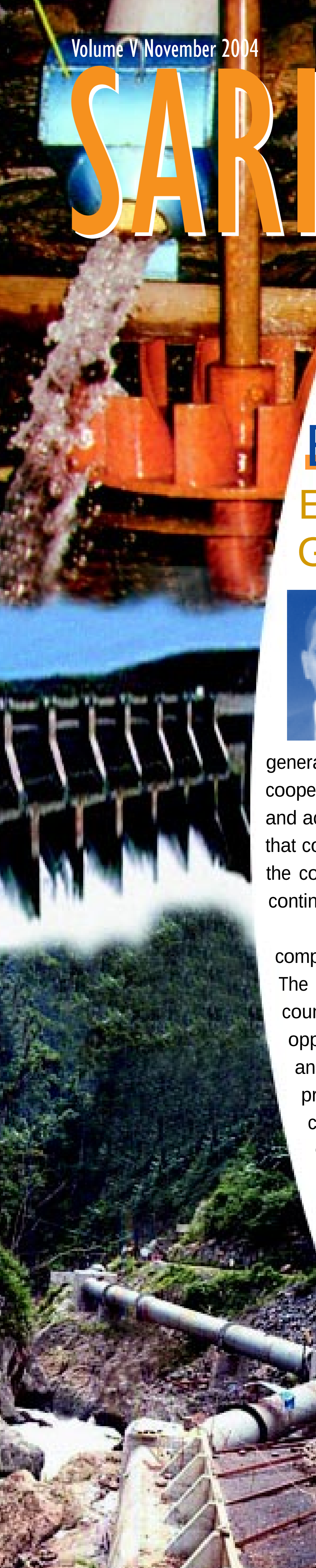


Volume V November 2004

South Asia Regional Initiative for Energy Cooperation and Development

SARI/Energy Small Grants

Editorial

Dr P Venkata Ramana, Director, Clean Energy Development, Winrock International

Endorsement for the SARI/Energy Small Grants Program

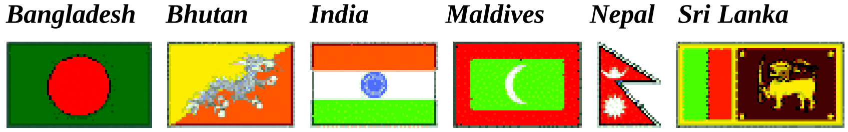
Two events held in close proximity in October in New Delhi, India helped showcase the SARI/Energy Small Grants Program (SGP) – the Round I Regional Grantees Meeting (RGM) was held on 4-5 October, and the SARI/Energy Semi-Annual Meeting was held on 12-14 October. The RGM was attended by over 50 participants – representatives of all the grantees from SGP's Round I from five South Asian countries, in addition to stakeholders from different energy sub-sectors. All the projects funded under Round I were presented and discussed. From the interest generated by these projects, it was clear that the results were considered to be extremely relevant to energy cooperation efforts in South Asia. It is heartening to note that despite some barriers such as delayed communications and accessibility of information, most of the projects have made substantive progress. Another positive outcome that could be clearly discerned was the willingness among different country organizations to foster partnerships, the contribution made by the SARI/Energy Small Grants program in enabling this process, and the need for continued efforts.

The progress and results of the Small Grants program were presented in conjunction with the other components of the SARI/Energy program at the Semi Annual Meeting, which was attended by over 100 participants. The highlight of the meeting was the presence of high level delegations from Pakistan and Afghanistan, two countries that joined the SARI/Energy program recently. Presentations from these delegations provided an opportunity to learn about energy sector issues in these countries, and some of their priorities. Energy efficiency and renewable energy were among the key priorities they would like to see addressed in the SARI/Energy program. The Small Grants program is an important opportunity to develop activities in these countries contributing towards regional cooperation. Several participants commented upon the fact that the Small Grants enabled substantive leverage of resources while utilizing less financial resources.

In order to enable the projects to fulfill the SARI/Energy program goals in a substantive way, the Small Grants program received an extension till September 2005. The evaluation of the third round of small grants is now complete and the awards have been announced *(with details on page 8)*. A fourth round of request for proposals was announced in November 2004 for the Rural Energy Training Network (RETN) members and its implementing partners, while the fifth is expected in early 2005, with primary focus on Pakistan and Afghanistan. As the results of the earlier projects become available, we will be happy to report them through various means so that a wide community of stakeholders could share and benefit from those results.

Participating Nations

Bangladesh ***Bhutan*** ***India*** ***Maldives*** ***Nepal*** ***Sri Lanka***



Sharing Experiences & Lessons Learned

Several projects were awarded grants under Rounds I & II of USAID's SARI/Energy Small Grants Program in 2003 & 2004 *(see* www.sari-energy.org/SmallGrants*)*. While we covered the progress of a few projects in the previous issues, this time we would like to share with you the endeavors of some of the other grantees to promote regional energy cooperation in South Asia.

South Asia Regional NGO Consortium for RETs and Poverty Reduction

The Himalayan Light Foundation, (HLF) is a not-for profit non-governmental organization operating in Nepal and South Asia since 1997. HLF was established with the main goal of developing and implementing programs that assure the intrinsic combination of income generation and vital service provision with renewable energy technology (RET) deployment and use, thereby increasing RET use and energy security in the region. HLF has designed and implemented several internationally acclaimed programs such as The Home Employment and Lighting Package™ (HELP™) and Solar Sisters™.

HELP™ is an innovative solar home system (SHS) dissemination and village development modality, which assures the villagers engage in income generation or home employment activities in conjunction with the SHS micro-finance payback scheme. Villagers are trained in production of handicrafts, which are accepted as payment for the systems instead of cash. Products are sold over the Internet's (www.hlf.org.np) E-Shop, and sales proceeds used in a revolving fund to help new villagers obtain additional solar home systems. By recognizing a villager's non-cash economy and by using social collateral instead of land holdings, the poorest villagers can enter the program, obtain RET systems without losing their scarce cash, and go on to augment their families cash income due to the new skills and market access made available within the project.

*Women of Lekh*ani HELP™ v*illage making handmade paper products in exchange for solar systems and cash income*

Solar Sisters™ assures that remote community buildings such as health posts, schools, monasteries, etc. are not left in the dark. By engaging philanthropic development volunteers and their financial resources, HLF has electrified over 60 buildings in Nepal. During the SARI/Energy Round I Small Grants program, Sewalanka and HLF collaboratively selected three potential sites in Sri Lanka for Solar Sisters volunteer/donors to come and install systems. These villages have now been pre-qualified and the "philanthropic tour" package uploaded to the HLF web site to solicit volunteers to accomplish installations starting early in 2005.

Thus HLF has been able to expand its programs and activities in collaboration with South Asia regional partners to assure RET use for their comprehensive development approaches. With this support, HLF Nepal has collaborated to form the region's first NGO consortium that specifically focuses on RET proliferation for poverty reduction and productive end-uses. The consortium works to actually replicate and adapt successful and innovative RET dissemination programs, share experiences, facilitate cross-training and the expanded use and application of some of these best practices and programs, with the consortium partners, Sewalanka Foundation and Tarayana Foundation in Sri Lanka and Bhutan respectively.

These regional NGO programs as well as those operated by Sewalanka and Tarayana have demonstrated innovative methods, program designs and practices, which can play a major role in the increased accessibility of RETs and energy security for the South Asia region. To date consortium partners have completed several rounds of experience sharing in the form of extended stakeholders workshops and meetings, and have formulated plans for program commencement and operation in their own countries. The *Solar Sisters™* successful commencement in Sri Lanka with potential volunteers' sites available on the HLF web site may go on to yield an average of six community installations per year initially, with potential for 20 per year in subsequent phases. HELP™ is also slated for imminent replication in Sri Lanka with Sewalanka, while Bhutan adaptation planning is now almost complete. In Sri Lanka, the HELP™ replication will provide immediate non-cash access to 55 pilot homes with a resulting revolving fund to support SHS purchases indefinitely in Sri Lanka, while Tarayana has sited three pilot villages for HELP™ adaptation in Bhutan in 2005.

Both Sewalanka and Tarayana staff have now completed special community mobilization training on RET deployment for income generation as well as innovative

A **Solar Sisters™** community building in Khotang where women weave "dhaka" at night for income

finance mechanism training in Nepal. During the main training phase, delegates were able to meet with village representatives of the solar development committee of Lekhani who now head the village-based "Paper and Power" HELP™ program. By involving them at the field level, consortium partners were able to get a very clear sense of the program logistics and village participation.

The HLF technical assistance team was able to become quite familiar with the operating styles and programs of both consortium partners and now has very comfortable and productive relations with the partners built over the course of the various interactions. This represents a tremendous value addition for the consortium's future sustained activities.

A huge success is that the Consortium has catalyzed the drafting and submission of approximately $330,000 worth of highly developed proposals to several donors in each of the three partner countries. Donors have already expressed a high level of commitment to accept these proposals, which are currently in the pipeline.

As a direct result of the Consortium's activities in both Sri Lanka and Bhutan, several organizations and institutions became familiar with the unique, innovative and integrated mechanisms of various NGO programs operating in the region and are in the process of adaptation and actual operation of these programs in their countries.

A comprehensive collaborative program between HLF, and His Majesty's Government of Nepal's Alternative Energy Promotion Center, Renewable Energy Development Program (REDP), will be focusing on a cost-effective scaling up of HELP™ to cover 40 more remote villages (20,000 people) with solar home lighting systems and income generation activities.

In summary, due to the SARI/Energy Small Grants Program support, the South Asia Regional NGO Consortium for RETs and Poverty Reduction has gotten off to a very strong and productive start and will continue sustained operation and activities long past this initial support.

Courtesy: Adam Friedensohn, Founder/Chief Advisor
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Framework for Promoting Decentralized Biomass-based Energy Systems in South Asia

Collection of raw materials (Ipomea) and their processing in India

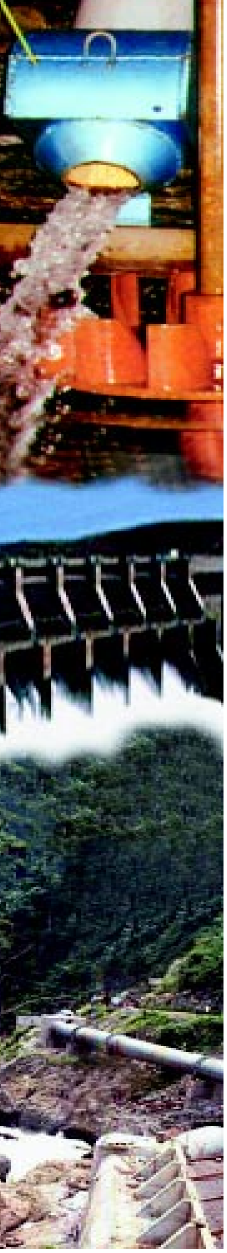
Under Round II of USAID's SARI/Energy Small Grants program, this project aimed to bring out a framework for establishing institutional and financial mechanisms for promoting decentralized biomass-based energy systems in South Asia. Three partners were involved in this project – Development Alternatives, India, Clean Energy Nepal, and the Federation of Electricity Consumer Societies (FECS), Sri Lanka. This study explored a number of technical, social, economic and environmental opportunities for developing biomass-based energy generation systems that can help to meet the rising power demand in South Asia.

The first phase identified a suitable technology portfolio consisting of bio-gasification, cogeneration and direct combustion, appropriate for the region based on sustainability factors such as economic and financial viability, environmental friendliness, and technological soundness. A report was produced on these technologies highlighting and comparing the potential of each.

On the basis of the FEEST criteria analysis of case studies of the three countries, and considering the availability of biomass feedstocks, it was concluded that the sustainability of the technology portfolio consisting of the above mentioned technologies can be achieved for a longer period.

The following conclusions can be drawn from the assessment of bio-energy technologies in the whole South Asian Region:

- Biomass is the most important source of energy in South Asia and technologies that improve the efficiency of biomass use are essential for the country's development and the improvement of living conditions, particularly of the rural poor. There is considerable scope for strengthening the biomass reserve base by utilizing wasteland and developing energy plantations on a large scale.
- Bio-gasifiers are the most successful bio-energy technologies in use in South Asia today. These technologies have been developed and adapted over the years to suit local conditions and there is widespread acceptance of these technologies. Technologies such as gasification and cogeneration have niche markets in certain industrial or commercial sectors. These have not yet been tapped. The technologies are well established in other countries but



they need to be popularized in countries like Nepal, and supported by appropriate government policies.

■ In fact the biogas program in Nepal has managed to receive ISO 9001 certification for its high quality.

■ Some technologies, such as the use of liquid fuels like ethanol as a fuel substitute, have high potential for development, but its use has, so far, been limited to laboratories. These technologies need to be taken to the field and propagated.

■ Overall, there is an urgent need to improve the status of bio-energy related technologies in South Asian countries. Even for established technologies such as improved cookstoves and biogas there are still areas where research and development (R&D) is required.

■ A comprehensive, professional and dispassionate evaluation of the field performance of all the systems installed so far for different applications is required.

■ Lack of proper maintenance of technologies (e.g. those systems that have been acquired at marginal or no cost to the users) is a major drawback. Proper maintenance schemes for these technologies after installation is an essential tool for their sustainability.

■ The study brings out a need for capacity building in this sector, particularly for gasifiers for generation of electricity in rural sectors.

■ R&D is still a requirement for technologies such as gasifiers to be implemented properly and to sustain biomass-based power plants beyond their lifetime.

■ Institutional mechanisms to promote these technologies should ensure community involvement.

Madhusudan Basnyat

A gasifier used to dry cardomom in eastern Nepal (orginally developed in India and modified for Nepal)

A 550 W generator fuelled by bio gas in Sri Lanka

■ Central Governments should play a proactive role in promoting this technology portfolio and the appropriate institutional and financial mechanisms to support this portfolio.

■ Local Governments also have an important role to play in fund management, awareness and training, providing/ managing subsidies like maintenance subsidies, etc.

■ Present financing mechanisms have not been able to promote these technologies, therefore, there is a requirement to promote and mobilize the concept of micro-financing.

■ The Clean Development Mechanism is a high potential upcoming opportunity in the field of biomass and can be harnessed to minimize various transaction costs of project implementation, and also to facilitate a flow of foreign direct investments (FDIs) in South Asia.

Based on current experiences, bio-gasifier technologies being used in the South Asian region are among the most sustainable because they have proved to be technically sound, financially viable, environmentally friendly, and socially acceptable, as well as significant contributors to the local economy.

Courtesy: Kalipada Chatterjee, Head, Climate Change Centre
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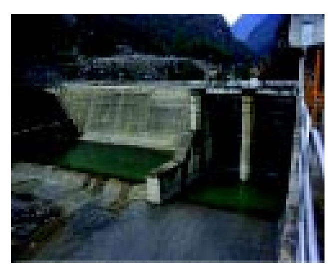
Nepal India Cooperation on Hydropower (NICOH)

The Independent Power Producers' Association, Nepal (IPPAN) and Confederation of Indian Industry (CII) have been jointly conducting a research project on Nepal India Cooperation on Hydropower under the SARI/E Small Grants Scheme. The objective is to explore areas of cooperation between India and Nepal for hydropower development in Nepal in order that both countries can benefit from energy trade utilizing the complementarities of the generation systems of both countries. The study aims to look at historical backgrounds, current scenarios, impediments and future prospects for electricity trade and hydropower development in Nepal. The main objective is to determine the barriers to energy trade between the two countries.



Head works of the Bhotekoshi power plant in Nepal

The perennial nature of Nepali rivers and the steep gradient of the country's topography provide ideal conditions for the development of some of the world's largest hydroelectric projects. Current estimates are that Nepal has a theoretical potential of 83,000 MW of hydropower, out of which 42,000 MW is economically feasible. However, the present situation is that Nepal has developed only about 600 MW of hydropower. Therefore, more than 98% of feasible generation has not been tapped as yet. Besides, the multipurpose, secondary and tertiary benefits have not been realized from the development of its rivers.

Although bestowed with tremendous hydropower resources, only about 18% of Nepal's population has access to electricity. By harnessing water resources of Nepal, India can help Nepal develop projects in terms of technology and finance, and in turn India can be benefited by importing energy from the Nepali hydro projects.

Most of the power plants in Nepal are run-of-the-river type with energy available in excess of the in-country demand during the monsoon season and deficit during the dry season. This imbalance has clearly shown the need for storage projects. The energy linkages between Nepal's hydropower and Indian thermal power can benefit both countries in terms of reducing seasonal imbalance of hydropower generation in Nepal and reducing the use of fossil fuels for power generation in India.

Hydropower project development in a mountainous country like Nepal is a highly risky development and requires large capital investment. Some of the major areas of concern in the development of hydropower resources of Nepal are:

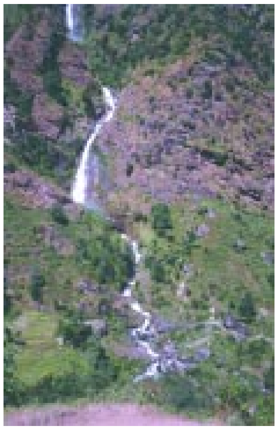
- **Natural constraints**: Although Nepal's topographical features are favorable for various forms of hydropower development, the geological features need intensive investigation. Similarly, lack of adequate records of hydrological data of most of the rivers in Nepal introduce tremendous risk.
- **Lack of infrastructure**: Due to the remoteness of hydropower project sites, lack of adequate access, transport facilities, transmission grids for power evacuation and other infrastructure, the cost of hydropower development is generally high in Nepal.
- **Lack of funds**: Hydropower projects are capital-intensive in nature. Nepal does not have adequate financial resources to finance the development of these projects, and hence, in the past has had to seek international donors and multilateral funding agencies. In recent times, the private sector has become increasingly active in project development, which is an encouraging sign. However, the government has to create an enabling environment, and improve upon the legal and regulatory frameworks for attracting investment.
- **Market**: The expansion of the electricity grid within Nepal and the growing energy demand of India are major markets for Nepal's hydropower. With the limitations of the economic feasibility of grid expansion within Nepal, the possibility of power export need to be pursued aggressively from all quarters.
- **Enabling legal and regulatory framework**: Existence of a clear-cut, well-defined, coherent and unambiguous legal and regulatory framework is the first thing that a developer looks at while taking up any venture, more so in the case of developing a power project.

This proposed study aims to look into the historical background in power trade between the two countries and joint development of hydropower projects, the current situation, impediments, and to make recommendations for future cooperation. A long time has passed since cooperation has been discussed but nothing productive has materialized. Therefore, certain confidence building measures (CBMs) need to be taken up in order to provide impetus to the process. It is in this context, that this study is seen to be of immense importance.

It is expected that the outcome of the study will help policy makers, implementing agencies, developers, investors and financing agencies of both countries develop hydropower in Nepal and thus facilitate energy trade.

> The history of hydropower cooperation between the two countries began with the Koshi and Gandak Projects in the late 1950s. The Kataiya power house (6.8 MW) was built by India for Nepal on the Koshi Canal at that time. Trishuli, Devighat and Phewa Hydropower projects were built subsequently in Nepal with India's support. Power exchange between Nepal and India began in 1971 with limited low-capacity exchange at various locations along the boarder. Currently, there are 14 power exchange points along the Nepal India border.

Nepal's 10th five year plan (2002 to 2007) aims to accelerate hydropower development in the country; to extend electrification within Nepal; and, to generate significant electricity to export to India. It has been observed that private sector involvement in hydropower in Nepal has gained prominence after the government's economic liberalization policy was initiated in 1992. However, the legal and regulatory framework needs to be enhanced such that a private developer can wheel and trade its power



Syange Falls, where mini hydro is developed in Nepal

to third parties in Nepal. The Electricity Act 2003 of India has opened the possibilities of different modes of power trade for anyone, which has already brought many power traders to the Indian energy market.

Some major hydropower projects are being considered in Nepal for joint development and/or for electricity export to India. In this context, a joint review team of Nepal and India was formed in 1988 for the development of the 10,800 MW Karnali Chisapani Multipurpose Project. Similarly, the Mahakali Panscheswar Project is finalizing their Detailed Project Report. The Arun III Hydroelectric Project was also planned for partial export to India. The Upper Karnali Hydroelectric Project is now being considered for joint development by the Nepal Electricity Authority and the National Hydroelectric Power Corporation Ltd., India. Similarly, SMEC has been putting efforts to develop the 750 MW West Seti Project for dedicated export to India, and has already initialed a power purchase agreement with the Power Trading Corporation of India (PTC).

In terms of power trading and power exchange between the two countries, at present, the 132 kV Butwal-Sonauli-Anandanagar transmission line has been identified to be constructed on priority. It has been understood that PTC and Powergrid India has already made an agreement for construction on the Indian side, but PTC is looking for a long term commitment from the Nepal Electricity Authority for supply of power. Assessment of the power available currently in the NEA grid shows that NEA should be able to export power during certain periods of the year to India through this interconnection. Further, the Study Team believes that instead of making this interconnection as a 132 kV transmission line, it will be prudent to upgrade the transmission to a 220 kV double circuit looking into the future prospects of power exchange.

Some issues that are identified for detailed study are:

- The projects or actions for cooperation should be categorized as short-term, medium-term and long-term targets.
- There seems to be a crisis of confidence on both sides as far as hydropower project development or energy cooperation or water resources cooperation is concerned. Therefore, certain viable projects need to be taken up in the short-term as CBMs.
- The transmission interconnection is a bottleneck, and therefore should be opened up as soon as possible.
- Third party access to the transmission in Nepal must be there so that the private sector can also get into power trading.
- All possibilities for partnership between the public and private sectors should be looked into.
- The private sector should also be included in the meetings of the Joint Committee on Water Resources (JCWR) and in the Power Exchange/Trading meetings.
- Private developers as well as financing from India should be encouraged for the development of hydropower projects in Nepal.

Courtesy: Sandip Shah, PhD, President
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Events

Workshops on South Asia Lightning Awareness Program (SALAP)

15 & 17 December 2004 (Bangladesh)

Contact: Dr Munir Ahmed, Exec. Dir., TARA, 1 Purbachal Road, Northeast Badda, Dhaka 1212, Bangladesh; Tel: (880-2) 885-1405/6; Email: tara@citechco.net and/or Dr Mannan Chowdhury, Professor, Department of Physics, Jahangirnagar University, Savar, Dhaka, Bangladesh; Tel: 77084478-85/507; Email: marzia111@yahoo.com

International Conference on 'Education for a Sustainable Future (ESF)'

18-20 January 2005, Ahmedabad, India

Contact: Meena Raghunathan, Program Coordinator, ESF Secretariat, Centre for Environment Education (CEE), Thaltej Tekra, Ahmedabad 380 054; Email: esf@ceeindia.org; Web: www.ceeindia.org/esf

South Asia Youth Environment Network (SAYEN) Regional Meeting

21-22 January 2005, Ahmedabad, India

Contact: Gopal K Jain, Program Officer, CEE; Email: ceewest@ceeindia.org

Round I Regional Grantees Meeting

Mr Glenn Whaley, Director, Environment, Energy & Enterprise, USAID/India, speaking, while Mr McDermott, Nexant, Inc, Dr Ramana, WI, Mr R Beckman, USAID/India, and Dr K Mitra, President, WII, look on

The SARI/Energy Round I Regional Grantees Meeting (RGM) was held on 4-5 October 2004, in New Delhi. Each Round I grantee project team sent a representative to present at and participate in this two-day event. They updated fellow grantees, SARI/Energy implementing partners and other regional stakeholders on progress to date on their grant projects, and shared lessons learned, obstacles encountered and methods for overcoming them. The primary objective of the RGM was for each grantee to present its Round I findings and outcomes to date with a view to reaching agreement on workable models to increase regional energy cooperation and trade.

More than fifty SARI/Energy grantees, other NGOs and academic institutions, donor agencies and government agencies participated in the RGM, offering an excellent opportunity for Round I grantees and other key stakeholders from the region to network, share ideas, and plan future collaborations.

A number of key points and recommendations came out of the Round I RGM, including:

Regional Energy Issues

- Appropriate management structures need to be found in order to help each country achieve its ambitious targets for rural electrification (e.g., cooperatives, franchises, private sector models). Each country is diverse, so no one model can necessarily be followed, but rather approaches need to be customized.
- Appropriate technology is a key issue for South Asia. Energy technologies need to be tailored to the resources and needs of each country (and each region within the country). Distributed generation, renewable energy and energy efficiency can be key solutions.
- More information is needed on successful energy policy frameworks that help achieve equitable participation from all stakeholders, including private sector and civil society.
- Rural energy planning should be integrated with rural industrialization and/or economic development planning throughout the region.

The Small Grants Program

- Small grants projects can be viewed as the "venture capital fund" of the SARI/Energy program, and grantees as the incubators.
- Marketing, sustainability and replicability are key issues that need to be addressed in each of the grantees' projects. Several useful suggestions of innovative ways to address these issues were offered.
- Grant projects need to recognize consumers and civil society as key stakeholders. Grantees should remember that a minority of consumers have access to the Internet or speak English.
- Grantees need to be vigilant in monitoring real-life impacts on the people affected by their projects.
- Grantees should not stop at developing conclusions and recommendations, but take it a step further by suggesting practical approaches for implementing the recommendations.

The SARI/Energy SGP grantees with WI/WII/IIE at the RGM

A Media Roundtable was held in conjunction with the Round I RGM to showcase some of the successful Round I grant projects. Bob Beckman, Regional Coordinator and Program Manager for SARI/Energy opened the Roundtable with a brief overview on SARI/Energy, followed by PV Ramana, SARI/Energy Small Grants Project Director, who provided some background on the Small Grants Program. Following the introductory presentations, four Round I grantees – Bangladesh University of Engineering & Technology (BUET), Sri Lanka Energy Managers Association (SLEMA), Himalayan Light Foundation (HLF), Nepal and International Water Management Institute (IWMI) – presented their projects, highlighting the social and economic development impacts, human interest relevance, and future activities of each project. Following the presentations, media representatives from the Business Standard, Electronics for You (EFY), Reuters and the Press Trust of India (PTI) asked questions and conducted follow-up one-on-one interviews with each of the four grantees. Business Standard has already published a story on the SLEMA/VOICE Energy Labeling project, and additional stories on this project and on HLF's project are also expected to be run by PTI shortly.

Courtesy: Johanna Gregory Partin, SARI/Energy SGP Manager, Winrock International, USA

For a copy of the entire proceedings, please contact <somon@winrockindia.org>

Round III Grantees Announced

Under USAID's SARI/Energy Small Grants Program, the THIRD REQUEST FOR PROPOSALS (RFP) was issued in September 2004. Based on the selection criteria outlined, the Cooperative Research and Outreach Grants were competitively awarded to the following:

Training Rural Women on Renewable Energy Technologies

Under this project, a training module will be prepared to enhance the technical and management skills of solar drying enterprises run by women's self-help groups (SHGs) in India and Nepal.

Project Partners

- Center for Rural Technology, Nepal
- All India Women's Conference (AIWC), India

Project Team Leader

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Email: khm@crtnepal.org / info@crtnepal.org

Establishing National and Regional Micro-Hydro Standards *

This activity aims to facilitate and set up national technical committees in Sri Lanka, India and Nepal, and a regional technical committee to develop micro-hydro standards.

Project Partner/Team Leader

KA Bandula Chandrasekara
Field Coordinator, Energy Forum, Colombo 05, Sri Lanka
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Email: eforum@sltnet.lk

Development of a Sustainable Biogas Program

This project aims to transfer lessons learned from successful Nepali biogas programs to Bangladesh.

Project Partners

- Grameen Shakti, Bangladesh
- Biogas Support Program (BSP), Nepal

Project Team Leader

Dipal C Barua, Managing Director, Grameen Shakti
Dhaka 1216, Bangladesh
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RE-TEC™: Technical Assistance for Sri Lankan Program Replication *

The Renewable Energy Traveling Education Center (RE-TEC) unit and operations training will be introduced into Sri Lanka to assist them in disseminating RET information to provincial councils and vulnerable populations.

Project Partners

- Himalayan Light Foundation (HLF), Nepal
- Sewalanka Foundation, Sri Lanka

Project Team Leader

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Himalayan Light Foundation, Kathmandu, Nepal
Tel : 977 1 442 5393/4437189
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Impact of LEWA Technology in Energy Savings

The partners will test and study opportunities for advocating and promoting the use of the Low Energy Water Application (LEWA), an energy-efficient sprinkler device which operates at low pressure heads. The project will develop subcomponents to make the system more cost-effective.

Project Partners

- International Development Enterprises India
- International Development Enterprises Bangladesh

Project Team Leader

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Technical Research Study on the Performance of Identified Energy Efficiency Products to Promote the Labeling Program *

This study aims to test the energy efficiency of three products (CFLs, ballasts and ceiling fans) based on national standards to harmonize an energy efficiency and labeling program in India and Sri Lanka.

Project Partners

- Voluntary Organization in Interest of Consumer Education (VOICE), India
- Sri Lanka Energy Managers' Association (SLEMA)

Project Team Leader

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** follow-on projects from earlier rounds*

Editors: Anita Khuller & Johanna Gregory Partin

Implementing Partners:

WINROCK INTERNATIONAL Putting Ideas to Work — www.winrock.org

INSTITUTE OF INTERNATIONAL EDUCATION — www.iie.org

WINROCK INTERNATIONAL INDIA — www.winrockindia.org

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This SARI/Energy Small Grants Program newsletter is being sent out electronically and by mail. Contact Mrs Anita Khuller at *Winrock International India,* 1, Navjeevan Vihar, New Delhi 110017 (India); Tel: +91-11-26693868; *Email: akhuller@winrockindia.org*

SARI/Energy Small Grants

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