



# ippan

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INDEPENDENT POWER PRODUCERS' ASSOCIATION, NEPAL

## REMARKS FROM THE PRESIDENT

### Promoting Investments in the Power Sector



The recent few months have seen some dynamic changes in the history of Nepal. In the wake of this new beginning, IPPAN anticipates renewed national and international developments in the power sector investments in Nepal. In the February 2006 issue of the IPPAN newsletter, I emphasized the need for increased sustainable investments in the power sector to assuage load-shedding and perk up the power demand management. The last few months have made me optimistic about the future as there are already some favorable indications from the donor community and some multilateral lending agencies. The private sector has also shown renewed vigour in this direction.

IPPAN's main objective has always been to advocate for a conducive environment for power sector investments which no doubt has risks in plenty, but also promises enormous long term benefits. Our efforts are geared towards working in partnership with the government, donors and the private sector to establish a predictable, stable and secure environment for large investments. In the past, IPPAN was actively involved in the Power Sector Reforms Project implemented by the Asian Development Bank and the Government of Nepal. More recently, we are working towards finalization of the draft of the Electricity Act and Electricity Regulatory Commission Act. We have provided our suggestions and feedback to make these drafts investor friendly as well as easy to implement. We hope that these Acts will be promulgated soon to give credence to the Hydropower Policy of 2001.

It is already a known fact that lack of proper infrastructure and inaccessible road conditions are the key factors that prevent investments in

the power sector which would otherwise take transmission lines to the remote power project sites at reasonable costs. With the expenses for infrastructure also included in the project costs, it sums up to be invariably expensive. We believe that by leveraging funds from enthusiastic donors and other agencies, the government should explore building highways in the major river basins along with trunk transmission lines. In turn, the power producers could also build short project roads and transmission lines to interconnect to the main grid significantly saving on project costs and to be able to offer reduced tariff.

We have also noted that new PPAs, even for the small and medium projects, have not been signed by the national utility despite an existing policy that allows signing of a PPA with any

project having a capacity of 1-10 MW. Such projects could effectively alleviate load shedding to some extent in specific areas. IPPAN therefore strongly advocates that such projects should be listed as a high priority to cater to the short term power-demand situation. The long term needs however demands that larger scale projects should be promoted under an IPP or a PPP model. It is encouraging to note that international private-sector, in association with local promoters, has increasing interests in such projects, and it is an ideal time for the government to embrace this opportunity.

The FY07 national budget has incorporated some changes to some of the fiscal policies which were available under the Electricity Act 1992 and Electricity Regulations 1993. Some significant implications has been on the VAT which is now also imposed on insurance premium payments and the duty imposed on spare parts, plant and equipment for plants with more than 3 MW installed capacity. This financial burden needs to be retracted so that it does not adversely affect the project promoters' return on investments and tariff to consumers. This step will be influential in motivating investors and ushering in a favourable legal and regulatory framework for investments in this sector. By timely addressing such issues and with changing perspectives, we could have much to look forward to in the coming days.

### IPPAN'S VISION, MISSION, GOAL & PURPOSE

To contribute to the development of Nepal's vast untapped hydropower potential, in line with Nepalese aspirations.

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To help mobilize private capability, both national and international, to overcome the constraints confronting hydropower development.

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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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To disseminate information on hydropower development, in Nepal and elsewhere.

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## EVENT WATCH

### Seminar: "The 2nd Hydropower for Today"

"The 2nd Hydropower for Today" a seminar jointly organized by IC-SHP, UNIDO, ICH, CANMET Energy Technology Centre - Ottawa & CICETE in Hangzhou, China from April 22 - 25, 2006, was participated by 217 participants from 50 different countries. The five sessions of the seminar covered environmental issues to international cooperation on policy development on hydropower technologies.

Mr. Amar Jibi Ghimire, Executive Member of IPPAN presented a paper on "Possible New Legal Regime on Hydropower; A Strive for Investment Enhancement." Dr. Janak Lal Karmacharya also delivered a presentation on hydropower development policies and Mr. Anil Neupane; Manager of IPPAN also participated in the seminar.

### SAREC Board Meeting

The SAREC Board of Directors met in Mumbai from February 3 - 4, 2006 for the Directors Meeting & Strategic Planning session and in New Delhi from March 21-22, 2006. Dr. Sandip Shah attended both meetings.

### Seminar on "Nepal's Energy Sector in Oslo"

Dr. Sandip Shah attended the seminar on "Nepal's Energy Sector in Oslo" from February 20 - 22, 2006. The seminar explored possibilities for Norwegian investments in hydropower projects in Nepal with a particular focus on Upper Tamakoshi (309MW).

## IPPAN ACTIVITIES

### Friday Forum

IPPAN has continuously organized five series of Friday Forums at regular intervals. The objective of these meetings is to create a communicative platform for developers to address relevant issues. The first forum was organized on January 27, 2006 sharing experiences on Small Hydro in Uganda. The second forum with power producers was held on February 17, 2006 discussing on the Pending PPA approval, license and PPA Tariff escalation issues. The focus of this forum was to come up with a strategy to result in resolution of these issues. The third forum with developers was held on March 17, 2006 with some experience sharing of Norwegian Investments

in Hydropower Projects in Nepal (Upper Tamakoshi; 309 MW). The fourth forum with members was held on June 23, 2006 on Clean Development Mechanism (CDM) for IPPs. This meeting focused on the opportunities and challenges for CDM benefits in Nepalese power sector. The fifth forum was held on July 14, 2006 on "Information Management and GIS System at IPPAN" with members. The meeting highlighted the information management and GIS system recently introduced by IPPAN.

### NICOH Report published

IPPAN published a booklet on "Research on Nepal India Cooperation on Hydropower." This study was conducted by IPPAN in association with Confederation of Indian Industry (CII) under the Small Grants Programs of SARI/E, sponsored by Winrock International. The research findings prove to be useful to all stakeholders in Nepal and in India for formulating future policies, strategies and work plan for further cooperation in the power sector. This report was circulated widely.

### IPPAN EGM

EGM unanimously proposed and elected Dr. Sandip Shah to continue as IPPAN President in the capacity of Founder Member for the remaining term. This decision was reached after completion of Dr. Shah's term as General Manager of Bhoite Koshi Power Company (BKPC) and the question of BKPC representation in IPPAN.

### Meeting with Secretary, MoWR

The IPPAN Executive Committee visited Mr. Tika Dutta Niraula; Secretary, MoWR on June 6, 2006. Dr. Sandip Shah briefed on the objectives and different activities conducted by IPPAN. The agenda also focused on the areas of cooperation and coordination between the private and government sectors.

### Information Management Systems at IPPAN

IPPAN Information Management System comprises of Power Sector database, Library Management system, Geographical Management system and the IPPAN website. IPPAN has already set up a workstation and appointed Mr. Shankar Pathak, GIS expert to further develop the project. A GIS software, Arc View 3.2 has also been installed with base maps of geographical boundaries, rivers network and road networks of Nepal. More information will be added to the system to locate existing and potential power plants and transmission networks to facilitate future planning. The system will be upgraded to higher version - Arc GIS 9 in the near future. Based on different

satellite data of biophysical, socioeconomic and infrastructure, any planner/policy maker can make future projections. The hydropower data can be encoded according to the station, settlement, river system or catchments. Efforts are ongoing to develop an efficient online library system.

### Meeting with Minister and Secretary, MoWR:

The IPPAN Executive Committee visited the Minister of MoWR, Mr. Gyanendra Bahadur Karki and Secretary, Mr. Tika Dutta Niraula on July 19, 2006. The meeting addressed the different energy issues after the new financial act 2063. As a follow up, IPPAN plans to conduct an interaction program with the Ministry to come up with a strategy to address such issues.

### Interview with Mr. Jay Keshar Mackay



DIRECTOR GENERAL  
DEPARTMENT OF ELECTRICITY  
DEVELOPMENT

### What is the role of DoED in electricity development?

Department of Electricity Development (then Electricity Development Center) was established as a technical department under Ministry of Water Resources in July 1993 to develop electricity sector in the country by attracting private investment. The Department is also responsible for evaluation of proposals from the private developers and to recommend for license. It also coordinates with the developers to negotiate with other government agencies and/or utilities.

### How do you look at private sector participation in hydropower development?

In the changing context of globalization and privatization, private sector participation is a must for hydropower development. Moreover, scarcity of national financial resource and grant/aids from donor agencies/countries is a great hindrance to invest public/government resources for the hydropower development. Hence, private sector participation has to be encouraged if any appreciable hydropower development has to be achieved.

### How will the new Electricity Act effect private investment?

One of the objectives of the Hydropower Policy, 2001 states "to pursue investment friendly, clear, simple and transparent procedures so as to promote

private sector participation in the development of hydropower". Hence, provisions in the proposed new Electricity Act will, therefore, reflect the objectives of the Policy and will encourage private investment in the hydropower development.

### Could you shed light on the regulation of existing and new projects?

Power projects irrespective of new or old are under the purview of this Department of Electricity Development. There is a whole division - Inspection Division who has been mandated to regulate and monitor power projects. Regular inspection visits are arranged to observe the conditions of the projects with regard to safety and other norms. Any irregularities are reported and necessary actions are taken or recommended to the concerned ministry of MoWR.

### What about the environment concerns?

Environment concerns are fully addressed during the licensing/planning stage itself. As per Environment Protection Act and Regulation, DoED has been designated as a concerned agency (CA) for electricity related projects. All environmental reports like IEE and EIA are scrutinized by the Department prior to forwarding to Authorities like MoWR and MoEST. Personnel from the Department attend and facilitate public hearing programs in regular basis and through its activities attempts to generate awareness among the primary stakeholders.

### What are the strengths of DoED?

As DoED is a technical department, its strength lies in the technical capacities of its man power and mandates given to it by the line ministry MoWR. The Department is promoting hydropower development through private participation, public relations in the form of project specific public hearing programs. In fulfilling its duties, the Department facilitates the developers in negotiating with stakeholders as well as with line agencies.

### Any weakness?

About weakness of the Department, lack of expert manpower is a major hindrance in its activities like in any other governmental departments.

### What is the biggest challenge for achieving the national goal of "Electricity for all" by 2012?

The slogan "Electricity for all by 2012" is a very ear consoling to hear, but the reality may depict

somewhat otherwise. As per latest statistics, about 40% of population has access to some form of electricity (NEA source). But looking at pace of development in past years and lack of resources, the target looks very optimistic. Nevertheless, our endeavor shall be to achieve the goal with full determination.

### What action should DoED take to encourage the foreign investment?

The country is trying to encourage foreign direct investment (FDI) in many sectors, hydropower being the prominent one. DoED has a key role in promoting FDI in hydropower by inviting potential developers through campaign, facilitating them with various processes of obtaining licenses and negotiating with them for obtaining best results for the country.

### How can DoED help to initiate private sector participation in formulating policy & reform?

DoED and MoWR have always sought private sector participation in formulating policy and reforms. During formulation stages of the proposed Electricity Act, seminars and workshops have been conducted with active participation from the stakeholders, who have contributed by giving constructive comments. These comments would be accommodated as far as practicable.

### Can you suggest the way to improve the single window system of DoED?

As all are aware that hydropower development is a multi-faceted activity requiring input from many agencies as well as permits from various authorities, one window system in true meaning is one door with many windows. Nevertheless, DoED is working its vest way as a facilitator on obtaining the necessary permits/licenses or facilities from other line agencies as per prevalent laws and regulations. It can not dictate other line agencies; it can only assist them to expedite the necessary processes.

### How can DoED control on license issuance of developers who are sitting on license?

DoED never desires or aspires the private developers to stall the project by sitting on license. It has authority to quash the license on grounds like unfulfilling licensing terms and conditions. DoED can ask the developers to submit progress and status reports and if, progress was found grossly inadequate may proceed to cancel the license. Nevertheless, DoED shall consider all

factors/explanations reported by the developer for non-performing in the light of economic-political situation of the country.

### What is your opinion towards NEA unbundling?

In the present context of private sector involvement in the power sector being prominent, the Government has a role to play with respect to NEA and private developer. Hence, the idea of separating generation, transmission and distribution of electricity was developed. It is hoped that this unbundling will help the Government to provide level playing for all players.

### Could you share your ideas on developing standard Project Agreement for all developers?

As Project Agreement between the Government and the Developer is a legal document of general development plan of the project, the general conditions are more or less the same for the majority of the projects. Hence, standard PAs alternatively called Model PAs could be developed with provisions of specific conditions attributable to the concerned project.

### Could you see feasibility of Storage projects in Nepal?

Storage projects are required in a country like Nepal, where load demand is higher in winter season when the river flows are minimum. Geographical terrain available in the country is good for constructing high dams to store monsoon flows for power generation in dry seasons. There are a number of river valleys in the country where big reservoirs can be constructed. However, river valleys are well populated due to fertile land on around river plains. Hence, feasibility of storage projects has to be established in light of environmental considerations and resettlement requirements.

### What do you see as prospects of Power Trading in Nepal?

Power trading in Nepal has been conceived since a long time. AN agreement was concluded with India on June 5, 1997, signed by respective Ministers of the Governments. The agreement seeks to adopt the policy of economic liberalization to promote private sector participation in power project development and to facilitate the process of electric power trade. But the agreement has not been ratified by the parliament. Another example of power trade may cited from West Seti 750 MW storage project to be developed by SMEC for sale in the Indian market. However, to date, it could not be finalized.

## NEWS FROM MEMBERS

### Completion of feasibility study of Radhi Small Hydropower Project

Lamjung Electricity Development Company (LEDCO) has completed the feasibility study of Radhi Small Hydropower Project of 490 KW capacity in Ghermu Village Development Committee (VDC) in the northern part of Lamjung District. Radhi Khola is a tributary of Marsyangdi River to which it joins from the east upstream of the village of Srichaur at a distance of about two kilometers from the existing Syange small hydropower station. The main features of the project are as follows:

#### Power Generation

Gross head:	110 m.
Net head:	109 m.
Installed capacity:	489 KW.
Annual energy:	3.074 GWh.

#### Power Transmission

Voltage:	11 KV.
Length:	2 Km. to Syange Power Station.
Project cost:	NRs. 39.29 million.
Cost per KW:	NRs. 80,354.
Catchment area:	20.34 square km.
Design discharge:	0.53 cubic mps.
Type of weir:	Concrete gravity with uncontrolled spillway and under sluice.
Desander:	Surface type, continuous flushing.
Water Conveyance:	Steel pipe of 0.64 m. internal diameter, 362 m. long. (including penstock)



### Dordi - 1 Small Hydro

LEDCO has started the feasibility study of Dordi-1 small hydropower project on Dordi Khola in Bansar and Dhodeni VDCs of Lamjung District. Dordi Khola joins Marsyangdi river from east just upstream of the Bhote Odar village on the road to Besi Sahar. From the initial assessment, the project will have an installed capacity of about 2.5 MW. Currently, topographic mapping of the project area and specific sites including headworks, water conveyance alignment and powerhouse has been completed. The project is located about 12 Km. north east from the powerhouse of the under-construction Middle Marsyangdi Hydropower Project of NEA. A village road, under construction, will pass nearby the project sites, providing motorable access to it in near future.

TABLE: MEMBER LIST OF IPPAN

S NO	NAME	CATEGORY	PROJECT NAME	INSTALLED CAPACITY	LOCATION	STATUS
1	Annapurna Renewable Energy	Corporate	Kiche Khola	500 kW	Lamjung	Preconstruction
2	Arun Valley Hydropower Company	Corporate	Piluwa khola	3MW	Sankhuwasava	Operation
3	Bhotekoshi Power Company Pvt Ltd	Corporate	Bhote Koshi	45MW	Sindhupalchok	Operation
4	Butwal Power Company	Corporate	Jhimruk	12MW	Pyuthan	Operation
			Andhi khola	5.1MW	Syangja	Operation
			Khudi	4MW	Lamjung	Operation
5	Himal Power Ltd	Corporate	Khimti	60MW	Dolkha	Operation
6	Himtal Hydropower Limited	Corporate	Upper Marsyangdi(II)	85.5MW	Lamjung	Preconstruction
7	LEDCO	Corporate	Syange	183kW	Lamjung	Operation
8	Molnia Power Supply	Corporate	Mailun khola	5MW	Rasuwa	Under Preconstruction
9	PowerGen Co	Corporate	Upper Puwa	2.4MW	Ilam	Preconstruction
10	Sanima Hydropower	Corporate	Sunkoshi	2.6MW	Sindhupalchok	Operation
11	Swet Bhairab	Corporate	Jomsom	240kW	Jomsom	Leased & Operation
12	Himal International Energy Pvt Ltd	Associate				
13	International Resources Group	Associate				
14	Klen Tech Pvt Ltd	Associate				
15	Shangrila Energy	Associate				
16	SHDAN	Associate				
17	Winrock Int'l, Nepal	Associate				

### Completion of Techno-Economic feasibility study of Mai Hydropower Project



Sanima Hydropower (P) Ltd. (SHPL), a company established in 1999 and operating commercially the 2.5 MW Sunkoshi Small Hydropower Project in Central Region under Build, Own, Operate and Transfer (BOOT) basis from March 2005 has set its next step to 20.1 MW Mai Hydropower Project in the Eastern Region of Nepal. The Project is

located in Soyak/Chisapani/Danabari VDCs of Ilam district at 24 km from the NEA's Anarmani substation of Jhapa district. Mai Hydropower Project (MHP) was identified by Sanima Hydropower (P.) Ltd following a reconnaissance study undertaken by the company in 2004. After obtaining the survey license from the Government in May 2005, a detail study was carried out to determine the feasibility of the project. The continuous and untiring efforts put up by the staff of the company have resulted to conclude the techno-economic feasibility study of the Project within a year from the date of obtaining the license.

The company has completed the techno-economic feasibility study of the project, and hopefully soon the company shall enter into Power Purchase Agreement with NEA. It is noteworthy that the regional conference of NRN held on 2 - 4 June in Bonn, Germany expressed their commitment to finance the project which will cost around 300 crores Nepali Rupees (41.8 million USD).

Mai Hydropower Project (MHP) will be a daily peaking (6 hour peaking) run of river project with installed capacity of 20.1 MW (2x10.05 MW) with design discharge of 21.4 m<sup>3</sup>/s and net head of 108.9 m. The headworks of MHP on the Mai Khola, located just downstream of the Saktim Tea Estate will divert water through a 2172 m long headrace tunnel and a 474 m long exposed penstock pipe to a semi-surface powerhouse. The gross annual energy production will be 118.20 GWh and the net annual energy to be supplied at the delivery point at NEA substation at Anarmani will be 108.15 GWh out of which 40.59 GWh will be supplied during peak hours whereas 67.56 GWh during off-peak hours.

The project possesses characteristics very desirable for the Integrated Nepal Power System (INPS) by serving to reduce technical loss, improve the voltage profile and power supply scenario in the region. In addition, this Project will help to reduce the operation of the expensive Multi fuel diesel plant in this region to a great extent and even reduce dependency on Indian system for the Eastern Nepal. The Project's proximity to the power-hungry Eastern load Center of Nepal should be the biggest attraction for NEA. Moreover, it is expected that the 132 kV transmission line and six hours daily peaking facility of the project help conclude the Power Purchase Agreement with NEA faster. Provided the PPA arrangement with NEA is accomplished within year 2006, the project construction could be completed by the end of year 2010.

### Klen Tech Pvt. Ltd., new IPPAN member

IPPAN welcomes Klen Tech Pvt. as its new associate member. The decision was reached after the 29th Executive Committee Meeting of IPPAN.

Courtesy for news and photos: LEDCO and Sanima Hydropower