

PROMOTING HYDROPOWER FOR NATIONAL DEVELOPMENT

Nepal is rich in natural resources. The most potent sector of all the resources is clean water and the concomitant electricity generated from its adequate water resources. As most of the water flows through the densely populated Southern region, the importance of hydroelectricity and clean water will be immense in the future. Due to global warming also, the storage capacity of the clean water needs to be augmented. This is possible only in Nepal.

Although water from Nepal, eastern and western states of India coursing via Brahmaputra flows into Bangladesh, the potential of hydropower development is paltry in Bangladesh. There is currently only one project running in Bangladesh. Therefore, in the area of regional clean water supply and hydropower energy, Nepal can be the apt place.

The first 500KW Pharping powerhouse was established in 1911 in Nepal. In the past 96 years, only 634MW of energy has been produced. But this figure cannot be referenced to determine the future because with Indian market opening in 2003 and Nepal opening in 1990, interest in hydropower has grown tremendously over the years. Besides the total hydropower potential of Nepal stands at around 200000MW against the popularly assumed figure of 83000 MW. From more than 6000 rivers and rivulets of Nepal, around one million GW hour of electricity can be generated. This potential is adequate enough to meet the total domestic and part of regional energy demands for many years. More importantly, there exists a robust potential of consuming this generated electricity for the next 3 decades.

Hydropower is not only about energy production for productive sectors but also a powerful means of bringing in socio-economic transformation and development of villages. Hydropower leads to development activities in villages mostly as hydropower plants need to be constructed in the villages. The poor- the target group can benefit from this because the socio-economic benefits from a hydropower project to the rural populace is extensive.

Hydropower is a big resource and ace sector for Nepal because of its adequate water potential (~225 billion cubic meter of water). In the coming 10-30 years, the demand for clean water will increase considerably along with the tremendous increase in power demand (both at the domestic front and regional market)

In the past, all big projects like the Kali Gandaki (144 MW), Mid Marsyangdi (70MW) Kulekhani project (60 MW) have employed foreign firms/contractors for its technical consulting and engineering tasks. As a result, local capacity and in-country competencies and engineering consultancy could not be developed for any projects above 20MW. The only biggest project for which the in- country consultancy was used is Chilime (21 MW). The Government has recently made public a towering vision of generating 10,000 MW in the coming 10 years and has envisioned of every Nepali house being lit by electricity. To achieve this vision, quality human resources and technical personnel and engineering

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consultants will be required. If we do not develop them to help facilitate the task, we then, like the yesteryears, will have to depend heavily on the exorbitant foreign technocrats, which will not be sustainable at all. As a result, power will also not be cheap. To date, hydropower development in Nepal has been a costly affair due to reasons like employment of international contractors and consultants and limited manufacturing capability in products related to hydropower plants. It might have been a necessity to employ foreigners in the initial years when hydropower development was started because we needed them to learn their skills and expertise. But over such a long period of time, we have failed to learn their expertise and build up our own capability to develop such projects.

We need to develop Nepali design, Nepali technocrats and Nepali consultants for the sustainable development of hydropower in Nepal, ably contributing to national development including village development.

Bhutan is ahead of Nepal in hydropower development (1500 MW) but it has been mostly dependent on India for its technical support and human resources. It has not been able to develop in-country talents nor engineering consultancies for the sector. Nepal, on the other hand, has the potential capabilities to develop engineering consultancies and talents upto 100 MW. So Nepal needs to assess its human resource potentialities, selectively upgrade it and appropriately deploy them for the achievement of the envisioned goals ably supporting national human resource development. So big opportunities and market exist for all-Engineering consultancies, Contractors, Hydro mechanics, Electro mechanical discipline, Construction management etc.

If in-country engineering consultancies, Technical talent and contractors are develop gradually and deployed for Hydro Power Development in Country ably adapting to newer and advanced technological know- how, it can not only help to develop relatively cheaper Project but it would also to gain credibility and favorable economies of scale for the country.

Hydropower, indeed can be a potent contributor for transforming the Nepali Society into a prosperous and inclusive economic zone.