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Report on

Asia-Africa Regional Seminar on Small Hydro Power

Organised by

UNIDO Regional Centre for Small Hydro Power
International Network on Small Hydro Power, China
Energy Management Centre - Kerala

11-15 November 2003

Hotel Residency Tower
Thiruvananthapuram, Kerala, India

OBJECTIVES
RECOMMENDATIONS
&
RESOLUTIONS

Asia-Africa Regional Seminar on Small Hydro Power
UNIDO Regional Centre for Small Hydro Power
Trivandrum, Kerala, India

11-15 November 2003

OBJECTIVES

Objective 1	To exchange views on small hydropower development in Asia and Africa, and its potential for meeting the current and future rural electrification needs.
Objective 2	To study, through case histories, the various models of small hydro power development in the region.
Objective 3	To examine the potential for development of Pico, Micro, Mini and Small Hydro power development in participating countries.
Objective 4	To take note of the financing options and policies for small hydro power development in the region.
Objective 5	To explore the opportunities for local user participation from concept to completion of small hydro projects.
Objective 6	To identify Action Programmes in each of the participating countries and develop a strategy for accelerated development of small hydro power as a means of sustainable development with the involvement of UNIDO, UNDP and bilateral or multilateral agencies.

RECOMMENDATIONS AND RESOLUTIONS

This Seminar affirms and asserts the importance of small hydropower generation in view of its economic advantages, environment-friendliness, and impact on poverty alleviation, particularly for the impoverished populations of remote and rural areas of Africa and Asia.

(For definitions and explanations of ideas/ concepts contained in these recommendations and resolutions, see Annex.)

1. The Seminar recommends the exchange of research reports and documents related to SHP development in developing countries, between stakeholders/ all concerned. The participants call upon UNIDO to establish an electronic SHP database for this purpose for the easy dissemination of information, and serving as a source of/ tool kit for evidence based policy advocacy.

2. Participants strongly favour the IC-SHP, Hangzhou publishing a periodic e-journal, documenting the progress of SHP development in developing countries, with the help of UNIDO RCs, other relevant institutions and experts.

3. The Seminar resolves to identify and promote best practices in the various aspects of SHP development through UNIDO/IC-SHP /UNIDO Regional Centres and other relevant institutions and experts.

4. The participants note with interest the announcement of the International Seminar on SHP, to be held in Hangzhou, China, in April 2004, hosted by IN-SHP/ IC-SHP /UNIDO and call for the organization of a similar seminar in 2004 in Abuja, Nigeria, where the next UNIDO RC for SHP will be established during the first quarter of 2004. The Meeting commends all countries to support and participate in these conferences.

5. The Seminar calls upon governments of developing countries to establish respective national focal points for small hydropower to participate actively with UNIDO, the IC-SHP and the regional centres on small hydropower.

6. The Seminar agreed that the participating countries should co-operate within and among regions on promotion of SHP.

7. The Seminar recognizes that investment and financial resources for the development of small hydropower resources is a major barrier for the utilization of the extensive hydropower resource potential. The participants suggested carrying out studies, meetings and other activities regarding the promotion of local and international financing for small hydropower projects.

8. A suggestion was made for the establishment of a "Capital Alliance for Small Hydro Power Promotion" (CASHPP), or some similar body, for the purpose of raising seed money to serve as seed or venture capital for SHP entrepreneurship aspirants, whether public, community or IPPs. In line with the Global Initiative on

Corporate Social Responsibility (CSR), this Seminar calls for such capital to be funded by a consortium of donors, including business corporations, for use in various purposes of SHP development.

9. This Seminar calls upon relevant government ministries to study the potential of the SHP sector in their countries, and to share plans with UNIDO for further dissemination and action.

10. The Seminar strongly recommends that community-based area-specific SHP projects be conceptualised by UNIDO, in cooperation with national counterparts, for the promotion of rural development, and relevant awareness and training programmes be organized. This is in line with UNIDO's role as a facilitator of community-based SHP projects.

Finally, this Seminar thanks the Organizers of the Workshop, the Government of Kerala and the Government of India, for their hospitality and invaluable services.

ANNEX

NOTES AND EXPLANATIONS

1. **Small hydropower** includes pico, micro, mini and small hydropower generation projects.

2. **Stakeholders/ all concerned** include multilateral organizations (such as UNIDO, UNIDO Regional Centres, UNDP, IN-SHP, IC-SHP); NGOs; IPPs; manufacturers of SHP machinery and equipment; academic institutions and government departments and agencies.

3. **Knowledge dissemination** includes inventory analysis of SHP potential needs, best practices, other resource documentation, eventually serving as a source of, or tool-kit for, evidence-based policy advocacy on SHP. The suggested **e-journal** should have detailed information of various SHP projects.

4. **Best practices** would include instances of enabling policy environment, local empowerment, impact on rural economic development, leveraging local resources with external sources.

5. Participants urged facilitation of **informed discussion**, not only of best practices, but also of case histories of unsuccessful ventures, for the purpose of informing interested parties, and prevention of repetition of negative experiences.

6. The participants favoured informed discussions with the official counterparts and focal points on the potential for developing small hydropower with the respective countries. It is noted that the Ministry of Renewable Energy be the preferred counterpart.

7. The Seminar discussed the need for African countries to collaborate on the promotion of small hydropower pilot projects being undertaken by UNIDO as well as the setting up of other sub-regional centres for the continent. The **Regional Centre in Abuja, Nigeria** should be considered as one of the channels of collaboration.

8. The countries of **South Asia** agreed on a series of **regional activities** on the promotion and development of small hydropower, which they would like to be further elaborated and implemented by the UNIDO Regional Centre in Trivandrum.

9. It was noted that valuable work had been done on this subject in China and that the International Centre was expanding its capacity in this field, also a UNIDO meeting is planned on this subject in 2004 in Nepal.

10. The proposed **capital fund** could be used for various purposes, including training and equity. It was suggested that access to **equity or other support** must be opened to project implementers. It was suggested funds should cover productive use, as well as energy component.

11. It was suggested that first generation entrepreneurs could be given **seed money** for project implementation. Seminar delegates suggested UNIDO conduct a study examining the details, modalities and implications of such a fund, to cover such issues as: guarantees for return, size of eligible projects, grants versus commercial borrowing, field-specific modalities etc.

12. Participants requested the compilation of a sharply focussed list of workable projects. They suggested that the country framework should be confined to **capacity building**, with the aid of IN-SHP and UNIDO Regional Centres. The Seminar recommends that a series of training workshops on various aspects of small hydropower planning, implementation and research be carried out on a regular basis at the UNIDO international and regional centres on SHP under the overall planning of UNIDO.

13. The Seminar noted the **facilities available at IC-SHP**, for training, as well as executive visits. It is noted that the duration of training is flexible.

14. The Seminar also took note of UNIDO pilot projects currently under implementation in Mozambique, Tanzania and Uganda. These projects will lead to the establishment of **Community Development Centres/ Councils** (CDCs) and **Common Facility Centres** (CFCs), with induction of ICT. The established CDCs by other UN organizations (such as UNICEF) may also be considered as implementing partners for future pilot projects. The Seminar takes note of UNIDO's availability for further pilot project, upon official request from the relevant nodal national Ministry, usually the Ministry of Industry. The Seminar also notes that, while the request must come from such nodal ministry, implementation will usually be by UNIDO, along with local counterparts which UNIDO will locate, including private sector enterprises, NGOs etc.

PROGRAMME

Inauguration of the
UNIDO Regional Seminar for Small Hydro Power
At
10 AM on 11 November 2003, at
Residency Towers, Press Road, Trivandrum

Welcome & Overview Of the Seminar	Mr. Alexander Varghese UNIDO, Vienna
Presidential Address	Dr. Praveen Saxena Director (SHP), MNES, Govt. of India
Inaugural Address	Hon'ble Sri. Kadavoor Sivadasan Minister of Electricity, Govt. of Kerala
Felicitation	Prof. V. K. Damodaran MD, INSHP, Hangzhou, China
	Mr. M. G. Rajagopal Director, Energy Management Centre, Kerala
	Dr. Vinanchiarachi UNIDO Country Director, Sudan
	Mr. I. Hussain Adviser (Power), North Eastern Council, Govt. of India
	Mr. K. S. Sridharan Chief General Manager, IREDA, New Delhi
	Mr. R. Naraynan Chairman, IEEE Kerala Section
	Mr. P. N. Mohanan Member, KSEB
	Dr. V. U. Ratnayake Special Adviser, Ministry of Energy Government of Sri Lanka
	Mr. Jossy Thomas Industrial Dev. Officer, UNIDO Reg. Office, Nigeria
Vote of thanks	Mr. K. M. Dharesan Unnithan Technical Director, UNIDO Regional Centre, Trivandrum

UNIDO Regional Centre for Small Hydro Power, Trivandrum

Asia-Africa Regional Seminar on Small Hydro Power
11 – 15 November 2003, The Residency Tower, Thiruvananthapuram

Programme

11.11.03	:	1000hrs – 1115 hrs.	Inauguration
		1115 hrs – 1145 hrs	Tea
		1145hrs – 13.00 hrs	Paper presentation
		Session I	UNIDO Initiative on Rural Energy for Productive Use – *Alexander Varghese* *Energy and Cleaner production Branch* *UNIDO, Vienna, Austria*
		Session II	Role of the UNIDO IC-SHP in providing technical assistance to SHP promotion *Prof. V. K. Damodaran* *Managing Director* *IN-SHP, Hangzhou, China*
		Session III	About UNIDO-Regional Centre *K M Dharesan Unnithan* *Technical Director* *UNIDO Regional Centre for Small Hydro Power* *Thiruvananthapuram*
	:	1300 hrs. – 1430 hrs	Lunch
		1430 hrs – 1730 hrs.	
		Session I	Small Hydro Power Programme in India *Dr. P. Saxena* *Director (SHP)* *MNES, New Delhi, India*
		Session II	Small Hydro power Development- Potential and rural Electrification *Arun Kumar* *Alternate Hydro Energy Centre* *Indian Institute of Technology, Roorkee* *Roorkee 247 667*
		Session III	IREDA
		Session IV	

12.11.03	:	0930hrs - 1100 hrs	
		Session I	To promote the development of SHP for sustainable development: :Lessons from the energy policy and practice of China *Prof. Tong Jiandong* *Director General* *IN-SHP, Hangzhou, China*
	:	Session II	A brief Review of potential for mini-hydro electricity generation in Bangladesh *Abdus Sattar Syed* *Expert Fellow (Development 7 Enviornment), Bangladesh Unnayan Porishod, House 50, Block D, Niketon, Gulshan 1, Dhaka 1212*
	:	1100hrs – 1130 hrs	Tea
	:	1130 hrs – 13.00 hrs.	
		Session I	Financing Private Small Hydropower Projects in Nepal – A case of Piluwakhola Small Hydropower Project *Guru Prasad Neupane*
		Session II	SHP Development & Challenges – Sri Lankan Perspective Dr. Nishantha Nanayakkara Senior Lecturer, Department of Electrical Engineering, University of Moratuwa President, grid- Connected Small Hydro Power developers Association Ph.D in Power generation & control Entrepresuer in SHP projects & Off-grid village hydro projects
		1300hrs 1400 hrs.	Lunch
		1400 hrs – 1730 hrs.	
		Session I	*Mr. Alem Jamir* *North Eastern council* *Agriculture production Commissioner* *Government of Nagaland*
			Ram Prasad Dhital Alternative Energy Promotion Centre, NEPAL
			UNIDO's recent contributions to power sector in Sri Lanka *Dr. V U Ratnayake* *National project Co-ordinator* *Renewable Energy and Energy Capacity Building project* Sri Lanka
			Policy Initiatives Impacing on the Sri Lanka renewable energy Sector *Dr. Priyantha Wijayathunge* *Profesor in Electrical Engineering* *University of Moratawa* *Sri Lanka* *Dean, Faculty of IT* *Director, Ceylon electricity Board*
		Session II	*Mr. Alberto Dalusung from preferred Energy Inc Manila, Philippines*
			Mr. Binu Parthen Director, IT Power, UK's subsidiary in India

13.11.03	:	0915 hrs. – 1100 hrs.	
		Session I	*Potential and Preparedness for tapping small hydro power in Nigeria –* *Dr A. A. Esan* *Director, Training and Manpower Development* *Energy Commission of Nigeria*
			Small Hydro Power- Country Paper on Uganda *Mosses Murengazi*
			Rural Energy to unlock the development potential of Sudan *Dr. Jebamalai Vinanchiarachi* *UNIDO Representative, Sudan*
		1120hrs – 1300 hrs.	
	:	Session II	*Small Hydro Power in Tanzania* *Mr. Mkumbo*
			Rural & Peri – Urban Energy Development in Rwanda *Ms. Fatin Mohammed* *Mr. Kanamugire, Makuza Aloyi*
		1300 hrs – 1400hrs.	Lunch
		1400 hrs – 1445 hrs.	Presentation by Vendors
		1445 hrs. 1500 hrs.	Tea
	:	1500 hrs. – 1730 hrs.	Drafting session of the Recommendations and resolutions of the Seminar
14.11.03		0730 hrs. – 2100 hrs	Field visit
15.11.03		0930 hrs – 11.30 hrs.	Endorsement of the Recommendations and resolutions and Concluding session

Concluding Session
UNIDO Regional Seminar on Small Hydro Power
At
1100 hrs. on 15 November 2003, at
Residency Towers, Press Road, Trivandrum

Welcome	Prof. V. K. Damodaran MD, INSHP, Hangzhou, China
Report and Recommendations of the Seminar and Status Report of the UNIDO Regional Centre	Sri. Alexander Varghese UNIDO, Vienna
Presidential Address	Prof. Tong Jiandong Director General IC-SHP, Hangzhou, China
Address of the Chief Guest	Sri. V. Ramachandran Vice-Chairman State Planning Board, Kerala
Country Felicitation	Bangladesh Nepal Nigeria Rwanda Sri Lanka Sudan Tanzania The Philippines NEC UNIDO - INDIA World Bank
Vote of thanks	Mr. K. M. Dharesan Unnithan Technical Director, UNIDO Regional Centre, Trivandrum

REPORT

Report on
the Asia-Africa Regional Seminar on Small Hydro Power held at Hotel Residency Tower, Thiruvananthapuram, Kerala India from 11-15th November 2003

God's Own Country, Kerala was the host for the Asia-Africa Regional Seminar on Small Hydro Power, organised by UNIDO Regional Centre & Energy Management Centre. The seminar was held from 11-15 of November 2003 at Hotel Residency Towers, Thiruvananthapuram, the capital city of Kerala State. The venue is very close to the Government Secretariat and important Government and other offices.

The participants are experts in the field of SHP from India, China, Bangladesh, Nepal, Nigeria, Rwanda, Sri Lanka, Sudan, Tanzania, Uganda and The Philippines. Almost all participants were arrived on 10th November 2003 and accommodation to them were provided in the Seminar venue hotel and near by hotels.

Inaugural Session

The Seminar was inaugurated by Sri. Kadavoor Sivadasan, Hon'ble Minister for Electricity, Government of Kerala, and at 10AM on 11th November 2003. Dr. Praveen Saxena, Director (SHP), Ministry of Non-Conventional Energy Sources (MNES), Govt of India presided over the function..

Sri. Kadavoor Sivadasan, Hon'ble Minister for Electricity, in the inaugural address pointed out that "The rising cost of thermal power, harmful carbon dioxide emission from diesel power plants and the negative environmental impacts like submergence of forests, demand renewed emphasis on small hydro power as the most feasible alternate power generation model. The Minister said that there are about 400 SHP sites identified in Kerala with a total installed capacity of 800 MW and annual power generation potential of 2000 MU.

Dr Praveen Saxena, Director (SHP), MNES, Govt of India, while delivering his presidential address stressed the need for utilization of local natural resources while attending rural power development programmes. He cautioned that such initiates would not initially aim for a quantum shift in the lifestyle of rural people. Prof.V.K.Damodaran, MD, INSHP, Hangzhou, China; M. G. Rajagopal, Director, Energy Management Centre-Kerala; Dr. Vinanchiarachi, UNIDO Country Director,Sudan; Mr. Alem Jemir, Agriculture Production Commissioner, Nagaland; Mr. K. S. Sridharan, Chief General Manager, IREDA, New Delhi; Mr Karuppankutty, Chief Engineer (SHP) KSEB; Dr. V. U. Ratnayake, Special Advisor, Ministry of Energy, Government of Sri Lanka; Mr. Anil Arora, United Nations Development Programme, New Delhi and Mr Jossy Thomas, Industrial

Development Officer, UNIDO Regional Office, Nigeria addressed the gathering. Mr. Alexander Varghese Industrial Development Officer UNIDO, Vienna, while welcoming the participants explained the initiation of UNIDO in providing clean and green power to the rural communities in Asia and Africa. Shri. K. M. Dharesan Unnithan, Technical Director, UNIDO Regional Centre for Small Hydro Power proposed vote of thanks.

Day – I (11-11-2003) Presentations

After the inaugural session technical sessions were started. Mr. Alexander Varghese Industrial Development Officer UNIDO, Vienna, presented the first paper on the Cleaner Energy for Productive Use

In his presentation he explained UNIDO's programme strategy on Rural energy focusing on combining generation and distribution of energy with complementary income generation activities for the rural people and creating community development centers powered by renewable energy. To promote global reach of cleaner energy service, UNIDO has been creating local and Regional Centres partnering with local institution. Also the need for sustainable development and achieving the goals of the Millennium Declaration of the UN, which include halving extreme poverty, ensuring environmental sustainability etc.. Different innovative energy programmes were designed by United Nations Industrial Development Organisation (UNIDO)

The second presentation was by Prof. V. K. Damodaran, MD, International Network on Small Hydro Power, Hangzhou, China. In the deliberation he revealed that 82% of global hydro power is yet to be tapped. Underlining the benefits of SHP and projecting the SHP business potential, he cited SHP development in China, who is now the world leader in this field. Though India commissioned its first hydro power plant in 1897, about 8 years ahead of China, subsequently China went ahead and made tremendous capacity addition in SHP, focusing on Cascade station concept, cluster development, mini grid concept, people's participation and recently on public-private participation. One of the secrets of success of SHP in China is its multipronged development approach of creating community development centers powered by SHP, developing fisheries, irrigation, tourism using the water storage and creating local level development.

The third presentation was done by Sri. K M Dharesan Unnithan. He narrated the evolution of UNIDO Regional Centre at Energy Management Centre with its concept development in 1998 and inauguration of the Centre during April 2003, in order to provide training and technical service for SHP development in Asia and Africa region.

In the after noon session Dr. Praveen Saxena, Director, Ministry of Non-Conventional Energy Sources. Government of India, gave an overview of SHP programme in India. He pointed out that the hydropower share in India has

declined from 44 % in 1970 to 25% in 2003. In order to atleast maintain this share of hydropower, Government of India has announced, in August 1998 Policy on Hydro Power Development and the Prime Minister has launched the 50000 MW hydropower feasibility initiatives on 24 May 2003. In India, hydro projects upto 25 MW have been categorized as SHP. India, as the only one country with an exclusive Ministry for Non-Conventional Energy Sources, is giving much emphasis on SHP development, particularly in the North-Eastern States and Himalayan region, where lies the maximum untapped potential. Ministry is giving good incentives such as financial assistance for surveys, investigation and DPR Preparation, Project subsidies and support for renovation and modernization,.

The second session in the after noon was presented by Mr. K. S. Sridharan, Chief General Manager, India Renewable Energy Development Agency (IREDA), New Delhi. He elaborated on various financing schemes of IREDA for promoting SHP development. IREDA has sometimes a total of 101 SHP projects as on 31 March 2003 with an aggregate capacity of 311 MW. Satisfied with the progress made in the first line of credit, the World Bank sanctioned a second line of credit to IREDA for a capacity addition of 200 MW.

A traditional cultural programme of Kerala, Kathakali, was arranged for the participants in the evening. The day concluded with the conference dinner.

Day – II (12-11-2003) Presentations

On 12-11-2003, the Second day of the Seminar, Prof. Tong Jiandong, Director General, IN-SHP, China the opened the morning session with the presentation of achievements made in China in SHP. He stated that Small Hydro Power has its own technology that cannot be derived from large hydro power technologies using the scaling down principle. With 42,221 Small Hydro Power stations with a total installed capacity of 28,489 MW generating about 95 billion units annually, China accounts for 39% of the worldwide SHP capacity built. The spectacular growth of SHP in China through several decades of planning and meticulous implementation is a miracle in the history of hydropower development worldwide. The construction of SHP based local grids to serve specific rural supply areas is a unique electricity supply system that China has developed, which has resulted in increasing the rate of expansion of local grids in rural areas and increasing the energy consumption of town and village enterprises and of the households. In view of the fact that cost of equipment forms a greater share of the total cost of SHP development, while in large hydro, where civil works generally takes a higher proportion, Chinese Government has promoted local manufacturing so as to reduce the overall cost of developing SHP stations. China has given more emphasis to reliability and standardization of equipment in addition to cost-effectiveness, even at a cost of 1 or 2 % reduction in efficiency.

Sri Arun Kumar, Director, Alternate Hydro Energy Centre (AHEC), IIT Roorkee was the second paper presentor. He stated that,Small hydro power, the clean and environmental friendly most technically feasible decentralized energy generation option for rural electrification is not an economically viable alternative. To make SHP systems economically feasible, the power generation system has to be integrated with other development efforts like rural industrialization, Cottage industries, Fisheries, Irrigation, tourism, etc., as successfully implemented in China. With hardly 10 % of the total identified SHP potential of 15000 MW only implemented so far in our country, there is a long way to go now. Although some 86% of all villages have electricity supply, only 31% of households have been able to afford the costs of connection to the grid as well as the internal connection and end-use equipment costs. In the after noon session country papers were presented.

Cultural programme, Viz., Kuchuppudi Bharathanattyam and Mohiniyattam, traditional South Indian dances were arranged in the evening.

Day III (13-11-2003) Country Presentations continuing

Country papers were presented by Mr. Abdus Sattar Syed, Expert Fellow, Unnayan Parishod, Bangladesh; Mr. Guru Prasad Neupane, Arun Valley Hydro Power Co., Nepal; Dr.Nishantha Nayanakkara, Senior Lecturer, Department of Electrical Engineering, University of Moratuwa, Sri Lanka; Mr. Alem Jamir, Agriculture Production Commissioner, Government of Nagaland, India; Mr. Ram Prasad Dhital, Alternative Energy Promotion Centre, Nepal; Dr. V. U Ratnayake, National Project Co-ordinator, Renewable Energy and Energy Capacity Building Project, Sri Lanka; Dr. Priyantha Wijayathunge, Professor in Electrical Engineering, University of Moratawa, Sri Lanka; Mr. Alberto Dalusung from Preferred Energy Inc., Philippines;Dr. A. a. Esan, Director, Training and Manpower Development, Energy Commission of Nigeria, Mr. Mosses Murengasi, Ministry of Energy & Mineral Development, Uganda; Dr. Jebamalai Vinanchiarachi, UNIDO Representative, Sudan; Mr. Mkumbo from Tanzania.

Mr. Sunil Khosle of World Bank was the moderator. He observed that Governments of many developing countries in Asia and Africa are now trying hard to ensure that the rural community is provided with energy services with the main objective of reducing migration to already congested urban areas and create local rural development. NGOs play a great role as a catalyst to promote small hydro power, advocating for its environmental friendliness, contrary to large hydro and thermal power.

Presentation by Vendors

Presentation by Vendors Viz. Bharath Heavy Electricals, India, Steel Industrials Kerala Ltd., Kerala, VA Tech, Faridabad, India were arranged on 13.11.03.

Day – IV (14-11-2003) Site Visit

A site visit was arranged on 14.11.03 for the participants, to an SHP station at Kallada in a hilly area nearly 110 KMs from Trivandrum. The place is known for its natural beauty. The SHP station was built in the irrigation dam and having capacity of 15 MW. After the visit at SHP station a back water trip was conducted from Kollam to Alumkadavu for the enjoyment of the participants.

Day – V (15-11-2003) Concluding Session and Valedictory function

On the fifth and concluding day of 15.11.03, the recommendations were finalized and the valedictory function was convened. The Chief Guest for the valedictory function was Mr V. Ramachandran, Vice Chairman, and Kerala State Planning Board. Prof. Tong Jiandong, Director General, IN-SHP, China delivered the presidential address. Participants from various countries expressed their views on the seminar and congratulated the organisers for the arrangements. Prof. V. K. Damodaran Managing Director, INSHP, China, welcomed the gathering. The report and recommendations of the seminar was presented by Mr. Alexander Varghese, Industrial Development Officer, UNIDO, Vienna. Sri. K. M. Dharesan Unnithan, Technical Director, UNDI Regional Centre proposed vote of thanks for each and every one.

The five day seminar was concluded with the National Anthem.

PRESS CUTTINGS

THE HINDU BUSINESS LINE • Thursday, November 27, 2003

Venture capital funding of small hydro power projects mooted

Vinson Kurian
Thiruvananthapuram, Nov. 26

THE five-day Afro-Asian regional seminar on small hydro power (SHP) has suggested the establishment of a 'Capital alliance for small hydro power promotion' for venture capital funding of such enterprises, whether promoted by public, community or independent entities.

The seminar was organised by the UNIDO Regional Centre for Small Hydro Power here recently. Such capital should ideally be provided by a consortium of donors, including business corporations, for various purposes of SHP development, and in line with the Global Initiative on Corporate Social Responsibility, a spokesman of the Energy Management Centre, which houses the UNIDO Regional Centre, told *Business Line*.

The seminar recognised that investment and financial resources for the development of SHP resources was a major impediment in the utilisation of hydro power resource potential. The participants suggested that studies be carried out and deliberations held on ways to promote local and international financing for small hydro power projects.

The seminar called upon relevant Government ministries to study the potential of the SHP sector in their countries, and to share plans with UNIDO for further dissemination and action.

UNIDO should help conceptualise community-based, area-specific SHP projects in cooperation with respective national agencies for promoting rural development. Programmes should also be organised to promote awareness and training. This is in line with UNIDO's role as a facilitator of community-based SHP projects.

The seminar affirmed the importance of SHP generation in view of its economic advantages, environment-friendliness and impact on poverty alleviation, particularly for the impoverished populations of remote and rural areas of Africa and Asia.

It recommended exchange of research reports and documents related to SHP development in developing countries and between stakeholders. Participants called upon UNIDO to establish an electronic SHP database for this purpose for easy dissemination of information as also for serving as a source of/ tool kit for evidence-based policy advocacy.

Participants strongly favoured the International Centre for Small Hydro Power (IC-SHP), Hangzhou, China, publishing a periodic e-journal, documenting the progress of SHP development in developing countries, with the help of UNIDO regional centres, other relevant institutions and experts.

The seminar called upon Governments of developing countries to establish respective national focal points for small hydro power to participate actively with UNIDO, the IC-SHP and the regional centres. It was agreed that participating countries co-operate within and among regions on promotion of SHP.

Business Line dt. 11th November 2003

Seminar on small hydel power from today

Our Bureau

Thiruvananthapuram, Nov. 10

THE Unido Regional Centre for Small Hydro Power here, in association with the Unido-sponsored International Centre on Small Hydro Power and International Network on Small Hydro Power based in Hang Zhou, China, and the Government of Kerala, is conducting a regional seminar on small hydro power (SHP) from Tuesday.

A spokesman of the Energy Management Centre (EMC) said here that the seminar would be an opportunity for participants from India as well as from the other Asian and African countries such as China, Sri Lanka, Nepal, Bangladesh, Pakistan, Maldives, Philippines, Rwanda, Uganda, Sudan, Nigeria and Tanzania to benefit from knowledge generated from this international faculty brought in by the EMC at a time when India was reaffirming its faith in small hydro power for dependable rural electrification.

According to the spokesman, the seminar was specially catered to: exchange views on SHP development and its potential for meeting the current and future rural electrification needs; study the various models of SHP development in the region; examine the potential for development of Pico, Micro, Mini and SHP development take note of the financing options and policies for SHP development explore possibilities for local user participation from concept to completion of SHPs; identify action programmes in each of the participating countries and develop a strategy for accelerated development of SHP as a means of sustainable development with involvement of Unido, UNDP and bilateral or multilateral agencies.

The Unido opened its first Regional Centre for Small Hydro Power In Thiruvananthapuram in April this year. This is a project financed by Unido, the Government of India and the Government of Kerala.

The New Indian Express dt. 12th November 2003

400 small hydel power projects possible in State: Minister

EXPRESS NEWS SERVICE

Thiruvananthapuram, Nov 11: As many as 400 small hydel power projects are possible in the State, according to Electricity Minister Kadavoor Sivadasan.

He was inaugurating a seminar on 'Small Hydel Power' organised by the regional centre of the United Nations Industrial Development Organisation here today. He said that the main problem being faced by the Kerala State Electricity Board was the loss suffered in transmission and distribution. About 33 percent of electricity was getting lost during transmission. The loss had been reduced to 28 percent at present, he said.

The Minister said that the target was to reduce this to 10 percent. He said that sources such as thermal power were not economically and ecologically feasible. He hoped that the State would be aided by the UNIDO in setting up small hydel power projects.

The inaugural session was presided over by Praveen Saxena, director (SHP), Ministry of Non-conventional Energy Sources. Alexander Varghese, United Nations Industrial Development Organisation, Vienna, Austria, co-ordinated the session.

V.K.Damodaran, Hangzhou, China, V.U.Ratnayake, special adviser, Ministry of Energy, Government of Sri Lanka, and Vinanchiarchi, UNIDO country director, Sudan, were among those who spoke.

The four-day international seminar is being attended by delegates from Bangladesh, Bhutan, China, Maldives, Nepal, Nigeria, Philippines, Sri Lanka, Sudan, Uganda, Rwanda and Tanzania.

THE HINDU BUSINESS LINE • Thursday, November 13, 2003

Move to assess small hydropower potential in State

Our Bureau
Thiruvananthapuram, Nov. 12

THE Energy Management Centre (EMC), under the Department of Power of the State Government, is preparing a master plan for assessing the total small hydropower (SHP) potential in the State.

The exercise,first time in the country, is being undertaken with the help and guidance of UNIDO and the Ministry of Non-conventional Energy Sources of the Union Government.

The project aims at differentiating the feasible SHP sites in the State in terms of the availability of power and the need for power in the localities, including techno-economic viability. A major highlight of the project will be people's participation. The feasibility study of the potential sites will be conducted with the help of the local bodies.

Another important objective of the master plan is to assess, support and develop the manufacturing capability for SHP machinery in Kerala, especially in the context of liberalisation and globalisation.

As a prelude to this, the State-owned Steel Industrials Ltd Kerala has joined hands with International Network on Small Hydropower for establishing a joint venture equipment manufacturing facility in the State.

A preliminary estimation of SHP resources in Kerala by EMC has revealed that about 2,000 million units per annum could be generated through an installed capacity of 600 mw at over 300 sites, besides several hundreds of locally servable micro projects of a few kilowatts capacity.

Apart from hydropower, the SHP Cell at EMC has been entrusted by the State Government with a consultancy assignment for formulating draft guidelines for the promotion of wind energy. This is in the context of the Government's plan to come out with investor-friendly policy guidelines for promotion of wind energy by private investors.

Meanwhile, inaugurating a seminar on SHP organised by the regional centre of UNIDO here, the Industry Minister, Mr Kadavoor Sivadasan, said that as many as 400 small hydel projects could be established in the State.

He said the major problem faced by the State Electricity Board was the loss of nearly 33 per cent of power during transmission and distribution. The target was to reduce the loss to around ten per cent, he added.

He noted that thermal power was costly and the alternative was to develop hydel projects. He hoped that UNIDO would extend assistance for implementing small hydel projects in the State.

THE HINDU BUSINESS LINE • Friday, November 14, 2003

Standalone SHPs not viable, says expert

Our Bureau
Thiruvananthapuram, Nov. 12

SMALL Hydro Power (SHP), the clean, environmental-friendly, technically feasible and decentralised energy generation option for rural electrification, is not an economically viable alternative, according to Mr Arun Kumar, Director of Alternate Hydro Energy Centre, IIT-Roorkee.

Speaking on the second day of the ongoing Afro-Asian regional seminar on SHP organised here by the UNIDO regional centre for small hydro power, Mr Kumar said the power generation system had to be integrated with other development efforts such as rural industrialisation, cottage industries, fisheries, irrigation and tourism, as successfully implemented in China, in order to make SHP systems economically feasible.

"With hardly 10 per cent of the total identified SHP potential of 15,000 MW implemented so far in our country, there is a long way to go now. Despite an estimated 86 per cent of all villages having electricity supply, only 31 per cent of the households are able to afford the costs of connection to the grid as well as the internal connection and end-use equipment costs," Mr Kumar said.

Mr Abdus Sattar Syed, a participant representing Bangladesh, presented a country paper. Bangladesh has a total installed capacity of 4,710 MW.

Since 1990, Nepal has been promoting private sector hydropower projects and during the monsoon season from June to November, the power supply is surplus, says Mr Guru Prasad Neyane, Executive Director, Arun Valley Hydropower Development Company, an IPP in Nepal.

The Nepal Sate Electricity utility is giving incentives to IPPs in terms of seasonal tariff for the dry and wet seasons. The average tariff the utility pays to IPPs is about (Nepal) Rs 4.40 per kWh and the utility sells to the consumer at (Nepal) Rs 6.80. The Government helps the IPPs in getting private land for power projects.

A case study was presented on a 3-MW SHP using turbo impulse turbine imported from Germany, the project IRR being 26.8 per cent. The standalone micro hydel schemes in Nepal, which catered only to rural electrification, have a very low plant load factor of about 20 per cent.

This makes them less commercially viable. However, the grid-connected system does have good plant load factor (PLF) in the range 85-95 per cent, the presentation said.

Small hydro no miniature: SHP has its own technology that cannot be derived from large hydro power technologies using the scaling down principle, says Prof Tong Jiandong, Director-General of International Network on SHP, based in China.

With 42,221 SHP stations having a total installed capacity of 28,489 MW and generating about 95 billion units annually, China accounts for 39 per cent of the worldwide built-up SHP capacity. The spectacular growth of SHP in China through several decades of planning and meticulous implementation is a miracle in the history of hydropower development worldwide.

The construction of SHP-based local grids to serve specific rural supply areas is a unique electricity supply system that China has developed, which has resulted in increasing the rate of expansion of local grids in rural areas and increasing the energy consumption of town and village enterprises and of the households.

n view of the fact that cost of equipment forms a greater share of the total cost of SHP development, the Chinese Government has promoted local manufacturing so as to reduce the overall cost of developing SHP stations. In large hydro projects, it is civil works that generally take a higher proportion of the costs.

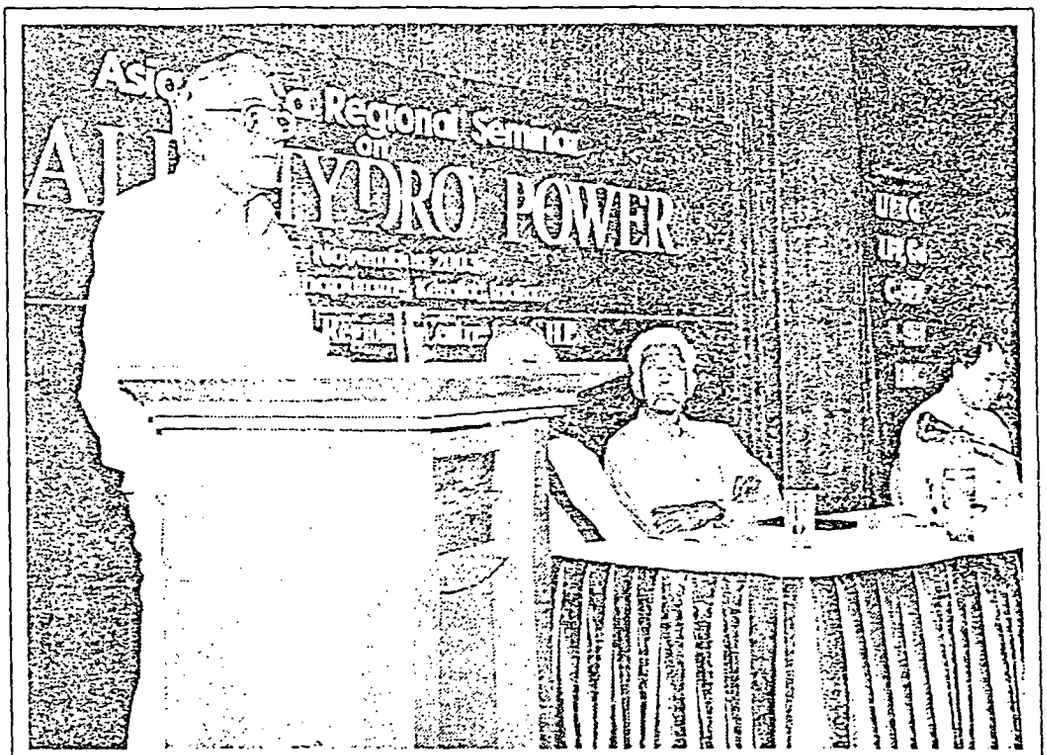
China has given more emphasis to reliability and standardisation of equipment, in addition to cost-effectiveness, even at a cost of 1 or 2 per cent reduction in efficiency, says Mr Tong.

The New Indian Express dt. 11th November, 2003

Seminar on Small Hydro Power

The Regional Centre for Small Hydro Power of the United Nations Industrial Development Organisation is organising a seminar on Small Hydro Power here from November 11 to 15. The seminar will provide the participants an opportunity to avail themselves of knowledge from the international faculty brought in by the Energy Management Centre, according to a statement from the Centre. ENS

THE HINDU, Sunday, November 16, 2003



V. Ramachandran, Vice-Chairman of the State Planning Board, addressing the concluding session of the UNIDO regional seminar on small hydro-power in Thiruvananthapuram on Saturday.

THE NEW SUNDAY EXPRESS
THIRUVANANTHAPURAM

SUNDAY
NOVEMBER 16, 2003

Seminar on small hydro power ends

Thiruvananthapuram, Nov 15: The Asia-Africa seminar on Small Hydro Power (SHP) which concluded here today decided to explore possibilities for local-user participation in the setting up of SHP projects.

The seminar called upon various Governments in developing countries to establish national focal points for small hydro power and to participate actively with United Nations Industrial Development Organisation (UNIDO) and its regional centres.

The report and recommendations of the seminar was tabled by Alexander Varghese, UNIDO, Vienna.

V.Ramachandran, vice-chairman, State Planning Board was the chief guest at the concluding session.

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11 November, 2003

യുനിഡോ സംഘടിപ്പിക്കുന്ന ചെറുകിട ജലവൈദ്യുത പദ്ധതികളെക്കുറിച്ച് ഏഷ്യൻ, ആഫ്രിക്കൻ രാജ്യങ്ങൾക്കുമായുള്ള മേഖലാ സെമിനാർ ഉദ്ഘാടനം: മന്ത്രി കടവൂർ ശിവദാസൻ - ഹോട്ടൽ റസിഡന്റ് സിവിൽ രാവിലെ 10ന്.

Kerala Kaumudi

United Nations Industrial Development Organisation: Asia-Africa seminar on small hydro power. The Residency Tower. 10 a.m.

Indian Express

United Nations Industrial Development Organisation: The Electricity Minister. Kadavoor Sivadasan, inaugurates. Asia- Africa regional seminar on small-scale hydel projects. Hotel Residency Towers. 10 a.m.

The Hindu

ഹോട്ടൽ റസിഡൻസി ടവർ : ചെറുകിട ജലവൈദ്യുത പദ്ധതികളെക്കുറിച്ച് സെമിനാർ. മന്ത്രി കടവൂർ ശിവദാസൻ – 10.00.

Malayala Manorama

തിരു: ചെറുകിട ജലവൈദ്യുത പദ്ധതികൾക്കായുള്ള യുനിഡോ മേഖലാ കേന്ദ്രത്തിന്റെ ആദിമുഖ്യത്തിൽ ചെറുകിട ജലവൈദ്യുത പദ്ധതികളെക്കുറിച്ച് ഏഷ്യൻ ആഫ്രിക്കൻ രാജ്യങ്ങൾക്കായുള്ള മേഖലാ സെമിനാർ ഉദ്ഘാടനം ഊർജ്ജവകുപ്പുമന്ത്രി കടവൂർ ശിവദാസൻ ഹോട്ടൽ റസിഡൻസി ടവറിൽ രാവിലെ പത്തിന്.

Deshabhimani

Mathrubhoomi dt. 11th November, 2003

ചെറുകിട ജലവൈദ്യുത പദ്ധതികളെക്കുറിച്ച് മേഖലാ സെമിനാർ

തിരുവനന്തപുരം: സംസ്ഥാന എനർജി മാനേജ്മെന്റ് സെന്ററിൽ 2003 ഫെബ്രുവരിൽ പ്രവർത്തനം ആരംഭിച്ച ചെറുകിട ജലവൈദ്യുത പദ്ധതികൾക്കായുള്ള ഇന്നൊവേഷൻ മേഖലാ കേന്ദ്രത്തിന്റെ ആഭിമുഖ്യത്തിൽ നവംബർ 11 മുതൽ 15 വരെ ചെറുകിട ജലവൈദ്യുത പദ്ധതികളുടെ വികസനത്തെക്കുറിച്ചുള്ള സെമിനാർ സംഘടിപ്പിക്കും. ഇന്തോനേഷ്യ, ചൈന, നേപ്പാൾ, മലേഷ്യ, ഭൂട്ടാൻ, പാകിസ്ഥാൻ, ശ്രീലങ്ക, സുഡാൻ, ബംഗ്ലാദേശ്, എത്യോപ്യ, റുവാണ്ട, ടാൻസാനിയ എന്നീ രാജ്യങ്ങളിൽനിന്നും ചെറുകിട ജലവൈദ്യുത പദ്ധതി രംഗത്ത് പ്രവർത്തിക്കുന്നവർ എത്തിച്ചേരുന്ന ഈ സെമിനാറിൽ ഓരോ രാജ്യത്തെയും ചെറുകിട ജലവൈദ്യുത പദ്ധതി വികസന സാധ്യതകളും ചർച്ച ചെയ്യും.

Malayala Manorama · dt. 12th November 2003

400 ചെറുകിട ജലവൈദ്യുത പദ്ധതികൾക്കു സാധ്യത: മന്ത്രി

സ്വന്തം ലേഖകൻ

തിരുവനന്തപുരം: കേരളത്തിൽ 400 ചെറുകിട ജലവൈദ്യുത പദ്ധതികൾ സ്ഥാപിക്കുന്നതിനുള്ള സാധ്യത കണ്ടെത്തിയിട്ടുണ്ടെന്നു മന്ത്രി കടവൂർ ശിവദാസൻ അറിയിച്ചു. 1000 മെഗാവാട്ട് സ്ഥാപിതശേഷിയുള്ള ഇവയിൽ നിന്നു പ്രതിവർഷം 200 കോടി യൂണിറ്റ് വൈദ്യുതി ഉൽപാദിപ്പിക്കാനാകും.

ചെറുകിട ജലവൈദ്യുത പദ്ധതികളെക്കുറിച്ച് യുനിഡോ സംഘടിപ്പിച്ച ഏഷ്യ–ആഫ്രിക്ക മേഖലാ സെമിനാർ ഉദ്ഘാടനം ചെയ്യുകയായിരുന്നു അദ്ദേഹം.

നമ്മുടെ മുഖ്യ വൈദ്യുതി ഉൽപാദന സ്രോതസ് വെള്ളമാണ്. വിലയേറിയ താപവൈദ്യുതിയെയും ആശ്രയിക്കേണ്ടിവരുന്നു. വലിയ ജലവൈദ്യുത പദ്ധതികൾ നടപ്പാക്കുമ്പോൾ വനഭൂമി വെള്ളത്തിലാവും. പക്ഷേ ,വ്യവസായ വളർച്ചയ്ക്കു വില കുറഞ്ഞ വൈദ്യുതി കൂടിയേ തീരൂ. താപവൈദ്യുത നിലയങ്ങൾ സാമ്പത്തിക, പരിസ്ഥിതി പ്രശ്നങ്ങൾ ഉണ്ടാക്കുന്നവയാണ്. ചെറുകിട ജലവൈദ്യുത പദ്ധതികൾക്ക് ഈ പ്രശ്നങ്ങളില്ല. അവ നടപ്പാക്കാൻ യുനിഡോയുടെ സഹായം പ്രതീക്ഷിക്കുന്നു. കേരളത്തിലെ പ്രസരണ വിതരണ നഷ്ടം 33 ശതമാനത്തിൽ നിന്ന് 28 ആക്കാൻ കഴിഞ്ഞിട്ടുണ്ടെന്നും കടവൂർ അറിയിച്ചു.

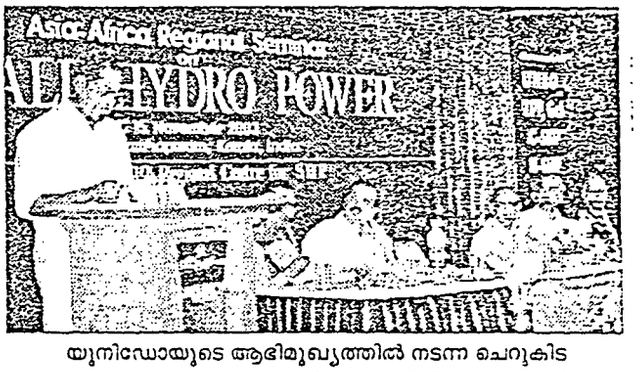
ഡോ. പ്രവീൺ സക്സേനയുടെ അധ്യക്ഷതയിൽ ചേർന്ന യോഗത്തിൽ പ്രഫ.വി.കെ. ദാമോദരൻ, എം. ജി. രാജഗോപാൽ, ഡോ.വിനാഞ്ചിയാരാച്ചി, കെ.എസ്.ശ്രീധരൻ, ഡോ. വി. യു. രാമനായകെ, ജോസി തോമസ്, അലക്സാണ്ടർ വർഗീസ്, കെ. എം. ധരേശൻ ഉണ്ണിത്താൻ എന്നിവർ പ്രസംഗിച്ചു.

Deshabhimani dt. 12th November 2003

400 ചെറുകിട ജലവൈദ്യുത പദ്ധതിക്ക് സാധ്യത

തിരു: കേരളത്തിൽ 400 ചെറുകിട ജലവൈദ്യുതപദ്ധതികൾക്ക് സാധ്യതയുണ്ടെന്ന് വൈദ്യുതിമന്ത്രി കടവൂർ ശിവദാസൻ പറഞ്ഞു. ഈ പദ്ധതികൾ നടപ്പായാൽ 2100 കോടി യൂണിറ്റ് വൈദ്യുതി ഉൽപാദിപ്പിക്കാനാകും.

'യുനിഡോ'യുടെ ആഭിമുഖ്യത്തിൽ ചെറുകിട ജലവൈദ്യുത പദ്ധതികളുടെ വികസനത്തെക്കുറിച്ച് ഏഷ്യൻ-ആഫ്രിക്കൻ രാജ്യങ്ങൾക്കായുള്ള മേഖലാ സെമിനാർ ഹോട്ടൽ റസിഡൻസി ടവറിൽ ഉദ്ഘാടനം ചെയ്യുകയായിരുന്നു മന്ത്രി.



യുനിഡോയുടെ ആഭിമുഖ്യത്തിൽ നടന്ന ചെറുകിട ജലവൈദ്യുതി പദ്ധതികൾ സംബന്ധിച്ച സെമിനാർ വൈദ്യുതിമന്ത്രി കടവൂർ ശിവദാസൻ ഉദ്ഘാടനം ചെയ്യുന്നു

കേന്ദ്ര പാരമ്പര്യേതര മന്ത്രാലയം ഡയറക്ടർ ഡോ. പ്രവീൺ സക്സേന അധ്യക്ഷനായിരുന്നു. ചൈനയിലെ ഐഎസ്എസ്എച്ച് പി എംഡി പ്രൊഫ. വി കെ ദാമോദരൻ, ഊർജസാക്ഷരതാകേന്ദ്രം ഡയറക്ടർ എം ടി രാജഗോപാൽ, യുനിഡോ കൺട്രി ഡയറക്ടർ ഡോ. വിനാൻഷി അറാഷി, ഐആർഇഡിഎ ചീഫ് ജനറൽ മാനേജർ ഡോ. കെ എസ് ശ്രീധരൻ, ഐഇഇഇ കോളേജ് മേഖലാ ചെയർമാൻ ആർ നാരായണൻ, ശ്രീലങ്കൻ ഊർജമന്ത്രാലയ ഉപദേശകൻ ഡോ. വി യു രത്നായകെ, യുനിഡോ ഉദ്യോഗസ്ഥൻ ജോസി തോമസ്, അലക് സാണ്ടർ വർഗീസ് എന്നിവർ സംസാരിച്ചു.

സെമിനാർ സുവനീർ അനിൽ അറോറ മന്ത്രിക്ക് നൽകി പ്രകാശനംചെയ്തു.

Deshabhimani dt. 12th November 2003

വികസനത്തിന് അനുയോജ്യം ചെറുകിട ജലപദ്ധതികൾ: പ്രൊഫ. ദാമോദരൻ

തിരു: വികസനത്തിനായുള്ള ഏറ്റവും ചെലവു കുറഞ്ഞ മാർഗമാണ് ചെറുകിട ജലവൈദ്യുതപദ്ധതികളെന്ന് ചൈനയുടെ അനുഭവം തെളിയിക്കുന്നതായി ചൈനയിലെ ചെറുകിട ജലവൈദ്യുതപദ്ധതികൾക്കായുള്ള ഇൻറർനാഷണൽ നെറ്റ്വർക്കിൻറെ മാനേജിങ് ഡയറക്ടർ പ്രൊഫ. വി കെ ദാമോദരൻ പറഞ്ഞു.

മുനിഡോ ചെറുകിട ജലവൈദ്യുതപദ്ധതികൾ സംബന്ധിച്ച് തിരുവനന്തപുരത്ത് നടക്കുന്ന സെമിനാറിൽ ചൈനയുടെ ഊർജനയം സംബന്ധിച്ച പ്രബന്ധം അവതരിപ്പിക്കുകയായിരുന്നു അദ്ദേഹം. ചെറുകിടപദ്ധതികൾ നിർമിക്കാൻ എളുപ്പമാണെന്നതിനു പുറമെ പൂർത്തിയാക്കാൻ കുറച്ചുസമയമേ എടുക്കൂ എന്നതും ഇതിൻറെ മെച്ചമാണ്. പദ്ധതിപ്രദേശത്തുനിന്ന് ജനങ്ങളെ കുടിയിറക്കേണ്ടിവരികയോ അവർക്ക് നഷ്ടപരിഹാരം നൽകേണ്ടിവരികയോ ചെയ്യുന്നില്ല. ഉപഭോക്താക്കൾ അധികം ദൂരത്തല്ലാത്തതിനാൽ കാര്യമായ പ്രസരണ നഷ്ടവും ഉണ്ടാകുന്നില്ല.

ലോകത്തിലെ മൊത്തം ചെറുകിട ജലവൈദ്യുതപദ്ധതികളിൽ 33 ശതമാനവും ചൈനയിലാണ്. 28,489 മെഗാവാട്ട് സ്ഥാപിത ശേഷിയുള്ള 42,221 ചെറുകിട ജലവൈദ്യുത സ്റ്റേഷനുകൾ ചൈനയിലുണ്ട്. മുപ്പതുകോടി ആളുകൾക്കുവേണ്ട 9470 കോടി കിലോവാട്ട് മണിക്കൂർ വൈദ്യുതി പ്രതിവർഷം ചൈന ചെറുകിട ജലവൈദ്യുതപദ്ധതികളിലൂടെ ഉൽപാദിപ്പിക്കുന്നുണ്ട്.

ഗ്രാമീണമേഖലയിൽ വൈദ്യുതിക്ഷാമം പരിഹരിക്കാനാണ് ചൈന ചെറുകിടപദ്ധതികൾ തുടങ്ങിയതെങ്കിലും ഇപ്പോഴിത് കൂടുതൽ മേഖലകളിലേക്ക് വികസിപ്പിച്ചിട്ടുണ്ട്. സ്വകാര്യസ്ഥാപനങ്ങൾക്ക് ചെറുകിട ജലവൈദ്യുതപദ്ധതികൾ തുടങ്ങാനായി ഗവർമെൺറ് സഹായങ്ങൾ നൽകുന്നുമുണ്ട്- പ്രൊഫ. ദാമോദരൻ പറഞ്ഞു.

Kerala Kaumudi 12th November 2003

കേരളത്തിൽ 400 ചെറുകിട ജലവൈദ്യുത പദ്ധതിക്ക് സാദ്ധ്യത

തിരുവനന്തപുരം : 400 ചെറുകിട ജലവൈദ്യുത പദ്ധതിക്കുള്ള സാദ്ധ്യത കേരളത്തിൽ കണ്ടെത്തിയതായി മന്ത്രി കടവൂർ ശിവദാസൻ പറഞ്ഞു. 2000 ദശലക്ഷം യൂണിറ്റ് വൈദ്യുതി പ്രതിവർഷം ഈ പദ്ധതികളിലൂടെ ഉല്പാദിപ്പിക്കാനാകുമെന്ന് മന്ത്രി പറഞ്ഞു.

യൂനിഡോ മേഖലാ കേന്ദ്രത്തിന്റെ ആഭിമുഖ്യത്തിൽ ഏഷ്യൻ- ആഫ്രിക്കൻ രാജ്യങ്ങൾക്കായുള്ള ചെറുകിട ജലവൈദ്യുത പദ്ധതിയെപ്പറ്റിയുള്ള സെമിനാർ ഉദ്ഘാടനം ചെയ്തു കയായിരുന്നു അദ്ദേഹം.

വൻകിട ജലവൈദ്യുത പദ്ധതികളും, താപ വൈദ്യുത പദ്ധതികളും പാരിസ്ഥിതിക പ്രശ്നങ്ങൾ ഉണ്ടാക്കും എന്നതിനാൽ ചെറുകിട ജലവൈദ്യുത പദ്ധതികളാണ് കേരളത്തിന് ഇനി അഭികാമ്യം എന്ന് മന്ത്രി പറഞ്ഞു.

വൈദ്യുത പ്രസരണനഷ്ടം 33 ശതമാനത്തിൽനിന്നും 28 ശതമാനമാക്കി കുറയ്ക്കാൻ കഴിഞ്ഞതായും മന്ത്രി പറഞ്ഞു.

ഡോ. പ്രവീൺ സക്സേന അദ്ധ്യക്ഷത വഹിച്ചു. പ്രൊഫ. വി.കെ. ദാമോദരൻ, എം.ജി. രാജഗോപാൽ, ഡോ. വിനാൻസി രാച്ചി, കെ.എസ്. ശ്രീധരൻ, ആർ. നാരായണൻ, പി. എൻ. മോഹനൻ, ഡോ. വി.യു. രത്നായക്, ജോസി തോമസ്, അലക്സാണ്ടർ വർഗീസ്, കെ.എം. ധരേശൻ ഉണ്ണിത്താൻ എന്നിവർ പ്രസംഗിച്ചു.

ചൈന, നേപ്പാൾ, മാലിദ്വീപ്, ഭൂട്ടാൻ, പാകിസ്ഥാൻ, ശ്രീലങ്ക, സുഡാൻ, ബംഗ്ലാദേശ്, നൈജീരിയ, റുവാണ്ട, ടാൻസാനിയ എന്നീ രാജ്യങ്ങളിലെ ചെറുകിട ജലവൈദ്യുത പദ്ധതി രംഗത്ത് പ്രവർത്തിക്കുന്നവർ സെമിനാറിൽ പങ്കെടുക്കുന്നുണ്ട്. സെമിനാർ 15 വരെ നിളും.

Mathrubhoomi dt. 12th November 2003

400 ചെറുകിട ജലവൈദ്യുത പദ്ധതികൾക്ക് സാധ്യത

തിരുവനന്തപുരം: സംസ്ഥാനത്ത് 400 ചെറുകിട ജലവൈദ്യുത പദ്ധതികൾക്ക് സാധ്യതയുള്ളതായി മന്ത്രി കടവൂർ ശിവദാസൻ പറഞ്ഞു. ഇതുവഴി പ്രതിവർഷം 2000 ദശലക്ഷം യൂണിറ്റ് വൈദ്യുതി ഉത്പാദിപ്പിക്കാനാകുമെന്നും അദ്ദേഹം പറഞ്ഞു.

യൂണിഡോ ടേബിൾ ടെന്നീസിന്റെ ആഭിമുഖ്യത്തിൽ ചെറുകിട ജലവൈദ്യുത പദ്ധതികളെക്കുറിച്ച് സംഘടിപ്പിച്ച ഏഷ്യൻ, ആഫ്രിക്കൻ രാജ്യങ്ങൾക്കായുള്ള ടേബിൾ ടെന്നീസ് ടൂർണമെന്റ് ഉദ്ഘാടനം ചെയ്യുകയായിരുന്നു അദ്ദേഹം. ചെറുകിട ജലവൈദ്യുതി അധികം ഉപയോഗിക്കാനായാൽ താപവൈദ്യുതിയെ കൂടുതലായി ആശ്രയിക്കുന്ന അവസ്ഥ ഒഴിവാക്കാനാകും- മന്ത്രി പറഞ്ഞു. എം.എൻ.ഇ. എസ്. ഡയറക്ടർ ഡോ. പ്രവീൺ സക്സേന അധ്യക്ഷനായിരുന്നു. ഐ.എൻ.എസ്.എച്ച്.പി. എം. ഡി. പ്രൊഫ. വി.കെ. മോഹനൻ, എനർജി മാനേജ്മെന്റ് സെന്റർ ഡയറക്ടർ എം.ജി. രാജഗോപാൽ, യൂണിഡോ കൗൺസിൽ ഡയറക്ടർ ഡോ. വിനാൻചിയാരാച്ചി. നോർത്ത് ഈസ്റ്റേൺ കൗൺസിൽ അഡ്വൈസർ (പവർ) ഐ. ഹുസൈൻ, ഐ. ആർ.ഇ.ഡി.എ. ചീഫ് ജനറൽ മാനേജർ കെ.എസ്. ശ്രീധരൻ, ഐ.ഇ.ഇ.ഇ. കേരള സെക്ഷൻ ചെയർമാൻ ആർ. നാരായണൻ, കെ.എസ്.ഇ.ബി. അംഗം പി. എൻ. മോഹനൻ, ശ്രീലങ്കയിലെ വൈദ്യുതി മന്ത്രാലയത്തിലെ പ്രത്യേക ഉപദേഷ്ടാവ് ഡോ. വി.യു. രത്നായക്ക, കെ. യൂണിഡോ ഇൻഡസ്ട്രിയൽ ഡവലപ്മെന്റ് ഓഫീസർ ജോസി തോമസ്, യൂണിഡോ നിർജൻ സെന്റർ കെ.എം. ധർമൻ ഉണ്ണിത്താൻ, ജനറൽ മനോ (യു.എൻ.ഡി.പി.) എന്നിവർ പ്രസംഗിച്ചു.

ഇതോടനുബന്ധിച്ച് യൂണിഡോ നിർജൻ സെന്റർ പുറത്തിറക്കിയ സുവനീറിന്റെ പ്രകാശനം മന്ത്രി കടവൂർ ശിവദാസൻ നിർവഹിച്ചു. നവംബർ 15ന് ശില്പശാല സമാപിക്കും.

Press Cutings of 15th November, 2003

United Nations Industrial Development Organisation: The Vice-Chairman of the Stat Planning Board, V. Ramachandran, inaugurates the valedictory meeting of the zonal seminar of Asian and African countries for the scope of small hydroelectric projects. Hotel ResidencyTower, 11 a.m.

The Hindu

United Nations Industrial Development Organisation: Valedictory function of the seminar on 'Asia-Africa Zone', Planning Board vice-chairman V.Ramachandran to inaugurate, Hotel Residency Towers, 11 a.m.

Indian Express

◆ ചെറുകിട ജലവൈദ്യുത പദ്ധതികളെക്കുറിച്ച് സെമിനാർ സമാപനം. ഉദ്ഘാടനം പ്ലാനിംഗ് ബോർഡ് വൈസ് ചെയർമാൻ വി. രാമചന്ദ്രൻ–റസിഡൻസി ടവറിൽ രാവിലെ 11ന്.

Kerala Kaumudi

◆യുണൈഡോ നടത്തുന്ന ചെറുകിട വൈദ്യുത പദ്ധതികളെക്കുറിച്ച് ഏഷ്യൻ- ആഫ്രിക്കൻ രാജ്യങ്ങൾക്കായുള്ള മേഖലാ സെമിനാറിന്റെ സമാപനം. ഉദ്ഘാടനം ആസൂത്രണ ബോർഡ് വൈസ് ചെയർമാൻ വി. രാമചന്ദ്രൻ ഹോട്ടൽ റസിഡൻസി ടവറിൽ രാവിലെ 11ന്.

Mathrubhoomi

റസിഡൻസ് ടവർ: ചെറുകിട ജലവൈദ്യുതി പദ്ധതി സെമിനാർ–സമാപന സമ്മേളനം–വി.രാമചന്ദ്രൻ–11.00.

Malayala Manorama.

Malayala Manorama dt. 16th November 2003

ജലവൈദ്യുത നിലയങ്ങൾ: സഹകരിക്കാൻ ധാരണ

തിരുവനന്തപുരം: ചെറുകിട ജലവൈദ്യുത നിലയങ്ങളെ പ്രോത്സാഹിപ്പിക്കാനായി സഹകരിച്ചു പ്രവർത്തിക്കാൻ ഐക്യരാഷ്ട്രസഭ വ്യാവസായിക വികസന സംഘടനയുടെ ഏഷ്യ–ആഫ്രിക്ക മേഖല സെമിനാറിൽ അംഗരാജ്യങ്ങൾ ധാരണയായി. ഇതിനായി ഈ മേഖലയിലെ ഗവേഷണങ്ങൾ പരസ്പരം കൈമാറണമെന്നു സെമിനാർ ശുപാർശ ചെയ്തു.

സമാപന സമ്മേളനത്തിൽ ആസൂത്രണ ബോർഡ് ഉപാധ്യക്ഷൻ വി. രാമചന്ദ്രൻ മുഖ്യാതിഥി ആയിരുന്നു. പരിസ്ഥിതിക്കു കോട്ടം തട്ടാത്തവിധമുള്ള ചെറുകിട ജലവൈദ്യുത പദ്ധതികൾ ഉണ്ടാവേണ്ടത് ഏറ്റവും ആവശ്യമാണെന്ന് അദ്ദേഹം പറഞ്ഞു. ഗവേഷണവും വികസനവുമാണ് ഈ രംഗത്ത് ഏറ്റവും ആവശ്യം. ഗ്രാമീണമേഖലയെയും മലമ്പ്രദേശങ്ങളെയും മറന്നുള്ള വികസനം ആശാസ്യമല്ല.

പ്രഫ. വി. കെ. ദാമോദരൻ, അലക്സാണ്ടർ വർഗീസ്, പ്രഫ. ടോങ് ജിയാങ്ഡോങ് , കെ. എം. ദരേഗൻ ഉണ്ണിത്താൻ എന്നിവർ പ്രസംഗിച്ചു.

LIST OF PARTICIPANTS

List of Participants

Asia-Africa Regional Seminar on Small Hydro Power organized by
UNIDO Regional Centre for Small Hydro Power
C/o Energy Management Centre – Kerala, Karamana P.O., Thiruvananthapuram

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LIST OF ABBREVIATIONS

1. UNIDO – United Nations Industrial Development Organization
2. UNIDO RC – UNIDO Regional Centre
3. IN-SHP – International Network for Small Hydropower
4. IC-SHP – International Centre for Small Hydropower
5. SHP – Small Hydropower
6. IPP – Independent Power Provider
7. CASHPP – Capital Alliance for Small Hydropower Providers
8. UNDP – United Nations Development Programme
9. UNICEF – United Nations Children's Fund
10. CDCs – Community Development Centres/ Councils
11. CFCs – Common Facility Centres
12. ICT – Information and Communication Technology
13. NGO – Non Government Organization
14. CSR – Corporate Social Responsibility