Source: New Business Age; Jan 2016

Ngadi: Lighting Up Homes

Shailendra Guragain
Managing Director
Ngadi Hydropower

A good way to assess Ngadi Hydropower's journey so far would be to weigh its current achievements with the targets and aims it had laid out at its inception. Ngadi Group Power Ltd. was founded in February 2006 as private limited company and later in June, 2014 it was converted into a public limited company.

"We started from scratch, the progress that we are witnessing right now is satisfactory," says the company's managing director, Shailendra Guragain, while adding, "We do not have many products to sell in the market. All we do is produce energy to make sure that no one lives in the dark."

Identifying itself as a company with technically feasible and environmentally sustainable hydropower projects, the power company says it is committed towards operational excellence, good governance and corporate citizenship.

Milstones

Guragain stresses that whenever an additional home in Nepal gets electricity, he considers it as a milestone in the company's journey. "As a trader in energy, we believe that our overarching goal is to provide electricity access to households throughout the country using highly skilled and experienced team members," says Guragain.

Organisation's Approach

Ngadi Hydropower makes a real effort to practice the principles of management effectively. For this, in every different project it operates, it registers a separate company to shorten the financial hurdles and for the smooth operation of the projects. At present, the company has two projects- one is Siuri Khola and another called Super Nyadi Hydropower. Suiri project is already generating and selling electricity while for Super Nyadi, the company has received survey license and feasibility study is going on. The promoters duo Dr. Bhogendra Kumar Guragain and

Shailendra Guragain are also promoters of River Falls Hydro that is promoting 3 projects in Eastern Nepal. The major promoters of this company already have experience of Barun Hydro power and Arun Valley Hydropower in which they are still directors. The company does not forget to make a positive impact in the livelihoods of the local population where it works either. "We have also been able to raise the living standards of the people living around the project site by providing contractual employment to the locals as well as others," states Guragain.

Corporate Social Responsibility

The company's approach to CSR is also hands on and on the ground. "All of our project construction sites are situated far from villages. Thus, in order to reach the site, we have constructed roads which provide access to many villages on its way," says Guragain. "Wherever we run our projects, we have been able to completely change the face of that village."

Strengths

Equipped with highly experienced professionals and dedicated team members, Ngadi hydropower has been able to encourage its staff members and excel at work. The company believes that gaining public trust by delivering excellent work can help build a relationship with the project stakeholder. "This, I believe, is one of the strengths of our company," states Guragain.

Weaknesses

For any company in the sector dealing with foreign investors is a must in order to scale up the business. "While doing this, the management sometimes needs to negotiate with people who are narrow minded and need to take harsh decisions. Those decisions have sometimes proven to be costly," admits Guragain.

Opportunities and Threats

With the increasing focus on energy and the realisation that energy security is the most important factor for the nation, Ngadi has taken this as an opportunity to scale up its business. However, the company laments that unclear guidelines and directions on the government's side has been creating obstacles for further investment. "The risks posed by an external environment, especially from the policy makers, can hamper making predictions and threaten our company's smooth operation," points out Guragain.

Board of Directors

Ngadi group is equipped with experts as well as highly experienced professionals. The board member consist of Dr. Bhogendra Kr. Guragain as a Exectuive Chairman, Shailendra Guragain as a Managing Director, Dinesh Gurung as Director and Robin Subedi as Director of the company.

Future Endeavours

Equipped with highly experienced professionals, Ngadi Hydropower believes it can build large hydro projects in the country. "We have the confidence to build even 100mw projects in the country," says Guragain. It ultimately believes that it can produce electricity with the help of domestic investment, domestic experts and domestic human resources.

Projects Established by the Company

1. Siuri Khola Small Hydropower Project (5000 KW)

Located in Bhulbhule VDC of Lamjung district, the project has an installed capacity of 5 MW with a design discharge of 1.4 m3/sec. After the completion of first feasibility study of Siuri Khola Small Hydropower Project in 2005, the power purchase agreement with an installed capacity of 990 kW with Nepal Electricity Authority was completed based on the same feasibility study of 990kw capacity on 2006. However, this detail project study report carried out was prepared for the upgraded size of the project from 990 kW to 5000 kW for project implementation. The PPA was signed with NEA on February 2008.

Hydrology of the project indicates that the river has discharge of 0.57 m3/sec at Q65 discharge and 1.69 m3/sec at Q40, is enough for fulfilling the requirement of the project.

Location of Project Site : Bhulbhule VDC
Type of Turbine : Pelton (Impulse)
Rated Output for each unit : 2650 kW
Generator Rated Output for each unit : 3150 kVA
Transformer Capacity : 3*2100 kVA
Transmission Length : 8 km
Transmission Voltage : 33 KV
Interconnection Point : Switching Station at Nyadi, Lamjung
Installed Capacity : 4950kW
PPA Date (990 kW) : 2007 Aug 02 (2064/04/17)
PPA Date (3960 kW) : 2009 Jan 19 (2065/10/06)

2. Super Nyadi Hydropower Project (40.27 MW)

As per the application submitted to DoED for the Survey License on 2071/05/18, the project is identified for 40.27 MW. The Company has already signed with Clean Energy Consultants Pvt. Ltd. for the feasibility study of the project. Desk study report has finalized the project salient features and all the project components are purposed to be constructed at right bank of Nyadi river.

Location of Project Site : Bahundada and Bhulbhule VDCs, Lamjung District.
Type of Scheme : Run-of-River
Water Source : Ngadi River
Installed Capacity : 40.27 MW

Stock Offerings

Recently, the company floated Initial Public Offering (IPO) for the locals of the project site and 486,868 units of shares (face value Rs. 100) have been already allocated to them. Now they are planning for IPO for the general public.

Source: New Business Age; Jan 2016

Energy Now

Nepal's current fuel crisis has brought to the fore the long overdue task of restructuring the creaking and ailing energy sector

--By Akhilesh Tripathi and Jiban Basnet

Nepal Electricity Authority (NEA) and Nepal Oil Corporation (NOC) are two energy monopolies of the state which, everyone agrees, have grown sick to the core and need serious overhauling. Both were created during the Panchayat system and have undergone little reforms since then. The NEA enjoys complete monopoly in the field of hydroelectricity. Besides being the sole buyer of electricity in Nepal, the NEA is also the developer, generator and distributor of the commodity.

Similarly, the NOC is the state's oil monopoly; it is the sole importer of petrol, diesel, kerosene, aviation fuel, LPG etc.

Dozens of reports detailing the severe cracks in these unfortunate institutions have been gathering dust on government shelves. One conclusion comes out of all these reports - - a serious overhauling is necessary. While the NOC needs to be privatized whole, in NEA's case too, there is general consensus among the experts and authorities that most of its current functions need to be privatised.

Both NOC and NEA do make headlines, but almost always for all the wrong reasons. "Let there be no room for doubt that these are far from fit corporations," says former finance minister Dr Ram Sharan Mahat, "They need huge reforms for the restructuring of the country's energy sector."

National Transmission Grid Company (NTGC)

Different ministries hold stakes in the NTGC. Ministries of energy, finance, defense, home affairs, forest and soil conservation, science, technology and environment, and land reforms and management are the promoters of NTGC. The board of NTGC will have representations from all the ministries. The company plans to bring all transmission lines from NEA under its ambit. The company will have an authorised capital of Rs 25 billion and issued capital of Rs 5 billion. Its shares will have a face value of Rs 1,000 each. Ministry of Energy owns 700,000 units of shares in the company, while NEA and Ministry of Finance hold 500,000 and 400,000 units of shares, respectively. Likewise, Ministry of Forest and Soil Conservation, Ministry of Environment, Science and Technology, Ministry of Land Reforms and Management, Ministry of Information and Communications, Ministry of Defense and Ministry of Home Affairs hold 80,000 units of shares each.

The proposed company plans to introduce a wheeling charge system to generate resources. "The government will decide the wheeling charge for the time being. Later on, it will be decided by the Electricity Regulatory Commission," said Suman Prasad Sharma, secretary at MoE.

According to Sharma, separation of transmission lines related work from NEA by forming the NTGC is the first stage of NEA unbundling. "We have also planned to form a Public Generation Company and a Power Trading Company, later. The NEA will only have distribution department with it after separate companies are formed for generation, transmission and trading," said Sharma.

NEA's Woes

NEA was established 30 years ago out of the then Nepal Electricity Corporation by nationalising some private power producers and removing some functions of the Ministry of Water Resources. Since then, it has been solely responsible for the development, generation, procurement, transmission and distribution of hydroelectricity in the country. However, it has been able to carry out none of these responsibilities properly and effectively. No change in its structure has been introduced since it was established in 1985. Private producers, energy experts and policy makers are unanimous in their view

that this institution with a monopoly over generation, transmission and distribution has not been able to work as per its goal and responsibilities.
As the energy crisis deepens, some even blame that the NEA itself is hindering energy development in the country.
Projects being constructed by NEA including Chameliya, Kulekhani III, Rahughat, Upper Trishul 3A and others are facing problems due to delays, huge variation orders, and compensation claims of contractors. The NEA management, however, has failed to deal with these problems and the projects have been delayed, and cost of construction escalated as a result. Inability to take timely decisions, not making payments as per the bid agreement, and not tackling the problems that arise during construction immediately are the weaknesses of NEA management.
The story of transmission lines is equally sad. Several transmission line projects like Thankot-Chapagaun-Bhaktapur, Khimti-Dhalkebar Pathlaiya-Parwanipur have suffered from various factors like problems in land acquisition, protest of locals, and problems in clearing forests, among others. Delay in construction of transmission lines is affecting power generation from different projects due to there being no way to evacuate the generated power. Slow progress in construction of transmission line projects has remained one of the impediments to hydropower development in the country.
“The Upper Sagarmatha Hydropower Project will be ready for commercial production within this fiscal year. But there is no transmission line to evacuate power from this project,” lawmaker Gagan Thapa, chairman of the Parliamentary Agriculture and Water Resources Committee (AWRC), says, “This means the NEA will have to pay Rs 1.5 billion per year as compensation to the power producing company .”
According to Thapa, there are other projects as well like those identified as Super Six which could not be started because of the lack of transmission lines. “Last year, the government allocated Rs 13.5 billion for building transmission lines. But not even a penny from this budget could be spent. That shows how serious the NEA is regarding transmission lines,” observes Thapa.
Projects being constructed in Solu, Koshi, Kabeli, Marsyangdi, Kali Gandaki, Trishuli and other corridors with private investment have been affected with the NEA failing to effectively expand transmission lines. The NEA faces risks of having to pay billions to promoters in compensation if it were to fail to construct transmission lines in time and the promoters were to complete the projects in the scheduled time.
Almost all NEA’s problems are related to its structure. It was concluded long back that it’s not appropriate to keep NEA as a single body responsible for the development, generation, procurement, transmission and distribution of electricity in the present situation, and that it is better to immediately unbundle it. The task of unbundling three functions of NEA -- generation, transmission and distribution -- was envisioned in the Hydropower Development Policy 2001. But it remained only on paper for almost 14 years.

NEA Fails to Hold Board Meeting

Due to internal disputes, NEA’s Board meeting hasn’t taken place for the past four months. In the absence of the board meeting since Aug 27, the Authority is confined to only its day to day activities.
In the absence of the board meeting, the Power Purchase Agreement (PPA) and the work of transmission along the Solu Corridor and Koshi Corridor have been halted. Similarly, the disbursement of payment to the contractors of under-construction projects, start of new ones and continuation of the work of transmission lines, adding deadline of contractors, filling of internal vacancies and the other important work like staff promotion have all been stalled. ED of the Authority Mukeshraj Kafle says that dragging him into controversy has brought a lot of adverse impact to the organisation. Suman Sharma of the Ministry is, however, optimistic about moving ahead by resolving the problem between the Ministry and the Authority.

The government did set up a National Transmission Grid Company (NTGC) in February 2015 to look after the construction of transmission lines but the move faced a stumbling block at the very beginning as the

NEA which manages all transmission lines in the country decided not to send its representatives to the board of directors of NTGC. NEA is not in favour of the company and has already made this clear to the government.

"We haven't sent our representatives to the NTGC because we think it has been formed without enough homework," says Mukesh Raj Kafle, Managing Director of NEA.

Secretary of the Ministry of Energy (MoE), Suman Prasad Sharma, however, claims that the Grid Company is taking shape. It is necessary to activate it after bringing it into existence, he adds. "When it is activated, the work of managing transmission lines shall be taken over by this company," he said.

Independent producers have long been demanding the amendment of the Electricity Act, formation of a National Electricity Regulatory Commission, formulation of a National Energy Security Policy and Land Acquisition Act. But the government seems to be in no hurry. "The parliamentary committee has directed the government many times in the past to accomplish these tasks. But the government remains undecided. It is unfortunate that the government has cold-shouldered these much needed policy reforms," complains Thapa.

Energy Secretary Sharma, however, says that the government has already started the process of amending the Electricity Act and that a National Electricity Regulatory Commission will also be formed to regulate the energy sector.

"We cannot do everything at once. We have established the Grid Company. Now the paperwork will be carried out for establishing a Generation Company."

NOC's Problems

The supply of petroleum products to the country has remained a critical issue for a long time. The Nepali consumers time and again have to face a fuel scarcity. Almost everyone blames the Nepal Oil Corporation (NOC), the biggest corporation of the country in terms of annual turnover, for the sorry state of petroleum supply in the country.

A number of committees and taskforces have been formed to identify and recommend significant reforms in NOC. A 2002-03 (2059 BS) committee headed by former chief justice Top Bahadur Singh; another in 2004-05 (2061 BS) headed by Shanker Sharma, another in 2010-11 (2067 BS) headed by Bhanu Prasad Acharya; yet another committee headed by Member of Parliament Bhim Acharya; and a high-level 2012-13 (2069 BS) taskforce headed by Sushil Jung Bahadur Rana were major initiatives in this regard.

All studies carried out on NOC so far have the same conclusion – that the corporation urgently needs reform as well as transparency in its operations and right-sizing of its staff by reducing the burden of non-professional and non-technical personnel. However, none of the recommendations has been implemented so far. The crisis in NOC is such that at times it is not able to pay its monthly import bills on time, leading to a supply cut by the Indian Oil Corporation (IOC), NOC's sole supplier of fuel so far.

The country does not have crude oil sources to meet a rapidly growing national demand for petroleum products which, therefore, have to be imported. But experts say it's time to end NOC's monopoly on the petroleum import business. "Forty-year old IOC's monopoly has been broken by signing a fuel supply deal with China. Now it's time to welcome the private sector into the petroleum import business," says Prof Dr Amrit Nakarmi, former General Manager of NOC and Coordinator of Centre for Energy Studies, Institute of Eneginnering.

A state-owned trading company that imports, transports, stores and distributes petroleum products in the country, the NOC was established in 1970 under the Companies Act 1964 to replace the direct trading by some foreign companies in Nepal. It has been working under the same structure since. Its modus operandi has been the same: it procures and imports all petroleum products consumed in the

country from the Government of India-owned IOC under a bilateral agreement, which is renewed every five years, the latest being signed in April 2012.

No doubt, the NOC needs to implement serious changes, given its current state of affairs. Most of the myriad problems associated with the supply of petroleum products can be rectified by the government through progressive measures. For instance, petroleum supply has been categorised as an essential service. Therefore, the law prohibits any interference in its supply. However, tankers, pumps and drivers' associations frequently go on strikes. The presence of cartels and syndicates only makes such actions easier. Furthermore, most of these protesting organisations are registered under the NGO Registration Act, 2034, which allows neither collective bargaining nor protest programmes like strikes. Clearly, there has been a failure on the part of the government to enforce the existing law.

It has been revealed that most irregularities occur during the transportation of fuel. Adulteration, strikes and obstructions at custom points are some major problems. In order to counteract these, there are plans to construct a pipeline from Raxaul to Amlekhgunj in the first phase and later extend it to Kathmandu and other points. Discussions with NOC officials have indicated that the payback period of the pipeline project was affirmed to be less than six years after the start of operation. For this, the governments of both India and Nepal must work stringently.

However, it has been learnt that tanker drivers are underpaid (Rs 5,000 to 6,000 per month on average), far below the minimum wage fixed by the government. Despite this low pay, drivers have been working. This implies that there are undue benefits to be had in fuel transportation. Therefore, it should be ensured that the employers pay minimum wages to their employees, along with social security contributions and insurance. This will go some ways towards preventing drivers from taking advantage during transportation.

The NOC was established under the utilitarian approach of the past. However, times have changed and the private sector has grown substantially. Even now, transportation and dispensing of petroleum products are carried out by the private sector. Thus, the gradual privatisation of the supply of petroleum products is essential. However, before liberalising supply, there needs to be a strong regulatory body in place to control quality and pricing.

Industry insiders reveal that the NOC is not too involved in LPG trading, except for issuing purchase delivery orders and dealing finances with the IOC. While the private sector handles distribution, the heavy overhead cost, resulting in a Rs 589.14 loss for each cylinder, is borne by the NOC. It seems the private sector is more competent at LPG trading. Thus, as the first phase of privatisation, it would make sense to hand over LPG trading to the private sector.

In the second phase, import of kerosene and other petroleum products, except for aviation fuel, petrol and diesel, can be given to the private sector so that the NOC can concentrate on supply. However, after gaining enough experience, trading opportunities for the private sector have to be gradually opened.

In the meantime, experts say, the government should think over revamping the NOC. The NOC was established as a public limited company under the Company Act. However, the government is the sole shareholder and the board of directors consists of bureaucrats. Thus, the company is more like a government department rather than a business entity.

“Forty percent of shares must be sold to a strategic partner/other stakeholders/public through an initial public offering. By doing so, the NOC will become a real public entity and there will be public participation in top-level management,” suggests Nakarmi.

Renewable Energy

Given the volatility of the international oil market and the country’s growing dependency on fossil fuel, it would also be wise for the government to invest in projects that generate other renewable energy, in addition to hydroelectricity. Sixty percent of current diesel consumption is used to generate captive electricity on account of load-shedding, particularly in the dry season. Hydropower would be the most

feasible means of substitution. But we have been able to add only about 780MW since the Pharping project was constructed some 104 years ago.

Therefore, the country needs to focus also on biogas and solar power as alternatives to LPG use in the household. Prof Dr Govind Raj Pokharel, former NPC vice-chairman and former CEO of Alternative Energy Promotion Centre, opines that we should focus on producing not only hydroelectricity but also alternative energy. “If we can meet 80 to 85 percent of our electricity demand through hydropower, the remaining 15 to 20 percent of electricity can be generated using alternative sources,” he says.

Pokharel says the country’s mountainous areas are suitable for tapping solar energy. He also advises on the introduction of subsidies on electric vehicles to taper the demand for fossil fuel.

For a Free Market

It is tempting to think that the current fuel-shortage is just linked to Nepal’s constitutional politics and India’s blockade. However, Nepal faced a similar situation when India blocked its border 26 years ago in 1989. Both then and now, there was/is a severe shortage of fuel but not of consumer items being imported from India. This is precisely because the latter did come through a competitive market. Granted, in times of shortage, prices go up, but at the very least, customers can buy genuine goods from stores without having to resort to spurious goods from a black market, or be denied the goods altogether.

“A competitive market is able to source better, store better, serve better, and plan better than state monopolies. The country’s oil market must be liberalised,” says Nakarmi.

Govt to Allow Pvt firms, Projects to Import Oil

For the first time, the government is going to allow private companies and development projects to directly import fuel, without depending on the state monopoly Nepal Oil Corporation (NOC) for the same. According to a Cabinet decision taken on December 18, industries, diplomatic missions, large development projects including hydropower projects, schools, colleges, hospitals, star hotels, media houses and Class A banks will soon be allowed to import fuel for their own consumption.

The decision will be implemented once it is published in the National Gazette and will be in effect for three months, according to a source. According to a source, the government will issue permits to import oil to those who run essential services and are big consumers of oil. For this, the companies will have to submit an application to the Department of Commerce. However, such applications should include recommendations from the supervising bodies. For example, hotel will need a recommendation from the Department of Industry, hydropower projects from the Ministry of Energy, schools and colleges from the Department of Education, banks from Nepal Rastra Bank, diplomatic missions from the Ministry of Foreign Affairs and so on. They will also have to submit a plan explaining the amount of import and its consumption.

The government will collect revenues of Rs 5,001 from each oil import permit issued. “Once all procedures are completed, the Department will issue permits. Then those getting the permits for oil import can open LC,” said Shambhu Prasad Koirala, Director General of the Department of Commerce and Supply Management. “Those who will be issued the permits can import oil by paying the required customs duty. They can also use Nepali tankers to import oil,” he added.

But for importing oil from the Indian Oil Corporation, NOC’s Indian supplier, a ‘no objection’ letter from NOC will be required. “However, the permit alone would be enough for importing oil from other companies, Indian or otherwise,” said Koirala.

The government has already allowed 22 private companies to import oil. However, only one company so far – Petromax – has been able to import fuel. The company has been importing aviation fuel from India. However, observers said as India’s unofficial blockade against Nepal continues, importing fuel from India will be a tough task for even those who need a regular supply of oil and that’s why the government is allowing them to directly import fuel for their consumption.

Source: New Business Age; Jan 2016

South Asia's Vital Need for Electricity

--By Prof Dr Kamal Raj Dhungel

South Asia is home to over one billion people. A majority of them are living without access to electricity. Electricity is an essential prerequisite not only for modern life but also to power machines to produce goods and services. Modern technology is based on the availability of electricity. Most of the South Asian countries obtain power from both non-renewable sources such as nuclear, coal and natural gas and from renewable sources such as hydro, solar and wind power. Both these sources to some extent are home-grown. All countries in the region are endowed with one source or another. Coal is available in India. Bangladesh and Pakistan are rich in natural gas, so is Nepal and Bhutan in hydropower. There is a golden opportunity to produce electricity from these indigenous sources.

Among the potential sources, coal is highly exploited and has remained a major source of power for nearly a century and is expected to remain the same in the days to come. Hydro and natural gas remain untapped. They are yet to be exploited. These resources, if developed wisely, would be a boon for the development of South Asian countries. It would provide ample opportunity for South Asian countries to exchange power with each other plugging a particular country's demand and supply gap. It would help to ensure energy security and provide scope for regional market integration. Also, almost all the countries have HEP potential, but to some extent the degree of availability varies. This represents a renewable source of energy.

Obtaining a higher economic growth rate to the extent of it being in the double digits is the primary goal of the South Asian countries. However, double digit growth rate requires huge units of electricity. Presently, this is constrained by inadequate power supply. Thus, the goal is conditional upon an adequate and uninterrupted power supply. Electricity consumption and economic growth are closely interrelated. This article aims to investigate the causal relationship between economic growth and electricity consumption in five countries of the region.

Hydropower Potential

Like natural gas, the region's economic hydropower potential remains untapped. The South Asian region is fortunate to have such vast hydropower potential, a renewable and non-polluting source of energy. Most of this remains untapped. The region is able to harness 28 GW (table 1). The countries of the South Asian region are energy starved on the one hand and they are not able to harness their vast potential resources on the other hand. They are importing petroleum products from gulf counties in order to achieve targeted economic growths. In the process, pollution is created in the atmosphere a stimulating factor for climate change. Thus, in the light of this, the benefits of exploiting hydropower is manifold. It facilitates to a) utilise the region's untapped resources, b) ensure energy security, c) hold energy trade across the regional countries, d) create an environment to integrate the regional market, e) reduce the import bill of petroleum products and f) reduce greenhouse gas emissions.

Electricity Production

Five countries in South Asia produce 1374.693 billion KWh of electricity. Coal is the major source of electricity. It accounts for more than 52% of total electricity production. The share of hydro, natural gas and renewable energy to total electricity production is 12.22%, 12.83% and 16.03% respectively. India alone produces 86.1 percent of the total followed by Pakistan (9.01%), Bangladesh (3.1%), Sri Lanka (1.2%) and Nepal (o.48%) (table 2).

Development Indicator

Electricity is a major source of power. A nation's economic activity depends on its availability. Per capita

electricity consumption, in modern usage, is taken as one of the measuring rods of development. Higher per capita electricity consumption shows a better development of a nation. The per capita electricity consumption of selected countries is given in table 3. India has the highest per capita electricity consumption (684 KWh) indicating it to be a relatively more developed country in the South Asian region. The second highest is in Sri Lanka with a per capita electricity consumption of 490 KWh followed by Bangladesh (259 KWh), Nepal (106 KWh) and Pakistan (49 KWh).

Economic Growth Stimulator

As mentioned earlier, the countries of South Asia are trying to achieve double digit economic growth. This requires huge units of electricity and higher electricity consumption is a measuring rod for higher levels of economic development. It indicates that a one percent increase in electricity consumption would increase the economic growth rate by 1.31 percent. This clearly reveals that a unit change in electricity consumption would change the GDP by more than a unit. The EEC for individual countries is also estimated. In the case of Bangladesh the EEC is 0.81, which is less than one, which reveals that a 1% increase in electricity consumption would lead to an increase in the economic growth by 0.81%. For the rest of the countries a 1% increase in electricity consumption would lead to an increase in the economic growth by more than 1%, the highest in Pakistan and lowest in Nepal (table 4).

All for One, One for All

India alone produces 86% of electricity and in turn commands the highest consumption. The per capita electricity consumption (684 KWh) represents the highest in comparison to the sampled countries of the South Asian region. The second highest is in Sri Lanka with a per capita electricity consumption (490 KWh) followed by Bangladesh (259 KWh), Nepal (106 KWh) and Pakistan (49 KWh).

An estimation of the electricity elasticity coefficient reveals that a proportionate change in electricity consumption would lead to change in the economic growth rate by more than a proportion. It clearly reveals that South Asia's economic growth rate is electricity dependent. Thus, in the light of this, South Asian countries must mobilise their resources together to produce electricity and to, furthermore, trade in energy to supply surplus energy to the needy.

The author is retired Professor of Economics, Tribhuvan University

Source: The Kathmandu Post; 30 Jan 2016

Energy from India: 80MW power to be imported from mid-Feb

SANJEEV GIRI

Nepal is set to import additional 80MW electricity from India through Dhalkebar-Muzaffarpur transmission line from February 16.

With the work to install transmission towers on the Nepali side completed, the Nepal Electricity Authority (NEA) is gearing up to make the transmission line functional at the earliest. "We will start charging the transmission line on the Nepal side by February 7 or 8," Energy Secretary Suman Prasad Sharma said. "The formal exchange of electricity will begin from mid-February."

A meeting of the Joint Steering Committee of energy secretaries of Nepal and India in Kathmandu on Friday has agreed that Nepal will import additional 80MW energy within next three weeks.

Indian Power Secretary Pradeep Kumar Pujari informed that the Indian side will start charging the transmission line on their side from Saturday. According to Pujari, the Nepali side should work on upgrading the transmission line to 400kV capacity to get optimum benefit from the interconnectivity.

The Joint Steering Committee meeting also discussed the possibility of importing additional 200MW energy through the Dhalkebar-Muzaffarpur transmission line within the next winter season and agreed to make the project functional by December 2017.

As infrastructure on the Nepali side can only evacuate power through 132kV transmission line, both the countries will be charging the transmission lines on their sides at the same capacity.

"We have asked the Nepali authorities to boost infrastructure. Ultimately this line needs to be upgraded," Pujari said.

Work to install five transmission line towers was stalled in Dhanusha and Mahottari districts due to protests in the Tarai plains.

Once Nepal starts importing additional energy, it is expected that the ongoing power outage will be reduced by two hours, according to NEA officials. During Friday's meeting, the two neighbours also agreed to work together to complete the construction of Kataiya-Kusaha and Raxaul-Parwanipur 132kV cross-border transmission lines within September 2016. Nepal can import another 100MW energy through the transmission line.

According to Indian Ambassador to Nepal Ranjit Rae, it is possible for Nepal to import around 940MW energy from India by 2017 if both the governments expedited the development of transmission lines. "We (India) are committed to doing everything we can," Rae said.

Source: The Kathmandu Post; 30 Jan 2016

Govt to declare 'energy emergency' this week

The government will be declaring an "energy emergency" within a week after formulating the related policy and programmes to promote energy, Finance Minister Bishnu Poudel said.

Addressing a programme on Friday, he said that the government would be bringing out a clear policy for short- and long-term plans in the power sector.

"What is an energy emergency? What are its solutions? The planned energy emergency will include all these subjects," he said. "Due to delays in energy production, the country has failed to achieve growth. Hence, we should not have any delays now."

Poudel said that the government would also launch programmes under the energy emergency to resolve "legal problems" that have been affecting the development of hydropower in the country.

Poudel said that the government had accorded priority to installing transmission lines, and would expedite the projects that have been delayed due to the earthquake and fuel crisis. The Independent Power Producers' Association Nepal had recently urged the government to declare an energy emergency in the country and put in place necessary arrangements to speed up the construction of hydropower projects.

The association has estimated that 10,000 MW of electricity will be required to deal with the severe energy shortage that the country is currently facing, and has asked the government to declare Nepal an energy crisis-hit country until the target is achieved.

The planned energy emergency, the third one time in eight years, was prompted by a severe energy crisis caused by lowered production from hydropower plants. In December 2008, the Maoist-led government had declared an energy emergency; and in March 2011, the Jhalanath Khanal-led government had issued a similar declaration.

During the energy emergency in 2011 which lasted four and a half years, the government had planned to generate 2,500 MW and formed a powerful three-member Energy Crisis Control Commission. The scheme also included setting up thermal plants and reducing power leakage by 20 percent within six months.

However, there was not much progress in the development of hydropower projects. The installed capacity of all the hydropower projects currently stands at 787 MW, but output drops by half in the winter due to reduced water flow in the rivers. Nepal's peak hour demand for energy presently stands at nearly 1,500 MW.

Source: My Republica; 1 Feb 2016

Nat'l grid to get 7 megawatt power soon

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The power would be linked to the central transmission line at the Kodak-based substation of Kabeli corridor.

The Sanima Mai Hydropower Project has already produced and linked 22 megawatt electricity to the national grid in October 2015.

The project that started its construction works some five years ago has been completed in the slated timeframe with the investment of Rs 1.25 billion, Administrative Officer Poudel said. RSS

Source: My Republica; 1 Feb 2016

Dependence on India for energy to worsen by 2017

RUDRA PANGENI

Annual electricity import bill likely to jump five-fold to Rs 50 billion per year

Nepal will become a net electricity importer by 2017 if things go as stated by Indian ambassador to Nepal, Ranjit Rae. Rae on Friday said that Nepal can import an additional 940 MW of electricity via three cross-boarder transmission lines by the end of that year.

Electricity import will by that time outstrip domestic power generation. This will be just the opposite of what everyone has been stressing, ie, taking 'energy as a strategic commodity' and avoiding dependence on a single country in view of the Indian blockade that has been continuing since September.

Importing more electricity than it produces will not take Nepal in the direction of trade diversification, considering that Nepal's trade is more than 64 percent with India, including petroleum imports worth over US $ 1 billion every year.

Speaking at an interaction on the topic 'Enhancing Nepal-India Energy Cooperation', organized by the Nepal India Chamber of Commerce and Industry on Friday, Rae had said that 'if all goes well' India will be able to export 940 MW of electricity to Nepal through three different cross-border transmission lines.

Talking to Republica, Secretary at Nepal's Ministry of Energy, Suman Prasad Sharma, said that the country has no alternative to importing as much electricity as possible.

"We know it is a strategic commodity, but we should work toward importing only for the short-term until the country becomes self-reliant in electricity generation," he added.

This is as per the vision, shared by Indian Prime Minister Narendra Modi, of supplying power to Nepal for the short term, with Nepal in the long run feeding power to the Indian economy.

"Importing power will make load shedding in Nepal history," added Ambassador Rae. Nepal will start importing 80 MW through the partial operation of the cross-boarder Dhalkebar- Mujaffarpur Transmission line within the next three weeks, according to a press release issued following a meeting of the Joint Steering Committee held in Kathmandu of Friday and Thursday. The committee is co-chaired by the energy secretaries of Nepal and India.

Nepal's current installed capacity at its hydropower plants is less than 800 MW while the import from India stands at 200 MW at present. NEA paid a bill of Rs 10 billion (for 1.36 billion units) to different power companies in India for electricity imports in Fiscal Year 2014/15. This figure indicates that the electricity bill will skyrocket to about Rs 48 billion annually.

No domestic hydropower plants of above 100 MW will come stream by the end of 2017, so that a country rich in water resources will be producing less power than it imports. The earthquake coupled with the Indian blockade have pushed the Upper Tamakoshi Hydropower Project of 456 MW capacity into time overrun of more than a year. Project officials say the project is hardly likely to see completion by the end of 2017.

Meanwhile, independent hydropower developers are of the view that Nepal should focus on generating its own hydropower instead of importing power from India as this should be taken as a matter of strategic energy security. "Politicians, policymakers and bureaucrats should not think in terms of an easy

way of meeting electricity demand but should rather go for a strategic approach in order to make the country energy-independent," Narendra Prajapati, a hydropower developer, told Republica."Hydropower plants may be a bit expensive in the beginning but it pays in the long run, unlike purchasing petrol or even electricity from India," he added.

However, government officials are looking to importing more electricity from India to reduce the load shedding hours rather than focusing on generating the country's own power. Prime Minister KP Sharma Oli has repeatedly spoken of ending load-shedding within a year and his aim is to import as much as possible from India, making the country more vulnerable in terms of energy security.

However, there is also a positive side in the short run to importing electricity as country's ailing economy and manufacturing sector that have lost competitiveness due to rolling power outages can see a rebound.

Source: Karobar; 1 Feb 2016

India to give 940 MW within two years

BABURAM KHADKA

India, that has forced energy crisis and subsequent darkness on Nepal by enforcing the blockade, has pledged to help the country end load-shedding within two years by providing five times more electricity. "Up to 940 MW will be supplied by completing cross-border transmission lines and increasing capacity of the other transmission lines by the end of 2017," Indian Ambassador to Nepal Ranjit Rae said. "We will give electricity in that quantity to immediately lit Nepal as per the announcement of Prime Minister Narendra Modi. This is just a short-term help. Nepal will help in expansion of the Indian economy in the long run by increasing electricity generation and exporting that to India," he added. Nepal is currently importing up to 240 MW from India through 12 different points.

He revealed that 100 MW each will be imported through Kataiya-Kushaha and Raxaul-Parwanipur, 400 MW through the cross-border and 100 MW from 220 kVA lines. Stating that hydropower is the sector of comparative benefits for Nepal, he added that India is committed to energy development in Nepal. He said that the Nepal Electricity Authority (NEA) is generating just 300 MW during the dry season, and pointed that the current peak demand is 1300 MW while supply is just 550 MW. He assured that additional 80 MW will be provided through the cross-border line in the third week of February to address the energy crisis for now. He added that electricity cannot be imported through Mujaffarpur-Bhittamode Transmission Line now as the work on the Nepali side has yet to be completed even as that on the Indian side has already been finished.

Stating that demand in India will rise to 800 GW by 2030, he opined that Nepali electricity will help in economic development of India. He stated that Nepal will reap benefits not just by selling electricity but also through irrigation and other benefits. He claimed that electricity imported from India is cheaper than that generated in Nepal. He pointed that it is being imported from India at Rs 5.80 per unit on an average even as cost of that generated in Nepal is Rs 7.25. He stressed that Nepali electricity should also be cheap.

He hoped that Nepal will take a huge leap in energy generation in two years. "Work for the detailed project report (DPR) for Pancheshwore Project has started now while meetings are being held in different stages to start development of the project. Power Trade Agreement (PTA) between Nepal and India, and project development agreement (PDA) with promoters of Upper Karnali and Arun III are also big achievements," he said. Stating that actions of hurling petrol bombs and creating obstructions have created problems in project development, he drew the government's attention toward providing appropriate security.

Indian Energy Secretary Pradip Kumar Pujari during the a seminar on Nepal-India Energy Assistance organized by the Nepal-India Chamber of Commerce and Industry in Kathmandu on Friday revealed that consultant WAPCOS India will complete the DPR of Pancheshwore by March 16. He said that the meeting of Pancheshwore Governing Council will be held the next week. He said study for the Koshi High Dam Project is being done and its DPR will be completed by February, 2017.

Energy Secretary Suman Prasad Sharma during the program said that it will take a decade to end load-shedding in Nepal with electricity generated inside the country.

Secretary level meeting held

The Nepal-India secretary level meeting has been held to discuss about implementation of the clause 5 of PTA. Sharma and Pujari led the respective delegates from the two countries. The meeting has decided to make technical committees active. Agreements have also been reached to operate the cross-border line in full capacity by December, 2017 and completing Parwanipur-Raxaul and Kataiya-Kushaha lines by August and importing an additional 100 MW.

Source: New Business Age; 2 Feb 2016

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The project that started its construction works some five years ago has been completed in the slated timeframe with the investment of Rs 1.25 billion, Administrative Officer Poudel said. RSS

Source: My Republica; 2 Feb 2016

Indian electricity more expensive than Nepal's

The statement by Indian ambassador Ranjit Rae that the price of electricity in Nepal is more expensive than power imported from India is not correct, said an official of Nepal Electricity Authority (NEA).

Speaking at an interaction on Friday, Ambassador Rae had suggested importing electricity from India, which he said was cheaper than the electricity available in Nepal.
The NEA official contradicted the ambassador, saying that the Indian electricity price is quoted in Indian currency. No one had corrected the ambassador at the interaction although several government and NEA officials were present on the occasion.

Rae had said, "The average per unit price of Nepal's electricity is Rs 7.52 while the price of Indian electricity is only Rs 5.84." The NEA official said that the price quoted for Indian electricity was in Indian currency, which would be equivalent to Rs 8.60 per unit in Nepali currency.

Nepal imports electricity under different agreements and the price of the imported electricity ranges from Rs 3.44 to Rs 6.20 per unit in Indian currency. Nepal imports electricity at the rate of Rs 5.55 per unit from the 132 KV transmission line while the rate is Rs 5.77 from the 33 KV transmission line.

Source: My Republica; 2 Feb 2016

Construction works likely to resume soon

Upper Trishuli 3A hydropower project

PRAKASH ADHIKARI

The construction of the 60 MW Upper Trishuli 3A Hydropower Project is expected to resume soon with the Nepal Army (NA) starting to clear landslide debris and open a new track linking the powerhouse and the headworks.

The project contractor was supposed to improve the road; but after it was completely destroyed by the April 25 earthquake, differences had emerged over who should repair it.

The NA has taken over the responsibility of repairing the 5-km road to allow the construction work to resume at the project as the country has been crippled by extended load-shedding.

The contractor China Gezhouba Water and Power (Group) had been stalling resuming work at the project for the last nine months due to the damaged road. Five workers have been drilling dynamite holes in the rocks, and NA personnel have been using explosives to clear the debris. Around 11 NA personnel are engaged in the task.

The army will reconstruct the 4-metre-wide road. Considering the hardship the country was going through because of the power crisis, the government had instructed the army to remove the landslide debris so that work could be resumed at the project.

The Nepal Electricity Authority (NEA) had been requesting the government to expedite moves to clear the landslide debris. The project is being constructed with a Chinese loan assistance.

The landslide had deposited large rocks on the road from Simle to the project's headworks. The road is part of the Betrawoti-Mailung Road.

Site in-charge of the Upper Trishuli 3A project Amkesh Kumar Jha said that the construction work would restart once the army had finished clearing the landslide debris. According to him, the army is expected to finish the task within the next two months.

Moreover, after the landslide debris has been removed from the road to the Trishuli 3A project, it will also help to bring the closed 5 MW Mailung Hydropower Project back into operation. Likewise, work can be started at the 216 MW Trishuli 1 project which is being developed with South Korean assistance, said Jha.

Although civil works have been halted due to the quake, the construction of a transmission line has already started. The task of clearing the forest to erect a transmission line from the project site to Matatirtha, Kathmandu has already begun, and 94 trees have been cut down in Kathmandu, Dhading and Nuwakot. It is estimated that 18,729 trees will need to be cut down in 26 community forests. Assistant Director of the project Narayan Acharya said that trees were being cut
down in 13 of the 15 community forests that lie on the
path of the transmission line. He added that 10,758 trees would be felled.

Forest clearing has not begun in Tupche and Manakamana village development committees while it is being down in seven out of the 10 community forests in Kathmandu, according to Acharya. Locals have objected to the cutting of trees in some community forests, he said.

Source: The Himalayan Times; 2 Feb 2016

National transmission grid to get 7 MW power soon

Administrative Officer of Sanima Mai Hydropower Project said the national transmission grid will soon be powered with additional seven megawatt electricity.

The project has generated the additional power from its cascade project based at Danabari and Chisapani VDCs in Ilam district.

Administrative Officer of the project, Basanta Paudel, informed the test production recently after the completion its construction fully.

The power generated from the project would be connected to the national transmission grid at the Kodak-based substation of Kabeli corridor. But the process will only take place after the technical pitfalls traced in course of the test production are fixed, Paudel added.

The Sanima Mai Hydropower Project produces 22 megawatt electricity and links it to the national grid from October 2015.

The project that started its construction works some five years ago has been completed in the slated timeframe with an investment of Rs 1.25 billion, Administrative Officer Poudel said.

Source: Karobar; 3 Feb 2016

New Indian agency to sell electricity

BABURAM KHADKA

India has fixed NTPC Vidyut Vyapar Nigam Limited (NVVN) as a new nodal agency for trade of electricity with Nepal. Indian government owned Power Trading Corporation (PTC) Limited used to deal with Nepal earlier. NVVN is also a government-owned company.

Officials of the Nepal Electricity Authority (NEA) and NVVN on Tuesday concluded discussion to bring additional 80 MW from India from the third week of February, according to chief of the Power Trade Department at the NEA Prabal Adhikari. The NEA had been procuring from PTC at commercial rate earlier and had signed agreement to buy 125 MW at commercial rate. The country is currently importing around 200 MW from Bihar and Uttar Pradesh as per the electricity exchange agreement between the two countries.

He added that the additional 80 MW is coming due to special arrangements by the Indian government for its states and neighboring country. "They had not determined the rate to sell to Nepal. We have asked them to give rate. It will be provided in a few days and the decision as to for how many months it will be procured will be taken on the basis of that," he elaborated. He revealed that the NEA is preparing to buy additional 80 MW only for six months. The NEA has been buying from India at Rs 5.80 per unit on an average. This does not include leakage and wheeling charge for use of the transmission line.

The schedule to bring additional 80 MW from February through the Nepal-India Cross-border Transmission Line has already been prepared. Expansion of the 40-kilometer transmission line from Dhalkebar to Bhittamode, the NEA said, is being done at a rapid pace accordingly. India has already declared to give 940 MW to Nepal for a few years to resolve energy crisis in Nepal by December, 2017. Nepal has not been able to import electricity even when India is willing to give due to delay in expansion of transmission lines.

Meeting for Pancheshwore in March

The Secretary Level Joint Governing Council Meeting for the proposed Panchewshore Multipurpose Project will be held on March 2 and 3, according to Joint Secretary at the Energy Ministry Dr Sanjay Sharma. He revealed that formal information to the Indian Ministry of Water Resources will be sent through the Foreign Ministry.

The meeting was scheduled for this Thursday and Friday in Kathmandu but had to be postponed after the Indian PMO deployed Water Resources Secretary Shashi Shekhar to Lucknow. It was earlier scheduled to be held on January 7 and 8 but was suddenly cancelled in the 11th hour. Preliminary work of the project has not moved forward due to delay in meeting of the governing council.

The meeting will hold discussions on the detailed project report (DPR) reviewed by consultant WAPCOS, India and institutional structure of the project. The DPR is being reviewed with Indian investment and WAPCOS will submit it on March 16.

Source: My Republica; 3 Feb 2016

Consortium led by Everest Bank to finance Nyadi Hydropower Project

A consortium of banks and financial institution led by Everest Bank Ltd has decided to finance Nyadi Hydropower Ltd (30 MW).

Issuing a statement issued by Butwal Power Company, the promoter of Nyadi Hydropower Limited, the consortium has agreed to finance Rs 4.40 billion, or 75 percent of the project cost.
Nabil Bank Ltd, Global IME Bank Ltd, Himalayan Bank Ltd and Sunrise Bank Ltd along with state-owned Hydropower Investment and Development Company Ltd are members of the consortium.

Everest Bank CEO AK Ahluwalia and BPC CEO Uttar Kumar Shrestha signed the agreement amid a function on Wednesday.

BPC has majority shares in the promoter share category. Lamjung Vidhyut Bikash Company Ltd is also the promoter of the project.

The project, which is estimated to cost Rs 6 billion, has allocated 10 percent of shares for locals of project affected areas and 15 percent for general public. The project site is located in Bahundanda VDC of Lamjung.

CEO Shrestha said that they will start construction works from June after awarding tender for civil and electromechanical works.

The project is expected to start generation by April 2020.

Source: The Himalayan Times; 4 Feb 2016

Post-earthquake potential: Energy development is important

Devendra Adhikari

Attention should be paid to the restoration and reconstruction adopting cleaner, efficient and renewable energy options. For this, the NAR should establish a dedicated unit to coordinate and implement necessary activities in efficient manner.

The destruction caused by the recent earthquakes was widespread. Rural areas in the central and western regions were particularly affected. Poorer rural areas have been more adversely affected than towns and cities due to their inferior quality of houses and support structures. According to the post disaster needs assessment (PDNA), the total estimated value of disaster effect caused by the earthquakes is US$ 7 billion. Disaster effects are spread unevenly between public and private sectors. Government of Nepal is preparing to develop a large-scale recovery program based on the PDNA results. It is expected that the reconstruction works would take momentum after the appointment of the chief executive officer in the National Authority for Reconstruction (NAR).

The sector of housing and human settlements was affected the most. Access to efficient lighting and clean cooking (ELCC) solutions will be the most important factors in the new housing and human settlements. Most of the houses and settlements which were damaged by the earthquakes need restoration or new provisions of energy system for meeting their lighting and cooking energy needs. The reconstruction or recovery plan should have built-in provision for ELCC provisions. Furthermore, policy provision that obliges the house owner to have ELCC solutions is necessary.

Earthquakes have damaged several health infrastructures. Over 80 percent of these affected health facilities were from the most affected districts and this affected the ability of these facilities to respond to the healthcare needs of vulnerable populations in the remote areas. The overwhelming share of damage and losses was borne by the public sector. The recovery and reconstruction plan for the damaged health infrastructure should have a provision of efficient electricity supply to cater to the needs of lighting, refrigeration to preserve the vaccines and to operate medical equipment. The Government while implementing the recovery plan for the health infrastructure should establish policy provision for the efficient electricity provisions in order to provide better medical services.

Electricity supply in most of the education facilities – mostly in rural areas- is either inadequate or absent. The education facilities while they are rebuilt should have the provision of efficient and sufficient electricity supply to operate computers and other teaching aids.

The earthquakes affected about 2,900 structures with cultural, historical and religious heritage values. Major monuments in Kathmandu's seven World Heritage Monument Zones were severely damaged and many collapsed completely. In addition, in more than 20 districts, thousands of private residences built on traditional lines, historic public buildings, ancient and recently built temples and monasteries, were affected by the disaster, 25 per cent of which were destroyed completely. Most of the cultural heritage sites are located either in urban or peri-urban areas. Most of these areas are connected to grid electricity. There will be two areas to focus while restoring the cultural heritage sites. These are (i) implement efficient lighting provision, and (ii) introduce clean lighting option for backup in case of emergency such as earthquakes. Solar energy has been successfully introduced in many areas for lighting streets. Solar Photovoltaic can also become an effective means for backup energy in case of emergency – that may occur anytime – in the heritage sites.

Electricity generation facilities, both on-grid and off-grid, and distribution networks were damaged severely by the earthquake. In generation side under operation, about 115 MW hydropower facilities were severely damaged, and 60 MW were partially damaged. For generation under construction, about 1000 MW of hydropower projects owned both by Nepal Electricity Authority (NEA) and Independent Power Producers (IPP) have been partially damaged. Regarding the transmission system under

operation, seven substations were damaged. Despite this, all the affected transmission substations were restored within a short period of time. However, confirmation about the risks of tower foundation damage, vulnerability of towers due to landslide/soil erosion and structural damage are yet to be confirmed. This would apply in the case of generation projects.

Regarding distribution, about 800 km of distribution lines at different voltage levels (33 kV, 11 kV and 400 V) and 365 transformers at different capacity (from 15 to 300 kVA) were damaged and non-operational. As for off-grid electricity services, about 262 micro-hydro facilities and 115,438 solar home systems (SHS) or small SHS, and 156 institutional solar power systems (ISPS) were damaged and non-operational. About 603,000 households have lost access to electricity, including 91,200 households for grid electricity and the rest for off-grid electricity, either due to houses collapsing or damage to electricity supply facilities.

Restoration of the damaged facilities are necessary; at the same time, the attention should be paid to the restoration and reconstruction adopting cleaner, efficient and renewable energy options. For this, the NAR should establish a dedicated unit to coordinate and implement necessary activities in a more professional and efficient manner.

Adhikari is an energy economist.

Source: The Himalayan Times; 4 Feb 2016

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PRAKASH ADHIKARI

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Source: The Himalayan Times; 5 Feb 2016

Quake-damaged hydel plants await repair

Months after they were damaged in the massive earthquake of April 25, Manpang Khola II and VII hydropower projects constructed on the border of Mulpani and Budhathum VDCs of Dhading are still awaiting repairs.

Of the total seven micro hydropower projects constructed on the Manpang Khola by District Development Committee's Rural Energy and Environment Department targeting remote villages not linked by the central power grid, five have already resumed operation following necessary repairs.

"Though the five projects have already come into operation after being repaired, we are doomed to live in the dark as the two projects are still awaiting repair," lamented Lokendra Thapa of Mulpani VDC, adding that over 1,000 households have been affected due to the damaged power plants.

"A huge amount of fund is required to repair the plants that we unfortunately lack, hence the delay," said Micro Hydropower Association Dhading Chairperson Shambhu Thapa, adding "There are now over one dozen hydel plants damaged by the quake and we need around 10 million rupees for their repair immediately."

According to Thapa, there are currently 35 micro hydropower projects in operation in the district. Lack of repairs at the plants have left the locals with no option other than to use kerosene lamps as their frequent appeals to the concerned authorities have fallen on deaf ears.

Halted projects resume

Construction of six hydropower projects in Lamjung that had halted due to the blockade and resulting fuel crisis has resumed with fuel supply easing.

The total capacity of six projects is 157 MW. Of them, construction of the 50MW Upper Marshyangdi A Hydropower Project and 2MW Chhyangdi Hydropower is in the last phase, while the 50MW project will be completed in seven months if construction continues smoothly, the 2MW capacity power plant will be completed in two weeks.

Among other projects in Lamjung that had halted due to the fuel crisis are the 27MW Dordikhola, 25MW Upper Dordi A, 49.6MW Super Dordi A, and 3MW Midim Karapur hydropower projects.