A Nepali looks at the Bhutan model

BLUJA MAN SHERCHAN

I f Nepal, Bhutan too is blessed with abundant hydropower resources. But unlike Nepal, which seems to be going nowhere in terms of exploiting its water resource, Bhutan seems to have found legal pretty much in sight. The Bhutanese government has a 20-year Vision 2020 to guide policy formulation in the development of hydropower.

The Master Plan, developed with financial assistance from multilateral agencies for energy and under the leadership of Shakti Bhakta (Banskot), Purnamangal (Sankosh) and Manas alone have the potential to economically generate around 20,000 MW of hydropower electricity. Currently Bhutan produces 357 MW of electricity (114 MW is allocated to India’s equal to Nepal’s output), but in less than a decade it will be able to be generating close to 1,700 MW.

Three hydropower projects are currently on line. The first stage of the Basochu HPP (60.8 MW) will be complete in June 2004; the Bhagabanta HPP (25 MW) in September 2003 and the Tang Jang (33.6 MW) in the year 2006. The Punatsangchu (Sankosh) Reservoir Scheme (180 MW) is planned to be ready by the end of 2007.

The two projects mentioned above, Bhutan has prepared detailed project reports (type I feasibility studies) of a number of other mega-projects. The DPR of the 400 MW Punatsangchu project is ready but implementation is being delayed because of environmental concerns. Detailed feasibility studies are being conducted on a 1,250 MW Punatsangchu and Bhagabanta Project. So far, all the projects mentioned above, Bhutan has prepared detailed project reports (type I feasibility studies) of a number of other mega-projects.

Bhutan receives assistance from various international and national agencies for hydropower development, but its most stable and important partner has been India. A watershed in the history of cooperation between Bhutan and India was the commissioning in 1987, of the 36 MW Chukha Hydroelectric Project. Chukha was built under a nine-year agreement between India and Bhutan. Chukha currently provides a financing package that was 40 percent loan and 60 percent grant.

A striking aspect of Bhutan’s power sector is the very low construction cost per kilowatt. The 1.5 MW Chumey powerhouse cost a mere Nu 30 million, Bhagabanta District cost Nu 43.33 million. Tal is being constructed for a revised budget of Nu 200 million, and Bhagabanta is Ny 1,923 million.

This would work out to approximately $700 per kW, which perhaps explains why Bhutan’s construction costs are among the cheapest in the world.

At first glance it might appear as if Nepal has lost out with poor planning where Bhutan was able to capitalise with sound decisions. But this would be an over-simplification of a more complex issue, which has been overlooked in making comparisons between the two Himalayan kingdoms. And these are enough differences to make a successful strategy in one country unworkable in the next. The reasons range from the geological (the Chure Hills go no further east than the Kosi) to hydrological (Nepali rivers contribute more, volume and potential-wise) to economic (to political). Given these disparities, the question of adopting the Bhutan model in Nepal really cannot arise.

For one, it is unlikely that Nepal could have afforded Nepal the kind of generous financial terms (capital entirely Indian, 80 percent grant) that gave Bhutan her first break. More significantly, even if such an offer had been made, it is not surprising that Bhutan would have accepted it because it is often forgotten that according to the original Chukha agreement that tariff was shamelessly low (Nu 0.10, not 0.50 as mentioned by Sherchan). The project eventually turned out to be a money-spinner only because of tariff revisions which have seen the rate escalate by 15 percent over just one decade. It is to Bhutan’s credit that through some tortuous negotiations an error was converted into an advantage.

The other point is that Indo-Bhutan collaboration is centered on electrification, but from the Indian vantage point the construction costs of hydropower projects in Nepal has nearly always focused on water. That these have failed to impress Nepal confidence is not surprising. Electricity in Nepal has always been an inconsequential byproduct. In future cooperative efforts, too, this emphasis on the water should not be lost.

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None of the projects have been more controversial than the Chukha hydroelectric development. Chukha led to the doubling of national revenues between 1985/86 and 1987/88. In 1998/99 the project alone accounted for 35 percent of Bhutan’s revenue generation.

Bhutan was initially paid a paltry Nu 0.50 per unit, but understanding and increased the tariff to Nu 1.00 in April 1997 and further to Nu 1.50 in July 1999. (Nglung-Tshen — is Bhutan’s currency and not to be confused with the Indian rupee in value.)

Is it Bhutan’s very success that automatically beg some questions of Nepal. Does Nepal have a viable reason to justify in having a much smaller Bhutan to adopt its hydropower development when a much larger Nepal has succeeded so well?

Is there any viable justification for the three times higher construction costs of hydro-power projects in Nepal? Is it at all probable, that as long as cheap power is available from Bhutan, India will ever look to Nepal for its hydropower needs?

Is Nepal doomed to limit hydropower generation only to meet domestic consumption and dispense to Nepal’s consumer at tariffs $ 7 to $ 9 times higher than in Bhutan? If the answers to the above questions are to be a “No”, it is time that the country’s politicians, planners, bureaucrats and power pundits did some soul-searching to provide an explanation to us.

(Bluja Man Sherchan is an engineering consultant who recently visited Bhutan as a member of delegation from Nepal.)

Though the document doesn’t deal with the construction of storage projects makes these schemes less attractive than they seem at first, in Nepal, the larger problem is that developing them is not likely to be feasible. Faced, like Bhutan, with which are being financed entirely by India, Nepal will have to look for her share of the costs. But opposition to high dams has grown in recent years and finding the funds to build these mega-projects will become increasingly more difficult, if not impossible.

India has pinned her hopes on the sale of hydropower to the Tibetans, but at best it seems that India clearly plans to cash in on the storage capability of the dams. A dam in the Nepali focus, therefore, from electricity export to charging for irrigation water and flood control, but not electricity.

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