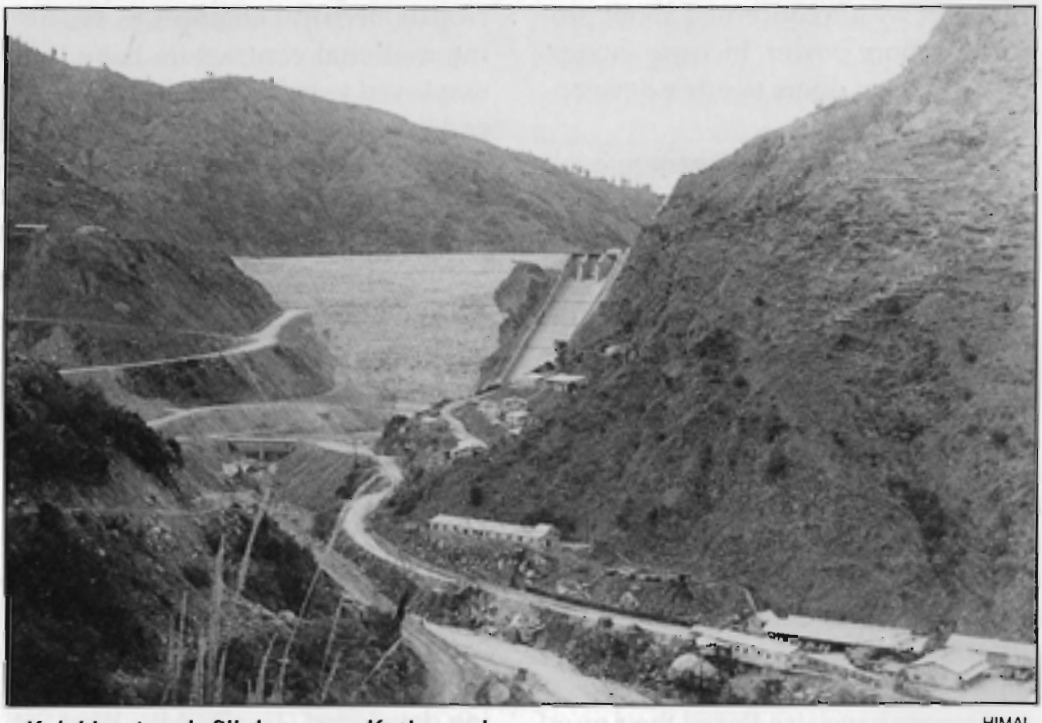
TURNING WATER INTO DOLLARS

Nepal goes private

Nepal woos private investors to develop its vast hydropower potential, but the government will need to make sure it has its policies right.

By Binod Bhattarai

An advertisement in Nepali newspapers in September 1999 said it all - the doors to the hydropower sector were being thrown wide open to private investors. The advertisement sought proposals from the business community for developing eleven projects and conduct-



Kulekhani rock-fill dam near Kathmandu. HIMAL

ing feasibility studies at another eleven sites. Not wanting to constrain would-be investors, the Electricity Development Centre (EDC), the agency that screens and recommends projects for licences, also welcomed proposals for schemes not on the list.

Nepal says its vision for water resources development is premised on the belief that hydropower development is the key to the nation's prosperity. Accordingly, it is currently preparing a strategy to guide the development of the country's abundant water resources. "We cannot develop our water resources on our own. We need policies and laws to build the confidence of private investors," says Govinda Raj Joshi, Minister of Water Resources. In a talk show on state-run Nepal Television, Joshi added: "At the moment we are concerned about producing more power. Increase in supply will open doors to other developmental options."

The public sector still generates almost all the electricity in Nepal, mostly through government-built hydro projects. The sector is riddled with a mix of problems stemming from managerial inefficiencies, corrupt interests, donor-driven planning and a leadership that has largely failed to provide a clear-cut vision. Almost all projects built by the government were executed through open-ended contracts that suffered from delays and cost escalations. Kickbacks on hydro projects allegedly add up to millions and involve top political players.

Donors have also flexed their muscles in Nepal's hydro development, not just while apportioning funding to projects but also in institutional matters. And if there was virtually no transparency in hydropower development issues before 1990 - and much less public debate - almost every democratic government that has ruled since has failed to come up with a clear and transparent strategy for managing this sector.

Not surprisingly, Nepalis - with average annual per capita income of about USD 220 - pay one of the world's highest electricity tariffs. And, despite having a huge hydroelectricity generation potential, said to be among the highest in the world, the installed hydropower capacity in the kingdom is only 250MW.

Another reason why electricity is expensive, argues Bikas Pandey, a Nepali electrical engineer, is because international contractors have been employed to build the schemes. "The end result has been limited power generated at very high unit costs and lost opportunities for capability building within the country for sustained hydropower development," he says.

Market risk

Nepal began issuing licenses to private investors for hydropower projects in 1996 and two of the schemes are already close to completion. The Bhote Kosi (36MW) and Khimti I (60MW) are to come on line in May and July 2000 respectively. However, these do not compare, either in scale or purpose, with another large project that is being developed. The 750MW West Seti project, being built exclusively for ex-

port, will be Nepal's largest hydro investment and the most ambitious private venture to date. West Seti's promoter, Australia's Snowy Mountain Engineering Corporation (SMEC), hopes to conclude a Power Purchase Agreement (PPA) - which will eliminate its "market risk" - with Indian agencies by the end of 1999.

The project, estimated to cost roughly one billion US dollars, is to be a "peaking" plant that will generate about 3,300 million units of energy annually. It will have a 195m high storage dam that will impound water and contribute to both flood control and regulated flow benefits downstream. The West Seti today has become a test case for private investment in export-oriented projects. It will set the precedence for how some complex issues related to large-scale hydro investments - from technical, safety and environmental concerns to resettlement issues and pricing of downstream benefits for India.

Meanwhile, electricity to be produced by the smaller Independent Power Producers (IPPs) for domestic consumption is not coming cheap. This is largely because of the rates at which the Nepal Electricity Authority (NEA) has agreed to buy power from IPPs. Power from Bhote Kosi is to cost six US cents per unit and that from Khimti, 6.08 cents. Moreover, the price is payable in US dollars and is pegged to the US Consumer Price Index for adjusting inflation.

If the trend of devaluation of the rupee against the dollar is taken into account - it has averaged about 10 percent over the last nine years - the tariff that consumers will have to pay can be expected to rise even higher. The power purchasing agreements for these projects also cover the "revenue risks" of IPPs because NEA is committed to purchasing every unit of energy produced, regardless of the actual requirement of NEA at different times and during different seasons. Pandey uses a set of assumptions to argue that the cost of power from Khimti could be as high as 9.20 cents per unit by the year 2010. His calculations are based on the following estimates: US CPI inflation of 2.8%, Nepal CPI inflation of 8% and devaluation of the rupee against the dollar at 9%. Accordingly, power from the Bhote Kosi will cost 9.08 US cents. Based on the same assumptions, the highest cost of electricity purchased in Nepali rupees would be 4.65 cents.

The high tariffs, however, have less to do with production costs and more to do with NEA's inability to negotiate better deals. Both IPPs came at a time when the NEA was faced with a gaping demand but had no projects ready to come on line to match the shortfall after the controversial Arun-3 project was cancelled.

But things could be changing. With about 300MW to be added to the grid within two years, NEA's negotiating position is improving. This is reflected in PPAs signed by the authority after the first two projects. The PPA for the Indrawati project is 5.88 cents (in 1999), 30 percent of which is payable in rupees. More recently, in July 1999, NEA agreed to buy power from the Upper

INVESTING IN WATER

Nepali and foreign companies have invested roughly USD 300 million in small and medium-sized projects since 1996. Faced with acute power shortages, Nepal began luring investors by offering them tax and duty concessions, even commitment to purchase every unit of electricity generated. The long-term Build Own Operate and Transfer (BOOT) contracts come with a 15-year tax holiday, a one-percent import duty on equipment, sales tax exemption on machinery and parts, and waiver of licence fees.

"In hydro the risks are high but returns are also reasonable," says Sujeev Shakya, General Manager of Business Development at the Soaltee Group that is building the USD 98.5 million Bhote Kosi project. "Investment conditions are right but there are implementation-level issues that can cause major difficulties." Despite such problems, the promoters of Bhote Kosi - Nepal's Himal International Power Corporation and subsidiaries of two US companies, Dallas-based Panda Energy and Chicago's Harza Engineering Company International LP - have already acquired a survey licence for another 120MW project. "There's no other better place to invest than in hydro," Shakya explains.

Most of the current implementation-level problems stem from inadequate institutional arrangements. "I have experienced the pain that is involved," says Ratna Sansar Shrestha, a management expert and former Deputy General Manager of the Khimti project. "The EDC is supposed to be a one-window clearing house but in reality you have to pass through many more doors to get anything done." Shrestha was with the project for about four years and has prepared a flow chart tracing the different desks an application has to pass through for getting a decision made. Getting something done by the land revenue office involves 26 steps from submission of application to the EDC to actually getting the clerk at the land revenue office handing back the decision. The USD 140 million Khimti project is a Nepali-Norwegian venture. The project is being built by Himal Power Limited, an undertaking of Norway's Statkraft SF, ABB Kraft AS and Kvaerner Energy a.s., and Nepal's Butwal Power Company.

The 300 million dollars invested in hydropower so far is substantial. Enough money to build 10 large five star hotels, says Bikas Pandey. But he believes the investment regime needs to be fine-tuned. His major concern is that PPAs payable in dollars could exhaust the country's foreign exchange reserves.

As things stand now, the scale is tilted in favour of investors. The domestic demand is steady and there is potential for power export. NEA estimates growth in peak domestic demand to average at about eight percent, reaching 571MW in 2005, 830MW in 2010 and 1355MW by 2017. The demand across the border, where a process of reorganising cash-strapped electricity bureaucracies is underway, is also real. According to one estimate, the energy shortfall in the northern Indian grid would be 20,800MW in year 2010.

Modi project, a venture being promoted by Chinese investors, at about 5.40 cents of which 10 percent is payable in rupees.

Not cheap

Despite this trend of lowering purchase costs, it is unlikely that energy will come cheap in the short run under the current PPA regime. But the fact that there are more independent power producers gives one reason to hope that prices may eventually become more affordable. Much of that, however, will depend on the policy and how that is administered.

According to experts, as long as electricity continues to be seen as an end product there will be no change either in terms of consumer tariffs or in the long-term economic well-being of the country. The linear 'sell electricity and earn money' approach that politicians are obsessed with is only one of many possibilities that Nepal's water resources offers. The energy policy needs rethinking and must begin with the basics. We need to be clear about why we are generating the electricity, whether it is for export or to meet domestic demand because it is the most suitable energy option for mountain regions.

"Generating electricity for meeting a certain objective, say, for supplying energy to mountain settlements, would require an approach that is different from one suitable for projects needed for urban and industrial supply," says Dr Kamal Rijal, a renewable energy specialist at the Kathmandu-based International Centre for Integrated Mountain Development (ICIMOD). Similarly, the strategy for producing energy for export must necessarily be different from the approach taken to meet domestic needs.

Cheap and reliable electricity has the potential to do for Nepal what fossil fuel deposits have done for many countries. This is possible but needs a clear strategy and careful planning. Use of water in a particular manner and for a particular purpose not only determines the nature of local impacts but also the eventual costs and, where relevant, how benefits and costs are shared between countries.

Imagine the situation where Nepal's goal for using water from the Karnali river were to be "meeting regional water management and irrigation needs." The cost-benefit assessment for such a project would include downstream irrigation and flood control benefits for India as major components. Cost sharing in such a regime would be different from, say, a situation in which the goal is to generate 10,800MW of power for export. In terms of the latter goal, downstream benefits tend to be relegated to the background and are rarely adequately discussed.

Hydroelectricity-related decision-making in Nepal has had a history of secrecy - activists even had to knock on the doors of the Supreme Court to get information regarding the Arun-3 project in the early 1990s. To make matters worse, hydroelectric projects have become a central theme of Nepali politics. That adds an ideological variable to the existing debate. Particularly when

it comes to India, sentiment runs high. Nepalis believe that the country has not received a fair deal from India in any of the past water-related bilateral projects. This mistrust tends to be magnified under the ideological looking glass.

Moreover, there are legal loopholes to contend with. Nepal has laws to govern private investments in hydro development but they are not watertight. For instance, consider the case of determining royalty for export projects. The 1992 Hydropower Development Policy states that an export tax prescribed by His Majesty's Government shall be levied. The Electricity Act (1992) sets royalties for IPPs producing energy for domestic sales but does not specify a tax for exports. The government has slapped a 10 percent export tax on West Seti, but the basis for arriving at that figure is not clear.

The interpretative space that existing laws allow is not in the interest of either the government or private investor. For example, there are no guarantees that the next export-oriented project after West Seti will get the same deal. Also, since the basis for calculating royalty is largely unknown, it precludes any attempt to undertake an independent cost-benefit assessment. Furthermore, negotiations between government and private investors tend to be less transparent, justified sometimes for obvious business reasons. All the more reason to put everything in black and white.

HIMAL/Krishna Murari Kishan

Will high dams in Nepal prevent disasters like this in India and Bangladesh?

Potential

Despite the murky situation, hydroelectricity remains Nepal's best hope for economic progress. Policywise, privatising generation has been a good start. What is now needed is transparency and leadership. At present consensus on hydro initiatives seems lacking not just between political parties but also within political parties, and even among specialists. This failure to agree on a common agenda could make it difficult for the country to sustain the recent momentum of private investments. The government must come up with a definitive policy that reflects agreement on basic issues like "why" Nepal should generate electricity, for "what" purpose, for "which" market and "how" that should be done.

Nepal and India signed an agreement to build the massive Pancheshwor project in 1996. But the project remains stalled mainly because they are unable to agree on sharing water rights. Private initiatives, such as that on the West Seti, to strike deals where governments have failed, inject fresh hope. But as Nepal goes private with a vengeance, there are concerns. "We certainly need private sector creativity and innovation in hydroelectricity generation," says Ajaya Dixit, of the Nepal Water Conservation Foundation. "But there should be appropriate regulatory mechanisms ... we need some sort of social control over what goes on."

If all goes well for Nepal (and India) the West Seti might be only the first of many hydropower projects built in Nepal for the Indian market. The U.S.-based Enron Corporation which applied for a survey licence in 1996 to develop the 10,800MW Karnali project but later withdrew citing political instability and delays in decision-making, is reportedly interested in re-applying, a sign of the improved investment climate. But as private investors negotiate with Indian buyers, they will need to be mindful of issues that have vexed the two governments in the past. Critics of the 'generate and sell electricity' approach are already seeking answers to tough questions. Because West Seti will have a huge reservoir, India will get regulated water and storage for free. They ask: why should Nepali land be submerged or investors be given concessions for supplying cheap power to India?