

## Editorial

Dear Reader,

*Developments of alternative energy including solar, wind, biomass, geothermal and even waste have taken a momentum for electrification in our country. A suitable energy mix is a must in a country composed of varied topographical features and diverse natural resources. However, there are many obstacles to the expansion of such renewable energy resources, first being the inadequate legal and policy structure, absence of comprehensive framework for energy service delivery to the poor, high upfront costs, low purchasing power of rural people, among other issues, are still making us to depend more on traditional energy sources.*

*The current Energy Policy 2001 and Electricity Act 2049 (1992) and Electricity Regulation 2050 (1993) are the basic policy and legal documents to deal with the energy sector of Nepal. Besides, there are some policies and orders which are somehow facilitating the process of other renewable energy rather than hydro energy. The Electricity Act 2049 (1992) even though defines electricity as "Electric power generated from water, mineral oil, coal, gas solar energy, wind energy, atomic energy or any other means", but most of its provisions are heavily guided towards hydro electricity generation rather than other alternative electricity generation process. Article 3 of the Electricity Act has exclusively prohibited conducting survey, generation, transmission or distribution of electricity without obtaining license, which is mostly related to the hydro than other sources of electricity and still there are gaps to address the initial requirements for the development of other sources of alternative energy i.e. solar, wind, and biomass also including geo-thermal and waste energy.*

*Our legal framework seems supportive, although not sufficient to clean energy sources. The Art 16 of the Interim Constitution of Nepal 2007 guarantees the right to live in a clean environment and Art. 35(5) of State's Policies provide to maintain clean environment, both of which ultimately require clean energy. But, these existing policies and legal frameworks, however, are not sufficient to deal with overall aspects of development of such renewable energy sources.*

*Some other important legislation/regulation such as Rural (Renewable) Energy Act, Rural/Renewable Energy Central Coordination Commission Regulation, Central Rural Energy Fund Regulation, Feed in Tariff Act and Alternative Energy Promotion Centre (AEPIC) Act, Nepal's 20 Years Perspective Plan (2011-2030) are at different stages of development. Considering the recent earthquake disaster and the political situation in the country, it might take significant period to get them through the parliament. Absence of detailed implementation guidelines, policies and by-laws, and operational modalities aligned with Alternative Energy Policy and weak enforcement of existing energy policies and laws particular at district and village level, absence of a government endorsed framework for PPP models in the rural energy sector add further challenges in promotion of energy sector in Nepal.*

*Despite the shortfalls of a vague legal scenario, there has been a long history of government policies promoting renewable energy, only we need now is to address the gaps. In some cases, these policies are effective and beneficial. Their results can be seen in Nepal's prominence in small scale biogas, use of solar thermal water heaters, rural electrification process and others. With the innovation of solar mini and micro grids in some districts which is guided without having a particular law and rules, it will be only a momentary relief. It is a high time now that such policies and laws are to be reviewed and amended or enact a new one to fully unleash the massive energy potential, beyond the rural electrification but for commercial purposes as well.*



**Mr. Anjan Dahal**

**Legal Advisor  
EDC**

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## EDC Activities

### Interview with Mr. Uttar K. Shrestha, CEO of Butwal Power Company with EDC



#### 1. Please tell us about your organization.

We are one of the leading companies in Nepal's power sector with generation and distribution as its core business areas. Incorporated in 1965 as a private company and converted into public limited company in 1993, BPC has a track record of pioneering multi-faceted capacity building initiatives in hydropower development. Pursuing the privatization process in 2003, the Government of Nepal handed over majority of its ownership and management control to private investors on public-private partnership model. BPC is registered with the Securities Board of Nepal and listed in Nepal Stock Exchange Limited.

Currently, BPC wholly owns and operates a 12 MW Jhimruk Plant and 9.4 MW Andhikhola Plant, which was only recently upgraded from 5.1 MW. Apart from bulk energy sale to NEA as per the PPA, BPC caters to about 50,000 local customers spread across four districts- Syangja, Palpa, Pyuthan and Argakhanchi. Along with the company's stake in 4 MW Khudi Project and 60 MW Khimti Project, its total generation capacity presently stands at about 34 MW (equity).

BPC is also engaged in operation & maintenance of power plants, consulting engineering of hydropower and infrastructure projects, manufacturing and repair of hydro-mechanical and electromechanical equipment for power plants through its subsidiary companies.

#### 2. Can you elaborate on the key current activities or projects that your company is executing?

Apart from the day-to-day operation of our existing plants and distribution system, we have a few projects in the pipeline at different stages of construction and development. The Andhikhola Upgrading Project has completed its activities and the upgraded plant has just recently resumed operation at 9.4 MW.

We are developing two hydropower projects namely Nyadi and Kabeli A, 30 MW and 37.6 MW respectively, through separate SPVs. We have already signed loan agreements with World Bank and IFC for financing Kabeli A project and are currently looking to finalize the PPA. Similarly, Nyadi is also in advanced stage of development and we are looking to finalize the PPA in the near future. Both these projects are expected to go into full-fledged construction in 2015. Other projects namely, Lower Manang Marsyangdi Hydropower Project (100 MW) and Chino Khola (<10 MW), located in southern region of Manang District, are in the preparatory phase and will look towards gradually developing them.

### 3. What are the major challenges you have been facing during execution of your projects?

One of the major challenge that has been hindering our business for many years now is the unreasonably low tariff structure applicable for local distribution in our project areas, and with the steady growth of customers, the sustainability of distribution business has become a major issue. We are working to resolve this problem and hopefully our efforts will bear some positive results on this matter soon.

Like in the case of most IPPs, we too have faced significant delays in the approval of documents submitted to government authorities causing loss of valuable license period. Lack of clarity on PPA for projects with capacities greater than 25 MW had affected our projects in the past. However, recent decision of NEA to offer flat posted rates for projects upto 100 MW has provided a positive way forward for all the developers. Obtaining permits for forest clearance, land acquisition in project areas, etc. tend to be long drawn processes that tend to demotivate even the most genuine developers. To top it off, the most serious challenge our hydropower sector faces is the lack of adequate infrastructure for power evacuation. Due to various complexities associated with the expansion of transmission lines, the network augmentation lags the generation capacity addition plan.

### 4. How do you propose such issues can be resolved?

Most of these problems that plague the overall hydropower development in Nepal can be resolved by the government by taking quick decisions and taking the initiative to implement investment friendly and stable policies, which are not frequently affected by the nation's ever-changing political landscape. This would go a long way in improving the investment climate and ensuring security to willing developers over their investments.

### 5. Can you suggest the key changes you think will help the energy sector forward?

Like I said earlier, the key challenge is to expedite the construction of transmission lines. TL projects are lagging behind the generation capacity addition plan and the situation looks to worsen with the gap further widening if significant progress is not made within the next few years. Issues related to forest clearance and land acquisition needs major intervention from the government's side to make the required progress.

Foreign Direct Investments are essential if we want to see the hydropower sector propel to the heights that we all know it is capable of. However, lack of clearer policy on offering PPAs with USD component poses risks for such investments on account of exchange rate fluctuations. NEA's reluctance to agree to such PPA is quite understandable. However, we cannot expect adequate FDIs in the sector if this issue is not addressed by the government.

The local communities in project areas need to be more aware of the risks of posing unreasonably high demand for local support on the part of the developers. This has been a major deterrent for many developers causing delays in project implementation and leading to higher project costs. There is a lot of political influence on local communities and it would be a very welcoming change if the pledges and commitment of political parties at the central level for supporting the growth of the sector were also equally reflected at the local level.

## Meeting with Niti Foundation

EDC invited Mr. Nirjan Rai, Executive Director of Niti Foundation on 20<sup>th</sup> April, 2015 at EDC office. He was accompanied by Mr. Saumitra Neupane, Program Officer, Niti Foundation. The meeting started with the sharing of working areas of respective organization and explored possible areas of collaboration in the energy sector.

## EDC's public advocacy

As a part of a monthly series prepared jointly by EDC and



, the fourth publication was released on 24<sup>th</sup> April, 2015.

### Out of the darkness

#### Nepalis need a new Electricity Act more urgently than we need a new constitution.

It took Nepal 100 years to generate 700 MW of hydropower, but it took us just 10 years to add 600 MW of diesel generators. Nepal now ranks among the worst countries in the world in transmission leakage, wasting more than a third of the energy in the grid.

The energy sector is in a state of disarray with piecemeal ideas, duplication and too many cooks spoiling the broth. We do not even know what our hydropower, solar, wind or other energy potentials are, and yet we have politicians spouting superlatives every chance they get.

The chronic load shedding is a vivid proof of the lack of vision, poor management and governance failure. Nepali planners should know that to achieve 1 per cent increase in economic growth energy generation needs to increase by 1.5 per cent.

Nepal's three items of import that are increasing most dramatically are petroleum products, motor vehicles that run on it, and cooking gas. We spend the equivalent of 40 per cent of the annual budget and more than half our foreign currency income buying these three items.



However, if we had focused on renewable energy to drive our transportation, cooking and manufacturing, we'd have to import only minimal petroleum for buses and aviation. That would mean huge savings on our petroleum import bill, which could be invested in developing further infrastructure, boosting growth and cutting our trade deficit. There would not be any more use for Nepal Oil Corporation, and the corruption-bred shortages it spawns.

Electricity in the energy mix would reduce demand for firewood, on which 72 per cent of Nepalis still depend for cooking. On a national level, a shift to renewables would mean that Nepal's political dependence on the outside world would also diminish as we become more self-reliant. Our prime ministers would not have to say "the keys are not in our hands" anymore.

The shift must come first in a push for electric public transport, turning petrol pumps throughout the country into fast-charging stations. There must be a policy shift to import only electric vehicles, especially for public transportation. Nissan Motors is collaborating with Bhutan to convert all government vehicles and taxis to battery powered vehicles by 2020, there is no reason Nepal can't do the same.

Generation of cheap electricity would allow households to switch to electric stoves, instead of gas, firewood or kerosene. It may seem like a utopian dream during these times of power cuts, but it is possible to have policies in place to generate and distribute enough electricity. Electricity proliferation can only happen when an effective law capturing this vision is put into place. But the existing Electricity Act is obsolete and defunct. We could even go as far as to say that drafting a new Electricity Act is more important for the welfare of the people than drafting a new constitution.

An Act with attractive incentives to investors would bring in outside equity into energy development. Obstruction of energy infrastructure, extortion and militant unionism could be punishable with tough laws. The Act must begin issuing one unified

license on a competitive bidding basis and giving all clearances to the developer within 12 months through a one window policy. Land acquisition must be abolished and land lease started for run of river projects.

Additionally, while giving better concessions to energy developers than those offered by other nations, stringent penalties for delays in getting financial closure and starting electricity production must be put into place. Local people must get 10 per cent investible shares prior to project construction so they share both potential benefits and risks – but any local person affiliated with political parties or creating disturbances should be excluded. And all the contents of this act should supersede or override the conflicting contents in any other prevalent acts or policies, thereby providing absolute and unequivocal clarity to the direction of Nepal's energy sector.

A federal setup in the new constitution could complicate the construction of large energy projects. Transmission lines should, therefore, be under the jurisdiction of a federal company. Contracts for construction of transmission lines could go to the Nepal Army, just like for highway building.

Formation of multiple state-level distribution companies from both government and private sector must be encouraged to foster competition and improve services. Similarly, a state-level tariff commission should be set up in every federal province. Federal and state power generation and trading companies should be encouraged, and a national energy planning division should keep track of the national energy data. Micro-grids should be encouraged for remote regions.

It is time Nepal emerged from centuries of darkness, and enacting a new Electricity Act would light our way.

(This article is derived from Nepali Times published on April 24th, 2015.

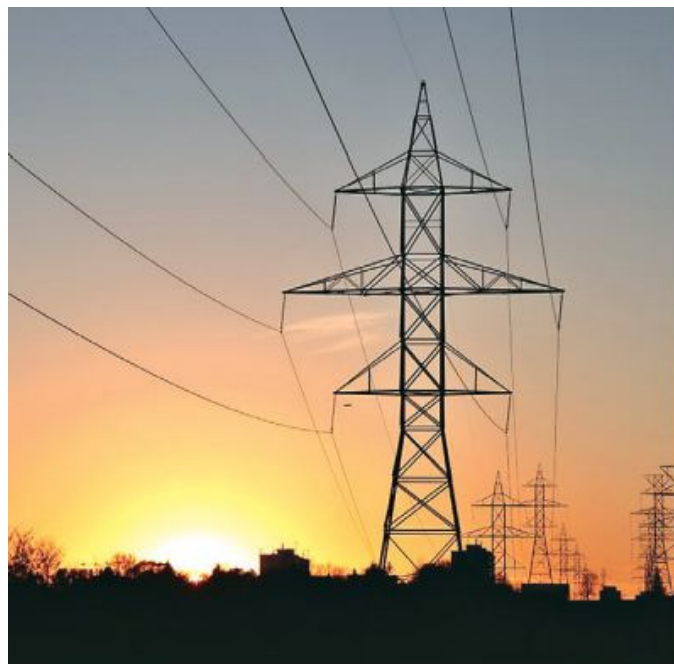
Post available at: <http://nepalitimes.com/article/nation/need-for-new-Electricity-Act-Nepal,2191> )

EDC's second publication in  was released on May 17th, 2015.

### Scenario of transmission lines in Nepal

It is an undeniable fact that Nepal is facing an acute shortage of electricity. People are facing tens of hours of load-shedding every day. Besides the deficiency of electricity generation, the inadequacy of transmission lines is the key bottleneck. Not only to assist government's endeavors in reducing load-shedding but also for the intra-country and inter-country evacuation of generated energy, transmission lines are the back bone of energy sector.

Last fiscal year's announcement of an annual budget for Rs 13.5 billion for building transmission and distribution lines was supposed to be a boon for the development of transmission lines in the country. However, unrealistic time frame for completion and improper estimation of the cost of such projects has probably acted as a major deterrent for the contractors to take up and complete





such projects on time thereby pushing the completion dates of such projects further.

Moreover, lack of government's strong commitment towards resolving right-of-way (RoW) related issues have also decelerated the construction of such transmission line projects. A scary case is the KhimitiDhalkebar 220 kV transmission line which remained incomplete since the last decade, and is one such glaring example of government's improper handling of RoW related issues. Where such land acquisition vis-à-vis RoW related issues are of prime importance, it is advisable to take all stakeholders into confidence thereby provide ownership in share structure of such projects.

Government's plan to develop a separate 'Transmission Grid Company' to develop transmission lines also seems to be in line with the requirements of the nation. However, all the related stakeholders need to be taken into confidence especially when the nation is undergoing restructuring and a compelling debate on division of resources and federalism is on. Just as the current earthquake has shown the immense ability of the Nepal Army, it is imperative that the Nepal Army becomes a major stakeholder and implementer of the Transmission Grid Company.

Likewise establishment of such 'Transmission Grid Company' to develop transmission lines will be inadequate from the perspective of execution of such projects especially when the government is not preparing any plans to develop competitiveness within the country to build such large scale projects, which involve high technical aspects. It is an undeniable fact that we are mostly dependent on contractors from neighbouring countries for the execution of extra-high voltage (EHV) projects of 132 kilo voltage (kV) and higher as of this date. It is not that we do not have a competent workforce and competent EPC contractors, but a framework would be required to promote and protect the interests of such core groups as well.

Similarly, without participation of the private sector in developing transmission line projects, it will be hard for the government's plan to materialise. Private sector must also be allowed to construct transmission lines on the BOOT (build, own, operate and transfer) model with the provision of takeover after 25 years. By developing such mechanisms, Nepal's energy sector can be harnessed rapidly. Let us hope the government handles such sensitive issues related to energy sector properly.

(This article is derived from Himalayan Times published on May 17th, 2015.

Post available at: [epaper.thehimalayantimes.com/epaperpdf/17052015/17052015-md-hr-22.pdf](http://epaper.thehimalayantimes.com/epaperpdf/17052015/17052015-md-hr-22.pdf))

## Launch of EDC promoted TV program “Adhyaro Bata Ujjyalo Tira”

The first episode of a regular weekly TV program named “Adhyaro Bata Ujjyalo Tira” was telecasted on Avenues TV on April 19<sup>th</sup>, 2015. The program aims to be an effective medium to reach a significantly larger stakeholder audience in creating awareness as development of the energy sector could transform the lives of each and every citizen. The interactions and discussions would also bring new ideas that could be incorporated in improving Nepal's energy policies, create more energy entrepreneurs and develop an audience educated on energy sector issues.

(The video recording of the program is available online at: <https://www.youtube.com/watch?v=2n-UprURiW0> )



## Announcement from Reliable Hydropower Pvt. Ltd. (an EDC member organization)



**Construction of Transmission Line of Khorunga Khola Project**

The acquisition of land required for the project is completed. Construction of 5km long 33 kV transmission line (pole erection and stringing of conductors) has been successfully completed and tested for completeness/adequacy/correctness in the last month. It is ready for charging construction power to the project during construction. The project is expected to complete in July 2016.

**Khorunga Khola Small Hydropower Project (KKSHEP)** with an installed capacity of 4.8MW has entered the construction phase since last year. KKSHEP is located in Tehrathum District, Eastern Development of Nepal. Myanglung is District Headquarter of Tehrathum.

KKSHEP is a low head run of river project and will be able to generate 28.50GWh of net annual energy. The project comprises a low head weir, gravel trap, settling basin, headrace pipe, forebay, penstock and powerhouse and ancillary structures. Power evacuation will be made through 5km long 33kV transmission line connecting the project to the Jirikhimti sub-station. The project is accessible; 10 km earthen road (Madhya Pahadi Lok Marg) connects the project site from Myanglung Bazaar and 153km all time motorable asphalt road up to Myanglung Bazaar from Biratnagar.

Reliable Hydropower Co. Pvt. Ltd. has concluded Power Purchase Agreement with Power Trade Department of NEA, all legal approval from government of Nepal and Financial Closure with the consortium Bank of Prime Commercial Bank (Lead Bank), Nabil Bank (Co-Lead Bank) and Century Bank. Contract of construction of Transmission line and Hydromechanical equipment were already awarded to the Contractors. Contract of Electromechanical equipment is in final stage and Contract of Civil Construction work is being underway in final negotiation.



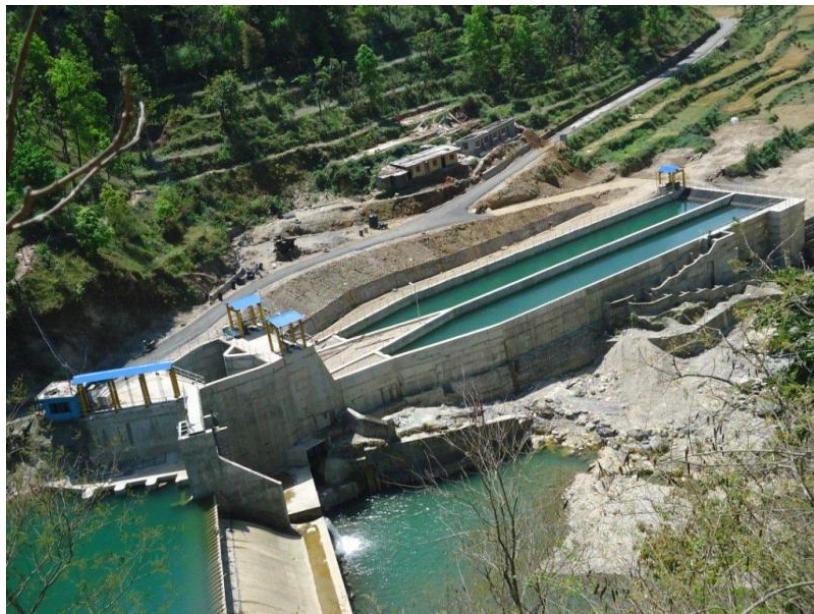
**Erection of Transmission Line with road access to Khorunga Khola Project**



## Announcement from Butwal Power Company Ltd (an EDC member organization): Press Release

### Andhikhola Hydropower Project (Upgrading)

recently constructed by Butwal Power Company Limited, started commercial operation from Chaitra 22, 2071. Although the project of 5.1 MW had been in operation since BS 2048, the electromechanical equipment were over hundred years old resulting in frequent breakdown and subsequent plant shutdown hampering smooth operation of the plant. Such persistent problem made replacement of old electromechanical equipment imperative and thus BPC decided to upgrade the project from 5.1 MW to 9.4 MW. As a result, the actual upgrading work was started from Mangsir 6, 2069. The project's annual expected energy generation is 70.73 MWh. The project was financed jointly by Mega Bank Limited and International Financial



**Andhikhola Dam**



**Andhikhola Power House**

The construction of the project extended over a two years period. As a part of upgrading, the underground power house cavern was extended by 8 meters in length. Further, the size of tailrace tunnel was increased and a new penstock pipe of 250 meters was installed. The project also comprises of state-of-the-art rubber dam used for the very first time in Nepal. Besides the major components of the project includes concrete dam, three intake gates, two desilting basins, head-race tunnel, surge shaft and three turbine- generator sets.

The project was committed in fulfilling the requirements stipulated in the Environmental Impact Assessment as endorsed by the Ministry of Environment. In addition, social mitigation activities were also prioritized and the project addressed most of the demands of the local farmers and provided continuous supply of

water for irrigation even during construction period. The project now irrigates 560 hectares of farm land; 250 additional hectares after project upgrading. Strict adherence to the tailored health, safety and environment management system of the project has ensured zero accidents during construction and minimal environmental impact which has had positive impact on the local community regarding the project. The overall social and environmental mitigation cost was about NRs 60 million.

The project has already successfully completed testing and commission as well as test generation as per the requirements of Power Purchase Agreement with Nepal Electricity Authority. After approval from NEA, the commercial operation date (COD) for the project started from Chaitra 22, 2071.

Operation of the upgraded project of 9.4 MW capacity will assist in reduction of load-shedding in the nation.



## Media Coverage in New Spotlight- News Magazine

### The Main Reason For Power Crisis Is Because There Is Vision Crisis

By Sujit Acharya, CEO of IDS Energy

#### What may be the role of private sector in hydropower in Nepal?

The role of the private sector in hydropower sector is immense – especially when we talk in the context of Nepal because we have 200,000 MW of hydro potential. Hydropower in Nepal cannot be built optimally and effectively without the private sector. Even today, in this absolutely horrible economic climate with no friendly policies and incentives to the private sector, it has generated more than 40% of the total hydroelectricity of Nepal. Additionally, most of the major hydropower projects in Nepal are now being constructed by the private sector – with the exception of the Upper Tamakoshi project. The private sector does things for a profit – and to make profit one must be cost effective. Therefore, the hydropower plants it builds are very cost effective – which means the cost of generating electricity from its hydro plants will be lower and this lower cost means the consumer gets to enjoy electricity for a lower price. The reason electricity is costly in Nepal is solely because of the Government's complete incapability to manage its costs and make terrible decisions like buying energy from private sector projects like Khimti and Bhotekoshi at an unreasonable price. Secondly, while the private sector will create lots of jobs, it is the high quality of hydropower professionals it will churn out that is vital for the proper growth of hydropower sector. Smart, thorough and intelligent decision makers will arise from the private sector versus from the Government where it seems politicians and bureaucrats are competing with each other for being more corrupt than the other.

#### What role the government has then?

This does not mean that the Government has no role in hydropower – it has a very important role too. For example, the private sector will never build very costly hydropower plants unless there are incentives. In such circumstances, it is the responsibility of the Government to build such plants because the citizens in that area also need electricity – even if it costs more to generate that electricity. There is a school of thought that thinks the role of the private sector compared to the government is not important – and another school of thought thinking exactly the opposite. Both mindset groups are extremely mistaken. Both have very important, distinct and non-competing roles.

#### Do you think that the Nepalese private sector can construct the national demand? What incentives should they get from the government side during this upcoming supplementary budget?

Only the private sector can construct the national demand and exceed it. This is the fact. This is the 100th year of birth of hydropower in Nepal – and we are facing load shedding because of the government's bankruptcy in vision and incapability in rapid implementation. The private sector stepped in approximately 20 years ago and has almost equaled what the government has done in the last 100 years. Imagine if proper incentives had been introduced – I would not even have to answer this question. The upcoming supplementary budget can only provide short term relief – it is not the proper tool to encourage hydropower development in Nepal sustainably. This must be done by correcting the absolutely horrendous version of a draft Electricity Act that is currently tabled in Parliament. If the current version passes, the hydropower sector of Nepal will be doomed. However, as short term relief, the new Finance Minister needs to immediately waive off both VAT and Customs Duties or offer complete reimbursement of such taxes and duties. I know the finance ministry currently houses high level decision makers who think this will reduce the government's budgeted revenue from tax collections. Such people are the ones bankrupt in vision and holding this nation hostage to development. If this school of thought prevails, very soon such decision makers will be writing the upcoming budget speeches under candle light. These people need to know that the globally accepted norm is that hydropower is taxed after it is constructed and pays off its loans by governments – and not before it takes off. Maybe they never read the story of the man who killed his goose that laid

golden eggs. These duty and tax waivers can only happen if the new Finance Minister has the guts to overrule these bankrupt decision makers and make the right call.

#### **As an entrepreneur, what are the major problems faced by the private sector in hydropower in Nepal?**

The private sector is fed up dealing with people in the government and lawmakers that are bankrupt in vision, ideas and knowledge. Their ignorance has held hostage the development of hydropower in Nepal. At this juncture, the most important problem of the private sector is amendment of the draft Electricity Act to ensure it is also private sector friendly. This Electricity Act is the constitution for hydropower in Nepal – and if the lawmakers pass the wrong version, hydropower development is bound to be doomed once again. All lawmakers are requested to read the latest copy of the Electricity Act in India and in Bhutan (who will compete with Nepal to get private investment) and then ratify an Electricity Act that is at least at par with these countries. If they cannot get their hands on these Acts, I will personally make it available. Secondly, we request the Government to get its collapsing house in order. As the NEA is bankrupt and about to collapse, it is most urgent a new separate Transmission Line Authority is set up immediately to ensure transmission lines are built. If this is not done, and the NEA collapses, who will build transmission lines in Nepal? – Without which hydropower projects cannot be developed which in turn means more load shedding for all of us.

#### **Nepal is reeling under power crisis and it is learnt that this will continue for some time. What are the major reasons for this?**

The main reason for power crisis is because there is Vision Crisis of how to properly develop the power sector of Nepal within the Government. How else can we explain a country like Nepal having approximate 200,000 MW of hydroelectric potential developing less than 0.5% of this potential in the last 100 years when the first hydropower station began operation in Pharping? How else can we explain the Government continually leaving the entire development of the hydropower sector at the mercy of a bankrupt monopoly utility i.e. Nepal Electricity Authority which has never built even one power project on time, within the stipulated cost or generated the estimated energy it is supposed it generate? And how else are we to explain a Government that continues to look helplessly at its students are not being able to study properly because of no electricity for their SLC exams thereby scoring poorly or even failing and destroying their careers or a patient dying in a hospital which cannot administer treatment through medical equipment because of load shedding – are these not tantamount to crimes committed by the Government on its citizens?

#### **Why is hydropower so important for Nepal?**

Electricity is the backbone of any nation's economy. You cannot do anything without electricity in today's world. You cannot build roads without providing electricity – neither can you impart proper education to your citizens without having electricity. None of your tourism plans will become successful without electricity; neither will you be able to provide health services to sick citizens without electricity. Your industries will not run, you cannot watch TV's, neither can you pump water into your farmlands without electricity. For every 1% economic growth to happen, it must be supported by 1.5% energy growth. The importance of having electricity today is above politics, which is why you see even adversarial nations like India and China joining hands to secure various forms of energy from even the most troubled regions of the world.

#### **How important hydropower is?**

Because hydropower so far is the only form of commercially feasible electricity in Nepal, it cannot just be labeled as so important for Nepal but rather as the single most important sector for Nepal. Besides providing electricity to power our entire nation and its development, the mass abundance of hydropower here has the ability to completely uproot poverty from the life of each and every Nepali citizen – because we can sell this abundance of electricity for billions of dollars on a yearly basis to the two largest economies desperately in need of this commodity i.e. India and China. But so far this has not happened because of the bankruptcy of vision that exists in terms of developing our hydropower within our government, the ability of politicians to continually fool us that we need political resolution before economic development and the inability of us Nepali's to realize that we are being completely fooled by them.

**How can you say that Nepali citizens are being fooled by politicians?**

I want to first ask every Nepali citizen reading this interview whether they want to continue to remain poor for the rest of their lives? Secondly, I want to ask them if they want to continue to see this poverty transferred in the lives of their children? If the answers to both these questions are NO, then they should understand one thing clearly – we cannot wait for our lives to be held hostage to politics. Arthik Kranti has to happen now and not later on. Have you not seen for years on your TV screens news about a country like Israel facing tremendous political turmoil for years continually progressing economically – so why do we have to wait? But Nepalese politicians continually fool us common Nepali's that economic development can only happen after political resolution – and we allow them to fool us. Please tell me if a man in his late 70's is Syangja with no electricity can wait for politicians to resolve their disputes in order for electricity to reach his house – he might die waiting for their disputes to end. An industry in Biratnagar employing thousands of workers cannot wait for politicians saying “Arthik Kranti” will happen after the nation sees a political change – because the livelihoods of those thousands of workers and their children depend on that factory running properly NOW and not later on after political resolution.

**Why electricity is matter?**

Without electricity reaching that factory now, it will not run properly and those workers will be laid off. The mind of the entire nation has been held hostage with politics. And this is the main reason why we are poor – it is because we continue to allow politics to seep into our lives on a daily basis. That is why we suffer from no electricity, no water, no jobs, no good roads, and no self esteem. The biggest problem facing Nepal is poverty – this is the root of all major problems and uprooting this will be the solution to many problems. Therefore, I appeal to all Nepali's to ask themselves whether the flag they are holding in their hands shouting for change is the right one? The flag I want to hold in my hand is of economic change – and this flag has no political color. Holding this flag ensures my children will not have to use candles to study for their SLC exams, that we will have proper roads built through which our farmers can transport their products throughout the country and internationally to sell it at the best prices, that we do not have to ever act as beggars in front of foreign countries for loans and grants at their terms and conditions – because the spirit of a Nepali is much more than this...it is about being independent, self sufficient and wanting to always win.

**So if this is the case, how can we as a nation develop our hydropower rapidly and successfully to transform our lives out of poverty?**

Generally speaking we need to bring about 3 types of transformation immediately i.e.

- I. Understand that hydropower is the backbone of our economy and main ticket item out of poverty
- II. Understand that our government and political parties are completely bankrupt in their vision and abilities to develop hydropower
- III. Apply pressure to bring about complete change in developing these resources systematically and inclusively but without obstructing any activity that consists of development of hydropower (which should be labeled as a severely punishable crime)

Technically speaking, the following 5 things need to be addressed immediately:

- I. The upcoming Electricity Act tabled in the Parliament needs to contain key changes that ensures hydropower will develop rapidly and inclusively;
- II. An independent Transmission Line Authority needs to be set up immediately;
- III. The licensing policy at the Department of Electricity Development needs to change to attract upfront premiums from the highest bidder to prevent brokers (key obstacles to hydropower development) from hijacking the nations single most important economic resource;
- IV. The energy planning data of Nepal needs to be updated to address today's market situation;
- V. Nepal Electricity Authority needs complete transformation so that it can run as a profit-making entity.



### **Can you please explain what needs to change in the proposed Electricity Act?**

The drafters of the proposed Electricity Act and parliamentarians need to understand that if it is implemented in its current form it will fail just like its predecessor because it is almost a carbon copy of that act albeit a few changes. This proposed Act if passed in its present form in parliament will lead Nepal again into darkness just as the past 100 years have done so. Therefore, lawmakers need to do a lot of work in ensuring hydropower is not doomed again. The major changes to be inculcated are: (i) project licenses needs to be given for at least 40 years from C.O.D on a BOOT basis (ii) All taxes and duties exempt for 10 years after C.O.D (iii) Capacity Royalty should be calculated from the day the project starts generating electricity (iv) A minimum 5 year non-bail able jail term handed out swiftly to anyone obstructing the construction and operation of hydropower and transmission line projects and (v) Transmission lines to be built solely by a new government owned Transmission Line Authority of Nepal and not the NEA. These minimum changes are required because Nepal's competitors like India and Bhutan offer these and better incentives to all parties interested in developing hydropower in their countries. If we do not offer these minimums why should any investor (foreign or domestic) want to develop a hydropower project in Nepal when they can simply do it in India or Bhutan? Our proposed Act is not even at par with these competitor countries. This is what I meant by bankruptcy in vision of our policy makers in drafting this proposed Electricity Act – they have not even read our competitors current electricity acts.

### **Why do you think we need an independent Transmission Line Authority?**

What one needs to understand is that a transmission line is like a road – on which electricity travels. Therefore, just like we cannot drive cars if there are no roads we cannot use the generated electricity without developing transmission lines. An independent Transmission Line Authority needs to be immediately set up because this is the major implementation hurdle to hydropower development. There are not enough transmission lines up in the country to evacuate power from various hydropower projects that can be developed right now – which means that while we can bring more electricity online faster we are not being able to do it because of transmission line unavailability. We don't even have a transmission line available to import electricity right now to immediately solve our load shedding problems The Nepal Electricity Authority had proven it is unable to developing transmission lines rapidly because it also other areas of focus too i.e. to develop projects like Tamakoshi and distribute generated electricity from such projects to various retail consumers. That is why we have load shedding today. Therefore, leaving the development of transmission lines in the hands of a utility that has other areas to focus on is simply continuing to put the brakes on the pedal of hydropower development.

### **Why do we need independent Transmission Line Authority?**

If an independent Transmission Line Authority is set up it will only have one focus area i.e. to develop transmission lines throughout the country. This will ensure the rapid development of transmission lines – which means that developers of hydropower can bring their shelved projects online faster. Even the NEA could operate more efficiently as it would have a less diluted focus. Of course, the organizational set up of the Transmission Line Authority needs to be very different from the setup of the NEA to ensure it will not be another debacle like the NEA. While the ownership of the Transmission Line Authority should be 100% government owned, the Board of Directors should consist of people who understand how to run a Transmission Authority profitably, each member of the board should have an equal voting right on decisions, the chairman of the board should be appointed by the board members on basis of the vote and the C.E.O of the Authority should be selected through international competitive bidding under a strict terms of reference for a specific term by the board. Most importantly, no politician or minister should be a part of this authority and all political appointments should be banned.

### **Finally, can you expand a little on the changes you propose in the licensing policy, the energy planning date and the NEA?**

I have spoken at lengths about how the current licensing policy at DOED is causing billions of dollars of loss to our nation. My point was recently proven right when the DOED finally decided to tender 8 projects and allot them to technically qualified bidders who offered the highest money for these licenses to the DOED. One successful bidder bid 26 crores for a 40 MW project and the minimum price a successful bidder paid was 20 lacs per MW. The DOED should take this minimum price of 20 lacs per MW it received and tell all the applicants who have applied for licenses that this is the new price they

need to pay for the projects they have applied. This will fetch the DOED more than 8000 crores (more than the entire budgeted income of the country) and also get Nepal rid of the hydropower license brokers who have placed their bets on hijacking these licenses and then reselling it to the real developers. The recent tender by the DOED has proven 8000 crores of revenues through licensing can be made – and if they still do not use this example to modify the policy, I hope the monitoring bodies of Nepal like the CIAA can direct them to make such changes immediately.

#### **How do you see energy planning data?**

Regarding the energy planning data, who says we have 83,000 MW? Please show me one document that states this. Who says we have 6000-8000 rivers in our country...please provide me one document that proves this. These data are all either incorrect or from another era decades ago. We need to update our data to current levels to understand exactly how much hydropower resources we have (in my opinion 200000 MW but a general survey of Nepal's hydropower resources need to be conducted) so that we can devise strategies to develop these resources optimally (updated basin planning and allotment of licenses based on these updated basin plans, etc) and market them strategically to investors.

#### **What do you want to say about NEA?**

Finally, as I have served as a board member of NEA recently, I understand that two kinds of changes are required to transform this entity from a bankrupt, corrupt and incompetent one into a profitable, transparent and efficient one. Externally, the Govt. of Nepal needs to stop interfering with the NEA so that it can make its independent decisions thereby actually running as an autonomous institution that it was supposed to be. Cabinet decisions like waiving-off demand charges that had to be implemented by the NEA caused it a 1 billion rupee loss instantly. The Finance Ministry acting like a commercial bank by taking soft loans at a lower interest rate and lending it back to NEA at a higher interest rate needs to also stop. Internally, the Board of Directors of NEA should not be political appointees but rather selected from different sectors based on strict evaluation, each board member should have equal voting right on the decision, the chairman of the board should be appointed by a majority vote of the board members and the managing director selected via international competitive bidding. And most importantly, the Energy minister or any politician should not be a member of the board or its chairman. It has to be left in the hands of techno-commercial people to ensure it runs as a profit making entity.

(This article is derived from New Spotlight Magazine published on April 24<sup>th</sup>, 2015. Post available at: <http://www.spotlightnepal.com/News/Article/The-Main-Reason-For-Power-Crisis-Is-Because-There-> ).

## **Media Coverage in Himalayan Times**

### **Local hydro investors facing many challenges**

By Sujata Awale

In her article in Himalayan Times Perspective dated April 4<sup>th</sup>, 2015, Ms. Awale highlighted the opinion regarding the New Electricity Act needed put forwarded by Mr. Sujit Acharya, Chairperson of Energy Development Council. The article includes information about EDC working independently in drafting the act with a vision to end load shedding and decreased the import of petroleum products. According to him, the act will endorse the toughest criminal laws for individuals who obstruct transmission and hydel project development, locals will get automatically disqualified from obtaining shares if they are affiliated to any political party, provision of unified license from single window of the government, penalty provision in case developers do not have financial closure on time, giving the army 51 percent stake for transmission line development among others. Acharya stated that Nepal could only produce 700 MW in 100 years. "If the way to develop hydel projects remain the same, then the nation's prosperity is at stake," he added.

(This article is derived from The Himalayan Times post April 4<sup>th</sup> 2015 and the full version is available at: <http://epaper.thehimalayantimes.com/epaperpdf/05042015/05042015-md-hr-17.pdf>

## Article from our member

### Promotion of Productive Use of Electricity in Rural Communities of Nepal

By Nawaraj Sanjel & Niraj Dahal, National Association of Community Electricity Users Nepal

Nepal has always been looking for a perpetual source of energy for its economic growth. The economic growth, no matter whether it is a developed country or a developing country, either urban or rural areas, largely depends on the availability of energy in one or the other form. As far as the rural communities of Nepal are concerned, we focus on the access of electrical energy.

National Association of Community Electricity Users Nepal (NACEUN) is a national federation of community electricity user groups in Nepal which has strongly been involved in socio-economic development and its sustainability through rural community electrification. To sustain the service of rural electrification through Community Rural Electrification Entities (CREEs), NACEUN has recently started a pilot project- "Promotion of Productive Use of Electricity in Community Rural Electrification Entities of Nepal" (here onwards referred as 'PU promotion').

The PU promotion refers any activities carried out by the utilization of electrical energy for employment or income generating purpose. May it be a rice mill, furniture, poultry farm, TV/mobile repair and maintenance center, spice mill, all they fall under productive use of electricity. Not only limited to these, any enterprises based on available local resources that consume electricity fall under this topic.



**PU promoted activities**

The PU promotion basically has twofold benefits- one is to make the CREEs more sustainable via higher energy sales and the other is to uplift the economic growth of local people via income generation. Generally, CREEs are the entities which look after the whole electricity distribution process in their community. The revenue collected from households which pay minimum charges and some limited enterprise does not always allow them to maintain adequate funds required for their regular operation and maintenance. Thus, to make the CREEs more sustainable, priority always goes in promoting industrial consumers and other productive enterprises which consume more kilowatt hour (kWh) of energy. More the kWh consumption more is the revenue collected by the CREEs. Thus promotions of productive use of electricity are a must for sustainability of the CREEs and boom the economic empowerment of rural communities. As far as the electricity consumers are concerned, PU promotion has many end benefits. Local people get employment opportunities and eventually uplift their living standard. Startup of new enterprises ensures exposure of the rural communities towards technologies. In our



present rural context where youths find abroad employments much attractive, the intervention on PU can easily tap the skilled human resources within our country itself.

NACEUN has recently been involved in the pilot project- "Promotion of Productive Use of Electricity in Community Rural Electrification Entities (CREEs) of Nepal". This project, supported by GIZ/EnDev and in co-ordination with HELVETAS Swiss Interco-operation has been successfully implemented in 4 CREEs- 3 from Syangja district and 1 from Banke district. In the second phase, the PU promotion has been extended and is on-going in 5 new CREEs that include 2 CREEs in Tanahun, 1 CREE in Syangja and the remaining 2 in Banke district with more understanding and wisdom.

NACEUN has been supporting those CREEs to prepare their business plans, organizing exposure visits, trainings and various workshops for their capacity enhancement. In addition, raising awareness through IEC (Information, Education and Communication) materials, providing exposures to entrepreneurs, credit linkage and coordinating with other stakeholders are also some programs that NACEUN helps the CREEs with. As per the learning and experience that we have, promotion of productive use of electricity benefits the community as a whole. However, certainly there are some challenges which need to be addressed with more wisdom. As far as the rural electrification in Nepal is concerned, regular supply of electrical power is the major concern. Unless the power supply is regular, people are generally reluctant to start up any new enterprises. Some other challenges can be road accessibility and market linkages.

Piloting the PU project, NACEUN has witnessed the economic growth of the involved entrepreneurs. Thus, NACEUN believes, such PU interventions which focuses primarily in the enterprise development should be extended within other various rural communities of Nepal. This PU intervention will possibly act as a milestone in booming the rural economic empowerment of Nepal.

## Guest Corner

### A light in the dark

by Saroj Dhakal, President of 8848 Inc

Electricity Act must be reformed to provide clear policy directives and set out roles for all stakeholders in the electricity market

APR 16 - In Nepal, the electricity sector is 'resource rich but policy poor' with the visible fragmentation of policy directives and strategies. The Nepal Electricity Authority (NEA) remains a vertically-integrated utility responsible for the generation, transmission, and distribution of electricity to industrial and domestic consumers in the country—a structure guided by the Electricity Act 1992. But the Hydropower Development Policy 1992 played a phenomenal role in ensuring the participation of the private sector, especially in hydropower.

Furthermore, the National Water Resource Strategy 2002 laid out key policy directives for the NEA, such as the NEA was to become commercially viable through corporatization, improved management, and separation of its rural electrification operations; the NEA was to be unbundled by creating a separate transmission/load dispatch centre; generation would be the responsibility of a separate corporation; distribution operations would be sold or contracted out to municipal or private operators; and, the NEA would operate as a holding company.

### Unbundling the NEA

In an updated version of the Interim Plan 2011-2013, the Government of Nepal's long-term strategy for the power sector included an increase in private, community/cooperative investment in electricity generation and transmission for domestic use, the extension of transmission as a high priority, and an increase in overall electricity generation to minimise load shedding. Similarly, the Ministry of Science, Environment, and Technology has its own set of upcoming policy guidelines catering to rural and urban energy issues. The Investment Board of Nepal too has now become a new stakeholder in the energy market given its mandate for projects above 500 MW, along with the massive infrastructure projects being planned, which are bound to be energy intensive.

In a latest development, the Ministry of Energy has begun to separate transmission from the NEA in the initial stage. The Ministry is also working to create a Public Generation Company to separate generation from the NEA, which will only have a distribution department within it after separate companies are formed for generation and transmission. Similarly, power TRADING COMPANIES will be formed to procure and trade electricity. A National Electricity Regulatory Commission will also be formed to regulate the energy sector.

These latest developments in Nepal's energy sector signify interest from the government to move towards reform. However, the policy pushed forth, with possible new structures to be created by the Ministry of Energy, could simply add more layers within the administration, which may or may not lead to the overall reform needed in the sector for the creation of a sustainable electricity market. Latest trends symbolise the interest of the ministry to retain control over all functions of the electricity market without a convincing justification of how these changes in the existing government structure can unleash the electricity market in an inclusive manner.

### A more comprehensive act

There have been many recent macro and micro trends in Nepal's electricity market, like the signing of a Power Trade Agreement (PTA) with India, two Power Development Agreements (PDA) brokered by the Investment Board Nepal, and the Saarc Framework for Energy Cooperation signed in 2014 in Kathmandu. Once the new constitution is promulgated, changes in the structure of governance will take place, which will need to be accounted for. Similarly, Nepal's burgeoning trade deficit due to oil imports and the progress made in other forms of energy, such as solar, wind, and biogas with the help of the Alternative Energy Promotion Centre under the Ministry of Science, Environment and Technology, and the establishment of an Energy Development Council, an epic body to lobby for energy, must all be considered. It is important to question if existing, scattered legal frameworks and policy directives from various government stakeholders might be limiting the potential of Nepal to optimally harness its energy sources, not only in the area of hydro but also other forms of energy available in the country.

The fragmentation seen in the existing acts, policy directives, and strategies from various government stakeholders is leading to policy paralysis and uncertainty in the electricity market. Thus, there is a need to work towards reforming the Electricity Act 1992 to lay out clear policy directives and set out roles for all cross-institutional stakeholders within each component of the electricity market—sources of energy, generation, transmission, distribution and retail, captive generation, tariff, export/import, role of regulator, rural/urban electrification, irrigation, infrastructure and transport, consumer and environmental protection, and judicial services for energy issues.

Further, understanding energy sources is a vital component of any energy act. In Nepal, this is doubly important because fresh water from 6,000 rivers and streams is a very valuable commodity. Similarly, the presence of renewable energy resources—such as solar (sunny country equals an average of 5.5 hours of sunlight a day), wind (3,000MW from the Annapurna Conservation Area alone, with the total potential still unknown), forestry (covering 39.6 percent of the country), and natural gas and oil (lacks credible data)—require a new, forward-looking act.

### Understanding the market

Nepal's electricity market can be unleashed if a common act is created for electricity, which can be endorsed by all relevant, cross-institutional stakeholders to create policy clarity and consistency. In today's context, an act needs to create an electricity market in Nepal to cater to the interests of local, national, and international market players with the government as a guardian to safeguard all of these interests equally. It is highly important to acknowledge that sources of energy, latest developments in technology, the government structure, market location, and the unique history of Nepal's electricity market require a legal framework that suits the local context and the government's capacity.

Hence, there is a need to procure a massive multidisciplinary, cross-institutional, and comparative study to understand the role and reform of the electricity markets in various countries across the world to lay out the best practices that could provide analytical support for Nepal. An act resulting from such a study can provide much-needed policy clarity for all stakeholders to harness the electricity market, opening up a much wider space for the private sector and helping the government achieve sustainable economic growth at a much faster pace.

(This article is derived from The Kathmandu Post published on April 17<sup>th</sup>, 2015. Post available at: [http://www.ekantipur.com/the-kathmandu-post/2015/04/16/related\\_articles/a-light-in-the-dark/275481.html](http://www.ekantipur.com/the-kathmandu-post/2015/04/16/related_articles/a-light-in-the-dark/275481.html)).

## Welcoming new EDC members



SunFarmer is an International organization with Head office in NewYork and branches in Canada and Nepal. SunFarmer offers affordable and risk-free solar energy systems for health, education, and water projects. They provide technical backstopping and financial investments to making solar the most affordable and reliable solution

SunFarmer Nepal's (SFN) mission is to bring solar energy to hospitals and schools in parts of Nepal that do not have access to electricity. SFN works with top organizations in Nepal, and receives financial and technical support from SunEdison, a leading global solar company. SFN team has expertise in financing, solar engineering, procurement, long-term maintenance and monitoring of solar systems, and has collaborations with international development and government institutions.



## List of EDC members

S. No.	Name of the Company	Company logo
1.	Nepal Electricity Authority	
2.	Alternative Energy Promotion Center	
3.	Butwal Power Company Ltd.	
4.	CEDB Hydro Fund	
5.	IDS Energy Pvt. Ltd.	
6.	Nabil Bank Limited	
7.	Himalayan Infrastructure Fund	
8.	Transweld Pvt. Ltd.	
9.	Clean Energy Development Bank	
10.	Nepal Hydropower Association	
11.	Global IME Bank Limited	
12.	Gham Power Pvt. Ltd.	
13.	Lotus Energy Pvt. Ltd.	
14.	Wind Power Nepal	
15.	Reliable Hydropower Pvt. Ltd.	
16.	Sun Farmer Nepal Pvt. Ltd	

S. No.	Name of the Company	Company logo
17.	Sanvi Energy Pvt. Ltd.	
18.	Dantakali Hydropower Pvt. Ltd.	
19.	Prime Commercial Bank Ltd.	
20.	Century Bank Limited	
21.	Arun Valley Hydropower Development Co. Ltd	
22.	Hydroelectricity Investment and Development Company	
23.	TSN Energy Pvt. Ltd.	
24.	Chilime Hydropower Company Ltd.	
25.	Madhya Bhotekoshi Jalvidyut Company Ltd.	
26.	Rasuwigadhi Hydropower Company Ltd.	
27.	Sanjen Jalavidhyut Co. Ltd.	
28.	Waiba Infratech Pvt. Ltd.	
29.	North Hydro & Engineering Pvt. Ltd	
30.	Nepal Hydro & Electric Limited	
31.	National Association of Community Electricity Users Nepal	



### Energy Development Council

#### Main Office

Heritage Plaza II (Block C & D), Kamaladi, Kathmandu, Nepal

P.O. Box no. 516

Phone: +977-1-4169116/4169117

Fax: +977-1-4169118

E-mail: [info@edcnepal.org](mailto:info@edcnepal.org)

Website: <http://edcnepal.org/>

#### Branch Office

RM 316/3 F Chinese Overseas Scholars Venture Building, South District  
Shenzhen Hi-tech Industry Park, Shenzhen, China