

RENEWABLE ENERGY PROJECT NEWSLETTER

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Editorial

Dear Readers,

It is our pleasure to present the third REP newsletter which provides latest insights into our working procedures and achievements during the period January - June 2007. We would like to take this opportunity to thank all those who took interest in the project, and provided the team with valuable comments and suggestions.

The Renewable Energy Project, co-funded by the European Union and the Government of Nepal, endeavors to facilitate social service delivery and income generation through the provision of solar energy services to the public institutions and communities residing in remote rural areas without any access to electricity. We are glad to be able to announce that the period covered by this newsletter is indeed the period of a remarkable achievement for the project. A total of 168 Community organizations are confirmed as REP partners; solar PV and solar thermal systems are defined in terms of technical requirements, quality assurance and recipients for the total value of the EU grant. Now the major task ahead is to ensure smooth implementation of the Contracts for successful delivery of the intended results. We expect continuation of full cooperation from all side in our endeavor.

Finally, we look forward to receiving your constructive comments and suggestions so that we can make the future issues of this publication more useful to the readers.

Editorial Board

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Activities/Achievements

Solar PV activities

The REP supports installation of solar PV systems for public service and income generation in remote rural areas without any mini/micro hydro potential and low possibility of grid extension in the next 5 years. The installed PV systems will be owned and managed by the local Community Energy Service



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Providers (CESPs). The prospective end-users of the solar PV systems are public institutions such as schools (for computer, printer, lighting, copying, etc.), health posts (for vaccine refrigeration, lighting and operating medical equipment); and other community services (water pumping, agro-milling, computer literacy, entertainment, communication etc.). The REP has developed 8 different packages of solar PV systems to support the eligible end-users. These packages are: i) Health post (600 Wp), ii) School I (1000 Wp), iii) School II (1900 Wp), iv) Computer literacy (700 Wp), v) Community entertainment (200 Wp), vi) Community telecom center (900 Wp), vii) Agro grinding mill (1500 Wp), and viii) Water pumping (*size varies based upon the site conditions*).

In all 21 REP-districts, the Community Organizations (COs) selected as the prospective CESPs collected demand for PV systems from the eligible end-users in their vicinity, and submitted to the REP for project support. Each of the received energy demand applications was assessed in terms of basic eligibility criteria developed by the REP. Technical feasibility of all eligible projects was assessed from March to May 2007. The technical feasibility included analysis of solar irradiation, shading conditions, available or achievable infrastructure for installation of the system components etc. The technical feasibility of water pumping systems were assessed in terms of some additional parameters such as water demand, discharge of source water, height to which water is to be pumped, length of pipelines etc. Finally, a total of 769 feasible projects have been considered for REP support as the feasibility and consolidation work was concluded. These projects cover the demands of a total of 168 COs which have been confirmed as REP partners, and will be transformed into CESPs through extensive capacity building efforts.

The solar PV systems will be procured through an international open tender. Installation of the systems is expected to start in spring of 2008. Following the installation, REP will perform a commissioning test on all systems. After successful commissioning, ownership of the systems will be transferred to the respective CESPs.

Chart 1: Number of applications for solar PV systems at various stages

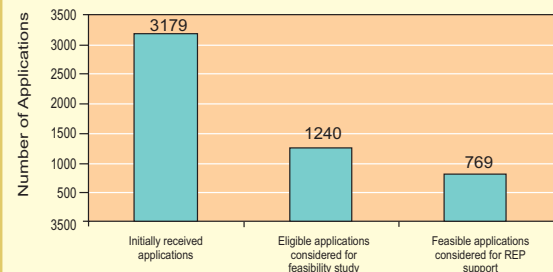
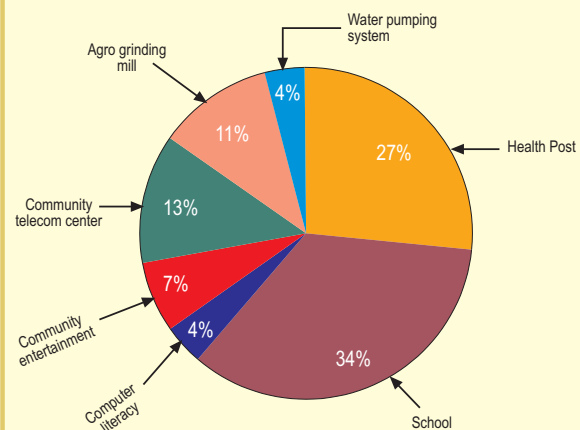


Chart 2: Number of feasible solar PV projects considered for REP support by application / end-user institution



Solar Thermal Activities

The REP supports development of income generating activities through provision of solar thermal systems: solar dryers and solar hot water systems. The matured COs in the selected districts applied for REP support for a total of 148 solar thermal systems: 59 for solar dryer, 47 for solar water heater and 42 for solar cooker. Each received application was assessed in terms of basic eligibility criteria developed by the REP. Feasibility: technical, socio-economic and business, was determined for each eligible project. All of the 82 eligible projects

were visited during two months in spring 2007. The projects were thus evaluated and ranked with respect to technical and economical feasibility. In the technical part available irradiation, shading, available or achievable infrastructure etc. were evaluated. The economical feasibility was judged in terms of the maturity of COs, their management capability, market understanding, social service potential etc. 38 projects: 24 solar dryers and 14 solar water heaters have been selected for REP support.

The solar water heaters and solar dryers will be procured through an international open tender. Installation of equipment is expected to take place during spring 2008. The systems will be installed in Solukhumbu (3 dryers and 6 water heaters), Mustang (1 dryer and 5 water heaters), Gorakha (1 dryer and 1 water heater), Jumla (8 dryers), Ramechhap (4 dryers), Panchathar (3 dryers), Ilam (3 dryers), Rasuwa (1 dryer) and Myagdi (2 water heaters).

Quality Assurance activities

The REP is supporting the set up of solar thermal laboratory and upgrading of existing capabilities to test and measure the components of Solar Thermal systems as well as Institutional Solar PV System (ISPS) within the Renewable Energy Test Station (RETS). In addition to providing major pieces of equipment to perform the quality assurance testing at RETS, the REP is drafting technical standards, manuals and guidelines for testing of solar thermal products. The standards, which are designed for Solar Water Heating System including Solar Collectors, are based on international standards such as ISO and European standards. The institutional strengthening of solar thermal testing facility includes preparation of the Test Station's blue print, as well as staff training

A new building to house the REP-supported Solar Thermal Testing Facility is under construction at the premises of Nepal Academy of Science and

Technology (NAST). The construction work is managed and financially supported by the RETS.

Contrary to Quality Assurance of solar home systems, where the testing of components is linked to the disbursement of subsidy, the REP, AEPC and/or GoN have no leverage to enforce the quality assurance exercise of the solar thermal products and services. For this reason, the REP is conducting a study to identify the policy and fiscal measures as well as awareness raising activities that could encourage the private sector to voluntarily embark on quality assurance exercise.

Assistance to the Prospective CESPs

Business competency is one of the essential requirements for sustainable and successful operation of the CESP. In view of this, the REP is building Business Development capacity of the COs. So far business development assistance has been provided to the COs in 14 districts, namely Taplejung, Panchathar, Shangkhuwasabha, Okhaldhunga, Dolakha, Ramechhap, Myagdi, Gorakha, Salyan, Jumla, Darchula, Baitadi, Doti and Achham. The Business Development Experts who visited each CO:

- carried out assessment of business competencies of the COs,
- carried out assessment of financial viability of the energy demands collected by the COs,
- assisted the COs to explore the potential energy-based income generation activities in their vicinity,
- assisted the COs to prepare business plan and set energy tariff

Similar assistance will be provided to the selected COs in the remaining 7 districts: namely Dhading, Mustang, Humla, Mugu, Dopl, Achham and Bajura in the autumn of 2007.

Events

District Level Workshop 2

The REP has been organizing a one-day workshop in each REP-district in order to present the achievements/status of the project activities and its policy to the district level key stakeholders, provide information on future activities, and collect feedback for smooth implementation of the project activities in the district. By July 2007, the workshop has been carried out in 16 districts: Taplejung, Panchathar, Dolakha, Ramechhap, Dhading, Gorakha, Myagdi, Mustang, Salyan, Jumla, Dolpa, Doti, Darchula, Baitadi, Achham and Bajura. Representatives of the COs that submitted the Energy Demand Applications, chief district officer, local development officer, officials of district level government offices / NGOs / INGOs / donor-funded projects, district level representatives of the political parties and media personnel participated in the workshops. The REP staff presented the process and results related to eligible VDCs, COs selected for energy demand collection, status of the collected demand, eligible demand, feasible demand etc.



Some general recommendations and conclusions can be drawn from the so-far conducted workshops:

- There is a general commitment from communities and local government to facilitate the implementation of the project activities in the district (installation, rehabilitation of facilities, end-use appliances)
- The representatives of the political parties expressed concern that some VDCs, though in need of solar energy, were not taken into

consideration due to lack of mature COs. The REP strategy of VDC selection was based on two criteria :

- i. PV systems are the only feasible renewable energy technology
- ii. Presence of mature COs

These criteria were set in order to ensure the sustainability of systems, and timely project implementation.

- The district level stakeholders expressed the need to extend the project support to ALL VDCs where there is remote possibility of grid extension, and which do not have any potential for micro/mini hydro power, and recommended the REP and AEPC to explore possible arrangements to cover all VDCs within the district.

Workshop on Energy Service Provision for Social Services and Income Generation in Rural Nepal

The REP organized a central-level workshop titled “Energy Service Provisions for Social Services and Income Generation in Rural Nepal” on June 14, 2007. The objective of the workshop was to present the achievements of the project, prepare the ground for tendering of large solar PV and thermal systems, and rally the support of other donors for end-use appliances. A total of 108 specialists participated in the workshop. Present were representatives from a number of organisations, such as Ministry of Finance, Ministry of Environment, Science and Technology; Ministry of Health and Population, National Planning Commission, the EC Delegation to Nepal, Association of District Development Committees of Nepal, Department of Cooperatives, Nepal Electricity Authority, UNDP, GTZ, SNV, USAID, ICIMOD, Winrock International, donor-funded projects, consulting firms, universities, solar companies, commercial banks etc.



The workshop was divided into two sessions: technical session and policy session. In the technical session, the REP staff presented the papers highlighting the project achievements along with the process followed and results delivered. In the policy session, the high-level representatives of the GoN and the European Commission discussed the place of renewable energies in the development strategies for Nepal. Mr. Mahantha Thakur (Minister of Environment, Science and Technology), Dr. Ram Sharan Mahat (Minister of Finance), Mr. Eduardo Lechuga-Jimenez (Chargé d' Affaires to Nepal), Mr. Laxaman Prasad Mainali (Acting Secretary, MoEST), Dr. Govind Raj Pokharel (Executive Director, AEPC) and Mr. Ranjan Shrestha (Programme Manager, EC Delegation to Nepal) were the main speakers. The major conclusions of the workshop are:

- All key speakers and participants agreed that provision of energy services is the prerequisite for efficient investment in health and education sectors; in that respect, the investment in energy sector should be perceived as a part of social investment.
- The high level representatives of the GoN and the Delegation of the EC to Nepal expressed commitment to continue their cooperation and full support to the REP, and requested all project stakeholders to engage every possible effort in order to successfully implement the REP.
- The high level representatives of the GoN stressed out that there is a pressing need to extend the REP support to all eligible rural areas across the country.
- The workshop was an important forum for creation of synergy between the relevant government institutions, donors, NGOs and INGOs in respect to provision of end-use appliances (computers, printers, copy machines, vaccine fridges etc) to schools and health posts.

Workshop on Financing of Renewable Energy Projects in Nepal

Financing schemes for renewable energy projects are essential for promotion of renewable energy technologies (RETs) in rural areas. On the backdrop of growing concern over appropriate financial mechanisms making the RETs affordable to rural people, the REP has drafted a paper on 'Financing Options for RETs'. The conclusions and recommendations of this paper were debated at the workshop on "Financing of Renewable Energy Projects in Nepal" on May 24, 2007. A total of 66 representatives from 40 different organizations / institutions such as ministries, National Planning Commission, the EC Delegation to Nepal, Commercial and Development Banks, Nepal Rastra Bank, Co-operative Banks, Universities, UNDP, NGOs, INGOs, donor-funded projects / programmes etc. participated in the workshop.



The REP staff presented the existing financing approaches for decentralized energy projects in Nepal and the proposed financing options for CESP. The representatives from Winrock International and Clean Energy Development Bank made presentations on their approach / experience of financing the Renewable Energy Technologies. The high-level representatives from the banking and financing sectors and the European Commission discussed the role of financing and banking sectors for the promotion of renewable energy projects in Nepal. Following are the conclusions/recommendations of the workshop:

- Long-term financing strategy should be developed for financing the Renewable Energy schemes.
- Emphasis should be given to develop financially viable rural energy projects so that the financial institutions would find Renewable Energy sector attractive for financing.

- In order to facilitate the flow of credit capital in the rural areas there should be networking between central level commercial / development banks and local level co-operatives / micro financing institutions.
- Running CESP project alone might not be financially attractive business for the CESP. Therefore, in order to sustain the energy services, emphasis should be given to encourage the CESP to engage in other potential income generating activities as well. For this, business competency of CESP needs to be enhanced.

Regional Level Workshops on CESP Concept for Nepal

Delivery of energy services to the end-users of remote rural areas through local level CESP is a new approach in Nepal. For that reason, explaining the basic rules, advantages and limitations of the community based utilities is essential for their sustainability. It is also necessary to tailor the rules and regulations to the realities of the rural communities. In this respect, REP has conducted a series of workshops, at central and regional level, in order to build the good understanding of the CESP concept with key actors of the relevant sector.



During the time covered by this newsletter, four regional level workshops were organized in: Pokhara (February 15, 2007), Baitadi (April 1, 2007), Doti (April 6, 2007) and Nepalganj (May 6, 2007). Two such workshops had already been conducted in Biratnagar (December 4, 2006) and Lalitpur (December 11, 2006). A total of 214 participants participated in the regional workshops. The participants were the key stakeholders at regional and district levels, such as regional administrator,

representatives of regional health and education offices, and representatives of the relevant district offices of government line agencies / NGOs / INGOs / donor supported programmes from the REP-districts. In the workshops, the REP staff presented on progress in the concerned development and CESP concept, which was then followed by group work by the participants on issues that will determine success of the CESP. The following are the major conclusions of the CESP regional workshops:

- The very positive expression of the participating institutions on the proposed CESP operating modality indicates better prospective of the approach to ensure the successful operation of the CESP in the near future.
- Integrated package of support services: social mobilization, capacity building, business development, financial support, technical awareness (which REP follows) are the key for the successful operation of community based development activities like CESP.
- Standard quantifiable norms should be developed to select the appropriate COs in view to transform them into CESP.
- Standard tariff determination process should be developed by the REP and adopted by the CESP.
- Energy need assessment and paying capacity assessment of the end-users is essential before installation of the PV systems and setting of energy tariff.
- CESP should be autonomous but it should be closely monitored and supervised by REP, DDC, VDC, AEPC and end-users.
- Proper networking and close coordination between REP stakeholders is essential for the successful implementation and sustainability of the project.
- DDCs and VDCs are the key development actors in the districts/villages level, so they should be involved right from the beginning in the project implementation process.
- Proper arrangement / mechanism for collection, recycling and safe disposal of the used batteries should be developed and integrated with the CESP services.

Study tour to CESP countries

Although CESP concept is new in Nepal, there are some successful examples of the CESP projects in other developing countries. Philippines are one of the countries with highest success rate of community owned and operated decentralized energy service providers. The REP organized an 8-days study tour to Manila, Philippines from March 17 to 24, 2007 in order to learn from the experience of such projects. A total of 10 government officials working at policy level, including Mr. Bal Krishna Prasai, Secretary of Ministry of Environment, Science and Technology (MoEST), Dr. Govind Raj Pokharel, Executive Director of the AEPC and Mr. Mangal Das Maharjan, National Project Director of REP participated in the tour. The other participants were: Mr. Chudamani Bhattarai (AEPC), Mr. Gyan Krishna Shrestha (Ministry of Finance), Mr. Sitaram Timsina (MoEST), Mr. Binod Khanal (Office of the Prime Minister and Council of Ministers), Mr. Shyam Nidhi Tiwari (Ministry of Finance) and Mr. Shambhu Dev Baral (Association of District Development Committees in Nepal). The team visited solar PV based off-grid electrification



projects at Serogo Osmena and Pangan, and interacted with the project staff, community people and local government representatives. The team also met with the high level government officials of Department of Energy where they were briefed on Philippines Rural Electrification Plan, business model of solar PV companies and projects for solar business, private sectors' view on rural electrification programme, capacity building to remove barriers to renewable energy development etc.

Beneficiaries' Views

The REP has started receiving comments/ remarks from the prospective beneficiaries of the project. The project team is encouraged by some of the remarks of its target groups. Two examples of such remarks are presented here.

"Hoping our village would be electrified soon, the school management committee bought three computers with the purpose of providing computer education to our children. The electricity never came; and the computers have been sitting idle with spider webs and dust piled up for the last two years. We had almost lost our hope that we will ever provide computer education to our children. But now we are happy to come to know that the Renewable Energy Project is going to provide us solar energy to run computers in our school. We hope our idle computers will be utilized soon, and we are happy that our dream is coming true."

Ratna Prasad Pun (second from left in the photo)
Chairman, School Management Committee
Kisani Secondary School, Bima VDC, Myagdi District



A glimpse of meeting between the REP staff and the School Management Committee of Kisani Secondary School, Bima VDC, Myagdi District (March 2007)



A group of women taking a short rest on their way to water source (left photo). One of the women returning home carrying water-pot on her back (right photo).

“Fetching water from distant source is our every day’s routine. Mainly, we women are responsible for this tedious work. It takes around 30 minutes to descend to the water-source and around one hour to reach home with water-pot on our backs walking along the difficult steep path. Most of our day is spent in fetching water. We’ve been suffering from this drudgery since we grew up, and we don’t know when we’ll get rid of it. Our happiness knew no boundary when we came to know that the Renewable Energy Project is building solar-powered water pumping system in our community. We’re impatiently waiting for the day to come when we’ll be filling our water-pots by the water coming from the water-taps near around our homes; and our drudgeries will be reduced to a great extent.”

Krishna Maya Budha (*one of the women in the left photo*)
Prospective beneficiary of the proposed Timilkanda Water Pumping Scheme
Kalagaun VDC, Salyan District

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(NPL/AIDCO/2000/2589)
G.P.O. Box: 23028, Khumaltar, Lalitpur, Nepal
Phone: 5520069, 5525551
E-mail: repinfo@aepec.gov.np
Web: www.rep.com.np

Editorial Board: Dr. Govind Raj Pokharel, Dr. Jelena Colson and Mr. Lok Raj Pathak