



# IPPAN

## Remarks From The President



Dr. Sandip Shah

## Hydropower development in Nepal – Prospects and Realities

The Fourth International Hydropower Convention with the theme “Hydropower for the Progress of Nepal” is being jointly organized by India-Tech Foundation, FNCCI and IPPAN in Kathmandu. At the outset, I would like to state that this convention is not programmed to be just another event on hydropower development in Nepal. The previous conferences, e.g. the Power Summits of 2006, 2007 and 2008, of which IPPAN was a key organizer and participant, had objectives of highlighting the opportunities, fundamental requirements of financing, transmission, electricity market development, etc. These Summits have catalyzed the interest of national and international developers to initiate hydropower projects of small, medium and large scale, the results of which can be seen with the buzz of activities on a number of hydropower projects. This is a real achievement, and IPPAN is proud to have played a major catalytic role in the process.

It is now absolutely necessary to take stock of the situation and do a reality check on policies, procedures, perceptions, and practices. It is in this context and in continuation of the objectives and achievements of the Power Summits and other conferences organized by IPPAN, the current hydropower Convention has a strong focus on ground realities on developing hydropower projects in Nepal. With the experience of the various developers in the market, I believe that this Convention should provide the forum for active

discussions between the government and the developers to resolve practicalities, and ensure stable legal and regulatory framework for project development. Given the nature of some of the larger projects, which have to deal with the legal and regulatory frameworks of Nepal as well as India, I am of the opinion that this Convention will provide the opportunity for focused discussions to create an enabling investment environment since senior officials of Government of Nepal and Government of India will be present.

As we are all aware, Government of Nepal has come up with a very ambitious plan of developing 10,000 MW of hydropower in 10 years. We, at IPPAN, welcome this vision of the government. However, we are cautiously optimistic since the Government needs to come up with plans, policies, programs and implementation strategies to realize this vision. We have now seen the draft report of the High-level Committee setup to draft the plans for this Vision. One note of caution that needs to be considered is that the output of this Committee needs to be in line with the long-term vision of the country to develop its natural resources and not be a knee-jerk reaction based on the recent electricity crisis in the country. We have seen 5-year plans, 3-year plans, Nepal Water Plan, Nepal Water Resources Strategy in the past which were made public as well, but most of these reports are locked up in shelves in government offices and have not seen the light of day in terms of actual field implementation. We certainly hope that the recent report will come up with implementable recommendations after thorough discussions with stakeholders. It is good to come up with documents with lofty visions; however, we need to be pragmatic since there are ground realities that play a key role in developing projects which need to keep into perspective. Selling dreams is great; but becoming a dream merchant is not advisable.

In order to achieve the vision of the Government, I see that the following necessary pre-conditions for development of hydropower projects.

The key prerequisite is Legal Stability. As we are aware, hydropower projects are high-risk and highly capital-intensive projects; and hence, require predictable and stable legal and regulatory framework during the entire project development and operations phases of these projects. In order to minimize and mitigate risks related to legal stability, the Government should

have a long-term perspective on project development by promulgating a stable legal framework which will adequately incentivize the developer to undertake such high risks. It is in the best interests of the country and the developer that the Nepal Government enacts the new Electricity Act and Electricity Regulatory Commission Act, at the earliest with required stakeholder discussions, and does not resort to enforcing discretionary regulations. (continue pg. 2)

## IPPAN'S Vision, Mission, Goal & Purpose

- To contribute to the development of Nepal's vast untapped hydropower potential, in line with Nepalese aspirations.
- To help mobilize private capability, both national and international, to overcome the constraints confronting hydropower development.
- To make optimal use of Nepal's water resources endowments, to serve long term national and regional needs in the context of future fresh water and energy scarcity.

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The second fundamental pre-condition is Political and bureaucratic will. Till date, politics is governing economics in Nepal. Nepal's political leadership should realize that economics should govern politics, and not the other way around. We have observed that the political will seems to be there now; however, we see a lack of bureaucratic will to implement the political vision of the Government. We strongly feel that the bureaucracy should be serious in the implementation of the policies of the Government. In addition, South Asian regional politics plays a key role in all trade and investment related issues, including hydropower project development. We believe that the Governments of Nepal and India should undertake initiatives that will facilitate development of large projects in Nepal with open access to the Indian market and possibilities of cross-border trade of electricity in all segments of the electricity market.

The third pre-condition is that Power should be treated as a "commodity". We believe that power trading should be treated similar to trading of any other commodity. It should be de-linked from other issues, such as security, geo-politics and water. This will foster rapid development of the hydropower sector.

In recent years, we have seen Security as a major concern for project development. The insurgency has led to brutalization of the Nepali society. During the current peace process, the political will to use the necessary means to maintain law and order seems to have been reduced drastically. The Government has established security committees on central and district levels to safeguard the security of hydropower projects. However, the specific tools and procedures are still not in place. Consequently, the authorities have so far not been able to deliver on their verbal security guarantees. The security guarantees have to be made public to safeguard predictability and thus maximize the preventive effect.

The Single-window Policy of the Government should be properly implemented. The Government has designated the Department of Electricity Development (DoED) as the "single-window" under this policy for hydro power developers to facilitate effective bureaucratic procedures. However, DoED has not fulfilled this role as it is not fully empowered to undertake such a role. The consequences are delays and additional cost for the developer, and inherent delays in implementation of the government's plans. DoED needs to be empowered to undertake this role for facilitating issues related to taxes, duties, environmental clearance, visas, etc.

Access to the electricity market in India needs to be implemented through development of Cross-border transmission lines. These transmission lines have been discussed for the last three years; however, none of the lines are in an active development phase. These lines are a precondition for most major hydro power projects in Nepal. All parties are aware of this situation, however, the necessary procedures and guarantees are still not in place. Government should undertake immediate steps to resolve the deadlock and to expedite construction of these lines.

In recent times, managing local expectations at the project level has been a key issue for project

developers. The perception at the local level is that the developer is to provide all resources for infrastructure and social security to the locals. However, it should be realized that there is a limit to the support that the developer can provide at the local level and cannot be seen as the "local government". These issues are to be taken up by the national government and not to be passed on to the developer.

Lastly, developers are concerned about the conceived Federal structure of Nepal. This, we believe, will require development of coherent and unambiguous policies for issues related to natural resources and sharing of benefits from utilization of these resources. Without such policies in place, we foresee increased uncertainties and delays in implementation of projects.

Recent developments of tariff structures proposed by Nepal Electricity Authority for projects upto 25 MW to be developed by IPPs are rather inadequate. The tariff structure of NPR 7 for 4-months dry season and NPR 4 for 8-months wet season does not make these projects profitable. NEA has suggested that they will enter into

PPAs totaling 200 MW with this tariff structure which seems rather unpractical. The studies carried out at IPPAN show that this structure will make projects reasonably profitable if the tariff is made on a 6-monthly basis. This is true from the hydrology perspective as well since the months of March, April and May are still dry months. This should also be seen in context with the tariff of NPR 5.76 that NEA is willing to purchase power from India. With the 6-monthly tariff structure, the average annual tariff is only NPR 5. Therefore, NEA and Government of Nepal should look at importing power for the next 2-3 years only, and should properly incentivize the local developers for projects upto 25 MW with a tariff that is much more reasonable.

In the end, I would like to exhort all to continue advocacy on the above issues in a coherent, decent and dignified manner. There is a lot to be achieved and our professional and dignified approach to advocacy will achieve the desired targets for us in the long-run in a satisfactory manner.

I wish you all a Happy New Nepali Year 2066 B.S.!

## IPPAN delegation to Ministry of Water Resources

IPPAN delegation consisting of Mr. Amarjivi Ghimire, Mr. K.B. Bisht, Dr. Subarna Shrestha, Mr. Krishna Acharya and Mr. Pradeep Gangol met with the Honourable Minister for Water Resources, Mr. Bishnu Paudel on December 16, 2008. The delegation requested increasing the power purchase tariff. The Honourable Minister assured the delegation that the tariff would be revised soon after the recommendation of Tariff Fixation Task Force. He also informed that the Government is planning to

construct connecting transmission lines under Build and Transfer system.

An eight member IPPAN delegation led by Dr. Sandip Shah again met with Honourable Minister Bishnu Paudel on Dec. 26, 2008. Dr. Shah, while referring to the press release of Nepal Electricity Authority, remarked that the recent nominal hike in the power purchase tariff was not sufficient enough to attract investors in the power sector.

## Member List of IPPAN

### Corporate Members

1. Bhote Koshi Power Co. Pvt. Ltd.
2. Butwal Power Co. Ltd.
3. Himtal Power Limited
4. Himtal Hydropower Co. Pvt. Ltd.
5. Lamjung Electricity Development Company
6. Molnia Power Pvt. Ltd
7. Sanima Hydropower (P) Ltd.
8. Annapurna Renewable Energy (P) Ltd.
9. Khudi Hydropower Ltd.
10. Rairang Hydropower Development Company Pvt. Ltd.
11. Himalayan Hydropower Pvt. Ltd.
12. East Nepal Development Endeavour Pvt. Ltd.
13. Manang Trade Links (P) Ltd.
14. Balephi Hydropower Company Ltd.
15. IDS Energy Pvt. Ltd

16. PAN Himalaya Energy Pvt. Ltd.
17. Pashupati Energy Dev. Co. (P) Ltd.
18. Tundi Power Co. Pvt. Ltd.
19. Mukdishree Pvt. Ltd.

### Associate Members

1. Shangrila Energy Ltd.
2. Klen Tech Pvt. Ltd.
3. Jyoti Bikash Bank Ltd.
4. Nepal Hdyro & Electric Ltd.
5. Clean Energy Development. Bank Ltd.
6. SN Power
7. ICTC Pvt. Ltd.
8. Himtal Hydro & General Construction Ltd.
9. Hydro Solutions Pvt. Ltd.
10. IL&FS Nepal Infrastructure Development Co. (P) Ltd.



Mr. Shanker Prasad Koirala

## Interview with Mr. Shanker Prasad Koirala Secretary, Ministry of Water Resources

**Q. Nepal and Nepalese people are witnessing unprecedented 16 hours a day load shedding. It has debilitating effects in the economy of Nepal. Was this problem not foreseen before? What is the government doing at present to tide over the power crisis?**

Our power system is hydro-dominant, if not entirely hydro. Hydropower requires colossal wherewithal and also considerable time for preparatory works and the actual implementation. As you know, past one decade didn't have an atmosphere conducive to infrastructure projects including hydropower. The impact is what we are facing today.

My personal view on the power crisis is that our development strategy, which was also in consonance with that advised by the development partners, is also partly responsible for the present situation. For past couple of decades, we didn't consider it necessary to develop medium and large projects. Agencies, especially the ones engaged in environmental conservation or sometimes rather in activism, national and international, were against dams and reservoirs. As a result, our emphasis was on small and micro-hydro and the alternate energy. These modes of power development are essential and are important for several reasons, particularly in a country like ours where grid extension to remote areas is not feasible in the near future, however, their contribution to meeting the commercial electricity requirement is and will remain limited. Another reason for the present crisis is, perhaps, we were too optimistic about the private sector's contribution, particularly in generation. Despite our efforts to promote private sector and its response in applying for survey license, the investors capable of going for project implementation, particularly for projects of appreciable capacity, are very limited. The investors, of course, may have their own stories to tell us.

Realizing the adverse impacts of the power crisis on various commercial as well as social sectors as you have pointed out, the Government of Nepal has formulated and brought forward the 35 point action plan in December 2008 and an additional three point action plan later in March 2009 to resolve the crisis. You must have gone through the documents. It'll not be relevant to discuss or reproduce the entire action plans here, but you will find that plans themselves are of diverse nature. Some of the actions have already been taken while others are being taken. Some are short term while others are medium and long term

in nature. There are incentive packages also included in the action plan.

**Q. NEA seems to be ready to import power from India at the rate of NRs. 5.76 per unit. But it is not prepared to buy the power from local IPPs at NRs. 5.50 per unit. Also, the government is ready to provide subsidy of 10 NRs. per litre to the industries. If the government is ready to buy power at NRs. 5.50 per unit, exempt from VAT, and tax holidays for ten years, there will be a beeline of power producers, ready for implementing hydropower projects in Nepal. What is important to bear in mind is that these hydropower plants will be the property of the Government of Nepal, after the expiry of the generation licenses.**

NEA's willingness to import from India and the Government's endorsement of such plan is to resolve the current power crisis. We also don't feel entirely comfortable while thinking of importing power while we boast of having enormous hydropower potential. But it's better to be rational and pragmatic rather than emotional, and ameliorate the effects of load shedding in all sectors to the extent possible. Electricity, as you have stated earlier, has multiplier effects on economy, apart from its scarcity causing debilitating effects on economy. The idea of subsidizing fuel to industries is also to improve their productivity and protect them from the debacle. The import of electricity from India will not displace and discourage private sector developers. It is rather meant to meet the demand and supply gap, which cannot be bridged even with the efforts of public as well as private sector, at least for some time to come. The Government is not deviated from its commitment to go for hydropower development in a big way.

**Q. Though Government of Nepal has declared a policy of electrification in transport sector. Things are not moving in a satisfactory manner. For example, Nepal's only trolley busses have stopped its operations. Nepal's first Hetauda-Kathmandu ropeway service has now become a history. And the government recently decided to construct Kathmandu-Hetauda fast track road, instead of railway line. Are we going to increase our dependency on petroleum products in Nepal, all of which is need to be imported?**

I agree that these are sad things to observe the closure of trolley bus and ropeway services. These are the modes of transportation free from environmental pollution apart from using energy produced entirely within the country. The Government is keen to electrify the transportation sector as much as possible, but the effort is still, in its conceptual stage. Moreover, the electrified transportation systems should be planned and developed in consonance with the power sector, which itself is having difficulty in regaining strength. On highway versus railway debate, as I had stated in an interview published in one of your earlier issues, I reiterate that railways normally do not sustain independently; railways need parallel highways for construction, maintenance and other aspects of sustenance. This might be one of the reasons why the concerned authority preferred fast track road to railway to connect Kathmandu with Hetauda.

**Q. Energy is as basic as water, food or soil for any country. Nepal's economic development largely depends on hydropower development. Will you please elaborate on the major policy changes government is contemplating to woo the investors to invest in hydropower industry?**

You might have noticed that hydropower policy is relatively a consistent one. The Government hasn't turned its back to private sector since the first policy on the sector introduced in 1992. Any changes in the recent policy and other relevant Acts and Rules and strategies are only for the promotion of the sector. Exemption of VAT for all the imported electromechanical equipment, income tax holiday for projects that can be completed within the next three years, recently declared buyback rates for projects up to 25 MW, etc. can be cited as some of the positive policy changes to woo investors in the sector.

**Q. The hydropower development in Nepal has been hindered by lack of infrastructural facilities like transmission lines for power evacuation and roads for transportation of construction materials and electromechanical equipment. Would you share with us government's vision, strategy and plans regarding it?**

The Government is fully aware of the hindrances, particularly due to poor infrastructure, on the way of hydropower development. That is why we are considering supporting for the building of new transmission corridors, along different river basins, upgrading existing national grid and removing transmission congestion. The importance of accessibility to power project sites needs no elaboration. Rush of investors in the Gandaki basin is because of relatively good road network among all hilly regions. I have not found that road development has been planned to cater the needs of hydropower development. On the contrary, it is expected that access road is viewed as an additional benefit of a power project. Personally, I think that such strategy has to be altered, because roads are for all.

**Q. IPPs see legal stability as a prerequisite for hydropower investments. GoN is yet to promulgate Electricity Act and Regulatory Commission Act. What is GoN doing ensure legal stability?**

I full agree with you that legal stability provides better investment climate. Much awaited new Electricity Bill and the NERC Bill have already been tabled in the Parliament. Now it's up to the Parliament/Constituent Assembly to review and pass the bills. Once the Acts are in place, it is expected that many of the grievances will be heeded, particularly by the quasi judicial autonomous NERC, and power sector will take a smooth course of development. Declaration of a national grid, provisions for power trade, ensured water rights, time bound procedures for issuance of licenses, etc. are some of the special features of the proposed Electricity Act. Likewise, the proposed NERC Act is expected to create a healthy competitive atmosphere in the power sector while ensuring protection of interests of all concerned.

## Vision Hydropower 2020

IPPAN has made the following recommendations before the Task Force for the Formulation of Ten Year Hydropower Development Plan-2065 to realize the dream plan of the Government to generate 10,000 MW of power within a span of ten years.

### a) Infrastructures Development

Out of 1700 km of the proposed Mid-Hills East-West highway, only 600 km remains to be constructed. This work should be carried out on a war footing. The North-South roads should be constructed along the basin, which would connect the proposed hydropower sites. A trunk high capacity transmission line (400 kV, at least) should be constructed running through east west mid-hills of Nepal, preferably along the proposed mid hills highway. At least three separate north south transmission lines should be constructed across the three major river basins of Nepal. Provision should be made for wheeling of energy through transmission lines. Government must have integrated river basin plans before issuing survey/generation licenses. In such a case, it is easier to plan for access roads and transmission lines for evacuation of power. The capacity of existing transmission lines of NEA should be upgraded so as to facilitate evacuation of power of new IPPs. The Government should also construct transmission lines for the corridors, where more than two developers have PPAs for power projects.



### b) Institutional Development

The enactment of Nepal Electricity Regulatory Commission (NERC) Act is long overdue. It must be independent and autonomous. IPPAN has been consistently demanding its representation in the proposed NERC. The proposed NepGrid Transmission Line Authority envisaged in the NERC Act must be established immediately to systematically manage the transmission and distribution of electric power throughout the country. Hydropower is a capital intensive industry so the preliminary survey being done for the establishment of International Infrastructural Development Bank with the help of donor agencies must be expedited.

### c) Legal, Policy and Regulatory Framework

Electricity Act 2050 had made a provision for tax holidays of 15 years. IPPs want re-introduction of tax holidays for 15 years. The VAT exemptions should be extended to Civil Components as well. The custom tax should only be 1%. Numerous levies including taxes from local VDCs, DDCs and other local organizations have made procurement of construction materials complicated and expensive. This should be regulated. There should be a single stop licensing meaning the developer having a survey license should also have a generation license.

There should also be a provision for an automatic PPA after expiry of 99 days. The PPA and the Connection Agreement should come simultaneously. The generation license period should be for 50 years. The power purchase tariff should guarantee at least a minimum Return on Equity (RoE) of 16%. IPPAN's estimates are that the PPA rates should at least be Rs. 5.50 per unit with

a price escalation of 5% for 10 years. Price escalation should commence from the date of PPA instead of date of commissioning. Also, there must be a provision for price escalation of at least five years for the loan payback period. A system for for automatic revision of PPA rates should be developed with the revision in price index of Nepal Rastra Bank. PPA should be for 15 years initially and renewed after mutual consultations. In case the power plants cannot deliver power and energy as per the PPA, due to low flows or other natural calamities, the developer should not be penalized. There must be a provision for issuing combined licenses for developers who are interested in cascade development.

The payback period for bank loan should be at least 15 to 18 years, depending upon the size of the power projects. Rescheduling of bank loans should be made by the banks in case of natural calamities like earthquake, landslides, floods etc. There must be simple and quick processes for lease of forest and public lands preferably within three months. The land acquisition process should be simplified. The compensation for acquisition should be based on existing market prices of land and must be regulated by the Government.

Consistency in policies related to power sector for at least for ten years is essential. Hydropower Acts and Regulations in power sector must be given due diligence. Power projects below 50 MW

must be reserved for Nepali investors. In view of the unprecedented power crisis, fast track power projects should be selected. Power projects with total capacity of 2000 MW must come into operation within five years. Investment friendly policies should be in place and a level playing field should be created. The one window facility must be implemented effectively to avoid bureaucratic hassles. Certain criteria should be developed in the case of peaking and storage plants, like power purchase rates, downstream benefits, inundation in the upstream, migration of affected people, environmental effects, use of forest land etc.



### d) Geo-Politics & Law and Order

Government of Nepal must seek a basic understanding with Government of India for sale of power to ensure that the power market for Nepal is well secured and the load factor of the national grid to improve significantly paving way for reliable, affordable and accessible power to all. The Government of Nepal should also ensure political stability in the country and take serious steps to improve its poor country rating. Providing security to project sites is important and the Government must give this due priority. Due to numerous demands of affected people, the royalty amount received by VDCs and DDCs should be spent in funding the construction of community schemes as demanded by local people. Alternatively, the developers should be asked to allocate certain percentage of its budget as a part of their Corporate Social Responsibility (CSR).



## Third Power Summit 2008: "Power Markets and Project Development"

"Power Markets and Project Development" was the theme of the Third Power Summit organized by the Independent Power Producers Association Nepal (IPPAN), Nepal India Chamber of Commerce and Industry (NICCI) and Power Trading Corporation (PTC) India Limited at the Hotel Yak and Yeti, Kathmandu from September 23-24, 2008.



This mega event with the slogan "Harnessing Power" brought together relevant stakeholders and policy makers from Nepal and India to discuss power markets and project development in view of the upsurge in price of petroleum products which has significantly affected developing countries.

The principal objectives of the seminar were to:

- ⇒ explore areas of cooperation on hydropower development between Nepal and India;
- ⇒ garner technical support for identified projects;
- ⇒ identify possible risks of investments in the hydropower sector;
- ⇒ discuss mitigation measures;

- ⇒ identify opportunities for power trade; and
- ⇒ create a common platform for interaction between potential developers and investors.

The event witnessed rich deliberations on the subject between key officials of both countries. Participants also included decision makers from the Government of Nepal and Industry Associations. The Summit had six technical sessions on related areas such as Power Summit I and II: Review Experiences in Nepal's Hydropower Development Plan, Power Development and Transmission Systems, Investment Environment and Processes, Power Markets, Socio-economic Aspects of Power Project Development and Renewable Energy Sources – Needs and Benefits.



## Friday Forums organized by IPPAN

### 1. Optimum Sediment Handling in Run-of-River Hydropower Plants

Dr. Meg Bahadur Biswokarma, General Manager-Hydro Lab hosted another Friday Forum on November 21, 2008 on the topic "Optimum Sediment Handling in Run-of-River Hydropower Plants".

While sharing his knowledge on sediment handling in run-of-river hydropower plants, Dr. Biswokarma informed participants that the sediment production in Asian rivers was the highest in the world. Therefore, one has to take into consideration the destructive effects of sediments on the turbine blades.

### 2. Energy Resources Strategy Formulation: Strategic Options

Mr. Sanjaya Dhungel, Senior Divisional Engineer, Water and Energy Commission Secretariat (WECS),



Government of Nepal hosted a Friday Forum on the topic "Energy Resources Strategy Formulation: Strategic Options" held on December 5, 2008. He shared his experience and knowledge in the energy strategy formulation of Nepal.

Mr. Dhungel shared that the energy strategy which is a project of WECS, was still in its formative stage. He called for constructive feedback from the participants to make it an inclusive and a participatory document. The Energy Strategy of Nepal is being formulated to develop Nepal's natural resources in an integrated manner so as to ensure optimum use, taking into consideration sustainability and energy security issues. He also informed that the strategy is expected to serve as a guideline for developing and managing energy resources of Nepal.

### 3. Solving Load Shedding Problems through Tariff Restructuring and Energy Conservation

Mr. L.R. Tamang, Electrical Engineer presented a paper entitled "Solving Load Shedding Problems through Tariff Restructuring and Energy Conservation," in a Friday Forum organized on December 19, 2008.

This forum was attended by experienced officials like Dr. Sandip Shah, President-IPPAN, Dr. Dwarika Nath Dhungel, Former Secretary-Ministry of Water



Resources, Mr. Santa Bahadur Pun, Former Managing Director-NEA, Mr. Uttar Kumar Shrestha, Managing Director-NEA, Mr. Deepak Prasad Upadhyaya, General Manager-Distribution and Consumer Services Section, NEA, Mr. Jayendra Man Shrestha, Director-NEA, Mr. Keshav Dhoj Adhikary, Mr. Amrit Shrestha, Mr. Sanjaya Dhungel, Senior Divisional Engineers-Ministry of Water Resources and other prominent IPPAN members.

Mr. Tamang stated that power crisis can be solved in a sustainable manner through tariff restructuring and energy conservation. He said that more than 150 MW of power can be saved by resorting to the use of compact fluorescent lamps. He also said that energy can also be conserved by improving the power factor

of substations and transformers of NEA and use of domestic appliances by consumers. He suggested offering incentives to consumers for saving energy by changing NEA's tariff structure. He advocated for pro-energy efficiency tariff for Nepal.



#### 4. 35 Point Work Plan of the Government of Nepal to tide over National Power Crisis

Yet another Friday Forum was held on January 9, 2009, at the Public Information Centre of The World Bank in Kathmandu. Mr. Anup Kumar Upadhyaya, Joint Secretary and Spokesperson-Ministry of Water Resources, Government of Nepal, presented a paper entitled "35 Point Work Plan of the Government of Nepal to tide over National Power Crisis".

Two panels had been formed to comment on the paper presented by Mr. Upadhyaya while Dr. Sandip Shah acted as moderator of the forum.

Mr. Upadhyaya listed some short term, medium term and long term measures taken by the Government of Nepal to tackle the crisis. He informed the participants about some steps being taken like the proposal to the Constituent Assembly to pass the Nepal Electricity Regulatory Commission (NERC) Act by Poush, running a widespread national campaign to use CFL lamps

by Magh 1, cutting off electricity lines to hoarding boards, introducing captive generation plant and expediting the process of construction of Cross Border Transmission lines.

Commenting on the paper, Dr. Dwarika Dhungel outlined the need for measures to be taken immediately. He said that the proposed thermal plant would not only sink NEA but the Nepali economy as well.

Mr. Santa Bahadur Pun stated that the paper did not mention about any focal person or institution that should be nominated to supervise and monitor the implementation of the 35 point work plan of the Government of Nepal.

#### 5. Barriers to Hydropower Development-A Hydropower Developer's Perspective

IPPAN organized its regular Friday Forum on January 23, 2009 at the World Bank office in Kathmandu. Mr. Kiran Malla, Deputy Managing Director-Himal Hydro & General Construction Company and Director of Rairang Hydropower Company presented a paper on the topic, "Barriers to Hydropower Development (in Nepal): A Hydropower Developers' Perspective." Present in the meeting were IPPAN members, staff and consultants of The World Bank and Asian Development Bank, high ranking officials of NEA and Ministry of Water Resources and the press.

Mr. Malla stressed on the need for tax holiday for ten years, policy consistency for ten years, VAT Exemption for civil works, revision of NEA's recently announced PPA rates for 1-25 MW, PPA for 15 years, development of road networks in all major river basins, reservation of small hydropower projects (1-25 MW) for domestic IPPs, invitation to foreign IPPs for larger hydropower projects, competitive bidding for Government of Nepal identified hydro projects, and provision for project financing for capital intensive projects like power projects etc.

#### 6. Barriers to Hydropower Development: A Banker's Perspective

Mr. Manoj Goyal, CEO-Clean Energy Development Bank Ltd. presented on the topic: "Barriers to Hydropower Development: A Banker's Perspective" on Friday, February 20, 2009.

Mr. Goyal emphasized the need to create a "conducive investment climate" to attract private sector investments in hydropower. He noted that equity for hydropower can be generated through initial public offerings (IPOs), provided that rules of Security Board are amended and public confidence is earned in the power sector.

#### 7. Barriers to Hydropower Development: A Legal Perspective

Mr. Hom Bahadur Raut, Advocate-Supreme Court of Nepal shared his findings of his research work entitled "Study Report of Nepali laws related to Forest and Environment" in IPPAN's Friday Forum, organized on March 13, 2009.

Mr. Raut pointed out that the system of taking permit from more than one institution for survey and generation license was a complicated and time consuming procedure. He suggested that the Government should not differentiate between government and private hydropower projects while awarding license to hydropower projects in conservation areas. A one-window policy and one stop solution for all processes related to hydropower should be implemented effectively. The process leading to the signing of power purchase agreements should be made clear and transparent and the Government should willingly facilitate any developer planning to implement power projects in forest land or conservation areas. The Government should also help private developers in leasing or acquiring public/private land and legal guarantee enshrined built in the laws to provide security in the project areas.

## MEETINGS

### Asian Development Bank Team meets with IPPAN

Mr. Haso Bhatia-Consultant and Team Leader, Mr. Dirk Jan Rood, Financial Analyst and Team Member and Mr. Jeewan Raj Shrestha of the "Private Sector Development Study Project" of the Asian Development Bank, met with Dr. Sandip Shah, President-IPPAN on October 22, 2008. Dr. Shah outlined the history of the private sector involvement in Nepal's hydropower development. He also briefed the team on the role of IPPAN in creating an enabling environment for private sector investments in Nepal's hydropower development and shared prospects of hydropower development in Nepal.

### World Bank Team meets with IPPAN

Mr. Geoff Scott and Mr. Glen Chapman, World Bank Consultants of "Barriers to Hydropower Development Project" met with Mr. Pradeep Gangol, Executive Manager-IPPAN and Mr. P. P. Adhikary, EC Member on December 1, 2008.

The consultants sought information about Nepal's hydropower in general and barriers to Nepal's hydropower development in particular. Mr. Gangol and Mr. Adhikary briefed the team about the barriers like lack of high capacity transmission lines, running east west along the mid-hills to evacuate power from the proposed hydropower projects, lack of transportation and unsuitable power purchase rates. Also, it was stressed that Nepal needs integrated river basin management plan before awarding licenses to hydropower projects. Mr. Gangol emphasized the need for changes in policy environments so as to create enabling environments for investors and hydropower developers.

### IPPAN and NEA Interaction Program

An interaction program between IPPAN and NEA was held in the central office of NEA on November 25, 2008. Dr. Sandip Shah, President and Members Mr. Narendra Prajapati, Dr. Subarna Das Shrestha, Mr. Kiran Malla and Mr. Pradeep Gangol, Executive Manager represented IPPAN. The NEA was represented by Dr. Govinda Nepal

and Mr. Balram Pradhan, Board members, Mr. Uttar Kumar Shrestha, Managing Director, Mr. Jayendra Shrestha and Mr. Rajeswor Sulpya.

The meeting was called by NEA to discuss the preparation of new project costs of hydropower projects and to calculate new power purchase rates for hydropower projects by independent power producers.

### Post Budget Interaction Programme

Mr. Pradeep Gangol participated in a Post Budget Program organized by Hotel Annapurna October 26, 2008. The program was graced by Honourable Minister of Finance, Dr. Baburam Bhattarai, Honourable Vice Chairman of National Planning Commission, Dr. Pitamber Sharma and Secretary (Revenue) of the Ministry of Finance, Mr. Krishnahari Banskota.

On the occasion, Mr. Kush Kumar Joshi, President-FNCCI President listed the following points as positive aspects of the budget:

- High priority to physical infrastructures;

- ⇒ Plan to generate 10,000 MW within ten years;
- ⇒ High-level Electricity Development Committee.

Mr. Pradeep Vaidya, President, Tax and Revenue Sub Committee-FNCCI thanked the Government of Nepal for incorporating many suggestions of FNCCI like commitment to institute Infrastructure Development Bank, high priority to development of physical infrastructures, plan to construct east west railways, north south corridor roads, and mid hills east west highways.

He also listed suggestions of FNCCI, which were not incorporated in the budget like, abolition of VAT in the construction of hydropower projects, complete freedom to Non-Resident Nepalis to bring and take out capital, at least 10 years guarantee in investment policy, tax rates and interest rates, guarantee of security to private property etc. He hoped that the Government will consider the demands of FNCCI.

Mr. Pradeep Gangol, IPPAN demanded that the income tax holiday for the period of 15 years from the date of commercial operation as per Hydropower Policy 1992 and the Electricity Act 1992, should be re-introduced.

### IPPAN delegation to Ministry of Water Resources

IPPAN delegation consisting of Mr. Amarjibi Ghimire, Mr. K.B. Bisht, Dr. Subarna Shrestha, Mr. Krishna

Acharya and Mr. Pradeep Gangol met with the Honourable Minister for Water Resources, Mr. Bishnu Paudel on December 16, 2008. The delegation requested increasing the power purchase tariff. The Honourable Minister assured the delegation that the tariff would be revised soon after the recommendation of Tariff Fixation Task Force. He also informed that the Government is planning to construct connecting transmission lines under Build and Transfer system.

An eight member IPPAN delegation led by Dr. Sandip Shah again met with Honourable Minister Bishnu Paudel on Dec. 26, 2008. Dr. Shah, while referring to the press release of Nepal Electricity Authority, remarked that the recent nominal hike in the power purchase tariff was not sufficient enough to attract investors in the power sector.

### Participation of IPPAN in various events

Mr. Pradeep Gangol, Executive Manager-IPPAN participated in the “National Level Expert’s Consultation Meeting” organized by Consolidated Management Services (CMS) and Centre for Energy Studies, Institute of Engineering, Pulchowk, on October 20, 2008.

Mr. Gangol also participated in a discussion program entitled “Load-shedding-A Destiny of Nepali People?” organized by the Nepal Forum of Environmental Journalists (NEFEJ) on January 18, 2009.

On February 27, 2009, he participated in the workshop on “Nepal Country Environmental Analysis” organized by the World Bank and the Ministry of Environment, Science and Technology (MoEST) in Kathmandu.

The CEA report was jointly prepared by the World Bank and the Government of Nepal under the overall leadership of the National Planning Commission and MoEST. The country analysis report states that Nepal has achieved modest economic growth in recent years at a high environmental cost and a rapid economic growth will lead to even greater environmental degradation.

With the growth in economic development activities in Nepal, there will be increased investment in infrastructures, which will eventually create challenges for natural resources and environmental management. Nepal will therefore require a strong EIA system, sound policy guidelines and more effective management of natural resources. The CEA has attempted to diagnose the environmental issues of Nepal.

### Fifth World Water Forum (WWF5)

Mr. Amarjibi Ghimire, Executive Committee Member-IPPAN, participated in the Fifth World Water Forum (WWF5) held in Istanbul, Turkey from March 16-22, 2009 as a panelist.

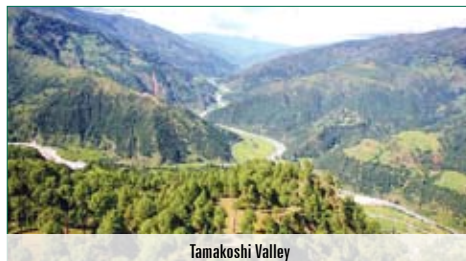
## News From Members

### SN Power in Tamakoshi

SN Power is a growing international hydropower company and a commercial investor, developer and operator of hydropower projects in emerging markets. As per SN Power’s strategy, to transfer Norway’s extensive hydropower expertise contributing economic growth of the nation where it operates, SN Power has selected Nepal for investments to operate as a long-term responsible developer of hydropower projects.

In Nepal, SN Power holds majority of the shares of 60 MW Khimti HEP – first hydropower project from private sector in Nepal, is in operation since 2000. SN Power is doing Feasibility Study and ESIA of Tamakoshi 3 (TA3) and Khimti Extension Project

(Kirne – U6, 38 MW). SN Power has recently merged Tamakoshi 2 and Tamakoshi 3 projects into a single project as Tamakoshi 3 HEP with the increased capacity of 600 MW.



Tamakoshi Valley

TA 3 will be a peaking ROR project generating more than 2450 GWh energy, annually. The generated energy will be consumed in Nepal and the excess energy will be exported to India. The Feasibility Study and ESIA are expected to complete by 2009 and construction is expected to start by the end of 2011. The commercial operation is expected in mid of 2016. Likewise, its other projects, SN Power is committed for the community development of the project areas. SN Power will implement Tamakoshi Vision – a comprehensive community development approach - in its project neighboring areas.

### Lower Modi Khola Hydroelectric Project (20mw) in Parbat District

At this time when Nepal is reeling with 16 hours of power cuts every day, Nepal needs many medium and

small hydropower projects that can be installed at the shortest time. If it wants to address the power deficit problem, the role of quick viable projects will be crucial. Lower Modi Khola Hydroelectric Project (20MW) is one such project. The foundation stone of this project was laid on March 4, 2009. Situated in Parbat District, this project is a Run-of-River type having 20 MW installed capacity. With the source river Modi, this project will be able to generate about 124 GWh of energy annually. The project requires no additional access road and only about 4.5 km transmission line to connect it to the National Grid. If it gains support from all quarters, this project can be constructed in 2.5 years time. The project has already obtained financial commitment from Nepal Investment Bank Limited. The contract for the office building has been awarded. The detail design is currently under final review for construction. Hydro Solutions Group, K.L Dugar Group, Murarka Group and Debenara Group are promoting this project.



Drilling works at powerhouse site of TA3



Puja on Occasion of Laying of Foundation Stone

## Butwal Power Company

Butwal Power Company (BPC) is the pioneer and leading private sector hydropower developer in Nepal.

BPC as first private power company in the country since 1966, has been involved in hydropower project construction, electricity generation, transmission, distribution and Engineering Consultancy activities.

BPC has a total installed capacity of 21.3 MW electricity through the two projects -12 MW Jhimruk Hydropower Plant and the 5.1 MW Andhi Khola Hydropower Plant. BPC has a majority ownership in 4.3 MW Khudi Hydropower. It also has 15% ownership in Khimti HP (60 MW).

Besides supplying power to the national electricity grid, the company has electrified more than 30,000 households from BPC's distribution network in 4 districts of the country – Syangja, Palpa, Pyuthan and Arghakhanchi.

The company is involved in hydropower projects through special purpose project companies like Nyadi hydropower limited for 20 MW Nyadi Hydropower Limited, Keton Hydropower Ltd for 34 MW Marsyangdi-III Hydropower Project. The other projects under development stage are Andhikhola Upgradation Project (9.4 MW), Bhimkhola Hydropower Project (9 MW) and Kabeli Hydroelectric Project (30 MW). Andhikhola Upgradation Project is to go under construction soon. Infrastructure development works are ongoing for Nyadi Hydropower Project and construction will start by the end of this year. Bhimkhola Project is under detail design and Marsyangdi-III project is at final stages of Detailed Project Report.

BPC Hydroconsult (BPCH), as an engineering business unit of BPC, is a leading professional hydropower consulting service provider. It has developed a competent and client focused consulting services business. It has been successfully undertaking projects in hydropower infrastructure development, water

resources, environment, socio-economic sectors and project management. BPCH's clients include government sector, private sector, INGOs, NGOs and Development Agencies.

Some of the projects undertaken by BPCH are Tinau Hydropower Project (1MW), Andhikhola Hydropower Project (5.1 MW), Jhimruk Hydropower Project (12 MW), Khimti-I Hydropower Project (60 MW), Khimti II Hydropower Project (26 MW), Modi Khola Hydropower Project (14 MW), Balephi Hydropower Project (50 MW), Trishuli Khola Small Hydropower Project (4 MW), Khudi Hydropower Project (4 MW) and Khare Khola Hydropower Project (14.7 MW). Besides, BPCH was also involved in Melamchi Diversion Scheme Project, feasibility study and environmental impact assessment study of several other hydropower projects.

Currently BPCH is undertaking study of Nyadi Hydropower Project, Marsyangdi Hydropower Project and Bhimkhola Hydropower Project.

### Background

Sanima Hydropower (P) Ltd. (SHPL) was registered in March 1999 under the company act 2053 of Government of with the main objective to promote hydropower sector of Nepal through the private investment in line with the Government of Nepal Hydropower policy. The company aims to participate in overall development of the country using hydropower as an access point.

#### Hydro wings of Sanima

1. Sanima Hydropower (P.) Ltd.
  - Sunkoshi Small Hydropower Project (2.5 MW)  
bStatus: This project is under operation since March 2005.
  - Mai Cascade Hydropower Project (4.5 MW)  
Status: Feasibility Study completed, IEE study under progress, the project has been applied to NEA for PPA.
  - Upper Tamor Hydropower Project (100 MW)  
Status: Feasibility study including EIA study is undergoing, Topographical survey & mapping completed, Surface geological mapping & ERT are done, Hydrological gauge established & flow measurement/gauge recording going on, Project Lay-out, Project Market, and Project Capacity Optimization under progress. Notice published for EIA study, scoping & TOR for the EIA study is in progress.
2. Sanima Hydro & Engineering (P.) Ltd.
  - Middle Tamor Hydropower Project (57 MW)  
Status: Feasibility study including EIA study is in progress. Project Market, and Project Capacity Optimization under progress.
3. Sanima Mai Hydropower (P.) Ltd
  - Sanima Mai Hydropower Project (15 MW)  
Status: Awaiting PPA

## Sanima, at a glimpse

4. Tamor Sanima Energy Pvt. Ltd.
  - Planning to develop Upper Tamor(100MW) & Middle Tamor (57MW) together.
5. Sweet Ganga Hydropower & Construction Pvt. Ltd.
  - Lower Likhu Hydropower Project (16 MW)  
Job: Feasibility study & IEE study under progress, Topographical survey & mapping completed, gauge station for flow measurement established, project layout is under progress.

Services that SHPL provides in Hydropower Sectors are as:

- Reconnaissance, Pre-feasibility, Feasibility & project planning studies,
- Economic and financial analysis,
- Detailed engineering design,
- Surface Geological Mapping,
- Construction management and site supervision,
- Environmental & Social Impact Assessment Studies.

#### Outside Clients

1. PHEME Small Hydropower Project (995 KW)  
Job: Revised detail design and construction supervision and management of the project.  
Status: This project is under operation since September, 2007

2. Namarjun Madi Hydropower Project (12 MW)  
Job: Optimization study, preparation of Tender document and detail engineering design.
3. Upper Mai Hydropower Project (9.5 MW)  
Job: Feasibility Study Review & Detail Design of Head works.
4. Bhairab Kund Small Hydroelectric Project (3 MW)  
Job: Feasibility Study Revision, Capacity upgrade with Detail Design and Tender Drawings.
5. Mailun khola hydropower Project  
Job: Review of the Project Report Detail
6. Junbesi Hydropower Project (2.8 MW)  
Job: Desk Study for License Application, Feasibility Study & Tender Documents, Initial Environment Examination (IEE)
7. Ghami Small Hydropower Project (330 kW)  
Job: Preparation of general layout, Financial Evaluation, Engineering Design, Report Preparation
8. Thame Small hydropower Project (TSHP)  
Job: Load demand & forecast study, Update & collection of hydrological data, Preliminary project design, cost estimates and benefit, Study for daily peaking . Survey was done voluntarily.



Middle Tamor Dam



View of Head works area of Upper Tamor, Tapethok