degradation and unfavourable changes, such as desertification and threats to the forests and the scarcity water resources, through joint efforts by both, national and international communities. Thus, Mongolia is determined to design and follow sustainable development strategies as it moves into the 21st century.

4. The World Commission on Dams (WCD) about sustainable use of scarce water resources

As experience accumulated and better information on the performance and consequences of hydropower plants became available in the 1980s, the full cost of large dams and lost options began to emerge as a serious public concern. In too many cases an unacceptable and often unnecessary price has been paid to secure

those benefits, especially in social and environmental terms, by people displaced, by communities affected, by options lost, by taxpayers and by the natural environment (Executive Summary, WCD 2000; www.dams.org/report/execsumm.htm). Driven by the concern about this magnitude of impacts of dams on affected communities, on 40-80 million displaced people, the impacts of dams and diversions on 60% of the world's rivers, river basins and ecosystems, and the frequent negative economic performance, strong opposition began to grow in the 1990s.

As a response to these problems, the WCD developed strategic priorities and policy principles that focus on sustainable use of scarce water resources, natural rivers and livelihood of the local people. The WCD grouped the core values under five principal headings: *Equity/social justice; Efficiency; Participatory decision making; Sustainability; and Accountability.*

According to WCD, social, environmental, governance and compliance aspects have been undervalued in decision-making in the past. Change to the better will require consultants and agencies to ensure outcomes from feasibility studies and Environmental Impact Assessments are socially and environmentally acceptable (WCD 2000).

Being the biological engines of the planet, rivers, watersheds and aquatic ecosystems support life and livelihoods of local communities for long term. Dams, however, may transform landscapes and create varying risks of irreversible impacts. Understanding, protecting and restoring ecosystems at river basin level is essential to foster equitable human development and the welfare of all life within the system. Options assessment and future decision making around river development must prioritise the avoidance of impacts to the health and integrity of water resources and river systems.

Recommendations

Considering the above mentioned facts and possible economic and ecological consequences derived from Durgun HPP construction, WWF Mongolia Programme Office is recommending the following issues in respect to Durgun HPP dam construction:

- Conduct a detailed proper Environmental Impact Assessment before further actions are taken
- Probe economic efficiency of the planned Durgen HPP
- Observe all legal aspects of the project
- Integrate local community/herders interest with the Government's interest

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