International On-site Training Programme On

community based micro hydro power units

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INTRODUCTION

Ladakh Ecological Development Group (LEDeG) in collaboration with Bremen Overseas Research and Development Agency (BORDA) has been promoting environmentally friendly Decentralised Renewable Energy Systems (DERES) for the last 20 years in the Western Himalaya. Under this collaboration, 72 units of community based Micro Hydro Power Units (MHPU) were successfully installed in the remote villages of the Himalayas.

Micro Hydro Power has tremendous potential to solve the rural electrification problems in India. However, at present not many organizations in India have the capacity and necessary skills for installation and management of community based Micro Hydro Power Units.

LEDeG in collaboration with University of Applied Sciences Northwestern (FNHW), Switzerland and BORDA, Germany, have decided to organize an on-site training programme to transfer skills necessary for planning, implementation and management of community based Micro Hydro Power Units.

OBJECTIVE

The training aims to systematically transfer knowledge and skills required for planning, implementation and management of successful community based Micro Hydro Power Units.

Organized by Ladakh Ecological Development Group

In collaboration with CDD BORDA n|w

EXPECTED OUTCOMES

Familiarization with the basic principles of MHPU implementation

Make base line measurements (use of equipment) including report preparation

Make feasibility measurements (use of equipment) including report preparation

Design a hydro unit, canal, penstock support, power house (civil engineering)

Design a hydro unit in terms of sizing penstock, selection of turbine (hydraulic engineering)

Design a hydro unit in terms of selection of generator, governing system, transmission line, house installation (electrical engineering)

Determining if a site is (economical) feasible

Make an energy demand/supply assessment for one year

Operate, maintain and find fault, as well as become capable of training an operator on site

Familiarization with Standard Operation Procedures (SOP) for quality control

PARTICIPANTS

The number of participants will be 20 persons representing Government Departments / Agencies, Non-Government Organisations and Private Firms.

ELIGIBILITY CRITERIA

Studied science up to class 12

Able to read and write in English

Able to understand drawings and prepare sketches (site, layout)

Able to make calculations on general (engineering) level

At least 2 years working experience in the development sector

Medical fitness for a high mountainous area

PROGRAMME OVERVIEW

The total course duration is 12 days and is scheduled from 21st September to 2nd October, 2009. Training will be facilitated through the installation of a 30KW MHPU. The training involves lectures,presentations, case studies, practical workshops, study tours, etc.

TRAINERS

The training team comprises of academic experts from FNHW, field experts from LEDeG, CDD and BORDA. The training team will also include experienced national and international resource persons from other reputed agencies.

EVALUATION AND CERTIFICATION

The participants will be appraised and evaluated for their performance during the on-site training programme. Completion certificates will be awarded by FNHW Switzerland.

VENUE

The programme will be conducted in Leh and Kargil District of Ladakh region.

APPLICATION FOR TRAINING

This training programme has been carefully designed to train a maximum of 20 participants. The enclosed application form should be filled in all respects and be sent to CDD Society in Bangalore. The last date for acceptance of the application form is 1st August, 2009.

The applications will be screened by an independent jury and 20 training candidates will be selected out of all applications received.

PROGRAMME FEE

This is a residential training course. The course fee is Rs. 25,000/- (Rupees Twenty Five Thousand Only). The course fee includes the participants' local travel expenses within Ladakh, accommodation, lunch, dinner, refreshments, local travel, course material. This does not include participants travel expenses to / from the venue. Scholarships are available for three selected participants.

LEDeG (Ladakh Ecological Development Group) is a non-governmental organisation, founded in 1983. Its goal is to promote ecological and sustainable development of Ladakh. Since its formation, it has been consistently dedicated towards serving the under privileged people residing in structurally disadvantaged areas of Ladakh and has been striving to address the environmental and cultural issues affecting the people in the region. One of its activities is decentralised renewable energy systems including solar- and hydro power units which have been promoted for more than twenty years now.

CDD (The Consortium for DEWATS Dissemination) Society is a non-governmental organization registered in Bangalore, India. DEWATS stands for decentralized waste water treatment systems and is promoted through a network approach of 20 like-minded organizations seeking to improve the social, economic and environmental conditions of the less privileged, disadvantaged and marginalized sections of the Indian society through the provision of Decentralized Basic Need Services (DBNS). Beside DEWATS, CDD is also involved in community based sanitation, decentralized solid waste management, city wide planning of DBNS as well as decentralized water and energy supply.

BORDA (Bremen Overseas Research & Development Association) was founded in 1977 as a non-profit organisation in Bremen, Germany. Since 1979, BORDA has been working in India with local partners to implement and disseminate sustainable solutions to the related problems of poverty and environmental degradation. Through integration of appropriate eco-friendly technology into a holistic framework including technical, social, economic and environmental components, BORDA facilitates provision of basic need service to urban, peri-urban and rural populations, and technical support to small and medium sized enterprises, institutions, settlements and communities.

FHNW (The University of Applied Sciences Northwestern Switzerland) was formed from the merger in 2006 of three Universities of Applied Sciences and now covers a wide range of different sciences. FHNW has over 50 institutes, their task is to offer and administer degree courses, continuing education, research and development activities, and offer consultancy and related services. The different institutes are organized in schools which bundle related sciences like the School of Architecture, Civil Engineering and Geomatics. Higher-education experts in Switzerland and abroad have, by means of quality-assurance peer reviews, attested to the FHNW s high degree of professionalism and quality.