

## Development of Water Resources in Nepal

Dr. Poorna Kanta Adhikary  
25 March 2009

To address Nepal's economic stagnation, the country first of all needs a leap forward in power production to overcome the dramatic energy crisis, leaving most parts of the nation with up to 16 hours load shedding every single day during the dry winter months.

### Tremendous Challenges

Development plans target at increasing the electricity production from the current ca. 560 MW to 10'000 MW during the next ten years, an impressive 20-fold increase - but even then only about 12% of the country's estimated 83'000 MW hydropower potential. This effort would require an investment of about 40 Billion US\$ in production and transmission of electricity. Such an ambitious proposition is only feasible if the appropriate human, material and financial resources were mobilized and at the same time institutional arrangements and markets were organized.

But clearly such a tremendous task cannot be realized by the Nepal's government alone, as it requires public-private and national-international partnerships. Given the shift in paradigm that has taken place in China, India and Nepal and political commitment at home, it would not be entirely unrealistic to achieve this target as there is an increased national and international interest demonstrated in the development of hydropower in Nepal.

Corporate social responsibility has been increasingly demanded

in today's world in doing fair business. This implicates that social mitigation should not only be a philanthropic act, but rather be a political responsibility in realizing people's participation in joint ownership of hydropower projects. There is a need for assurance of a smooth implementation, which can only be realized if the local people as the guardians and owners of the natural resources can obtain sustained benefits from the projects as long as they generate



The middle Marsyandi Hydroelectric Powerstation under construction near Besi Sahar.

power from the rivers. For this they need to participate right from the projects' identification to its design, planning, implementation, operation and maintenance phases.

### Water cycles still poorly understood

There is no doubt that hydropower generation from the rivers provides the highest potential for socio-economic development of Nepal. In view of the world energy crisis, and increasing global warming and environmental pollution that have been created by the use of hydro-carbon fossil fuel pro-

ducts, hydropower generation from the Himalayan rivers can be seen as the most sustainable renewable alternative energy resources that are needed to meet the growing energy demand in South Asia.

However, as the rivers are wild and not studied properly, they also provide the biggest environmental and economic risks in their utilization for multi-billion dollar investments. Rivers are living entities having their own dynamics, which are also the

functions of human and natural dynamics of a given area.

Nepal receives the highest rain-fall during the few months of the summer monsoon season, keeping the rest of the year pretty dry. So the Himalayan Rivers carry tremendous loads of water and silt

during the monsoon

season causing big floods at times.

The changing climatic conditions can very easily trigger floods, which can damage humans and material, causing serious environmental degradation. Rivers from Khudi to Kosi have already taught expensive lessons on this matter.

*Dr. Adhikary is currently the Chairman of Lamjung Electricity Development Company (LEDCO), Lamjung Skill Development Foundation (LSDF), Enterprise Development Company (EDC), and Institute for Conflict Management Peace and Development (ICPD). This paper is a shortened version of a presentation made by Dr. Adhikary during the power Summit 2008 in Kathmandu, 23-24 September 2008.*